MANCP

Multi-Annual National Control Plan The Netherlands

Annual Report 2019

Nederlandse Voedsel- en Warenautoriteit
Ministerie van Landbouw, Natuur en Voedselkwaliteit

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INTRODUCTION AND READING GUIDE

Since 2007, every Member State of the European Union has drawn up a Multi-Annual National Control Plan (MANCP) that describes the approach towards, and implementation of, official controls to achieve the specified strategic goals. Member States report annually to the European Commission on the implementation and results of official controls. This document is the MANCP Annual Report for the Netherlands for 2019. The Netherlands Food and Consumer Product Safety Authority (*Nederlandse Voedsel- en Warenautoriteit*, NVWA) coordinates the MANCP and the drafting of the annual reports for the Netherlands.

The MANCP annual report describes the official controls in the areas of food safety, animal health, animal welfare, animal feeds, phytosanitary matters and organic production. In the Netherlands, a range of organisations are involved in these activities.

In this 2019 report, the NVWA is still reporting on supervision and official controls as carried out in accordance with Regulation (EC) No. 882/2004. The new Official Controls Regulation (Regulation (EU) No. 2017/625), which has a broader scope and contains new rules, entered into force on 14 December 2019. In consultation with the European Commission, it was decided that reporting on the last two weeks of 2019 based on the new Official Controls Regulation would be too complex and offer no added value. However, the next annual report will comply with the rules of the new regulation. The report for 2019 will therefore be the NVWA's last MANCP annual report according to this format.

Supervision under Regulation (EC) No. 882/2004 is conducted by:
- The Netherlands Food and Consumer Product Safety Authority (NVWA)
- The Netherlands Controlling Authority for Milk and Milk Products (COKZ)
- The Netherlands Controlling Authority for Eggs (NCAE), a department of the COKZ
- GD Animal Health (GD)

Supervision under Council Directive 2000/29/EC (plant health) is conducted by:
- The Netherlands Food and Consumer Product Safety Authority (NVWA)
- The Netherlands General Inspection Service for agricultural seeds and seed potatoes (NAK)
- The Netherlands Inspection Service for Horticulture (Naktuinbouw)
- The Flower Bulb Inspection Service (BKD)
- The Quality Control Bureau (KCB)

Supervision under Council Regulation (EC) No. 834/2007 (Organic Production and Products) is conducted by:
- Skal Biocontrol

Chapter 1, the management summary, sets out the key findings and conclusions with regard to the controls in 2019.
Chapter 2 deals with the key figures in the area of enforcement within the food supply chain.
Chapter 3 contains the reports for the various areas of oversight, covering 19 (previously 20) different subjects. Section 3.10, Fish, fish products and aquaculture has been omitted in 2019, since the various results for this domain are reported in the Industrial production and Animal health – prevention domains. To facilitate a comparison with other years, the section numbering remains unchanged.
Chapter 4 reports the conclusions from the internal and external audits conducted in 2019.
Chapter 5 reports on the activities of the NVWA Intelligence and Investigation Service.
Chapter 6 describes a number of developments in the organisations involved in carrying out the controls.
The MANCP annual reports are available on the NVWA website.

CHAPTER 1
MANAGEMENT SUMMARY OF THE MANCP ANNUAL REPORT 2019

The NVWA's strategy for 2020 focuses on the NVWA as a modern and future-proof authority with a knowledge-driven and risk-based approach. This means that where possible, official controls in 2019 were planned, prioritised and conducted on the basis of the estimated risks.

1.1 Relevant developments

Merger of NVWA and Wageningen University & Research laboratories

To support the modern and future-proof authority that the NVWA aspires to become, 2019 saw the formation of a new institute: Wageningen Food Safety Research (WFSR). This new institute is part of Wageningen University & Research and is the product of a merger of the NVWA Laboratory for Feed and Food Safety and RIKILT Wageningen University & Research.

This merger of laboratories that share some tasks has resulted in a unique laboratory that is essential to the NVWA, as it will provide long-term, sustainable support in risk-based supervision and current and future policy for feed and food safety. The merger has also resulted in greater sample analysis capacity and thus greater flexibility to respond to incidents and crises. The laboratory now offers a sound knowledge base to provide timely support for the supervision process that is anchored in the scientific dynamics of Wageningen University & Research.

The independence of the services provided by WFSR to the NVWA is guaranteed. This means that WFSR must be able to carry out NVWA assignments without interference by any other parties. The lab's other activities also must not compromise the services provided to the NVWA. In specific terms, a number of rules therefore apply, including that WFSR must not carry out any activities for third parties (private companies or non-governmental organisations [NGOs]) unless the research offers clear added value in terms of food safety in the Netherlands and the laboratory's accumulation of knowledge, in order to improve the support provided to the NVWA.

New EURL tasks

The new Official Controls Regulation (2017/625) imposes a requirement to assign European Union Reference Laboratories (EURLs). The aim of these EURLs is to improve the quality and comparability of test results from the national reference laboratories of the different Member States. These laboratories also provide scientific and technical support to the European Commission. In 2019, the National Reference Centre (NRC) of the NVWA was assigned EURL status for two areas of plant health, namely plant pathogenic bacteria and viruses.

New EU regulations

In 2019, the NVWA made significant effort in the implementation of the Plant Health Regulation and the Official Controls Regulation, in close collaboration with the relevant plant-related inspection agencies. There has been a considerable focus , while minimising loss of functionality, on how we can ensure now and in the future that the NVWA systems for automated import/export data processing are in line with the European Commission's new reporting and notification system: the information management system for official controls (IMSOC). These existing functionalities are essential for the NVWA due to the huge volumes processed by the logistics chain in the Netherlands.

Skal placed a significant focus in 2019 on preparing for the implementation of the new European legislation on organic production, Regulation (EU) no. 2018/848, which will come into effect on 1 January 2021. However, as the production and control rules had not yet been published at the end of 2019, it was not yet possible to introduce new information material for organic businesses. It is also expected that Skal will need to adapt both its work processes and systems.

1.2 Key figures

In 2019, the NVWA carried out over 136,000 inspections in total, excluding plant health inspections, which are listed in a separate table. This is virtually identical to the number of inspections in 2018, but significantly lower (around 8.7%) than in the years prior to 2018. The table below shows the number of inspections per area of supervision.

number of inspections (excluding plant health inspections)	**2015**	**2016**	**2017**	**2018**	**2019**
Identification and registration (I&R)	2,028	1,783	1,401	496	1,307
Animal health – prevention	6,258	6,723	6,955	7,874	8,110
Animal welfare (during transport)	11,889	12,097	12,436	10,690	9,212
Animal feed	1,107	1,896	1,416	1,260	929
Animal by-products	3,804	3,356	2,384	2,004	3,325
Meat supply chain	3,017	3,736	4,021	4,379	3,426
Industrial production	4,670	6,920	6,532	4,508	6,578
Imports of live animals and animal products	60,289	61,279	61,585	60,805	60,465
Fish, fish products and aquaculture	1,574	1,343	1,336	1,117	-
Milk and dairy products	1,166	1,227	1,309	1,368	1,235
Egg sector	729	714	727	751	534
Food service industry, catering and retail	33,502	28,263	29,818	25,550	23,236
Residues and contaminants in food	7,844	9,772	9,478	7,462	7,285
Veterinary medicinal products	628	645	316	332	307
Claims for foods for particular nutritional uses	1,613	1,611	1,045	1,176	1,308
Plant protection products	944	1,053	1,075	894	912
Organic production	5,148	5,805	6,482	6,127	7,614
PDO, PGI and TSG	936	1,005	926	879	481
Total	**147,146**	**149,228**	**149,242**	**137,662**	**136,264**

The Fish, fish products and aquaculture domain is no longer reported separately in 2019, but instead partly in the Industrial production domain (previously meat products and composite products) and in the Animal health - prevention domain. The number of inspections in the meat supply chain has shown a slight upwards trend over the years, while the number of certifications for live animals has fallen considerably in the last two years (by around 22%):

inspections (in hours)	**2015**	**2016**	**2017**	**2018**	**2019**
Meat supply chain	279,405	287,562	289,729	294,896	304,225
Certification for live animals	103,933	107,553	106,326	94,150	82,632

plant health inspections	**2015**	**2016**	**2017**	**2018**	**2019**
Results for arable agriculture	38,785	40,578	38,973	40,170	44,741
Results for fruit and vegetables	122,560	146,019	125,323	90,931*	123,203
Results for floristry	167,965	187,787	184,851	175,356	134,582
Results for tree nurseries and green spaces	14,109	12,371	13,148	11,978	8,597**
Total	**343,419**	**386,755**	**362,295**	**318,435**	**311,123**

** In 2018, the exact figures for the export of fruit and vegetables to third countries were unavailable.*

*** In 2019, the exact figures for flower bulbs plant passports were unavailable at the time of publication of this report.*

1.3 Effectiveness of the controls

The control bodies assess the effectiveness of controls through specific projects. These projects are designed to provide more insight into compliance by specific target groups and the effectiveness of the official controls. For example, compliance rates in the meat supply chain are determined by the Compliance monitor for red meat slaughterhouses and poultry slaughterhouses (*Naleefmonitor slachthuizen roodvlees en pluimveeslachterijen*), with publication of the inspection results alongside the company names. The compliance rates appear to be consolidating at a relatively high level in a number of areas in 2019 compared with 2018, despite fluctuations. The NVWA will look at the extent to which the enforcement instruments used (particularly repressive supervision) can be supplemented with other existing or new instruments, such as the Phase 2 Data Transparency project.

Since the Microbiology domain has taken charge of inspections in respect of the implementation of the Regulation on microbiological criteria, the impact assessment has been based on factors such as the number of self-reports of unsafe batches of food by businesses themselves. This is an indicator of businesses' awareness of microbiological and other risks across the entire food supply chain, as well as being a requirement under the General Food Law Regulation. The number of reports in the Microbiology domain did not increase in 2019 compared with the previous year. The NVWA's sampling programme confirms that the number of unsafe batches of food has in fact remained stable in 2019.

In 2019, the NVWA carried out work in some domains on target group analyses and the development of supervision strategies in anticipation of impact assessments. The NVWA carried out a target group analysis for dairy farmers in 2018 due to the fact that a large group of dairy farms had experienced a high calf mortality rate in the previous year (more than 20%). In 2019, interviews were conducted with three dairy farmers who had a calf mortality rate of well above 20% in 2017 and who achieved a significant reduction in calf mortality in 2019. The dairy farmers were asked about the solutions they have identified to reduce the calf mortality rate and what prompted them to take this step. This information is supporting the development of an enforcement instrument aimed at raising awareness and rewarding efforts.

1.4 Findings

Animal health

This domain concerns the monitoring of animal health and the control and prevention of animal diseases in the Netherlands.

No outbreaks of the avian influenza (AI) virus occurred at poultry farms in the Netherlands in 2019. There were also no cases established in the Netherlands in 2019 of the virus variant detected in Belgium (H3N1), which is not subject to an obligation of notification and control, but that has had a significant negative impact on the egg sector. Due to its harmful nature, this variant has been made temporarily subject to mandatory notification and control in the Netherlands. The period of relative calm on the AI-front, in which the monitoring of wild birds and commercial poultry farms took place as usual, contrasted with the work generated by the import of a TB-infected veal calf from Ireland. The calf in question was placed on a calf rearing farm with more than 1800 animals. All of these animals underwent tuberculin testing. In addition to the infected animal, another five Irish calves tested positive. These animals were seized by the national government and transported to Wageningen Bioveterinary Research for testing. The NVWA also encountered an outbreak of *Brucella canis* in 2019 at a dog breeding farm, resulting from a case imported from Russia. The response to this outbreak is now complete.

The conclusion reached last year that continuous monitoring and control of zoonotic salmonellosis in poultry is essential due to the risk of human contamination through food, turned out to be true in 2019. The 2019 monitoring review of zoonotic *Salmonella* in poultry identified infections in 54 laying bird sheds and 9 breeder bird sheds, compared to 17 laying bird sheds and 2 laying bird rearing sheds in 2018. The reasons behind this rise are being investigated in collaboration with GD Animal Health.

Regulatory compliance by the livestock sector remains suboptimal and requires considerable supervision pressure from the NVWA to improve further. There are some exceptions, such as approved poultry farms and establishments that

demonstrate a high degree of compliance with only a small number of minor deficiencies. Generally speaking, the level of compliance with animal disease prevention regulations among the cleaning and disinfection facilities (C&D) inspected in 2019 was high. These regulations relate to working methods and hygiene, construction requirements and operating rules. There is still room for improvement, however, for instance in relation to the use of 'internal water supplies', the safe use of disinfectants, assessment of the cleanliness of transport vehicles, crates and containers, and C&D recordkeeping. Regulatory compliance among assembly centres requires improvement, particularly in relation to aspects such as the fitness of the animals for transport, the biosafety of the routing of personnel and transport vehicles, and entry and exit records. Fitness for transport has proven difficult to assess during the export certification of mainly cull cattle (animals at the end of their milk-producing period). To improve these controls, the inspection is now carried out by two veterinarians at a number of export locations (assembly centres). This 'four eyes' principle is also applied at a number of slaughterhouses where cull cattle are slaughtered.

There is still some strain between the reduced resources and number of hours available on the one hand, and the numbers of and time required for identification and registration (I&R) controls for cattle, sheep and goats on the other. The 3% control obligation prescribed in the EU was (narrowly) missed in the case of cattle (2.9%) and sheep and goats (1%) in 2019. The investigation into alternative enforcement options launched in 2017 to ensure that the European requirements are met in future was temporarily suspended this year due to ongoing further research into feasibility.

The major African swine fever (ASF) information campaign set up by the NVWA in 2019 proved to be a success. The NVWA launched an initiative that included the extensive provision of information via various media sources such as the NVWA website, the distribution of various ASF flyers and posters and the placement of information signage at car parks along motorways and near nature conservation areas. Cooperation with other sector players, such as those involved in the ASF prevention team, has been and continues to be a key element of this campaign. ASF remains an issue that requires attention. In addition, a handling protocol has been developed for the timely detection of ASF in wild boar found dead with no clear cause. A well-functioning ASF early warning system is also in place for pig farming.

Animal welfare

In this domain, animal welfare is supervised at primary businesses, during transport and at slaughterhouses.

Much of the regulatory oversight carried out by the NVWA is risk-based in nature, including the Animal welfare domain in 2019. The official controls focus on businesses or activities for which the risk of non-compliance is highest: high-risk businesses. In addition, the NVWA regularly carries out compliance measurements to monitor the impact of supervision. A compliance measurement consists of an inspection of a representative random sample of the total population.

In 2019, 69 cattle farms were identified as high-risk businesses. These are businesses where previous inspections have revealed repeat or one-off serious risks to animal welfare. Infringements were identified after one or more re-inspections at 32 of these 69 high-risk businesses. These 32 businesses will be inspected again in 2020. Selected inspections and re-inspections revealed that compliance with laws and regulations at high-risk businesses is low. In a number of cases, inspections related not only to cattle but also to calves, sheep, goats, horses, pigs or poultry. It is vital that the NVWA continues to carry out risk-based animal welfare inspections to encourage these high-risk businesses to consistently improve their levels of compliance. To achieve this, businesses that remain systematically non-compliant are placed under enhanced supervision. The enhanced supervision process involves a uniform enforcement approach, with a basis in administrative law and criminal law, in accordance with NVWA intervention policy. Ten businesses were placed under enhanced supervision in 2019. It is still too early to draw any conclusions regarding the impact of this enhanced supervision, as the businesses have not yet improved sufficiently to leave the enhanced supervision process.

The NVWA carried out a compliance measurement in the broiler sector in 2019. According to this measurement, the rate of compliance with animal welfare regulations in this sector is 58%. The majority of violations relate to the prescribed lighting arrangements, the quality of the available litter, an excessive loading density in the housing unit and the incorrect or late provision of group data to the KIP registration system. These results justify the execution of a number of risk-based projects in the broiler sector in 2020.

Compliance with animal welfare regulations was also found to be suboptimal within the pig farming sector and during a project focusing on calf welfare (72% and 54% respectively), with room for improvement. The compliance rate is higher for sheep and goat farms (83% and 86% respectively).

Animal welfare during transport was supervised through various projects. Inspections were carried out on hot days, during the transport of animals to and from horse markets, and at assembly centres. Reports and complaints were also assessed, including reports from supervising veterinarians at slaughterhouses on the transport of animals for whom 90% or more of the expected gestation period has already passed. Inspections at assembly centres are carried out in accordance with the 'four eyes' principle for the assessment of fitness for transport, which is challenging. The percentage of non-compliant findings resulting from the inspections mentioned here rose slightly compared with 2018 at 3%.

In 2019, five measures (reports on findings) were taken during mandatory supervision of slaughter without stunning. In the case of standard slaughter with stunning, 65 reports were drawn up in relation to stunning and restraint.

The NVWA is increasingly focusing on enforcement communication to improve compliance, including via social media. It is also taking part in research with a view, among other things, to establishing scientifically substantiated guidelines for the oversight and monitoring of open standards.

Animal feed

Compliance in the animal feed sector generally remained high in 2019. However, improvements are still needed in traceability, the Hazard Analysis and Critical Control Points (HACCP), the prevention of carryover between production batches and compliance with the reporting obligation by businesses and laboratories in the event of detected or suspected cases of unsafe animal feed. In addition, incorrect and/or incomplete information on labels and false claims remain a cause for concern. The sector takes responsibility in the event of incidents and proactive steps are taken to prevent further spread of the hazard.

In 2019, the NVWA completed and published the Integrated Supply Chain Analysis for Feed Crops and Plant-based Animal Feed. This analysis offers more insight into the interactions between links in the supply chain and thereby yields a better understanding of the opportunities for risk management improvements. The NVWA will use the analysis to improve its access to information and to take a more risk-based approach towards supervision where possible. Successful efforts in these areas are essential, for one due to the increasing number of reports received each year via the European Commission's Rapid Alert System for Food and Feed (RASFF) and under the General Food Law Regulation.

In response to the fipronil affair in 2017, a pilot study was carried out in 2019 into animal feed agents or additives that have effects that are too good to be true. At a major international livestock farming exhibition, information and leaflets were gathered on 41 products featuring implausible animal health-related and other claims, suggestive names, unclear composition and prohibited substances. This study will continue until 2020.

Animal by-products

The number of businesses in the animal by-product sector continues to grow steadily. A lack of growth in the number of inspectors has led to inspections increasingly having to take place on an even more risk-oriented basis. Measures to address this issue include the 'Animal By-products Enforcement Strategy' document, which was updated in 2019 to include a description of the risk factors, risk analysis, level of compliance, blind spots and enforcement methods for each target group in the animal by-product sector. 2019 also saw the launch of a project that breaks down businesses from a specific target group into risk categories. This is done by assigning businesses a score based on specific characteristics such as business type, size, compliance and operating territory.

With regard to businesses that generate animal by-products, compliance is high in the dairy industry and among primary businesses. However, at red meat and poultry slaughterhouses, compliance still varies from moderate to reasonable. Traceability and securing supply streams continue to be priorities in the supervision of approved and registered businesses.

The NVWA has placed a special emphasis on oversight of illegal exports of processed animal proteins derived from ruminants to third countries since 2015. Its efforts have prompted 10 of the 12 businesses involved to cease these activities. However, progress on this work has been hampered by legal proceedings brought against the NVWA by the businesses involved, complex trading systems, and the international component of this trade. These issues have been discussed with the European Commission.

Meat supply chain

A total of 304,225 hours were spent inspecting red meat slaughterhouses and poultry slaughterhouses in 2019. These hours not only encompass inspection activities (ante mortem and post mortem inspections, including supervision of these inspections), but also include a large part of the supervision activities in the slaughterhouses. They relate to the number of gross hours spent on supervision and inspections at red meat slaughterhouses. Of these, around 20% were spent on consultations, training and other activities. In the case of red meat, recent years have seen a slight upwards trend in the number of gross hours, due in part to the increased number of hours dedicated to training.

The number of requested inspection hours rose by 1% for red meat and 7% for poultry compared with 2018. The total number of animals slaughtered for red meat and poultry meat remained more or less the same. In the red meat sector, the trend of a gradual rise in the number of pigs slaughtered appears to be continuing (from 14.1 million in 2016 to 14.9 million in 2019), while the number of cattle slaughtered fell substantially, by 23% compared with 2018. This is in line with the downward trend in the number of dairy cows and young livestock in the Netherlands.
In 2019, the number of approval maintenance audits and inspections conducted in this domain was lower than in 2018 but similar to 2017, with a roughly equivalent number of target businesses. The number of re-inspections remained the same. However, the re-inspection rate is not directly comparable with the rate in 2018, since limited capacity meant that controls were carried out on a more risk-oriented basis, essentially resulting in a higher probability of re-inspection. The reduced supervision capacity will need to be expanded in order to achieve the specified goals of more risk-based and more uniform supervision.

Although the total number of written measures taken by the NVWA fell compared with 2018 by 8% to 894, the number of fine reports appears to be consolidating, with 104 fine reports for red meat slaughterhouses and 172 for poultry slaughterhouses. Poultry slaughterhouses remain the biggest offenders, with more than twice as many written measures and 65% more fine reports than red meat slaughterhouses.

Based on the compliance monitor for slaughterhouses, it appears that compliance has improved since the new method of supervision was introduced, however there is still room for improvement. The NVWA will examine the extent to which the enforcement instruments used (particularly repressive supervision) can be supplemented with other existing or new instruments (for example phase 2 data transparency). Specific development projects will be set up and implemented where necessary for this purpose in 2020.

The results for cutting plants and cold stores are comparable to 2018, with infringements relating mainly to the structural state of the premises and hygienic status. The vast majority of infringements were minor.

Industrial production (meat products, fish products and composite products)

In 2019, the number of inspections and audits carried out in this domain was around 45% higher than in 2018. This was partly due to the fact that more capacity became available within the inspection teams. In addition, inspections of businesses that produce fish and fish products, which were previously part of the Fish, fish products and aquaculture domain, were included in the Industrial production domain in 2019.

A somewhat higher percentage of omissions were established in 2019 compared with 2018 during official controls at businesses that produce, import, store or distribute meat products, fish products and composite products: an increase of over 20% to around 24%. Inspections relating to basic requirements and system inspections need to be given appropriate attention in 2020. For this purpose, a ‘compliance monitor’ is being developed to help identify problematic businesses. The risk-based approach to supervision is also being further refined and tested by means of a pilot study.

In 2019, many production businesses in this domain once again had major difficulties meeting the requirements of Regulation no. 2073/2005 (microbiological criteria), despite a slight increase in the compliance rate from 2018 (57%) to 2019 (64%). There will be a considerable focus on official controls on microbiological criteria in 2020, with a view to improving the regulatory compliance rate. The above-mentioned compliance monitor that is in development will also be used to achieve a more risk-based approach.

Businesses that are certified under a Private Quality System (PQS) based on the BRC, FSSC 22000 or IFS food safety standards were once again subject to modified oversight in 2019. The pilot launched in 2017 is now part of the standard supervision process. The guiding principle is that the NVWA is increasingly using the inspection results from these systems. The NVWA is constantly monitoring the extent to which the established confidence in the systems of the certifying bodies is justified. Although the results for 2019 have not yet been fully processed, an initial analysis shows that they confirm the general conclusions reached in 2017 and 2018. The quality systems in question add value to the NVWA's supervision activities. Certified businesses consistently exhibit a higher level of compliance than non-certified businesses. Consequently, the modified oversight has led to a lower NVWA supervision intensity in the case of certified businesses. The NVWA has also been able to adopt a more risk-based approach to the deployment of people and resources.

Intensified tracing investigations in the meat supply chain within this domain in 2019 have shown that traceability compliance is low. For instance, non-compliance with the traceability requirements was demonstrated or suspected for 43% of the businesses inspected. Greater priority will therefore be given to traceability in the meat supply chain during supervision activities in 2020.

Imported veterinary products

As in 2018, there was a very slight decrease of less than 1% in the total number of consignments offered for inspection (60,465) and the resulting measures. However, the number of laboratory analyses (3,280) fell significantly by more than 21% compared with 2018, despite the fact that the measures in respect of Brazil, meaning more intensive controls, remained in force. This was simply due to the lower number of consignments received from Brazil.

As announced in 2018, 2019 saw the launch of a collaboration project between the government and the private sector to improve the efficiency of the inspection chain in the Port of Rotterdam. This includes reducing the number of incorrect documents submitted with import consignments, primarily because problems with documentation are the main reason that consignments are denied entry to the territory of the EU.

Work started on the digital transformation of the import control process in 2019. This development takes advantage of the option in the new Official Controls Regulation that entered into force in December 2019.

Fish, fish products and aquaculture

For this report according to the Official Controls Regulation, the decision was taken to report the results of the official controls in the Fish, fish products and aquaculture domain in the Industrial production domain (fish and fish products) and the Animal health – prevention domain in 2019. This means that the number of inspections and samples taken for these individual domains cannot be compared to previous years. However, the total number of inspections and samples in 2019 remains comparable.

Dairy

Overall, the results of supervision show a downward trend in the number of deficiencies compared with 2018, in some cases of almost 8%. One exception, however, is the sale of raw milk to consumers and the production of raw milk products, which saw for example an increase in the deviation from the microbiological standard for the sale of raw milk directly to consumers, from 36% to 45%. The COKZ therefore rightly continued to prioritise this area in its supervision activities in 2019. The results confirm that the risks associated with food safety, as indicated in the 2017 integrated risk analysis of the dairy supply chain, chiefly occur in raw milk and raw milk products supplied by small-scale producers and farmhouse dairy producers. This is an area of concern due in part to the rising trend in the consumption of raw milk by consumers. Changes to national legislation and the current intervention policy are needed to ensure an adequate basis for effective enforcement. This issue is the subject of discussions between the competent authority and the Ministry of Health, Welfare and Sport (*Ministerie van Volksgezondheid, Welzijn en Sport*, VWS). Within this target group, the inspection frequency for businesses that supply raw milk products other than raw-milk cheeses (such as yoghurt and kefir) has already been increased on a risk-oriented basis to two inspections/audits per year.

In 2019, only 1 of the 15 producers of foods for particular nutritional uses (infant formula, dietary foods for special medical purposes and processed cereal-based foods and baby food for infants and young children) were found to still be non-compliant with the statutory provisions as set out in the package of hygiene measures. This positive outcome was not achieved for compliance with the microbiological standard in the preparation of foods for particular nutritional uses, where there was a slight increase in deviations from the standards compared with 2018 (14% to 16.7%). The COKZ supports these businesses with knowledge in carrying out a proper investigation into the cause and improving the production process.

In the primary phase, dairy farms with a private quality assurance system performed more poorly in terms of compliance with the requirements in the package of hygiene measures than dairy farms without a quality assurance system (directly supervised by the COKZ), with non-compliance rates of 7.9% and 1.6% respectively. Efforts are now underway to gain more insight into what motivates the businesses to comply, so that a more risk-based approach to supervision can be adopted.

The percentage of abnormalities of dairy samples and the number of reports (via the Rapid Alert System for Food and Feed [RASFF], the General Food Law Regulation, other competent authorities or directly from consumers) relating to microbiological issues remains consistently high. This percentage has even increased compared with 2018, to as much as 45% deviation from the microbiological standard for raw milk and 72% for reports of product deviations in dairy products. This requires the special attention of both the control body and the businesses.

Eggs and egg products

The results of the supervision in 2019 show a fluctuating trend in the number of failures to comply with the statutory provisions as set out in the package of hygiene measures compared with 2018. For example, the compliance rate fell slightly in the case of egg-laying poultry farms and packing stations (1.5% and 3.8% respectively), but rose significantly in the case of egg product producers (19%). The latter category consists of a small number of businesses, which means that greater or lesser compliance by just one business can have a major impact on the overall rate. The results for contaminant testing (dioxins, dioxin-like PCBs and other PCBs) show a marked reduction in 2019 compared to 2018 (1.8% versus 7%).

Food service industry and artisanal production

Once again this year, fewer inspections and re-inspections were conducted at food service industry businesses, artisanal businesses, establishments and retail outlets. The number carried out in 2019 was 23,236; more than 2000 less than in 2018. This decrease is due to a delay in the implementation of a new inspection registration system and a continuing failure to adequately plan inspection locations. 2019 also saw a reduction in the available capacity for inspections in this domain. The number of measures (7,582 in total) dropped compared with 2018. In terms of measures taken, the ratio of fines to written warnings continued to rise. The fine percentage in 2019 was 44%, compared with 34% and 41% in 2017 and 2018 respectively. This is due to the increased number of more risk-based inspections and more stringent enforcement of the intervention policy since 2017. It is impossible to make any statements regarding the degree of

compliance in this domain, since supervision is largely carried out risk-based. A compliance measurement was introduced in 2019 for the purpose of monitoring general compliance by businesses in this domain, which will be reported on in 2020.

Businesses that endanger the health of consumers are placed under enhanced supervision by the NVWA. In 2019, a total of 429 businesses in the Food service industry and artisanal production domain were placed under enhanced supervision. This resulted in a fall in the ratio of businesses under enhanced supervision versus businesses under regular supervision from 3.7% in 2018 to 3.2% in 2019. Over 75% of businesses that were placed under enhanced supervision were food service industry businesses.

The NVWA makes use of private-body control systems in its supervision. This means that controls were conducted within the private-body control system and that the NVWA conducts a reduced type of supervision for these companies. The number of businesses taking part in the private-body inspection system increased slightly again in 2019 (4%). In the years to come, the objective will be to professionalise, harmonise and intensify cooperation with private-body control systems.

The NVWA also uses the company chain approach, which is characterised by the use of random samples to determine the level of compliance across the company chain - one business with multiple locations nationwide, such as supermarkets, bakeries, caterers and petrol stations. Based on the results of random samples, the NVWA determines whether more or fewer than 90% of locations within the chain comply with the legal food safety requirements. If more than 90% of the locations comply, the entire company chain of business locations is eligible for less-frequent supervision, in which the focus is placed on systems control at the head office and the company's own control data. This company chain approach has so far proven to be efficient and effective, and was therefore continued in 2019.

The NVWA is moving forward with its efforts to make inspection results publicly available. 2019 witnessed the next step in preparations for the publication of the inspection results for all food service industry businesses in the Netherlands, on the basis of the Public Health Act (*Gezondheidswet*). The inspection results of cafés and other food service industry businesses in the municipalities of Utrecht, The Hague, Amsterdam and Rotterdam were published in 2019. In addition, as part of the company chain approach, results of controls at the chain level have also been published.

Food labelling and compliance with additives legislation

Compared with previous years, 2019 once again saw an increase in the number of reports, received from businesses in the context of the General Food Law Regulation, regarding the switching of labels or packaging, resulting in no or incorrect allergens being listed on the list of ingredients. In addition to these types of reports, the NVWA also received more reports regarding incorrect labelling of pre-packaged foods from other Member States in 2019. These reports concerned products that were sold in the relevant Member State, but that were produced or imported by a Dutch company/business. On receiving a report of incorrect labelling from another Member State or where the NVWA itself identified such cases, the NVWA informed the business in question and compelled the business to take corrective measures.

The illegal use of sulphite by meat processing businesses continued in 2019. Targeted supervision activities conducted at 42 businesses in the spring revealed sulphite use at around 50% of the businesses inspected, particularly in the case of butchers who sold products directly to the consumer. Re-inspections in the autumn showed that some businesses were still non-compliant. All non-compliant businesses were penalised with an administrative fine.

In 2018, the NVWA began compiling web dossiers providing information and clarification on the legislation and the views of the NVWA on food labelling and food additives. The web dossier on food additives was published on the NVWA website in June 2019. The web dossier on food labelling is due to be published in 2020.

Contaminants, residues and genetically modified organisms in food

The percentage of non-compliance with the maximum residue limit (MRL) for pesticides in or on food and animal feed originating within the EU has been low for a number of years. However, there have been signs of a slight upward trend since 2015. The increase in percentage of non-compliance is expected to continue in the coming years as the NVWA

increases its use of risk-based enforcement and selective sampling. Nevertheless, the NVWA wonders whether there is another reason behind this rise and will seek to answer this question in the years ahead.

Risk-based sampling and selective supervision by the NVWA is resulting in a downward trend in the number of samples tested and potentially to a lower probability of detecting one-off breaches. A total of 405 businesses were visited in order to collect product samples for pesticide residue testing in 2019: just 3% of the total number of businesses in the target group. The number of samples collected per inhabitant was also low. The Netherlands ranks low on the list of European countries in this context. This is an issue that requires attention in the years ahead. A greater intensity of controls could help to improve compliance, thus supporting the strong global position of the Dutch food industry.

The percentage of MRL non-compliances for pesticides on products from outside Europe remains relatively high. The top 5 products – which once again included vine leaves and goji berries in 2019 – with high MRL non-compliance rates have for several years been products imported from outside the EU. The focal point of the NVWA's risk-based supervision is imported products and products with high consumption levels. In the coming years the NVWA will also focus on products that are imported or exported in high volumes.

As the severity of crop degradation by fungi may vary in each harvesting season and by country of origin, the enforcement of EU regulations governing mycotoxins must be a key area of focus each year. Sampling of relevant products has been tailored accordingly. In addition to risk-based controls on imports from third countries and at production businesses, attention was also devoted to products from other EU Member States, since risky products can enter the Netherlands by this route as well. The largest number of irregularities was found in relation to nuts, seeds, dried fruit (including tropical fruit), herbs and spices. It is interesting to note that processed cereal-based foods and baby food for infants and toddlers were analysed according to the more stringent requirements for aflatoxins and ochratoxin A applicable to that product group and that none of the samples were found to exceed the maximum limits.

Risk-based measurements of environmental and process contaminants and plant toxins in various foodstuffs showed that the majority of the products available on the market in the Netherlands in 2019 met the relevant maximum limits (MLs). Breaches of MLs were detected for polycyclic aromatic hydrocarbons and glycidyl fatty acid esters in vegetable oils, and heavy metals in swordfish. The presence of acrylamide that exceeded the reference levels was detected in a number of product groups such as French fries, crisps, crackers, biscuits/wafers and kruidnoten (a typical Dutch delicacy). This underlines the importance of a conclusion reached in 2017 (RIVM report 'What is on our plate?') that acrylamide is a substance for which some consumers are exceeding the recommended safe intake and to which end reference levels were then established in EU Regulation 2017/2158.

The NVWA therefore looks at acrylamide during its supervision activities and started in 2019 to conduct inspections and collect samples in sectors where high levels of acrylamide are regularly detected in products. The NVWA will continue to supervise acrylamide levels in food in the years ahead.

High levels of iodine were measured in seaweed, however it is difficult to assess the risk associated with these levels as the substance can be lost during preparation, meaning that the actual intake on consumption is unclear. The NVWA plans to carry out more extensive research next year into the preparation of products such as seaweed and the effect on iodine levels.

The results of the official controls on genetically modified organisms (GMOs) in 2019 are comparable to those in 2018, except that the number of samples fell by 14% from 307 to 265. The four positive GMO-free samples from the 51 Chinese rice products tested contained traces of an authorised GMO. No unauthorised GMOs were found.

Veterinary medicinal products

Various inspections of veterinary medicinal products were conducted at farmers, private individuals, veterinarians and licence holders again in 2019. A large part of the inspections take place on the basis of notifications. These notifications can stem from doubts regarding the content of the food chain information form (*voedselketeninformatieformulier*, VKI) provided to slaughterhouses, or from residues of prohibited substances or active substances that exceed the standards set out in the National Residues Plan (*Nationaal Plan Residuen*). Notifications can also originate from Dutch Customs, the network of inspectors, businesses or the general public.

The inspection findings are comparable to the results for the previous year. A number of irregularities were found in areas such as the supply, stocking and use of veterinary medicinal products, administrative obligations, VKIs and veterinary activities.

The majority of inspections are conducted in response to a notification and are therefore by definition not random. This means that these results do not accurately represent the level of compliance in the various sectors, such as the poultry, cattle, pig, sheep and companion animal sectors. Careless use of veterinary medicinal products can pose a risk to food safety, public health, animal health and the environment. For this reason,

the NVWA will continue to carry out targeted inspections of the production, trade and proper prescription and use of veterinary medicinal products in the coming years. It will also continue to use instruments such as enforcement communication to promote compliance with the legislation governing veterinary medicinal products.

The number of analyses of products of animal origin carried out in the context of the National Residues Plan rose by almost 5000 in 2019 to 40,591 (in 26,522 samples). A total of 80 of these results were found to be non-compliant, i.e. 0.2%, a similar percentage to 2018.

The self assessment obligation for residues of veterinary medicinal products and prohibited substances applies to keepers of farm animals to prevent animal products containing prohibited substances or with residue levels that exceed the permitted limits from entering the food chain. Livestock farmers comply with this obligation by participating in a self assessment programme as part of a sectoral quality system. Those who do not participate must be able to demonstrate to the NVWA how they are complying with this obligation, for example by setting up their own self assessment programme involving sampling and analysis. The NVWA successfully focused on poultry and veal calf farmers in 2018. The same system was used in 2019 to raise awareness of the self assessment obligation among pig farmers. The first step consisted of enforcement communication in the form of an individually addressed letter, followed by a random sample of 25 of the 230 businesses that were not participating in a sectoral quality system. Twenty four of these businesses were found to be compliant. However, the business found to be non-compliant was to stop keeping pigs following slaughter of the remaining animals.

Practising veterinarians were another target group investigated by the NVWA in 2019. Veterinary practices are legally required to produce a quadratic comparison at least once every calendar year. This is a quantitative audit of the records focusing on the receipt, dispensing and available stock of veterinary medicinal products. In the case of the animal sectors listed in Appendix 9 of the Veterinary Medicines Regulation (*Regeling diergeneesmiddelen*), veterinarians are also obliged to report all antibiotics dispensed in a compulsory database maintained by the sector in question. Of the approximately 2,400 veterinary practices in the Netherlands, a total of six were inspected. The findings for two inspections were found to be acceptable. In the case of three of the practices inspected the quadratic comparison was non-compliant. One practice was non-compliant in relation to database reporting. This result will be taken into account in follow-up measures.

Microbiology

The Microbiology domain (pathogens, food-borne infections and food-borne zoonoses) supervises the prevention of pathogenic micro-organisms in food as well as monitoring antimicrobial resistance. This supervision involves testing samples taken from every stage of the food supply chain, from primary production to the retail. The selection of the products to be sampled, their location in the supply chain and the pathogens to be analysed are determined based on: integrated supply chain analyses, key policy objectives, results from previous projects, scientific insights, complaints and notifications.

The NVWA collaborates with Wageningen Food Safety Research, Wageningen Bio-Veterinary Research and the National Institute for Public Health and the Environment (*Rijksinstituut voor Volksgezondheid en Milieu*, RIVM) in order to monitor a wide range of bacterial isolates to detect the occurrence of antibiotic resistance. This process has been ongoing for many years. A comparison with 2018 shows a slight reduction in extended-spectrum beta-lactamase (ESBL) producing E.coli in both fresh poultry meat, which has the highest prevalence with 40%, and other types of meat and fish. Methicillin-resistant *Staphylococcus aureus* (MRSA) also has its highest prevalence in poultry meat, although this has fallen

slightly to 20%. The MRSA detection rate was slightly higher in samples of pork (8.4%) and beef (3.8%) compared with 2018 (5.9% and 2.1% respectively).

The 7% increase in the number of cases reported by food businesses, the results of the NVWA's monitoring programmes and investigations into the sources of outbreaks of food-borne infections show that there is a continuing need for both food businesses and the competent authority to pay attention to microbiological risks. Risk-based supervision shows that targeted supervision of specific foods (exotic meats, herbs/spices, fish) results in targeted inspections of businesses with regard to compliance and control of microbiological hazards (pathogenic micro-organisms), and can provide businesses and consumers with a framework for action.

Nutrition and health, special foods and drinks

Oversight of special foods and drinks has a broad scope, ranging from tube feeding to herbal preparations. It is characteristic of this domain that the legal status of many products is not clear in advance. Certain products could be classified simultaneously as a medical aid, a medicinal product or a food supplement. The inspections that were carried out at companies focused on regulatory compliance in relation to labelling, nutrition and health claims, novel foods and the use of broad medical claims, the advertising of infant formula, and banned herbs.

The compliance rate for food safety system inspections of importers, label holders and producers of special food and drink products fluctuated around 45% in 2018 and 2019. Supervision is risk-based and non-representative, and will by definition produce a higher non-compliance rate than random supervision. Such a low compliance rate for a group comprising 165 businesses in 2019 is a cause for concern, however, particularly given that 75% of cases related to a failure to comply with the conditions regarding the adoption of a hazard analysis critical control points system.

A web shop inspection was also carried out for 145 businesses in 2019. Website inspections resulted in 87 measures being carried out at 64 businesses (44%). The majority of measures were taken in response to infringements of the regulation on claims (Regulation [EC] no. 1924/2006), which relates to nutrition and health claims made on foods.

Inspections were also carried out as a result of 213 reports (RASFF or GFLR notifications by consumers and companies) concerning 146 businesses. In 32% of cases, the report was well founded (worthy of measures). Though a substantial reduction compared to 44% in 2018, this situation still requires attention.

Inspections in the context of claims on infant formula and follow-on formula revealed a 21% improvement in compliance compared to 2015. The NVWA found only one prohibited medical claim in 2019. Self-regulation, initiated by the sector, appears to have played a major role in improving compliance.

The projecton St John's Wort preparations involved the analysis of 47 herbal preparations containing St John's Wort for the presence of pyrrolizidine alkaloids (PAs). These substances are harmful to health and occur naturally in some plant species, but not in St John's Wort. The PAs may have ended up in the herbal preparations containing St John's Wort as a result of the simultaneous harvesting of plants containing these substances. The analyses identified nine preparations containing PA levels classified by the NVWA as harmful. The NVWA took enforcement measures in response to the results, including stopping the sale of these products and making public health warnings mandatory. The NVWA will assess the impact of these enforcement measures in 2021.

Plant health

The results of official plant health controls are classified according to the following sectors: arable agriculture, fruit and vegetables, floristry, flower bulb cultivation, and tree nurseries and green spaces.

The situation in arable agriculture is characterised by the continual effort needed to control a small number of significant quarantine organisms in potato and seed potato cultivation. This relates to potato cyst nematode (PCN), *Meloidogyne chitwoodi & M. fallax*, brown rot, ring rot and potato wart disease. No cases of ring rot were detected in 2018 or 2019. There were also no established cases of potato wart disease.

The fruit and vegetables sector covers the development of new varieties, global seed production and distribution, plant propagation and the cultivation of fruit and vegetables, outdoors or in greenhouses. Within this sector, plants and seeds are imported from all parts of the world, with distribution taking place throughout Europe and exports going out to every corner of the world. The number of interceptions of quarantine organisms in fruit and vegetable imports was similar in 2019 to 2018 (285 versus 273), although it should be noted that there were slightly fewer import inspections. 2019 saw the identification of the first case of Tomato Brown Rugose Fruit Virus (ToBRFV) in the Netherlands at a tomato production company. The follow-up of this discovery resulted in significant efforts on the part of the NVWA. Additional tracing activities were commenced, revealing several infected premises. This led to eradication measures that will continue in 2020. The Netherlands' pest status for ToBRFV has now changed from 'Absent' to 'Transient, under eradication'. EU emergency measures for ToBRFV have applied since November 2019.

The floristry sector covers a wide range of products for ornamental horticulture, including propagation material, end products and products at all stages in between. The highly internationalised production chains have close connections between the different links in the chain. The number of interceptions on import has decreased somewhat in 2019 compared with 2018 (145 versus 216), but is still higher than in 2017. As in the fruit and vegetables sector, the quarantine organism *Thaumatotibia leucotreta* (False Codling Moth), which has been regulated since 1 January 2018, was responsible for a large number of intercepted consignments on the import of products in the floristry sector.

Outdoor cultivation of flower bulbs involves cultivation in open ground, which entails specific risks relating to soil-borne organisms. Other non-soil-borne organisms, such as viruses, are also a threat to the cultivation and global sale of flower bulbs. There was a slight decrease in rejections due to Quarantine organisms on export in this sector in 2019. The two main reasons for export rejections were the presence of soil and the presence of fungi (particularly *Fusarium*).

The tree nursery sector is closely connected with woods, gardens, public plantings and parks in what are referred to as 'green spaces'. Infections in green spaces can have serious consequences for tree nurseries and vice versa. The number of regulated organisms detected during plant passport field inspections at tree nurseries (including perennials) was lower in 2019 than in 2018 (40 versus 69), which can primarily be explained by the fact that, unlike in the previous year, around 20 cases of Tomato Ringspot Virus/Tobacco Ringspot Virus were detected in Iris and *Hemerocallis* (daylily).

The number of notifications in the floristry sector in 2019 fell slightly compared with 2018. The number of notifications in the other sectors appears to have remained relatively constant. It should be noted that the organisms that were often intercepted in 2019 were also intercepted relatively often in 2018: indicating that the current supervision of this flow of goods is still relevant.

The number of quarantine organisms detected as part of the national survey programme was similar to previous years. Apart from the first ever case of ToBRFV, most cases detected involved known quarantine organisms such as the bacteria *Ralstonia Solanacearum*, the root-knot nematodes *Meloidogyne Chitwoodi* and *Meloidogyne Fallax*, and Tobacco Ringspot Virus (TRSV).

Plant protection

The NVWA also carries out knowledge-driven and risk-based supervision in this domain, as well as monitoring general compliance in each target group using 'compliance measurements'. Compliance measurements are one of the indicators, alongside others including specific reports and specific issues, used to categorise target groups according to risk.

Two types of inspections are carried out at users of plant protection products to verify whether they exclusively use plant protection products that are authorised in the Netherlands and comply with the legal requirements. The first are inspections during use in the field and the second inspections of businesses and their records.

The majority of infringements in this domain were identified during inspections of the use of plant protection products. A total of 133 samples were collected during these types of inspections. These samples were analysed not only for authorised plant protection products, but also for the presence of three neonicotinoids: clothianidin, imidacloprid and thiamethoxam. The outdoor use of these three neonicotinoids has been banned in Europe since 19 December 2018. One of the three neonicotinoids was detected in two samples (1.5%), a sign that the use of these substances has been all but eradicated. However, the NVWA will continue to monitor the presence of prohibited substances.

In 2019, 138 inspections focusing on working method were carried out during the application of plant protection products. Based on fine notifications and warnings, compliance with downward, upward and lateral spraying was 67%. Failure to exercise due care during spraying can lead to risks to humans (the user and local residents) and the environment. This low rate of compliance therefore requires robust follow-up in the years to come.

In response to the ban on the use of plant protection products outside of the agricultural sector by professional users, the NVWA conducted risk-based inspections at 52 businesses located in business parks. A written warning or report on findings was issued to 34 of the 52 businesses. The 2017 compliance measurement had already revealed a low rate of compliance. The NVWA will therefore continue its supervision of this target group according to a risk-based approach in an attempt to improve compliance. The possibility of using other enforcement instruments to boost compliance will be explored.

Only one case of mass bee death due to the use of a prohibited substance was identified in 2019. The NVWA will continue to conduct bee death inspections due to the major impact of such incidents.

A compliance measurement on the correct use of plant protection products in arable agriculture and open-field vegetables was carried out in 2019 (183 inspections). The rate of compliance in arable agriculture and open-field vegetables was 83%, determined based on the percentage of fine notifications and warnings. This is somewhat lower than the previous compliance measurements in 2013 and 2015, which revealed a compliance rate of 86%. As this is only a slight fall the NVWA does not feel that a change to the risk classification, namely low risk, is justified for this sector.

Overall, compliance in the flower bulb sector rose in 2018 compared to a previous compliance measurement, however certain aspects of this sector still required attention. In 2019, 15 targeted inspections were therefore conducted on the use of formaldehyde during the disinfection of flower bulbs. The use of formaldehyde was detected in seven cases, indicating that this issue still needs to be addressed.

Compliance in the ornamental cultivation sector was low in 2019: 60% for cut flowers and 57% for pot plants, tree nursery plants and perennials. The majority of infringements, over 60%, involved insecticides. The NVWA will therefore continue its supervision within this sector according to a risk-based approach in order to improve compliance.
The possibility of using other enforcement instruments to boost compliance will also be explored.

In the trade of plant protection products – sales by businesses to end users and/or other distributors – infringements were identified at 23 out of 34 inspections conducted in 2019. Consequently, the NVWA continues to view this activity as high risk and to structure its supervision accordingly. Another reason for this is that, due to its position in the production chain, trade has an effect on the compliance level for all target groups. After all, correct use of a product depends on the provision of the correct information and resources to the users.

The sale and distribution of plant protection products is regulated. Inspections of plant protection product case files for products that are authorised in the Netherlands and samples of the relevant agents at approval holders only revealed omissions from label texts. These findings led to four warnings due to several major omissions. However, due to a lack of specifications or analysis methods, it was not possible to check all physical and chemical parameters and additives for accuracy in the samples gathered. Researchis conducted to fill in these gaps as much as possible. This is a common problem encountered in all EU Member States.

In 2019, in collaboration with Dutch Customs, the NVWA inspected 63 containers (sea freight) and 10 air freight consignments (including postal parcels) being imported from third countries that potentially contained plant protection products. A total of eight consignments were found to contain unauthorised biocides or plant protection products.
A total of five written measures were taken, varying from reports on findings and written warnings to official reports.
In one case, the consignment was destroyed at the offending party's expense.

Organic products

Skal, the supervisory authority for the organic sector, achieved a marked increase of almost 25% in the number of inspections conducted (from 6127 to 7614 inspections) in 2019. This was to be expected following a year of growth in the organic sector, accompanied by a necessary increase in staff. 100% of organic businesses were inspected.
The upward trend in the number of certified organic businesses witnessed in 2018 continued in 2019, but at a slower rate. Inspections once again revealed that the large majority of the organic establishments complied with the statutory regulations in 2019. With a rate of 1.8% the total number of critical non-compliances of 106 may have been higher than in 2018 (1%), but it still remained low. Most businesses therefore had their organic certificates extended or renewed, and newly registered businesses received their first organic certificate. The high regulatory compliance by organic businesses is a favourable indication of the reliability of the Dutch organic product.

In terms of supervision, additional inspections, crosschecks and sampling specifically focus on high-risk themes: in other words, supervision is risk-based. In the context of plant protection, 98 targeted inspections were carried out and 112 samples were collected. Seventeen of these samples were found to contain residues of plant protection products not permitted in organic cultivation. In the case of one business, the results led to the strong suspicion that the residue detected was due to active use. This business decide to terminate its organic certification.

Skal conducted additional inspections of importers in 2019 in relation to the processing of digital import certificates (COIs) in the EU's information system Trade Control and Expert System New Technology (TRACES NT). The increased supervision did not lead to an improvement in compliance behaviour with regard to the correct processing of the digital COI in TRACES NT. This has prompted Skal to adapt its current information provision where necessary, and to review the structure of the importer permit inspection.

The rules governing the sale of organic products to consumers are set to change on 1 January 2021 when Regulation (EU) no. 2018/848 enters into force. One of the new requirements is that the mixing of standard and organic products must be avoided. A pilot in 2019 involving the performance of 32 retail store inspections to gain a better understanding of the risks in this sector led to the conclusion that, although supermarkets and other stores selling organic products take measures to prevent the mixing of standard and organic products, the risk of this occurring remains high. In addition to factors such as the lack of an incoming goods inspection focusing on the organic status of the products purchased, unpackaged products and products that undergo further processing in store are at particularly high risk of becoming confused with standard products. The results of the pilot will be used to develop the supervision strategy for stores and supermarkets.

Geographical indications: protected designation of origin (PDO), protected geographical indication (PGI) and traditional specialities guaranteed (TSG)

The results of controls in 2019 show once again that the protected types of cheese generally meet the requirements in the corresponding product registration dossiers. A greater number of violations were established than in previous years, however, primarily for Gouda Holland (PGI) and Edam Holland (PGI), in relation to moisture content and fat content. Corrections take place effectively by means of penalties, which take away the economic advantage of the relevant party.

Work on a new analysis method that can more effectively determine the authenticity of the preparation of Dutch farmhouse cheese has been ongoing since 2018. This is a fundamentally different method to the standard phosphatase analysis method. Wageningen Food Safety Research is developing a 'fingerprint method' that measures volatile substances to determine whether and to what extent raw milk has been used in the preparation. This research continued in 2019, but has not yet produced sufficient results to draw statistically proven conclusions. Further research will therefore be carried out in 2020.

1.5 Actions taken on non-compliance

The tables below first provide a multi-year summary of administrative fines in the context of the Commodities Act, followed by a breakdown of the decisions imposing fines in 2019 for each area of law.

Multi-year summary of decisions imposing fines, 2015-2019

decisions imposing fines	2015	2016	2017	2018	2019
Number of decisions imposing fines (Commodities Act)	3,626	3,975	4,801	4296	4,040
Total amount of fines (x 1000 euros)	4,593	4,874	5,642	5,425	5,123
Average fine	1,267	1,226	1,175	1263	1,268

Summary of decisions imposing fines 2019

legislation	number	total amount of fines	average fine amount	amount of fines paid
Commodities Act	4,040	€ 5,123,333	€ 1,268	€ 4,828,515
Tobacco and Tobacco Products Act	1,258	€ 1,555,060	€ 1,236	€ 1,316,968
Plant Protection Products and Biocides Act	256	€ 367,297	€ 1,435	€ 305,480
Medicines Act	11	€ 62,333	€ 5,667	€ 148,342
Animal Health and Welfare Act	42	€ 115,600	€ 2,752	€ 95,643
Animals Act	1,210	€ 4,947,500	€ 4,088	€ 4,642,642
Total	**6,817**	**€ 12,171,123**	**€ 1,785**	**€ 11,337,590**

1.6 National audit system

In accordance with the Official Controls Regulation (Regulation [EC] No. 882/2004), the NVWA carries out internal and external audits to assess the effectiveness of the official controls. Internal audits are conducted by the Internal Audit Service (*Interne auditdienst*, IAD) and external audits by NVWA inspectors.

A number of NVWA activities have been accredited by the Dutch Accreditation Council (*Raad van Accreditatie*, RvA) on the basis of international quality standards. The accreditations relate to the Laboratory for Feed and Food Safety, the national reference centre, the fish inspection teams and the border control posts and are verified on an annual basis by means of internal audits conducted by the IAD. The key conclusion from these audits was that the NVWA's quality system is appropriate and effective, and complies with the ISO 17025 or ISO 17020 standards.

In addition to the activities described above, the NVWA also carries out other control tasks based on a quality system. In preparation for a future application for accreditation, the IAD carried out internal audits according to the ISO 17020 standard of the control tasks performed by the warehouses, inspection and supervision of poultry slaughterhouses and remote certification in 2019. An internal audit was also conducted of uniformity in the implementation of supervision within the Enforcement Directorate, the Consumer Department - Food Service Industry and Artisanal Production domain. The IAD also conducted an investigation into potential gaps in oversight of the red meat supply chain at medium-sized cattle slaughterhouses. The results of this latter investigation show that a great deal of care and attention is generally devoted to limiting the risks by the supervision of the red meat chain. The NVWA has developed and implemented measures across the entire breadth of the supply chain with the aim of minimising the risks to food safety, animal welfare and animal health. However, the NVWA could potentially further limit many of the risks and improve the effectiveness of supervision at every stage of the red meat supply chain by taking additional measures and organising its activities differently. Examples include the further embedding of uniformity, the registration of inspection results, better internal collaboration between the Enforcement and Inspection directorates, and the creation, adoption and application of specific intervention policy.

The external audits focused on the following organisations that carry out official control tasks in the context of the Official Controls Regulation: The Netherlands Controlling Authority for Milk and Milk Products (*Centraal Orgaan voor Kwaliteitsaangelegenheden in de Zuivel*, COKZ) and the Netherlands Egg Control Authority (*Nederlandse Controle Autoriteit Eieren*, NCAE), Animal Sector Quality Inspection (*Kwaliteitskeuring Dierlijke Sector*, KDS) and the plant-related inspection agencies (Flower Bulbs Inspection Service [*Stichting Bloembollen Keuringsdienst*, BKD], Quality Control Bureau [*Kwaliteits-Controle-Bureau*, KCB], Dutch General Inspection Service for Agricultural Seed and Seed Potatoes [*Nederlandse Algemene Keuringsdienst voor zaaizaad en pootgoed van landbouwgewassen*, NAK] and the Netherlands Inspection Service for Horticulture [*Naktuinbouw*]). The results of these external audits give a positive view of how the activities of the above-mentioned agencies are carried out. However, it is important to note a number of recommendations from the audit reports in question. The COKZ was asked to adhere more consistently to NVWA intervention policy, and to bring COKZ sampling procedures into line with the Commodities Act on Sampling and NVWA sampling procedures, given the importance of these instruments in terms of the quality of supervision and performance of tasks by the COKZ and the NVWA. A key area of improvement for the KDS was that instructions and procedures should be agreed with the NVWA.

1.7 Budget/resources

The following table lists the available budget and staffing levels for the relevant control bodies as at 31 December 2019.

control body	2018 budget (x 1000 euros)	2018 staffing levels (FTE)	2019 budget (x 1000 euros)	2019 staffing levels (FTE)
NVWA	352,518	2,459	342,295	2,436
COKZ/NCAE	9,152	57	9,388	66
NAK	22,931	228	24,168	226
Naktuinbouw	29,832	294	30,807	301
BKD	8,859	102	9,061	104
KCB	17,879	135	19,533	141
GD	60,000	500	60,000	500
Skal	5,287	49	6,111	61

1.8 Actions taken to improve official controls

Within the domains, concerted efforts were made to improve the quality of the official controls. This resulted in the actions, such as:

- training programmes, courses and exercises, including participation in Better Training for Safer Food programmes
- use of data analysis
- increasing uniformity by improving working instructions (quality management)
- application of enforcement management
- application of integrated supply chain analysis, a risk-based approach, grouping into risk categories
- revised specific intervention policy
- innovation in oversight, such as the use of improved or new methods of analysis
- use of enforcement communication
- introduction of the 'four eyes' principle (two veterinarians) for assessing the fitness of cattle (cull cattle) for transport
- 2019 saw the completion of a camera surveillance pilot at all large slaughterhouses, and the introduction of camera surveillance at small and medium-sized slaughterhouses
- use of internet search tools, such as web scraping
- work took place in collaboration with Dutch Customs on a new procedure for seal checks on processed animal proteins being exported to third countries
- accreditation of the NVWA's official and unofficial control tasks, such as the supervision of warehouses and the supervision of the import of food and animal feed of non-animal origin
- Naktuinbouw will start to carry out wood packaging material (WPM) controls, which will include inspections at import businesses of the wood packaging accompanying propagating material
- development of a sector-oriented approach in order to organise the supervision of organic production more effectively, focusing on the risks associated with the specific sector. After web shops and import in 2018, Skal began to develop sectoral plans for dairy and arable farming in 2019

1.9 Actions taken to improve compliance by businesses

The following actions, among others, have been taken to improve compliance by businesses within each of the domains:

- intensive contact and consultation with the sector and/or businesses concerned
- targeted information provision, such as via the NVWA website, web dossiers, information sheets
- implementing enhanced supervision in the event of inadequate performance of industrial production companies (meat products and composite products)
- adapted supervision in the event of private quality systems
- expanded publication of inspection results, for example for inspections in the food service industry
- communicating on enforcement in a manner that encourages compliance with regulations, including through the use of social media and press releases
- developing education campaigns on regulations and enforcement
- compulsory participation of the business sector (contract parties) in simulation animal disease control exercises; contract parties were actively trained in the correct use of Personal Protective Equipment in 2019
- involvement of the sector in the development of enforcement instruments, such as the pig industry in the development of a risk assessment instrument by Wageningen University, which allows various risk factors in relation to tail and ear biting to be assessed, and its use in professional networks
- commencement, in 2019, of the development of an enforcement mix with an emphasis on rewarding efforts and raising awareness for the cattle sector, aimed at reducing the calf mortality rate

1.10 NVWA Intelligence and Investigation Service

The NVWA Intelligence and Investigation Service (*NVWA-Inlichtingen- en Opsporingsdienst*, NVWA-IOD) is the NVWA's Special Investigation Service. The specific tasks of this special service include investigating criminal offences, gaining insight into and identifying compliance and non-compliance, and improving compliance in all areas supervised by the NVWA. The NVWA-IOD mainly plays a role in the event of serious or systematic infringements of the law within the NVWA's enforcement domains. The NVWA-IOD focuses primarily on complex, supply chain-related, organised and international crime. The core tasks of the NVWA-IOD are:

- collecting and refining intelligence
- carrying out analyses to improve insight into the nature and extent of compliance and non-compliance
- conducting investigations on the basis of a wide range of powers

The NVWA-IOD's broad sphere of activity means that investigations are also conducted outside the scope of the Official Controls Regulation. Key areas in 2019 included:

- fraud involving food products
- fraud involving the sale of manure
- fraud involving veterinary medicinal products
- product safety issues, such as the marketing of unsafe products and investigations into accidents involving bouncy castles
- fraud involving laboratory results
- fraud involving agricultural subsidies

Within the Enforcement Directorate, the Inspection Division and the NVWA-IOD work together in the Fraud Expertise Unit (*Fraude Expertise Knooppunt*, FEK). This unit coordinates efforts to tackle fraud through combined and variable action by the Inspection Division. The NVWA-IOD advises inspectors on how to recognise and prove fraud and provides them with guidance on the application of criminal law and economic criminal law.

CHAPTER 2
KEY FIGURES

This chapter sets out the key enforcement figures.

2.1 Available resources of the inspection services

The following table lists the available budget and staffing levels for the control bodies involved as at 31 December 2019 (see Chapter 6 for a description of the control bodies).

control body	2018 budget (x 1000 euros)	2018 staffing levels (FTE)	2019 budget (x 1000 euros)	2019 staffing levels (FTE)
NVWA	352,518	2,459	342,295	2,436
COKZ/NCAE	9,152	57	9,388	66
NAK	22,931	228	24,168	226
Naktuinbouw	29,832	294	30,807	301
BKD	8,859	102	9,061	104
KCB	17,879	135	19,533	141
GD	60,000	500	60,000	500
Skal	5,287	49	6,111	61

2.2 Total number of inspections and certifications (in hours) by domain, 2015-2019

The following tables list the total number of inspections and certification hours for each of the domains. See Chapter 3 for a specific description of the individual domains.

number of inspections (excluding plant health inspections)	2015	2016	2017	2018	2019
Identification and registration (I&R)	2,028	1,783	1,401	496	1,307
Animal health – prevention	6,258	6,723	6,955	7,874	8,110
Animal welfare (during transport)	11,889	12,097	12,436	10,690	9,212
Animal feed	1,107	1,896	1,416	1,260	929
Animal by-products	3,804	3,356	2,384	2,004	3,325
Meat supply chain	3,017	3,736	4,021	4,379	3,426
Industrial production	4,670	6,920	6,532	4,508	6,578
Imports of live animals and animal products	60,289	61,279	61,585	60,805	60,465
Fish, fish products and aquaculture	1,574	1,343	1,336	1,117	-
Milk and dairy products	1,166	1,227	1,309	1,368	1,235
Egg sector	729	714	727	751	534
Food service industry, catering and retail	33,502	28,263	29,818	25,550	23,236
Residues and contaminants in food	7,844	9,772	9,478	7,462	7,285
Veterinary medicinal products	628	645	316	332	307
Claims for foods for particular nutritional uses	1,613	1,611	1,045	1,176	1,308
Plant protection products	944	1,053	1,075	894	912
Organic production	5,148	5,805	6,482	6,127	7,614

number of inspections (excluding plant health inspections)	2015	2016	2017	2018	2019
PDO, PGI and TSG	936	1,005	926	879	481
Total	**147,146**	**149,228**	**149,242**	**137,662**	**136,264**

The number of 'Animal health – prevention' inspections in 2018 was corrected following the publication of the MANCP Annual Report 2018.

The Fish, fish products and aquaculture domain is no longer reported separately in 2019, but instead partly in the Industrial production domain (meat products and composite products) and in the Animal health - prevention domain.

inspections (in hours)	2015	2016	2017	2018	2019
Meat supply chain	279,405	287,562	289,729	294,896	304,225
Certification for live animals	103,933	107,553	106,326	94,150	82,632

plant health inspections	2015	2016	2017	2018	2019
Results for arable agriculture	38,785	40,578	38,973	40,170	44,741
Results for fruit and vegetables	122,560	146,019	125,323	90,931*	123,203
Results for floristry	167,965	187,787	184,851	175,356	134,582
Results for tree nurseries and green spaces	14,109	12,371	13,148	11,978	8,597**
Total	**343,419**	**386,755**	**362,295**	**318,435**	**311,123**

** In the 2018 results for fruit and vegetables, exact figures were unavailable for exports to third countries.*

*** In the 2019 results for tree nurseries and green spaces, exact figures were not available for flower bulbs plant passport on publication of this report.*

2.3 Total number of samples/analyses by domain, 2015-2019

The following table lists the total number of samples or analyses for the various domains. See Chapter 3 for a specific description of the individual domains.

number of samples/analyses	2015	2016	2017	2018	2019
Animal health - monitoring	132,849	261,906	305,176	302,377	293,775
Animal feed	2,640	2,673	2,360	1,926	1,879
Animal by-products	160	87	36	38	66
Meat supply chain	155,036	158,560	162,189	167,451	166,036
Industrial production (bivalve molluscs)					1,979
Imports of live animals and animal products	1,386	1,275	4,029	4,180	3,280
Fish, fish products and aquaculture	2,831	2,949	3,056	2,494	-
Milk and dairy products	6,104	6,481	7,818	14,347	7,522
Egg sector	244	227	777	621	644
Food service industry, catering and retail	5,681	8,371	6,759	4,764	4,026
Residues and contaminants in food	7,844	9,772	9,478	7,462	7,285
Veterinary medicinal products – National Residues Plan	33,064	34,719	34,300	35,665	40,591
Microbiology	15,463	16,077	13,304	8,801	9,131
Claims for foods for particular nutritional uses	694	678	193	162	47
Organic production	196	326	352	441	673
PDO, PGI and TSG	6,419	6,292	5,433	6,400	7,256
Total	**370,611**	**510,393**	**555,260**	**557,129**	**544,190**

In the case of animal feed, the number of samples is reported instead of the number of analyses from 2015 onwards.

The samples that are taken at industrial businesses are reported by the domains responsible for analysing the samples (including microbiology and contaminants). However, samples of live bivalve molluscs are reported here.

The Fish, fish products and aquaculture domain is no longer reported separately in 2019, but instead partly in the Industrial production domain (previously meat products and composite products) and in the Animal health - prevention domain.

2.4 Summary of decisions imposing fines and amounts recovered under administrative measures

Total number of decisions imposing fines in 2019

legislation	number	total amount of fines	average fine amount	amount of fines paid
Commodities Act	4,040	€ 5,123,333	€ 1,268	€ 4,828,515
Tobacco and Tobacco Products Act	1,258	€ 1,555,060	€ 1,236	€ 1,316,968
Plant Protection Products and Biocides Act	256	€ 367,297	€ 1,435	€ 305,480
Medicines Act	11	€ 62,333	€ 5,667	€ 148,342
Animal Health and Welfare Act	42	€ 115,600	€ 2,752	€ 95,643
Animals Act	1,210	€ 4,947,500	€ 4,088	€ 4,642,642
Total	**6,817**	**€ 12,171,123**	**€ 1,785**	**€ 11,337,590**

Multi-year summary of decisions imposing fines, 2015-2019

decisions imposing fines	2015	2016	2017	2018	2019
Number of decisions imposing fines (Commodities Act)	3,626	3,975	4,801	4296	4,040
Total amount of fines (x 1000 euros)	4,593	4,874	5,642	5,425	5,123
Average fine	1,267	1,226	1,175	1263	1,268

Total number of amounts recovered under administrative measures in 2019

legislation	number	total amount	amount paid
Recovery of penalty payment under the Commodities Act	6	€ 131,000	€ 50,015
Recovery of penalty payment under the Animals Act	32	€ 110,500	€ 51,015
Recovery of costs associated with an NVWA administrative enforcement order	20	€ 112,930	€ 29,645
Recovery of costs associated with an RVO/IBG administrative enforcement order	11	€ 79,355	€ 68,205
Total	**69**	**€ 433,785**	**€ 198,880**

2.5 Key data and performance indicators

The NVWA has adopted a number of indicators for the assessment of the services it provides.

Complaints about NVWA actions

complaints about NVWA actions	2015	2016	2017	2018	2019
Inspections	44	71	105	85	83
Sample analyses	2	5	4	1	1
Inspections	22	31	33	5	33
Other					48
Total	**68**	**107**	**142**	**91**	**165**

Information requests and reports

The following table lists the developments in the number of requests for information and reports received by the NVWA's Customer Contact Centre. The Customer Contact Centre can be contacted by phone or email 24 hours a day and 7 days a week. As the NVWA's name awareness has increased among consumers, more consumers are familiar with the complaint notification procedure. Since 2017, the term reports is no longer used within the NVWA. Only the term complaints is used.

complaints/requests received	2015	2016	2017	2018	2019
Number of phone calls	56,330	53,983	49,532	50,980	53,352
Number of complaints, concerning:	16,397	17,650	20,380	24,245	23,042
Animal welfare/neglect	2,664	2,127	2,144	2,743	2,827
Smoking in the food service industry	1,403	1,040	886	*	1,352
Food poisoning	1,250	1,615	1,910	2,187	2,790
Hygiene issues	1,163	1,163	1,283	*	2,207
GFLR	1,141	1,724	2,722	4,029	2,925
Inadequate conditions/past the Use By date	553	502	507	*	350
RASFF	542	502	860	930	854
Miscellaneous international alerts	515	590	873	1,031	892
Pests/vermin in food businesses	505	897	620	*	781
Improper food advertising and promotion	478	496	367	*	485
Percentage of justified complaints	64%	64%	64%	68%	68%
Percentage dealt with within six weeks	47%	52%	60%	72%	71%

** a number of reports are logged in Inspect (part of the NVWA's new supervision and enforcement IT support system that is in development) and that system was unable to provide any information on decisions and choices within the type of report in 2018.*

RASFF notifications

RASFF stands for Rapid Alert System for Food and Feed. This is the European notification system that Member States use to inform each other about food and animal feed that poses a public health risk. If something is found to be wrong with a product being imported or already on the Dutch market that could potentially have cross-border consequences, the NVWA will report this in the system. There are also notifications from other Member States about products with a link to the Netherlands.

The following table provides an overview of all notifications involving the Netherlands.

action	2015	2016	2017	2018	2019
Alerts	244	262	327	580	424
Border rejections	139	132	305	217	157
Notifications for information	60	72	76	115	329
Notifications for follow-up	95	123	173	2	5
Total	**538**	**589**	**881**	**914**	**915**

CHAPTER 3
REPORTS ON AREAS OF SUPERVISION IN 2019

3.1 Introduction

Chapter 3 contains the reports on the various domains in 2019.

The following domains are discussed in the following order:

3.2 Animal health – monitoring and control
3.3 Animal health – prevention (live animals and live products)
3.4 Animal welfare
3.5 Animal feed
3.6 Animal by-products
3.7 Meat supply chain (slaughterhouses, cutting plants and cold and frozen stores)
3.8 Industrial production (meat products, fish products and composite products)
3.9 Imports of veterinary consignments
3.10 Fish, fish products and aquaculture
3.11 Dairy, eggs and egg products
3.12 Food service industry and artisanal production
3.13 Food labelling and compliance with additives legislation
3.14 Contaminants, residues and GMOs in food
3.15 Veterinary medicinal products
3.16 Microbiology (pathogens, food-borne infections and zoonoses)
3.17 Nutrition and health, special foods and drinks
3.18 Plant health
3.19 Plant protection
3.20 Organic products
3.21 Protected geographical indications: protected designation of origin (PDO), protected geographical indication (PGI) and traditional specialities guaranteed (TSG)

The following will be reviewed for each domain, where data are available:

- applicable legislation and regulations
- size of control file
- results of controls
- findings on compliance
- projects in 2018
- incidents
- impact assessment
- actions taken to improve official controls
- actions taken to improve compliance by businesses
- main conclusions

3.2 Animal health – monitoring and control

Control body or bodies: NVWA

List of the main legislation under which controls were carried out in 2019

EU legislation	
Council Directive 64/432/EEC	Intra-Community trade in bovine animals and swine (TB, brucellosis, leucosis)
Council Directive 82/894/EEC	Notification of animal diseases
Council Directive 91/68/EEC	Intra-Community trade in ovine and caprine animals (Brucella melitensis)
Council Directive 92/65/EEC	Balai Directive on trade in live animals and live products
Council Directive 92/66/EEC	Measures for the control of Newcastle Disease
Council Directive 92/119/EEC	General Community measures for the control of certain animal diseases and specific measures relating to swine vesicular disease
Council Directive 2000/75/EC	Specific provisions for the control and eradication of blue tongue
Directive 2001/89/EC	Community measures for the control of classical swine fever
Council Directive 2002/60/EC	Community measures for the control of African swine fever
Council Directive 2003/85/EC	Community measures for the control of foot-and-mouth disease
Council Directive 2005/94/EC	Community measures for the control of avian influenza
Regulation (EC) No. 999/2001	Rules for the prevention, control and eradication of certain transmissible spongiform encephalopathies

National legislation

Animal Health and Welfare Act (*Gezondheids- en welzijnswet voor dieren*, Gwwd) with details in the form of specific regulations, including:

- Regulation on the Prevention, Control and Monitoring of Infectious Animal Diseases, Zoonoses and TSE's (*Regeling preventie, bestrijding en monitoring van besmettelijke dierziekten en zoönosen en TSE's*)
- Animal Disease Control (Temporary Measures) Scheme (*Regeling tijdelijke maatregelen dierziekten*)
- Regulations for Accreditation and Designation of Veterinary Laboratories (*Regeling erkenning en aanwijzing veterinaire laboratoria*)
- Decree on Suspect Animals (*Besluit verdachte dieren*)
- Decree on Zoonoses (*Besluit zoönosen*)

Size of the control file in 2019

type of business	**number in 2018**	**number in 2019**
Cattle farms	43,196	43,199
Farms with small ruminants	43,468	44,895
Pig farms including non-commercial farms[1]	10,848	11,190
Poultry farms	1,790	1,770

The number of businesses relates to the number of registered businesses, including those with no animals (referred to as 'o businesses'). The databases used include: Records of the National Service for Implementation of Regulations (*Dienst Regelingen*, RVO.nl) and GD Animal Health.

Unlike this section, section 3.3 on Animal health – prevention only includes farms that actually kept animals in the past year.

[1] Businesses with more than five pigs (the UBN registration system does not distinguish between non-commercial farms and pig farms).

Reference to specific reports

- Reports on the basis of Council Directive 64/432/EEC
- Reports on the basis of Council Directive 91/68/EEC
- Reports on Salmonella controls (on the basis of Regulation [EC] No. 2160/2003)
- Reports on half-yearly AI monitoring/surveillance in accordance with Council Directive 2005/94/EC
- Reports on animal welfare regarding the killing of animals in relation to animal disease control under Regulation (EC) No. 1099/2009

Animal health, results in 2019

type of case	total cases	demonstrated (a)	positive (b)	negative	no action (c)
African Swine Fever/Classical Swine Fever	81	0	0	73	8
American Foulbrood	1	0	0	1	0
Aujeszky's disease	4	0	0	2	2
Avian Influenza	177	0	2	132	43
Blue tongue	42	0	0	25	17
Botulism	1	0	0	0	1
Bovine Spongiform Encephalopathy	1	0	0	0	1
Brucellosis Abortus (Bang's Disease)	37	0	0	35	2
Brucellosis Canis	6	0	2	3	1
Ovine Brucellosis (Brucella Melitensis)	25	0	0	24	1
Ovine Brucellosis (Brucella Ovis)	4	0	0	3	1
Swine Brucellosis	62	0	0	61	1
Campylobacter Fetus	4	1	0	0	3
Chlamydia Abortus	2	0	0	1	1
Chlamydia Caviae	1	0	0	0	1
Eastern Equine Encephalomyelitis	1	0	0	0	1
Equine Infectious Anaemia	1	0	0	1	0
Equine Viral Arteritis	1	0	0	0	1
Erysipelothrix Rhusiopathiae Suis	2	0	0	0	2
Hantavirus	2	0	0	1	1
Infectious Haematopoietic Necrosis	1	0	0	0	1
Koi Herpes Virus	2	0	0	0	2
Glanders	11	0	0	11	0
Leptospirosis	4	0	1	0	3
Leucosis	17	0	0	17	0
Listeriosis	3	0	0	0	3
Lumpy Skin Disease	1	0	0	0	1
Marteillia Refringens	1	0	0	1	0
Anthrax	4	0	0	4	0
Foot-and-Mouth Disease	1	0	0	1	0
MRSA	1	0	0	0	1
Mycobacterium Avium	5	3	0	1	1
Mycoplasma Gallisepticum	2	0	0	2	0
Newcastle Disease	3	0	0	3	0
Psittacosis (Animal)	32	0	22	8	2
Psittacosis (Human)	87	0	13	24	50
Q Fever (Animal)	2	0	0	1	1
Q Fever (Human)	7	0	0	1	6
Q Fever (Bulk Tank Milk)	2	0	0	2	0
Rabies in Bats, Human Contact	24	0	5	12	7
Rabies in Mammals	11	0	0	5	6

type of case	total cases	demonstrated (a)	positive (b)	negative	no action (c)
Rabies in Mammals, Human Contact	4	0	0	2	2
Zoonotic Salmonella in Poultry (Laying)	47	0	29	8	10
Zoonotic Salmonella in Poultry (Rearing/ Breeding)	24	0	10	7	7
Zoonotic Salmonella in Poultry (Meat)	183	0	32	0	151
Salmonellosis	99	97	0	1	1
Scrapie (Atypical)	1	0	0	0	1
Swine Vesicular Disease	10	0	0	7	3
Tuberculosis	25	0	1	21	3
Tularaemia	12	0	5	5	2
West Nile Virus (Horse)	1	0	0	0	1
Maedi Visna	1	1	0	0	0

a 'Demonstrated' is the term for Article 10 of Regulation (EC) No. 999/2001: animal pathogens that are not subject to compulsory control but which must be reported by the veterinarian.

b 'Positive' are the results for animal diseases subject to compulsory control.

c Additional testing, the clinical picture, laboratory results and specific circumstances, etc., did not reveal a need for further action.

 # These are verification tests. See the explanation in the paragraph on zoonotic Salmonella.

Animal health monitoring

monitoring in 2019	number of farms	number of samples	number not negative	positive after confirmation
Brucellosis abortion testing	5,400	10,498	27	0
Brucella melitensis	1,512	18,091	27	0
CSF and ASF in wild boar (serology) (2)	NVT	603	0	0
Aujeszky's disease in wild boar	NVT	603	0	0
CSF in wild boar (virological [PCR])	NVT	0	0	0
Aujeszky's disease	4,668	72,743	0	0
AI monitoring serology (ELISA) (1)	2,213	191,237	2,660	73

1 Number of 'non-negatives' for AI monitoring serology (ELISA) = number of samples (i.e. not the number of consignments) that tested positive at GD Animal Health in the AI-ELISA and that were referred to the national reference laboratory for animal diseases, Wageningen Bioveterinary Research (WBVR), for confirmation. Number of positive after confirmation for AI monitoring serology (ELISA) = number of samples (not the number of consignments) that tested positive at WBVR for H5 or H7.

2 Serological testing for FMD and SVD in wild boar has not been performed since 2015.

Explanatory notes to the results for animal health

The aim is to retain the Netherlands' animal disease and health status at EU and international level.

In 2019, the NVWA Incident and Crisis Centre (NVIC) processed 1083 reports concerning notifiable and controlled animal diseases and zoonoses. In addition to the Incident and Crisis Management (*Incident- en Crisisbeheersing*, ICB) staff, the NVWA animal disease control organisation consists of 72 staff members who function as animal disease experts or front-line team members in the field. ICB staff and animal disease experts work according to a 24/7 on-call schedule.

In the first trimester of 2019, the NVWA encountered an outbreak of *Brucella canis* at a dog breeding farm resulting from a case imported from Russia. The response to this outbreak is now complete.

No outbreaks of bird flu at poultry farms were identified in 2019. The number of bird flu outbreaks established in the other European Member States up to December 2019 was negligible. One outbreak of H3N1 occurred in Belgium, which had a significant negative impact on the egg sector in particular. This variant is not usually subject to mandatory notification and control. However, given the serious consequences of this variant in Belgium, the Ministry of Agriculture,

Nature and Food Quality decided to temporarily make this variant a notifiable and controllable disease in the Netherlands. There have not yet been any confirmed cases in the Netherlands.

In December 2019, several outbreaks of Highly Pathogenic Avian Influenza (HPAI) H5N8 were identified in eastern Poland. These cases were rapidly followed by outbreaks in western Poland and in other Eastern European countries. The likelihood that this variant will reach the Netherlands is considered to be low, since bird migration to this country was already over by the relevant period. If there were to be a prolonged period of very low temperatures in Eastern Europe there was a possibility that wild birds could continue to migrate to the west, however this was not expected to happen.

Significant action was required following the import of a TB-infected veal calf from Ireland. The calf in question was placed on a calf rearing farm with more than 1800 animals. All of these animals underwent tuberculin testing. In addition to the infected animal, another five Irish calves tested positive. These animals were seized and transported to WBVR for testing.

The monitoring review of zoonotic *salmonella* in laying poultry identified infections in 54 laying bird sheds and 9 breeder bird sheds, compared to 17 laying bird sheds, 2 laying bird rearing sheds and no breeder bird sheds in the previous year. The reasons behind these findings are being analysed in collaboration with GD Animal Health.

Many targeted campaigns were implemented with the aim of preventing the threat of African swine fever (ASF), including working with the provinces to develop and display posters at car parks frequented by Eastern European truck drivers. The NVWA is involved in the ASF prevention team, which regularly consults with the Ministry of Agriculture, Nature and Food Quality and with representatives of the sector players with regard to the threat of ASF and the possibilities for preventive action. NVIC staff have also attended various international conferences at which the experiences of countries that have witnessed outbreaks were shared.

A protocol has been developed in collaboration with wildlife management for the reporting and sampling of wild boar found dead with no clear cause. Samples have been collected from 70 dead wild boar in 2019 according to this protocol. Practitioners have also submitted blood samples from farmed pigs for a diagnosis of exclusion in the context of early warning. There is no evidence of this disease in the Netherlands.

In Belgium, the ASF outbreak in wild boar appears to have been stopped. The last fresh cadaver to test positive was found there in mid August. In Eastern Europe, the situation was - and is - far from under control. The countries affected are still reporting new cases on a daily basis. In the last quarter of 2019, a new ASF outbreak in wild boar was identified in Poland near to the German border.

Cases of bluetongue are drawing closer to the Netherlands from France, via Belgium and Germany. However, 25 suspected cases of clinical symptoms and serological monitoring have not revealed any infections in the Netherlands.

Risk assessments

In 2019, the following risk assessments (RA) were carried out in response to outbreaks of animal diseases in other countries:

animal disease	country	number of RAs
Aujeszky's disease	France	1
Highly Pathogenic Avian Influenza	Poland	1
African Swine Fever	Serbia	1
African Swine Fever	Slovakia	1

Actions taken to improve official controls

Training for the animal disease control organisation:
In 2019, the following training programmes, courses and exercises were organised and held for the animal disease control organisation:

Two days of in-service training were organised for the Animal Disease Experts (*Dierziektedeskundigen*, DZDs). The first training day was dedicated to drawing up a list of ideas as to what an ideal DZD training day would look like in the future. Time was also spent identifying what the DZDs need in order to conduct a site visit.
On the second training day we visited the national reference laboratory for animal diseases: the WBVR in Lelystad. Various presentations were given by experts in the diseases AI, ASF, Bluetongue, Brucellosis, Psittacosis and TB. The DZDs were also given a tour of the laboratory, which is where the samples collected by the DZDs end up. The animal disease experts and front-line team members currently have access to 11 e-learning modules.
A training day was organised to mark the 15-year anniversary of the front-line team in 2019.
Theme tables were used to discuss the topics of Safe Working, The Future of the Front-Line Teams, and Innovation and Communication.
This year, the Incident & Crisis Management department has yet again taken on two groups of senior veterinary students and brought them up to speed on the relevant issues surrounding animal disease control and the reporting obligation.

NVWA animal disease control scenario playbooks:
New scenario playbooks were produced in 2019, including Glanders, Contagious bovine pleuropneumonia, Sheep and goat pox and Epizootic haemorrhagic disease in deer. A number of scenario playbooks were also updated.

Actions taken to improve compliance by businesses

The animal disease control stand-by contracts with external parties deployed for animal disease control are in order. In preparation for the changes in Low Pathogenic Avian Influenza controls from April 2021, the contracts will now require contractors to take part in a simulation exercise. In line with these changes, contract parties are actively trained in the correct use of personal protective equipment.

A meeting was held with external parties in 2019, at which all contract parties were briefed on the latest developments in animal disease control.

Conclusions

The ICB NVWA crisis and response organisation is well trained and equipped, and responds quickly and effectively to outbreaks.

The extensive Africa swine fever information campaign set up by the NVWA in 2019, which included the provision of extensive information via various media sources such as the NVWA website, the distribution of various ASF leaflets and posters, and the placement of information signage at car parks along motorways and near nature conservation areas, was successful and helped to ensure that the Netherlands remained free from ASF in 2019.

The development of an effective disposal protocol in collaboration with wildlife management units for the reporting and sampling of wild boar found dead guarantees that ASF is detected in wild boar without delay.

A well-functioning early warning programme is in place for pig farming that allows company veterinarians to submit blood samples directly to the National Reference Laboratory to exclude ASF.

The NVWA is also involved in the ASF national prevention team, along with the Ministry of Agriculture, Nature and Food Quality and various stakeholders, and attends a number of regular international veterinary conferences to keep abreast of the experiences of countries that have witnessed outbreaks and to identify preventive action that can be taken at a national level.

3.3 Animal health – prevention (live animals and live products)

Control body or bodies: NVWA

List of the main legislation under which controls were carried out in 2019

EU legislation	
Council Directive 90/425/EEC	Trade in live animals and products
Council Directive 64/432/EEC	Trade in bovine animals and swine
Council Directive 2009/156/EC	Import and trade in equidae
Council Directive 90/427/EEC	Zootechnical and genealogical conditions for equidae
Council Directive 2009/158/EC	Trade in poultry and hatching eggs
Council Directive 91/68/EEC	Trade in ovine and caprine animals
Council Directive 92/65/EEC	Balai Directive
Council Directive 88/407/EEC	Bovine semen
Council Directive 90/429/EEC	Porcine semen
Council Directive 89/556/EEC	Bovine embryos
Council Directive 92/102/EEC	I&R of animals
Commission Directive 2006/88/EC	Aquaculture animals and products thereof
Council Directive 90/425/EEC	Directive on checks
Regulation (EC) No. 1760/2000	I&R of bovine animals
Council Regulation (EC) No. 21/2004	I&R of ovine and caprine animals
Commission Regulation (EC) No. 504/2008	I&R of equidae
Commission Regulation (EC) No. 318/2007	Bird quarantine
Council Regulation (EC) No. 1255/1997	Control posts
Commission Regulation (EC) No. 1739/2005	Circus animals
Regulation (EC) No. 998/2003	Non-commercial movement of pet animals
Council Regulation (EC) No. 708/2007	Use of alien and locally absent species in aquaculture
Regulation (EC) No. 999/2001	Rules for the prevention, control and eradication of certain transmissible spongiform encephalopathies

National legislation

Animal Health and Welfare Act (*Gezondheids- en welzijnswet voor dieren*) with details in the form of specific regulations, including:

- Regulation on the Prevention, Control and Monitoring of Infectious Animal Diseases, Zoonoses and TSEs (*Regeling preventie, bestrijding en monitoring van besmettelijke dierziekten en zoönosen en TSE's*)
- Live Animals and Live Products Regulation (*Regeling handel levende dieren en levende producten*)
- Regulation on Equine Semen (*Regeling paardensperma*)
- Regulation on Bovine Semen (*Regeling rundersperma*)
- Regulation on Porcine Semen (*Regeling varkenssperma*)
- Regulation on the Identification and Registration of Animals (*Regeling identificatie en registratie van dieren*)
- Regulation on Aquaculture (*Regeling aquacultuur*)

Size of the control file and number of Animal health – prevention inspections in 2019

type of business	number as of december 2019	number of inspections in 2019
Approved assembly centres (VC), of which approved as:	776	
• pig assembly centres	19	59
• cattle assembly centres	62	112
• sheep/goat assembly centres	27	124
• horse assembly centres	1	1
Control posts, of which approved as:	4	
• control posts (cattle)	3	7
• control posts (sheep/goat)	1	1
• control posts (pigs)	1	1
Washing stations, of which:	320	
• approved, biungulates	164	51
• registered, poultry	43	99
• simple and permit holder	113	205
Semen collection centres (SWC), of which approved as:	128	
• bovine semen collection centres	6	10
• porcine semen collection centres	17	34
• equine semen collection centres	18	22
• national equine semen collection centres	94	10
• sheep/goat semen collection centres	1	-
Quarantine, of which approved as:	22	
• quarantine for porcine SCC	14	22
• quarantine for bovine SCC	7	7
• quarantine for sheep/goat SCC	1	1
Storage centres, of which approved as:	20	
• bovine semen storage centres	14	13
• equine semen storage centres	6	3
• bovine embryo storage centres	3	3
Embryo teams, of which approved as:	16	
• bovine embryo production teams	11	1
• equine embryo teams	5	1
Approved institutions under Directive 92/65/EEC	23	24
Registered circuses	5	-
Bird quarantine stations	1	1
Approved poultry farms, of which approved as:	559	
• hatcheries	41	42
• hatching egg export stations	5	- 233
• poultry breeding businesses	276	see under 273 (breeding + reproduction)
• pedigree breeding businesses	34	
• rearing businesses	259	
Approved aquaculture production businesses (fish farms)	51	28
Approved aquaculture production businesses (molluscs)	119	*****
Registered Put and Take fish farms	63	15
I&R control of cattle farms	32,249****	944
I&R control of sheep/goat farms	37,247****	363
Approved livestock dealers	607	-
Registered dealers in other species	287	-
Destination controls		6,406
Inspections for export certification in hours***		82,632

****= from the MCS overview LDD2018 of Control (codes LE LDD and M2 LDD)*

***** = number as at 1-1-2019; taken from the 2019 annual report on animal registrations of RVO.nl*

******: Mollusc plots are monitored by Wageningen Bioveterinary Research.*

Supervision of Animal Health – prevention, results in 2019

supervision of animal health and prevention	number
CDOs imposed on assembly centres	2
RoF by the Administrative Measures Team (TBM) relating to assembly centres	0
Written warnings to assembly centres	2
CDOs imposed on transporters	0
RoF by the TBM relating to transporters	1
Written warnings to transporters	1
CDOs imposed on slaughterhouses (C&S)	6
RoF by the TBM relating to slaughterhouses (C&S)	0
Written warnings to slaughterhouses (C&S)	1
I&R RoF – cattle	1
I&R official reports – cattle	12
I&R written warnings – cattle	72
I&R administrative remedial measures – cattle	5
I&R RoF – sheep and goats	0
I&R official reports – sheep and goats	5
I&R written warnings – sheep and goats	58
I&R administrative remedial measures – sheep and goats	8
I&R official reports – equidae	1

** CDO=cease and desist order*

RoF=report on findings

Reference to specific reports

Relating to I&R: annual report pursuant to Regulation (EC) No. 1082/2003 with regard to cattle and Regulation (EC) No. 1505/2006 with regard to sheep and goats.

types of inspection*	number of inspections	number non-compliant
Transport controls		
• Prevention	1274	
- C&S controls		116
- Other prevention issues		12
• Trade	686	72
• I&R	24	22
Simple washing stations on sheep/goat farms**	354	5
Simple washing stations on cattle farms**	916	14
Assembly centre***	32	18
Complaints/reports in relation to animal transport		
• Prevention	9	6
• Trade	10	6
• I&R	2	1

** Transport teams can check several regulations during an inspection.*

*** Inspections at the primary business*

**** Inspections by the transport teams at the assembly centre, some jointly with the Veterinary Inspection & Export Certification Departments of the Inspection Directorate.*

Explanatory notes to the results from the supervision of 'Animal health – prevention' Destination controls
Explanation of the difference in the number of destination controls in 2019 compared with 2018
Analysis of the numbers, and specifically the comparison between the numbers of controls in 2018 and 2019, revealed that the lower number of inspections in 2018 was due to the fact that far fewer destination controls were selected in the second half of 2018 because of an error in the random sample rules in TRACES-NL for intra-Union trade certificates. As a result, an estimated 1,200 - 1,500 fewer destination controls relating to intra-EU trade were conducted in 2018.
The findings show that there are often discrepancies in the consignment (freight) numbers, particularly in the case of poultry intended for slaughter, because fewer trucks are needed to transport a flock than expected.

Assembly centres
The inspections involve checking whether assembly centres meet the requirements for approval. These requirements are set out in the Regulation on the Prevention, Control and Monitoring of Infectious Animal Diseases, Zoonoses and TSEs (*Regeling preventie, bestrijding en monitoring van besmettelijke dierziekten en zoönosen en TSE's*, hereinafter referred to as the 'Prevention Regulation'). During the inspection, it is also verified whether the assembly centre complies with the animal welfare regulations.

Each assembly centre is subject to an annual Process System Inspection and an annual audit, referred to as 'system inspections'. Risk-based inspections are also carried out in five different risk areas. The frequency of these inspections is determined annually for each assembly centre based on business-specific risk factors.

risk-based inspections		**system inspections**
number	**re-inspections (number)**	**number**
509	11	110

System inspections: irregularities were observed during 37 system inspections. They included: building irregularities, such as damaged walls, potholes in outdoor areas; incomplete entry and exit records; incomplete records of disinfectants and animal by-products and irregularities relating to hygiene, such as failure to meet the requirements regarding the use of the hygiene sluice. No Reports on Findings were drawn up for the inspections found to be unacceptable, however corrective actions were taken.

In the case of one assembly centre, the entry in the Dutch Chamber of Commerce register was found to be non-compliant. The approval of this assembly centre was revoked.

Risk-based inspections: irregularities were observed during 57 risk-based inspections. For each risk area, these irregularities included:
- Animal by-products (18): no blood collection facility, resulting in the discharge of blood into the sewer/manure pit; non-compliance of animal by-product records with the statutory provisions, and failure to clean and disinfect the storage facility after use.
- Welfare at the time of incoming transport, outgoing transport and on-site (14): failure to comply with the welfare rules applicable to incoming transport, outgoing transport and on-site, and supply of animals that were not fit for transport.
- Welfare at the time of stunning and killing (9): incorrect restraint, stunning or sticking and bleeding.
- Biosafety and tracing (16): non-compliance of entry and exit records and failure to comply with biosafety rules in the routing of transport vehicles and/or personnel.

Ten Reports on Findings were drawn up for the inspections found to be unacceptable. Corrective measures were also taken.

C&D sites

The government (NVWA) carries out risk-based supervision to determine whether simple, approved or registered cleaning and disinfection sites (C&D sites) meet the requirements for approval or registration as laid down in the applicable laws and regulations, and the related obligations set out in the various C&D regulations.

The requirements and obligations that apply to C&D sites mainly relate to the prevention of infectious animal diseases (such as African swine fever or Avian influenza), set-up and equipment, hygiene/use of the site and the associated recordkeeping. It is also assessed whether the owner or operator of the C&D is taking adequate steps to ensure that the

operating, cleaning and disinfection procedures comply with the operational protocol approved by the minister and therefore meet the relevant biosafety requirements.

Risk-based C&D controls

C&D sites	number of businesses inspected	number of inspections carried out	acceptable	unacceptable
Red meat slaughterhouses	110	218	206	12
Poultry slaughterhouses	17	50	44	6
Livestock assembly centre	58	131	123	8
Totals	**185**	**399**	**373**	**26**

A total of 26 risk-based C&D controls at red meat slaughterhouses, poultry slaughterhouses and assembly centres revealed unacceptable findings. Irregularities included failure to take corrective action in response to insufficient C&D of transport vehicles/crates/containers, failure to keep complete records of C&D of transport vehicles, no permanent oversight of the implementation of C&D, use of water of insufficient quality and failure to wear work clothing during C&D activities. At one business, a vat of disinfectant was found to be past its use-by date. At another business, a label was missing from the vat of disinfectant being used. Three Reports on Findings were drawn up for the inspections found to be unacceptable. Corrective measures were also taken in many cases.

System inspections

C&D sites	number of businesses inspected	number of inspections carried out	acceptable	unacceptable
Approved	79	111	103	8
Registered	31	45	45	0
Totals	**110**	**156**	**148**	**8**

Eight system inspections at approved C&D sites revealed unacceptable findings. Irregularities included failure to maintain a functional and hygienic washing station at all times during opening hours, an unsuitable internal water supply for C&D containing harmful substances, failure to position transport vehicles at a sufficient gradient during cleaning, failure to carry out disinfection activities according to protocol, and failure to adequately clean and disinfect partitions at the C&D site after use. No Reports on Findings were drawn up for the inspections found to be unacceptable, however corrective actions were taken.

Audits

C&D sites	number of businesses inspected	number of inspections carried out	acceptable	unacceptable
Simple	21	21	21	0
Approved	90	94	86	8
Totals	**111**	**115**	**107**	**8**

Eight audits at approved C&D sites at red meat slaughterhouses and assembly centres revealed unacceptable findings. Irregularities included failure to carry out C&D correctly according to protocol and the use of water of insufficient quality. At three businesses the C&D site was found to be non-compliant with the approval requirements and the associated protocols had not been approved by the NVWA. No Reports on Findings were drawn up for the inspections found to be unacceptable, however corrective actions were taken.

Approved poultry farms

The farms were subject to controls at least once in 2019. These controls revealed only minor omissions that were resolved on the spot.

Approved establishments, centres and institutes

All approved establishments (Balai holdings)[2] were audited in 2019. No serious deficiencies were found.

Identification and registration of animals

Cattle, sheep and goat I&R inspections focus on detecting active non-compliance and on observance of the percentage prescribed by the EU (3%). The inspections are a combination of selective and random inspections. For cattle I&R inspections, a percentage of 2.9% was achieved (944/32249), and for sheep/goat I&R inspections 0.97% (363/37247). The development of alternative I&R Cattle inspections was temporarily suspended as further research is being carried out into the feasibility of these inspections.

Irregularities observed during I&R inspections in cattle, sheep and goats mainly related to the timely tagging and retagging of animals and the submission of complete and timely notifications to the I&R system.

At livestock farms (cattle and sheep/goats), during all I&R inspections, the presence and functioning of a simple washing station is also checked. Controls of the simple washing station revealed non-compliant findings at 14 cattle farms and 5 sheep/goat farms. Irregularities mainly related to the collection of fluids, the size of the hard-standing area and the presence of disinfectant.

Transport controls

Compared with 2018, the transport teams carried out fewer en route inspections under the Prevention Regulation (1274 versus 1435; -11%) and the Trading Regulation (680 versus 876; -22%).

The transport teams also carried out inspections at assembly centres as part of the Assembly Centre project. Some inspections were a joint effort by the Enforcement and Inspection directorates.

Irregularities observed during C&D inspections mainly related to a full or partial lack of C&D in empty transport vehicles or incomplete or incorrect C&D records.

Irregularities observed during other prevention activities mainly related to the assembly of animals.

Irregularities observed during Trading Regulation inspections mainly related to health certificates.

Irregularities observed during inspections at assembly centres mainly related to insufficient C&D, failure to apply for a block period in good time and incomplete entry and exit records.

Complaints/reports primarily concerned the assembly of animals, C&D and health certificates.

Aquaculture businesses

Supervision of aquaculture production businesses is risk based. The selection of the businesses to be inspected and the inspection frequency are based on the risk classification of the fish farms. In addition to the risk-based inspections of animal health aspects, inspections are also carried out in relation to exotic species in aquaculture. Twenty eight inspections were carried out at aquaculture production businesses in 2019 (17 in the context of animal health and 11 relating to exotic species).

No inspections are carried out at mollusc aquaculture production businesses as the relevant plots are located in Oosterschelde and Grevelingen. These areas are monitored by the Wageningen Bioveterinary Research laboratory for fish, crustaceans and shellfish. In addition to the inspections at approved aquaculture production companies, 15 inspections were carried out at registered Put & Take fish farms.

[2] Including zoos and experimental animal facilities that are subject to the Balai Directive 92/65/EEC

Incidents

In 2019, a significant amount of time was spent on completing the inspections carried out in 2018 that focused on detecting potential instances of malpractice in relation to birth notifications.

Actions taken to improve official controls

The 'four eyes' principle
Fitness for transport has proven difficult to assess during the export certification of mainly cull cattle (animals at the end of their milk-producing period). To improve these controls, the inspection is now carried out by two veterinarians at a number of export locations (assembly centres). This 'four eyes' principle is also applied at a number of slaughterhouses to which cull cattle are supplied.

Transport controls
To support transport controls, work commenced on the development of an application for the rapid recording of control findings. Results can be instantly retrieved using an electronic dashboard.
The Enforcement and Inspection directorates are working together more closely on a number of projects.

Actions taken to improve compliance by businesses

Digital protocols for Assembly Centres
A digital protocol was developed to improve the quality of compulsory protocols at assembly centres. This has also resulted in a simplified and standardised protocol assessment process. The first digital protocol submissions and assessments took place in 2019.

Conclusions

Under NVWA supervision, regulatory compliance by the livestock sector remains suboptimal. Adequate supervision pressure is required to ensure that compliance is maintained at an acceptable level.

C&D
The 2019 inspections show an average rate of compliance with the C&D rules by red meat slaughterhouses, poultry slaughterhouses and livestock assembly centres of 93% (see the table in the section on C&D sites). The rate of compliance with the rules for hygiene and use of the approved or registered C&D site by red meat slaughterhouses, assembly centres and livestock businesses was 94%.
Average compliance with site standards and operating rules by simple and approved C&D sites at small, medium-sized and large red meat slaughterhouses was 93%.
In conclusion, the C&D sites inspected in 2019 generally show a high level of compliance with animal health (animal disease prevention) regulations. However, there is still room for improvement in the production process of these businesses.

In particular, greater attention needs to be paid to:
- Use of an internal water supply at C&D sites
- Safe use of disinfectants
- Assessment of the cleanliness of transport vehicles/crates/containers
- C&D recordkeeping
- Working according to approved protocols

Assembly centres
The risk-based inspections carried out in 2019 show an average rate of compliance with the rules on hygiene, animal welfare and animal by-products at assembly centres of 85%.

The 2019 system inspections, which examine the structural state of the assembly centre and take a more in-depth look at the entry and exit records and whether internal protocols are actually followed, revealed an average compliance rate of 66%. A possible explanation for this low percentage is the more extensive controls during system inspections compared to the risk-based inspections.

It can be concluded that regulatory compliance on the part of assembly centres requires improvement. In particular, more attention needs to be paid to the following:

- Fitness of animals for transport
- Biosafety of routing of personnel and transport vehicles
- Entry and exit records
- The correct killing of animals where this is carried out by assembly centre personnel
- Blood collection and storage
- Records of animal by-products

Approved poultry farms and establishments

These businesses demonstrate a high degree of compliance with the requirements for approval. Only a small number of minor deficiencies were observed.

Destination controls

Omissions were observed during around 4% of the more than 6000 destination controls. This led to additional corrective measures in four cases. For the majority of the omissions identified, the findings were fed back to the competent authority in the country of consignment.

3.4 Animal welfare

Control body or bodies: NVWA

List of the main legislation under which controls were carried out in 2019

EU legislation	
Regulation (EC) No. 1/2005	Protection of animals during transport and related operations
Council Regulation (EC) No. 1099/2009	Protection of animals at the time of killing
Council Regulation (EC) No. 853/2004	Hygiene rules for food of animal origin
Council Directive 98/58/EC	Protection of animals kept for farming purposes
Council Directive 1999/74/EC	Minimum standards for the protection of laying hens
Council Directive 2007/43/EC	Minimum rules for the protection of chickens kept for meat production
Council Directive 2008/119/EC	Minimum standards for the protection of calves
Council Directive 2008/120/EC	Minimum standards for the protection of pigs

National legislation

- Animals Act (*Wet dieren*), part of Chapter 2: Animals
- Animal Keepers Decree (*Besluit Houders van dieren*)
- Regulation on Animal Keepers (*Regeling Houders van dieren*)
- Enforcement and other Animals Act Matters Decree (*Besluit handhaving en overige zaken Wet dieren*)
- Regulation on Enforcement and other Animals Act Matters (*Regeling handhaving en overige zaken Wet dieren*)
- Animal Welfare Policy Rules (*Beleidsregels dierwelzijn*) 2009
- Animal Disease Specialists Decree (*Besluit Diergeneeskundigen*)

Size of the control file in 2019

type of business	**number**
Livestock transporters (short journeys)	1328
Livestock transporters (long journeys)	277
Large ungulate slaughterhouses (continuous supervision)	22
Small and medium-sized ungulate and farmed game slaughterhouses	149
Large poultry slaughterhouses (continuous supervision)	18
Small poultry slaughterhouses	10
Assembly centres*	76

* *Assembly centres have been included in the table for the first time in 2019, as they are also subject to animal welfare inspections.*

Size of control file in 2019 broken down by animal species

businesses broken down by animal species	**number as at 01-04-2019***
Laying hens	896
Calves	1,680
Pigs	4,090
Cattle	22,930
Sheep	5,480
Goats	570
Broiler parent stock and broiler chicks	1,038
Flightless birds	3
Ducks	50
Geese	0
Fur animals	130
Turkeys	30

* *Statistics Netherlands (Centraal Bureau voor Statistiek, CBS), The Hague/Heerlen and AVINED*

Supervision of animal welfare, results in 2019

transport controls	number of inspections	number non-compliant	% non-compliant
In transit	927	181	20
Transport to and from slaughterhouse	141	25	18
Transport to and from assembly centre	34	10	29
Primary business	211	119	56
Assembly centre	79	17	22
Reports/complaints	270	192	71
Total	**1662**	**544**	**33**

reports on findings by supervising veterinarians at slaughterhouses and assembly centres	number	number of interventions
Council Regulation (EC) No. 1/2005	623	406
Of which relating to • Transporter • Farmer (poss. also transporter) • Assembly centre (poss. also transporter) • Other		 123 263 16 4
Regulation (EC) No. 1099/2009	163	121
Of which relating to: • Slaughterhouse		 121
Animal Keepers Decree	470	396

journey log controls and GPS controls	number	number of violations
Journey log controls (100%)	4539	96
GPS project (around 10%)	570	30

Source: overview of Animal Intervention Agency (Interventiebureau Dier, IBD) journey log control reports

** With regard to journey log and GPS controls, generally, violations in multiple journey logs will result in a single intervention in respect of the transporter or in a complaint directed abroad.*

supervision of laying hens (Council Directive 1999/74/EC)	number
Inspections	7
Measures	2

supervision of calves (Council Directive 2008/119/EC)	number
Inspections	24
Measures	4

supervision of broiler chicks (Council Directive 2007/43/EC and Council Directive 98/58/EC)	number
Inspections (full inspection)	143
Measures	42

supervision of broiler chicks (Council Directive 2007/43/EC)	number
Inspections (administrative, select, in relation to overstocking)	182
Measures	182

supervision of broiler chicks (Council Directive 2007/43/EC)	number
PM inspections	-
Measures	419

supervision of pigs (Council Directive 2008/120/EC)	number
Inspections	154
Measures	50

supervision of cattle (Council Directive 98/58/EC)	number
Inspections	360
Measures	184

supervision of sheep (Council Directive 98/58/EC)	number
Inspections	223
Measures	52

supervision of goats (Council Directive 98/58/EC)	number
Inspections	82
Measures	13

supervision of broiler parent stock (Council Directive 98/58/EC)	number
Inspections	2
Measures	0

supervision of ducks (Council Directive 98/58/EC)	number
Inspections	3
Measures	0

supervision of fur animals (Council Directive 98/58/EC)	number
Inspections	1
Measures	0

supervision of turkeys (Council Directive 98/58/EC)	number
Inspections	2
Measures	1

supervision of the killing of animals at primary businesses (Council Directive No. 1099/2009 EC)	number
Inspections	2
Measures	2

Reference to specific reports

Annual report in accordance with 2013/188/EU: Commission Implementing Decision of 18 April 2013 on annual reports on non-discriminatory inspections carried out pursuant to Council Regulation (EC) No. 1/2005 on the protection of animals during transport and related operations.

Annual reports to the European Commission as referred to in 2006/778/EC: Commission Decision of 14 November 2006 concerning minimum requirements for the collection of information during the inspections of production sites on which certain animals are kept for farming purposes.

Explanatory notes to the results for animal welfare and projects in 2019 General
A large part of the inspections take place on a risk-oriented basis. This means that the NVWA aims to carry out inspections at businesses that run the highest risk of not complying with regulations. As a result, those findings do not represent the sectors listed below as a whole. Compliance measurements are carried out periodically: a representative random sample of the population is inspected to determine the level of compliance within that sector as a whole. This can then subsequently serve as a basis for risk-oriented supervision.

Animal welfare during transport

Transport controls
The transport teams carried out several projects to ensure animal welfare: inspections on hot days, of the transport of animals to and from horse markets, at assembly centres, and focusing on several types of vulnerable animals. In addition to the project-based inspections, animal welfare inspections were also carried out during surveillance and in response to reports and complaints.

Supervising veterinarians at slaughterhouses draw up a report on findings (RoF) if it is suspected that an animal for whom 90% or more of the expected gestation period has passed has been transported. The RoFs are forwarded to the transport teams within the Enforcement Directorate for further investigation to determine whether an infringement has occurred. These inspections are included under reports/complaints.

Assembly centre transport controls are inspections at the assembly centre, part of which is carried out jointly with the Inspection Directorate. These inspections are carried out as part of the Assembly Centre project and in the context of the 'four eyes' principle.

Fewer animal welfare inspections were carried out compared with 2018 (-9%), but there was a rise in the percentage of non-compliant findings (+3%).

Supervision of slaughterhouses and assembly centres
Interventions only include official written warnings and RoF. Other corrective measures such as verbal warnings, corrective actions, refusal to issue export certificates, stopping the conveyor belt or reducing the belt speed in slaughterhouses, are also implemented. These measures are not recorded but are still part of the normal activities.

Council Regulation (EC) No. 1/2005
In addition to the interventions, 2019 saw some 115 reports – primarily relating to injuries to poultry during capture – transferred abroad. The interventions may be aimed at several actors in the supply chain: the livestock farmer, the assembly centre, the transporter or driver. This means, for example, that in the case of one animal that was unsuitable for transport, an intervention will have taken place against both the transporter and the livestock farmer. As of 14 April 2020, the Animal Intervention Agency (*Interventie bureau dier*, IBD) listed 59 reports from 2019 that were still pending, for which no conclusive resolution had been reached.

Council Regulation (EC) No. 1099/2009
From 1 January 2018, any slaughter without stunning of the animals will always require direct supervision by the NVWA. In 2019, five RoFs were drawn up during supervision of slaughter without stunning.

In the case of standard slaughter with stunning, 65 reports were drawn up in relation to stunning and restraint. As of 14 April 2020, the IBD listed 19 reports from 2019 that were still pending, for which no conclusive resolution had been reached.

Animal Keepers Decree – poultry welfare irregularities
In 2019, 395 reports on findings and written warnings were drawn up in relation to footpad dermatitis. As of 14 April 2020, the IBD listed 12 reports from 2019 that were still pending, for which no conclusive resolution had been reached.

Publication of inspection results on animal welfare at the time of stunning and killing
In consultation with the Ministry of Agriculture, Nature and Food Quality, the NVWA aims to publish the results of animal welfare and hygiene inspections at slaughterhouses.

Animal welfare at the primary business

Poultry
The NVWA carried out a compliance measurement in the broiler chick sector in 2019. The measurement revealed a rate of compliance with animal welfare regulations within this sector of 58%. The majority of violations relate to the prescribed lighting arrangements, the quality of the available litter, an excessive loading density in the housing unit and the incorrect or late provision of group data to the KIP registration system. This sector will remain a focus area in 2020 and a number of risk-based projects are being carried out.

During the post mortem inspection (PM inspection), the NVWA carries out random checks at the slaughterhouse for visible welfare irregularities in the broiler chicks slaughtered. These welfare irregularities are irregularities that have clearly occurred at the primary business. The sample can be risk-based, but this is not essential. The inspections carried out revealed serious animal welfare violations in 419 flocks of supplied broiler chicks, which had clearly occurred in the housing unit. The findings resulted in enforcement action.

The NVWA did not carry out any targeted compliance projects in 2019 in relation to animal welfare at laying hen, duck rearing, broiler parent stock and turkey farms. Supervision was carried out on the basis of reports. There are also no plans to carry out inspections in these target groups in 2020, with the exception of broiler parent stock, however compliance measurements are scheduled for these animal species in the years ahead. Compliance measurements require the necessary resources and are preferably, where resources permit, carried out as part of a cycle every few years. Risk-oriented supervision is then implemented for the target group in question based on the findings.

Pigs
In 2019, the NVWA checked pig farmers for compliance with the rules for the protection of pig welfare. These inspections were unannounced and verified compliance with the provisions of the Animals Act (*Wet dieren*) and the Animal Keepers Decree (*Besluit houders van dieren*), which set out the rules that govern the keeping, housing and care of pigs. In 2019, the NVWA placed an additional focus on pen enrichment for all pigs and nesting materials for sows and gilts in farrowing pens.
A total of 154 inspections were carried out, of which 111 were found to be compliant. Forty three inspections were non-compliant with the specific welfare standards for pigs. These non-compliances primarily related to loose materials, which are essential for pen enrichment (pigs should have permanent access to sufficient material to investigate and play with) and as nesting materials for gilts and sows.

Other common infringements related to flooring, buildings and housing units for the pigs, such as the maximum prescribed gap width between slatted floors, general requirements for the housing unit set-up and air quality. There were also several cases in which pigs did not have access to sufficient space (minimum prescribed floor area).

A report on findings and/or an official report was drawn up for 11 inspections. These measures were aimed at rectifying the situation and imposing sanctions in response to the infringement. Written warnings were drawn up for 25 inspections, focusing in part on remedial measures. A report on findings was drawn up in combination with a written warning for six inspections. In the case of one inspection, no measures were taken in response to the non-compliance due to the applicable intervention policy. Up until June 2019, NVWA inspectors primarily provided compliance support and engaged with pig farmers with regard to the pen enrichment materials used.

Calves
In 2019, the NVWA checked for compliance with the rules for the protection of calf welfare. The figures are mostly based on inspections in the dairy farming sector and to a lesser extent on inspections in the veal calf sector. The inspections were mainly carried out as a result of a report or a risk-based inspection at a high-risk business. The figures therefore do not provide a representative picture of compliance with the rules in respect of calves in the milk and meat cattle sector.

Twenty four inspections were carried out of the specific welfare standards for calves (on the basis of Council Directive 2008/119/EC), primarily on the initiative of the inspectors and often during controls performed for other purposes. Non-compliances were identified at three inspections, two of which related to the permanent tethering of calves younger than six months. Two written warnings were issued. One inspection revealed that the calves did not have access to proper accommodation (for instance no clean and comfortable lying area). An official report and a report on findings were drawn up in this instance.

Inspections of compliance with welfare regulations were carried out at a total of 97 businesses with calves. This is in addition to the 24 inspections of the specific welfare standards (on the basis of Council Directive 2008/119/EC), most of which were carried out in response to reports. As well as the three non-compliances with the specific welfare regulations, 42 inspections revealed infringements relating to the calves. These infringements primarily concerned the provision of care and housing units for the calves. Reports on findings and/or official reports were drawn up in the case of 20 inspections, and written warnings aimed at remedying the non-compliance were issued in response to 21 inspections. One verbal warning was issued.

Cattle
The NVWA carries out risk-based inspections of high-risk businesses. These are businesses where inspections have revealed repeat or one-off serious risks to animal welfare. This can be due to issues such as insufficient management skills on the part of the animal keeper or livestock holder, low hygiene standards, a lack of commercial knowledge on the part of the animal keeper, or failure to consult a veterinarian in good time. High-risk businesses enter the radar of the NVWA following the detection of serious welfare violations at an inspection based on a report or based on an analysis of the inspection history. The guiding principle for inspections is compliance with the general and specific intervention policy (animal welfare). Administrative law and criminal law are used to the best possible effect to tackle businesses that repeatedly fail to comply, in line with a uniform enforcement strategy. This approach can also result in businesses being placed under enhanced supervision. Customised measures are then taken to ensure that the business complies, or, where necessary, to impose a shutdown or restrictions on the keeping of animals. With the aim of enforcing compliance with animal welfare rules, the decision was made to launch two high-risk business and enhanced supervision projects in 2019:
- Customised approach under administrative law (and where necessary criminal law). Ongoing inspections and the imposition of permanent remedial measures.
- Customised approach under criminal law (and administrative law). Intensive cooperation and coordination between the NVWA and the Public Prosecution Service (*Openbaar Ministerie*, OM).

Businesses qualify for enhanced supervision in the event of structural non-compliance, in other words:
- At least three non-compliant inspections in the last two years, resulting in one or more Reports on Findings and/or Official Reports, or
- If the findings of a first inspection are so poor that a business is immediately placed under enhanced supervision.

A customised approach is adopted for each individual business, consisting of administrative law measures or criminal law measures or a combination of the two, based on specific intervention policy.

In 2019, inspections and re-inspections were carried out at a total of 69 high-risk businesses in the context of projects. After one or more inspections or re-inspections, no further infringements were identified at 37 businesses. Re-inspections are scheduled in 2020 at the remaining 32 businesses where inspections or re-inspections revealed further infringements. In a number of cases, inspections related not only to cattle but also to calves, sheep, goats, horses, pigs or poultry. The majority of infringements at high-risk businesses related to sanitary housing (no clean and dry place to lie down), failure to provide appropriate care to sick and/or injured animals, and the provision of unsuitable or insufficient feed. Ten livestock farms were placed under enhanced supervision in 2019 as a result of the inspections and re-inspections carried out.

A total of 293 risk-based inspections were conducted in cattle in response to reports. One hundred inspections revealed failures to comply with the welfare requirements set out in Directive 98/58/EC, including buildings and accommodation (lack of sanitary housing), feed and water (inadequate provision of water and feed of appropriate quality) and inspection (failure to treat sick animals in good time and to isolate sick animals without delay).

Sheep
In 2019, 223 inspections were carried out regarding sheep, or ovine animals, primarily in response to reports. A total of 39 inspections revealed failures to comply with the welfare requirements set out in Directive 98/58/EC, primarily relating to monitoring of the animals (for instance failure to consult a veterinarian for animals that appear sick or injured), buildings and accommodation (particularly tidy, clean and/or dry places to lie down and sharp edges or protrusions on which animals can injure themselves) and feed and water (failure to provide feed and/or water or the provision of feed or water of insufficient quality). A report on findings and/or an official report was drawn up for 20 inspections. These measures were aimed at rectifying the situation and imposing sanctions in response to the infringement. Written warnings were drawn up for 17 inspections, focusing in part on remedial measures. At two inspections the infringement was rectified on the spot.

Goats
In 2019, 82 inspections were carried out of businesses that keep goats, or caprine animals. A number of these inspections were carried out as part of a project, with the remaining inspections primarily carried out in response to reports. In the context of a project on the care provided to billy goats, 23 inspections were carried out at goat farms and goat fattening farms. Of these, 20 were found to be compliant and 3 non-compliant. These inspections revealed failures to meet the requirements with regard to recordkeeping (maintaining records of medical care provided and the number of deaths identified at every control). Two written warnings were issued. One verbal warning was also issued in response to a minor irregularity. Fifty nine other inspections were conducted at businesses that keep goats. A total of 11 inspections revealed failures to comply with the welfare requirements set out in Directive 98/58/EC, primarily relating to buildings and accommodation (such as clean and/or dry places to lie down and protection against poor weather conditions) and feed and water (failure to provide feed and/or water or provision of feed or water of insufficient quality). A report on findings and/or an official report was drawn up for 4 inspections. These measures were aimed at rectifying the situation and imposing sanctions in response to the infringement. Written warnings were drawn up for six inspections, focusing in part on remedial measures. At one inspection, the infringement was rectified on the spot.

Incidents

Pigs
Animal rights organisations in the Netherlands regularly draw attention to malpractice in livestock farming. One instance on 13 May 2019 saw around 125 supporters of an animal rights organisation break into a pig shed in Boxtel while around another 100 supporters demonstrated outside the farm.

The sheds were occupied for a number of hours. In the meantime, a growing crowd gathered in the vicinity of the sheds to voice their support for the owner. The police brought the occupation to an end and dozens of activists were arrested. This occupation led to concerns among livestock farmers, who feared further action. No further action occurred in the months that followed.

Rabbits
In December 2019, an animal welfare organisation released images taken at rabbit farms over the period 2018-2019.

The NVWA reviewed these images, partly in response to press enquiries. Under animal welfare regulations, animal keepers are responsible for providing appropriate care to sick or injured animals, or to call in a professional such as a veterinarian to provide this care. It was not possible to determine based on the images whether the animals were provided with appropriate care or whether a veterinarian was called in.

No general conclusions could be drawn from the images about the rabbit sector as a whole.

Nevertheless, the images along with other warning signs prompted the Minister to hold the sector to account and call for improvements. Based on the assessment of the images and the fact that rabbit keeper had been subject to

veterinary medicinal products controls, the decision was taken not to carry out any additional welfare inspections in 2019. The NVWA visited around 15 rabbit farms in 2019 to monitor the use of veterinary medicinal products. These inspections did not reveal any signs of serious animal welfare issues within the sector. A compliance measurement is scheduled to take place in 2020 among keepers of farmed rabbits, which will include welfare inspections.

Impact assessment

Calves
Three interviews were conducted in the context of the Retrospective Impact Assessment on Calf Mortality. These interviews were held with dairy farmers who had a calf mortality rate of well above 20% in 2017 and who achieved a significant reduction in calf mortality in 2019. The impact assessment explored the solutions the dairy farmers have identified to reduce the calf mortality rate and what prompted them to take this step. This information is supporting the development of an enforcement instrument aimed at remotely raising awareness among, and rewarding the efforts of, dairy farmers.

Actions taken to improve official controls

Animal welfare during transport
The updated National Plan for Livestock Transport at Extreme Temperatures (2018 version) was followed in 2019. It became clear that the temperature standard required further clarification based on policy. A process was initiated to provide this clarification.

Further efforts were made in 2019 to standardise veterinary assessments of fitness for transport in relation to the proposed transport. It will be explored whether the European guidelines for fitness for transport could provide a sound basis for these assessments.

Animal welfare at the time of stunning and killing
At a number of slaughterhouses, physical inspections are supplemented with permanent camera surveillance. 2019 saw the completion of a camera surveillance pilot at all large slaughterhouses, and the introduction of camera surveillance at small and medium-sized slaughterhouses.

The NVWA also applies the 'four eyes' principle at some slaughterhouses, in which two veterinarians conduct checks to ensure a more uniform approach.

Actions taken to improve compliance by businesses

Animal welfare at the primary business
Calves
A high calf mortality rate is a multifactorial problem and can indicate that calves are receiving a lower standard of care. The size of the target group means that risk-based enforcement at businesses with high mortality rates in the form of physical inspections can only be carried out at a limited number of businesses. Efforts were therefore made to find additional ways to improve compliance with the requirement to provide appropriate care for calves.

A target group analysis was carried out in 2018, comprising an environmental and a behavioural component. The analysis showed that the behavioural mechanisms of rewarding efforts and raising awareness produce the best results in terms of impact on dairy farmer behaviour. The previously mentioned Retrospective Impact Assessment on Calf Mortality also confirmed this finding.

Work started in 2019 on the development of an enforcement mix. The mix includes instruments that place a particular focus on the behavioural mechanisms of rewarding efforts and raising awareness. This development process will continue in 2020, with plans for the remote implementation of measures to raise awareness among, and reward the efforts of, dairy farmers. The impact of this enforcement instrument will be measured in an impact assessment.

Cattle
The dairy sector will actively notify the NVWA when they intend to halt collection of milk at businesses based on their quality inspection system (so-called milk refusal). These reports will be regarded as high priority by the NVWA in the context of risk-based oversight and resulting inspections, which will often lead to a non-compliance finding.

Pigs
The pig farming sector has been involved in the drafting of a pen enrichment brochure that was developed by Wageningen University in 2018, commissioned by the Ministry of Agriculture, Nature and Food Quality. The sector is also involved in the development of a risk assessment instrument by Wageningen University, which allows various risk factors in relation to tail and ear biting to be assessed, and its use in professional networks.

The sector made an announcement about the pen enrichment brochure in 2019, which also addressed the NVWA's enforcement strategy with regard to pen enrichment. The brochure is also used in private quality systems as a guide for controls. Consultations on this issue are taking place between the sector and the NVWA.

The tail biting risk assessment was further developed by the sector and tested in the networks in 2019. The sector also announced this process through trade media. The assessment instrument is now referred to as the 'welfare check'.
A Letter to Parliament in September 2019 stated that this welfare check will be incorporated into the private quality systems.

Animal welfare during transport
Regular consultations are held with the sector on procedures in relation to extreme temperatures, with a particular focus on transport during hot weather.

Conclusions

The NVWA is working hard to improve official controls, including through enforcement communication, cooperation in scientific research, evaluations and consultations.

Much of the regulatory oversight carried out by the NVWA is risk-based in nature and focuses on businesses or activities at which the risk of non-compliance is highest. The NVWA also regularly carries out compliance measurements to monitor the impact of supervision. In 2019, the principal focus was on risk-based oversight.

The NVWA and the private sector spearheaded several initiatives aimed at improving compliance at primary businesses, in the transport sector and in slaughterhouses.

It is vital to establish scientifically substantiated guidelines for the oversight and monitoring of open standards.
The NVWA is increasingly focusing on communications to improve compliance, including via social media.

Infringements were identified after one or more re-inspections at 32 of the 69 high-risk businesses. Selected inspections and re-inspections revealed that compliance with laws and regulations at high-risk businesses is low. In a number of cases, inspections related not only to cattle but also to calves, sheep, goats, horses, pigs or poultry. It is vital that the NVWA continues to carry out risk-based animal welfare inspections to encourage these high-risk businesses to consistently improve their levels of compliance. It is too early to draw any conclusions regarding the impact of this enhanced supervision, as the businesses are still subject to the enhanced supervision measures.

3.5 Animal feed

Control body or bodies: NVWA

List of the main legislation under which controls were carried out in 2019

EU legislation	
Regulation (EC) No. 178/2002	General principles and requirements of food law
Regulation (EC) No. 183/2005	Feed hygiene
Regulation (EC) No. 1831/2003	Genetically modified food and feed
Regulation (EC) No. 1829/2003	Genetically modified food and feed
Regulation (EC) No. 1830/2003	GMOs in animal feed and foodstuffs
Regulation (EC) No. 999/2001	TSE Regulation
Regulation (EC) No. 1069/2009	Animal by-products – basic regulation
Commission Regulation (EG) No. 142/2011	Animal by-products – implementing regulation
Council Directive 2008/38/EC	Diet Directive
Council Directive 2002/32/EC	Undesirable substances in animal feed
Regulation (EC) No. 767/2009	Placing on the market and use of feed (and prohibited materials)
Council Directive 82/475/EC	Categories (main groups) for labelling
Commission Regulation (EC) No. 669/2009	Import controls on high-risk products
Council Directive 90/167/EC	Medicated feedstuffs

National legislation

- Animals Act (*Wet dieren*)
- Animal Feedstuffs Decree (*Besluit diervoeders*) 2012
- Regulation on Feedstuffs (*Regeling diervoeders*) 2012
- Veterinary Medicinal Products Decree (*Besluit diergeneesmiddelen*)

Size of the control file in 2019

type of business (number of registrations or approvals)*	**number of individual businesses**
Production businesses • producers of feed materials (1287) • producers of additives (179) • producers of premixes (201) • producers of mixed feed (823) • producers of mixed feed containing animal protein (93) • home mixers with animal protein (2) • producers of medicated animal feed (76) • businesses approved in connection with dioxin requirements (23) • primary producers of animal feed (116) • detoxifiers of animal feed (0)	1421
Traders (incl. storage) • traders of feed materials (1909) • traders of additives (632) • traders of premixes (478) • traders of mixed feed (2115) • third-country representatives (51) • importers of medicated animal feed (4)	2008
Storage businesses (no trading or transport) • feed materials storage businesses (1029) • additive storage businesses (248) • premix storage businesses (229) • animal feed storage businesses (474)	916

type of business (number of registrations or approvals)*	number of individual businesses
Transporters of animal feed (incl. storage) • road transport (4239) • rail transport (89) • inland waterway transport (3955) • transporter with approved cleaning procedure to prevent carryover of animal protein (134)	1800
Retail traders	467
User of animal feed containing animal protein	1

* *Around one-third of all businesses are approved or registered for a single activity involving animal feed. The remaining businesses hold an approval, registration, consent, authorisation and/or permit for a range of activities involving animal feed, or for comparable activities involving a range of products (such as feed materials, additives, premixes, compound feed for food-producing animals and/or compound feed for non-food-producing animals).*

Supervision of animal feed, results in 2019

supervision domain name	number
Inspections	929
Samples	1879
Measures	137

Measures comprising 96 written warnings, 40 reports on findings and 1 official report.

Explanatory notes to the results for animal feed
In general, the level of compliance in the animal feed sector with regard to the basic requirements set out in Annex II of Regulation (EC) No. 183/2005 is good. The sector takes responsibility in the event of incidents and proactive steps are taken to prevent further spread of the risk. Transport companies demonstrate a high level of compliance with registration and transport documentation requirements.

Key areas of focus include traceability, carryover and HACCP. Incorrect and/or incomplete information on labels and false claims also remain an area of concern. Furthermore, compliance with the reporting obligation by businesses and laboratories in the event of detected or suspected cases of unsafe animal feed is not yet at the desired level.
There was very little oversight of primary businesses in 2019 due to other priorities in this sector. The number of reports via the European Commission's Rapid Alert System for Food and Feed (RASFF) and under the General Food Law Regulation is increasing year on year, which is taking a toll on regular supervision in this sector.

Projects in 2019

Inspections related to approval and registration conditions for animal feed businesses (incl. HACCP audits)
Inspection of animal feed businesses for compliance with the requirements of Annex II of Regulation (EC) No. 183/2005.

Sampling under the National Animal Feed Plan
Annual monitoring programme for prohibited and undesirable substances in animal feed. The NVWA takes animal feed samples from the businesses and the Wageningen Food Safety Research laboratory tests the samples. In 2019, 1879 samples were taken on the basis of which 3454 analyses were carried out. A total of 120 irregularities were observed, which were processed in accordance with the intervention policy.

Inspections on labelling
Supervision of the labelling requirements under Regulation (EC) No. 767/2009.

Supervision of health claims
Supervision of claims made about animal feed, carried out in collaboration with the Veterinary Medicinal Products Unit (*Bureau Diergeneesmiddelen*, BD).

Feed ban controls
Including controls relating to cleaning and disinfection in the context of Regulation (EC) No. 999/2001.

Laboratory reporting obligation and supervision of the quality of analyses
Supervision of laboratories' compliance with their reporting obligation when analysis reveals animal feed to be non-compliant. Supervision of the quality of analysis is carried out in the form of an aptitude test on paraquat and diquat analyses by private laboratories. Reports to follow in 2020.

Specific projects in 2019

Supervision of food-feed waste flows
Inspections of food business operators whose food waste is intended for use in animal feed.

Supervision of damaged goods
This concerns the supervision of the correct disposal and documentation of batches of animal feed that are no longer suitable for animal nutrition due to 'damage'. Reports will be published in 2020.

Import of additives
Analysis of data supplied by the NVWA and Dutch Customs that relates to identifying importers and third-country representatives. To continue in 2020.

Supervision of home mixers
Primary businesses and farms that create their own mixed feed for use on their own farm. Implementation of this project has been extremely limited as the inspectors have other priorities in their supervision of the primary sector. To be continued in 2020.

Incidents

In 2019, 463 case files (including animal by-products) were handled that related to reports in the European Commission's Rapid Alert System for Food and Feed (RASFF), reports under the General Food Law Regulation and self-reporting under the National Animal Feed Plan, for example. One case file may involve multiple reports. Most case files concerned incorrect labelling or excessive concentrations of undesirable substances. No major incidents occurred in 2019.

One interesting case involved an investigation by the police and NVWA-IOD at an animal feed processing plant. As part of the investigation, 46 samples of extremely diverse composition were collected. The samples underwent comprehensive tests for mycotoxins, animal proteins, pesticides, multi-element screening (metals and heavy metals), undesirable components (microscopy), *salmonella* and residue of the synthetic drug 3,4-methylenedioxymethamphetamine (MDMA). The outcomes included the launch of follow-up investigations in Belgium.

Impact assessment/target group analysis

Not performed.

Actions taken to improve official controls

Integrated supply chain analysis for animal feed (plant-based)
In 2019, the NVWA published the integrated supply chain analysis for animal feed. The drafting process for this integrated supply chain analysis started in 2018. This analysis identifies the risks, instances of fraud and the results of supervision for the entire supply chain. Thus revealing where the chain is performing effectively and where risk management needs to be improved. This analysis will provide more insight into the interactions between links in the supply chain and thereby yield a better understanding of the opportunities for risk management improvements.
In addition, it will reveal the ways in which the NVWA can strengthen its information position.

Education

- In monthly consultations with the inspectors, various topics relating to supervision are discussed and explained such as new legislation, issues that officials may encounter during inspections, and the progress of inspection projects.
- Participation in Better Training for Safer Food projects: general investigation and control techniques, e-commerce of food.
- Permanent retraining and continued training of special investigating officers (*buitengewoon opsporingsambtenaren*, BOAs).
- Apprehension of vehicles on the road.
- Enforcement strategy.
- Administrative supervision.

The use of data analysis in supervision

Web scraping

As part of the supervision of claims, internet searches are performed using specific keywords to focus on weeding out false claims.

Import data provided by Dutch Customs for the import of additives project is used to identify traders and products.

2019 saw the performance of a pilot study into agents or additives that are too good to be true, in response to the fipronil affair in 2017. The pilot involved a visit to a major international livestock farming exhibition, where information and leaflets were gathered on products featuring implausible claims or products lacking a full list of ingredients. Information was gathered on a total of 41 agents, which can be grouped into the following categories:

- suggestive names or implausible claims
- prohibited or implausible animal health-related claims
- unclear composition
- prohibited substances

Where agents have an unclear composition, the laboratory checks whether it is possible to analyse and ascertain the composition in retrospect. This project will be continued in 2020.

In 2019, the NVWA launched a project that makes it possible to break down businesses from a specific target group (for instance processing plants) into risk categories. This is done by assigning businesses a score based on specific characteristics.

Actions taken to improve compliance by businesses

- Improving and updating the information on the website.
- Consulting with and supplying targeted information to the organised business sector and individual businesses.
  A consultation is held with all relevant stakeholders in the animal feed sector four times a year, which is organised by the sector itself. In 2018, this was supplemented by an Animal Feed Supply Chain Consultation. This meeting is held twice a year, with the focus being on difficulties in supervision and enforcement. Two working groups operate under the auspices of this supply chain consultation, which focus on:
  - resolving any problems surrounding the management of carryover, and
  - improving the reporting obligation and the quality of analyses from private laboratories.
- Pesticides in animal feed is an issue. The legislation and the interpretation of results is complex for businesses and supervisory officers. In collaboration with the Industrial Production domain, work commenced in 2019 on the drafting of a document to explain the application of pesticide legislation. This process will continue in 2020.

3.6 Animal by-products

Control body or bodies: NVWA, COKZ, NCAE

List of the main legislation under which controls were carried out in 2019

EU legislation	
Regulation (EC) No. 1069/2009	Basic Regulation
Commission Regulation (EG) No. 142/2011	Implementing Regulation
Regulation (EC) No. 999/2001	TSE Regulation

National regulations

- Animals Act (*Wet dieren*)
- Animal Products Decree (*Besluit dierlijke producten*)
- Regulation on Animal Products (*Regeling dierlijke producten*)

Size of the control file in 2019

type of business	**number**
Primary production	around 30,000
Businesses of origin • red meat, white meat, game • food production companies • food service industry businesses, retail	 around 5.5000 around 83,000 around 20,000
Section I: storage of animal by-products (Cat. 1, Cat. 2 and Cat. 3)	474
Section II: storage of derived products (approved + registered)	417
Section III: incineration/combustion (approved)	55
Section IV: processing businesses	26
Section V: oleochemical businesses	3
Section VI: biogas plants	128
Section VII: composting plants	65
Section VIII: pet food	94
Section IX: handling of animal by-products and derived products outside the feed supply chain	153
Section X: registered users	459
Section XI: assembly centres	16
Section XII: manufacture of organic fertilisers/soil improvers	64
Section XIII: other registered operators • transporters • traders • other registered operators	2723

Supervision of animal by-products (ABPs), results in 2019

supervision of animal by-products	number
Supervision of approved/registered/new ABP businesses	693
Supervision of ABP businesses of origin – food	1423
Supervision of businesses of origin – livestock farming	38
Supervision of ABP transport (roadside controls)	70
Traceability projects (fats, processed animal proteins)	16
Destination controls	609 (2881 consignments)
Export controls on processed animal proteins	103
Inspections in response to complaints and reports	241
Re-inspections	132
Microbiology samples	24
Chemical samples	42 DNA, 53 GTH*
Measures	
• written warnings	287
• fine reports	51
• official reports	3

* *glyceroltriheptanoate*

Explanatory notes to the results for animal by-products
The number of businesses operating in this sector has been increasing each year. A lack of growth in the number of inspectors has led to inspections increasingly having to take place on an even more risk-oriented basis. In 2019, the number of inspections had returned to the level in 2016, in other words higher than in the two previous years. However, the above-mentioned increase in the number of businesses versus no change in the number of inspectors will eventually lead to a lower percentage of businesses that will and can be inspected.

With regard to businesses creating animal by-products, compliance is good in the dairy industry and among primary businesses. At red and white meat slaughterhouses and in the fish sector, compliance varies from moderate to reasonable.

Traceability inspections and securing supply streams continue to be priorities in the supervision of approved and registered businesses.

Projects in 2019

Supervision of approved and registered businesses: this relates to routine supervision of businesses' compliance with their approval and registration conditions (incl. permissions), HACCP and traceability, and additional supervision of high-risk businesses (such as businesses that process category 1 materials).

Supervision of businesses of origin for food: this relates to supervising the collection and removal of animal by-products (ABPs) at food business operators (slaughter sector, fish sector, dairy and egg sector).

Supervision at primary businesses of origin: inspections on livestock farms of the collection and removal of carcasses. Reports were also handled that related to shed fires, as well as to dead animals, which, when collected by the destructor, proved not to be dead.

Transport supervision: these inspections relate to controls on transport by road.

Destination controls: inspections that take place in the context of Art. 48 of Regulation (EC) No. 1069/2009 and controls of consignments imported from third countries.

Export controls for processed animal proteins: inspections under Regulation (EC) No. 999/2001.

Inspections in response to complaints and reports: inspections conducted in response to a complaint or report received through the European Commission's Rapid Alert System for Food and Feed (RASSF) or the NVWA notification system.

Microbiology samples: this relates to the taking of samples and microbiological testing of pet food or processed animal proteins.

Chemical samples: this relates to the taking of samples and testing of products derived from GTH (glyceroltriheptanoate).

Supervision of illegal exports of processed animal proteins: the Processed Animal Proteins (PAP) Task Force was set up in 2015 with a specific focus on the illegal export of PAPs derived from ruminants by traders and PAP storage businesses. Since 2015, the task force has been working to tackle the illegal export of processed animal proteins derived from ruminants to third countries. Twelve storage businesses and traders have been involved. To date, this project has resulted in 10 businesses discontinuing such activities. Progress on this work has been hampered by legal proceedings brought against the NVWA by the businesses involved, complex trading systems and the international component of this trade. These issues have been discussed with the European Commission.

Waste flows in the fats supply chain: this project specifically focuses on the disposal of waste flows (tank bottoms, cleaning water, etc.) of fat processing companies and fat transporting companies. The project is a response to alerts from the business sector regarding the improper disposal of these materials. Reports to follow in 2020.

Supervision of the trade and production of raw pet food. This project will continue in 2020.

Supervision/detection of illegal exports to third countries of Cat.1/Cat.2 processed animal proteins (Meat and Bone meal; MBM). Reports to follow in 2020.

Reports/incidents

The majority of RASFF reports relate to non-compliances with microbiological standards, namely *Salmonella* in processed animal proteins, raw feed for pets and whey. Other reports related to traceability issues, such as omissions in TRACES and incorrect commercial documents.
In 2019, there were two cases of fraud involving category 3 materials being traded as food.

Impact assessment/Target group analysis

Not performed

Actions taken to improve official controls

The internal Animal By-product Enforcement Strategy Document was updated in 2019. This document outlines the various chains and target groups in the animal by-products sector. For each target group, a description was given of the risk factors, risk analysis, level of compliance, blind spots and enforcement methods. This document is updated periodically based on the enforcement cycle. Supervision projects will be determined on a risk assessment basis partly on the basis of this document.

In 2019, the NVWA launched an information provision programme for raw pet food: a desk study of the structure of the production chain and an internal expert consultation session. A literature study was also carried out. This project is set to continue in 2020 and will include a survey among businesses and users/feeders.

The Specific Intervention Policy for Animal By-products (NVWA document IB02-SPEC33) was revised in 2019, but had not yet been published.

Work took place in collaboration with Dutch Customs on a new procedure for seal checks on PAPs being exported to third countries. This process will continue in 2020. An administrative supervision system was also set up in this context. The system involves comparing export notifications in the Dutch Customs systems with the TRACES (European

Commission's trade control and expert system) notifications. So far, the notifications in the two systems have been 100% consistent and all consignments have been exported.

In 2019, the NVWA launched a project that makes it possible to break down businesses from a specific target group into risk categories. This is done by assigning businesses a score based on specific characteristics such as business type, size, compliance, operating territory and so on.

Education
In monthly consultations with the inspectors, various topics relating to supervision are discussed and explained such as new legislation, issues that officials may encounter during inspections, and the progress of inspection projects.

- Participation in Better Training for Safer Food projects: animal feed law, TRACES
- Permanent retraining and continued training of special investigating officers (BOAs)
- Enforcement strategy
- Administrative supervision

Actions taken to improve compliance by businesses

Consulting with and supplying targeted information to the organised business sector and individual businesses
Providing a search function to make it easier to search lists of approved and registered businesses.

3.7 Meat supply chain (slaughterhouses, cutting plants and cold and frozen stores)

Control body or bodies: NVWA

List of the main legislation under which controls were carried out in 2019

EU legislation	
Regulation (EC) No. 178/2002	General Food Law Regulation
Regulation (EC) No 882/2004*	Feed and food controls regulation
Regulation (EC) No. 2017/625**	New controls regulation for official activities
Commission Delegated Regulation (EU) No. 2019/624**	Specific rules for the performance of official controls on the production of meat
Commission Implementing Regulation (EU) No. 2019/627**	Uniform practical arrangements for the performance of official controls on products of animal origin
Council Regulation (EC) No. 852/2004	Hygiene of foodstuffs
Council Regulation (EC) No. 853/2004	Hygiene rules for food of animal origin
Regulation (EC) No 854/2004*	Official controls on food products of animal origin
Commission Regulation (EC) No. 2073/2005	Regulation on microbiological criteria
Commission Regulation (EC) No. 2074/2005	Implementing measures for certain animal products
Commission Implementing Regulation (EC) No. 2015/1375	Rules on official controls for Trichinella in meat
Regulation (EC) No. 1069/2009	Animal by-products regulation
Regulation (EC) No. 999/2001	Prevention and control of certain TSEs (BSE)

** no longer in force since 14 December 2019*

*** effective since 14 December 2019*

National legislation

- Animals Act (*Wet Dieren*)
- Regulation on Animal Products (*Regeling dierlijke producten*)

Size of the control file in 2019

type of business (approvals)	**number 1-1-2019**	**number 31-12-2019**	**inspections management****
Domesticated ungulates slaughterhouses	184	170	170
Poultry slaughterhouses	28	28	28
Rabbit (lagomorphs) slaughterhouses	6	6	6
Farmed game slaughterhouses	22	21	21
Wild Game Slaughterhouses (GPBs)	12	14	14
Cutting plants (all types of meat)*	1,242*	1239	213
Cold and frozen stores*	544*	539	89

Note: a business may hold multiple approvals; most slaughterhouses also hold a cutting plant approval, and sometimes a cold or frozen store approval as well.

** This concerns all cutting plants and cold and frozen stores approved by the Inspection Division and other NVWA authorities (Enforcement).*

*** Inspections also includes all slaughterhouses and businesses whose main activity is cutting up meat or storing fresh meat.*

**** This relates to stand-alone cutting plants that are not connected to a slaughterhouse and that sometimes hold additional approvals.*

Supervision of the meat supply chain, results in 2019

audits and inspections in 2018	number of basic inspections	number of re-inspections
HACCP audits*	263	30 (11%)
Approval maintenance	319	49 (15%)
Inspections for new approval applications	47	0
Traceability (tactical and system inspections)	317	6 (2%)
Tactical inspections of hygienic work practices	1,939	150 (8%)
Other system inspections	541	15 (3%)
Total	**3,426**	**250 (7%)**

** microbiological criteria system inspections have been included in the HACCP audits since 2018*

Red meat inspections *(source: RSG, the Dutch database for livestock slaughter data)*

animal type	number of slaughters 2018	number of slaughters 2019
Pigs	15,572,931	15,686,570
Calves	1,603,695	1,590,900
Cattle	584,773	474,785
Other ruminants*	709,642	744,482
Solipeds	2409	1,959
Red meat total	**18,471,271**	**18,498,696**

** sheep, goats, farmed deer, llamas, wild sheep*

Poultry meat inspections *(source: PLADMIN, the NVWA poultry administration database)*

animal type	number of slaughters 2,018*	number of slaughters 2,019*
Broilers	607,348,594	607,280,547
Chickens	17,955,020	17,960,152
Ducks	8,353,587	8,110,143
Other**	4,226	1,625
Poultry meat total	**633,661,427**	**633,352,467**

** refers to the numbers of live poultry supplied to the slaughterhouse*

*** refers to pigeons, geese and turkeys*

No. of hours for Inspections

meat inspections (no. of hours)	2016	2017	2018	2019
Red meat	180,122	181,126	184,416	186,234
Poultry meat	107,440	108,603	110,480	118,401
Total	**287,562**	**289,729**	**294,896**	**304,225**

** Relates to the number of gross hours spent on supervision and inspections at slaughterhouses. Of these, around 20% were spent on consultations, training and other activities.*

Number of samples/analyses *(source: KBBL, VLG)*

samples/analyses*	number of samples	number of analyses**
Microbiological	69	69
Antibiotics analysis	92	92
Trichina in farmed pigs	164,777	15,791,062
Trichina, other	1,098	7,032

** These are samples taken and analyses performed within the scope of PM inspections at the slaughterhouse.*

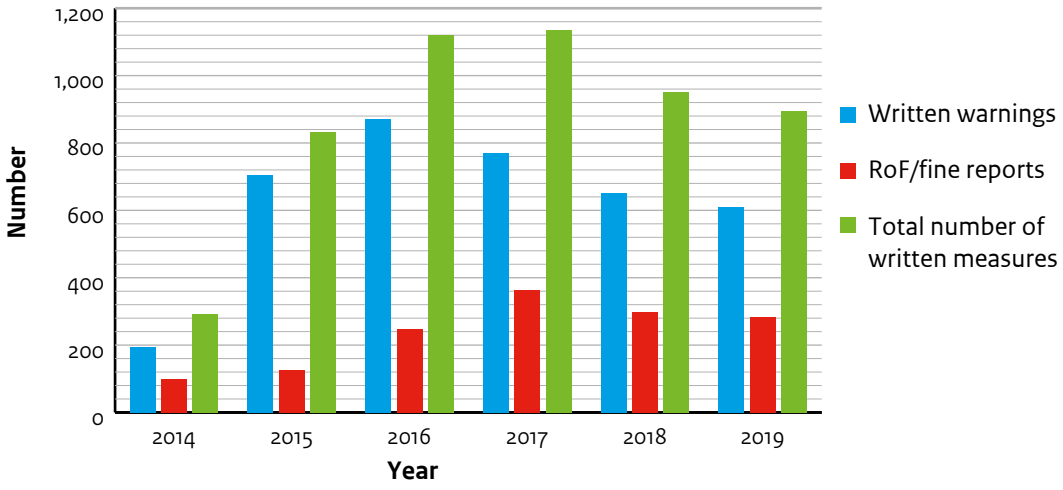
*** Numbers of animals tested based on registration at the laboratories.*

Measures taken by the NVWA

2019 measures	written warning	fine reports*
Red meat slaughterhouses	184	104
Poultry slaughterhouses	401	172
Game processing businesses	0	0
Cutting plants	21	18
Cold and frozen stores	7	3
Total:	**610**	**284**

** These are reports on findings sent to NVWA's TBM division for compiling a fine report.*

Trend in the numbers of written measures in this area:



Reference to specific reports

A separate report is being issued on the National Residues Plan.

Explanatory notes to the results for Supervision of the meat supply chain

These explanatory notes are broken down into business categories/supervision target groups wherever possible.

The following is observed with regard to the other system inspections in the Supervision of the meat supply chain, results in 2019 table: this category includes various types of food safety inspections, such as those relating to animal by-products, preparation of minced meat, separator meat, identification & registration, and controls of specific business protocols, but also various types of controls relating to animal welfare at slaughterhouses. For the sake of consistency with previous years, all other system inspections performed have been included in the table. An explanation of the 'other system inspections' data relevant to food safety is provided below for each type of business.

Domesticated ungulates slaughterhouses (red meat)

Size of control file: the number of approvals for red meat slaughterhouses fell in 2019, by 14 approvals compared with 2018. Inactive approvals, for businesses where no animals are actually slaughtered, are no longer included.

Animals slaughtered for red meat: recent years have seen a continual, gradual rise in the number of pigs slaughtered (from 14.1 million in 2016 to 14.9 million in 2019). The number of calves slaughtered remained more or less the same as the previous year. For cattle, the number of animals slaughtered was down substantially, by 23% (110,000 animals) compared with 2018. The number in 2018 was also down compared to 2017 (10%). This is in line with the downward trend in the number of dairy cows and young livestock in the Netherlands.

Inspection and supervision hours: these hours not only encompass inspection activities (AM and PM [meaning ante mortem and post mortem] inspections and supervision of PM inspections), but also include a large part of the supervision activities in the slaughterhouses (supervision following on from inspections). They relate to the number of gross hours spent on supervision and inspections at red meat slaughterhouses. Of these, around 20% were spent on consultations, training and other activities. In the case of red meat, recent years have seen a slight upwards trend in the number of gross hours, due in part to the increased number of hours dedicated to training. 2019 saw a 1% rise in gross supervision hours compared with 2018.

Number of samples/analyses: these are mainly samples collected in red meat slaughterhouses. The number of analyses in the 'trichina, other' category remained the same in 2019 as in 2018, however these analyses were performed on half the number of samples and pooled samples than in 2018. This efficiency is possible because the size of the subsample to be used is subject to different requirements for each species of animal in this category. Pooled samples have a fixed size, however a different minimum sample size is prescribed for each individual animal in each animal species.
The downward trend of recent years in microbiological samples and antibiotics testing is continuing.

Audits, inspections and measures: in 2019, the NVWA carried out a total of 136 audits and 118 system inspections for approval review at slaughterhouses where ungulates kept as farm animals are slaughtered. An audit and a system inspection for approval review were scheduled at each slaughterhouse. A completion rate is calculated by dividing the number of audits and inspections performed by the numbers scheduled for performance. The completion rates are highest for red meat slaughterhouses under continuous supervision: 87% for audits and 83% for system inspections. Small and medium-sized slaughterhouses not subject to continuous supervision have a lower completion rate with 79% for audits and 49% for system inspections for approval review. These completion figures are lower than those in 2018, particularly in the case of slaughterhouses under continuous supervision (8%). At slaughterhouses not subject to continuous supervision, the completion rate for audits was approximately the same as in 2018, but lower for approval review (7%). The low rates, particularly for approval review, are probably due to lack of resources for implementation.

In 2019, the NVWA carried out 6 re-audits (4%) and 20 re-inspections for approval review (16%). These results were lower than in 2018, in which the NVWA carried out 10 re-audits and 11 re-inspections for approval review.

The number of infringements observed during the audits was 369. The majority of these, namely 315, were classed as minor infringements (category D). A total of 43 category C infringements and 11 serious infringements (category B) were identified. The vast majority of infringements were detected through questions relating to structural requirements, other basic requirements and hygiene requirements.

The total number of observations recorded during inspections for approval review was 353: 296 minor infringements, 55 infringements and 2 serious infringements.

Most infringements were identified through questions relating to the business premises.

Other system inspections: other system inspections are performed where necessary depending on the activities that take place at a business. For instance, system inspections for treated stomachs, bladders and intestines are only scheduled to take place at businesses that actually carry out these activities.

In 2019, the NVWA carried out a total of 288 other system inspections at red meat slaughterhouses, of which 226 related to food safety. Few to no infringements were identified, with the exception of system inspections for identification & registration, which were carried out at 79 businesses. These inspections revealed 26 minor infringements (category D) and 1 category C infringement.

Poultry and lagomorph slaughterhouses

Size of the control file/number of animals slaughtered
The number of approvals remained unchanged from 2018. The number of broiler chicks, chickens and ducks slaughtered also remained almost the same as in 2018. However, there was a marked difference (38%) in the number of pigeons, turkeys and geese slaughtered at small poultry slaughterhouses. One reason for this was the delayed input of this data into the central database (Pladmin). A second reason was the relatively short period between the end of 2019 and the uniform predetermined date for printing out the data (January 2020). The result is a distorted picture. A check later in the year revealed that further data had been added and the number of animals slaughtered in this category was 15% higher than in 2018. As in 2018, the average reject rate for all categories of animals fluctuated around 1%.

Inspection hours
These hours not only encompass inspection activities (AM and PM inspections and supervision of PM inspections), but also include a large part of the supervision activities in the slaughterhouses (supervision following on from inspections). They relate to the number of gross hours spent on supervision and inspections at poultry slaughterhouses. Of these, around 20% were spent on consultations, training and other activities. In the case of poultry meat (like red meat), recent years have seen a slight upwards trend in the number of gross hours due in part to the increased number of hours dedicated to training. Gross supervision hours rose by 6.7% compared with 2018.

Audits, inspections and measures
In 2019, the NVWA carried out 20 basic audits (including HACCP) (87% completion rate) and 16 basic inspections for approval review (70% completion rate) at poultry slaughterhouses. Three re-audits were also conducted.
No re-inspections for approval review were carried out. This means that the percentage of re-audits at poultry slaughterhouses (15%) was slightly higher than the overall percentage (all target groups) of 11%. The poultry slaughterhouses showed a compliance rate of 84.5% for audit questions relating to HACCP. Out of the non-compliances, 14.7% involved minor infringements (category D) and 0.8% infringements (category C). No serious infringements (category B) were observed during the audits.

Inspections for approval review address structural requirements, hygiene and temperature control. The deficiencies primarily related to the accumulation of dirt and the occurrence of condensation and mould. There was also a relatively large number of comments regarding floor and wall surfaces and ceilings. Once again, the majority of infringements were classed as minor. Non-compliances with the basic requirements were also identified during daily inspections carried out prior to and during the businesses' activities.

Generally speaking, most infringements did not relate to the risk assessment or application of HACCP procedures but rather to the basic requirements, hygiene requirements and structural state of the business. The majority were minor infringements.

In 2019, the NVWA carried out 92 inspections at poultry slaughterhouses to assess traceability (84% completion rate) and 4 re-inspections (4.3% of the number of basic inspections). The deficiencies chiefly related to the incorrect application of the identification mark.

Other system inspections
This category includes various types of inspections, such as those relating to animal by-products, preparation of minced meat, separator meat, identification & registration, and controls of specific business protocols. In 2019, the NVWA carried out a total of 217 other system inspections at poultry slaughterhouses, of which 41 related to food safety.
Two re-inspections were carried out, one in relation to animal by-products and one in relation to minced meat.

The audit and inspection results were generally comparable to previous years.

Supervision of game processing businesses

The number of approvals for game processing businesses (GPBs) rose from 12 in 2018 to 14 in 2019. In 2019, the NVWA carried out 20 basic audits (71% completion rate) and 9 basic inspections for approval review (64% completion rate) at GPBs. Two re-audits and two re-inspections for approval review were carried out. Completion rates were lower in this area in 2019 than in previous years because priority was given to scheduled audits and inspections for approval review for other target groups/types of business.

The compliance rate for audit questions relating to HACCP was 82%, with 15% of questions revealing a minor infringement (category D) and 3% an infringement (category C). No serious infringements were observed during the audits or during the nine basic inspections for approval review. The minor infringements primarily related to walls, doors, hygiene and maintenance of the business premises.

As with the other business types, most infringements identified during the audits were detected when assessing the structural state of the business and the other basic requirements. Failure to meet hygiene requirements and failure to effectively implement monitoring procedures were also observed. The overwhelming majority were minor infringements. Only five shortcomings were classed as an infringement (category C).

Ten tactical inspections were carried out in relation to tracing. The findings for one inspection stated that a statement by a qualified person[3] had not been completed in full. The results for all the other questions were compliant.

No written warnings or fine reports were issued to wild game slaughterhouses in 2019, however a total of four corrective measures were recorded.

Supervision of independent cutting plants and independent cold and frozen stores

The number of approvals for stand-alone cutting plants under the management of the Inspection Directorate fell slightly in 2019 from 227 to 213, and for cold and frozen stores from 97 to 89. The completion rate for scheduled audits and inspections was lower in 2019 than in previous years. As in previous years, the majority of infringements related to structural state and hygiene of floors, walls and ceilings, and other basic requirements including meat crates and containers that had often not been cleaned to a satisfactory standard. The vast majority of infringements were classed as minor offences.
The other system inspections revealed that, at many cutting plants, the identification of containers used to store animal by-products was often non-compliant. Most cold and frozen stores had no storage facilities for animal by-products and those that did have these facilities did not clearly separate ABPs from meat for human consumption.

On implementation of the new approach to monitoring traceability, which takes a broader look at the business records, almost all of the cutting plants inspected were found to be non-compliant in relation to one or more organisational aspects of the traceability procedure. Moreover, the written procedure was often not adhered to and it was not possible to identify and trace the meat at all stages from production to distribution. Due to the limited number of available inspectors and the amount of time spent on re-inspections and measures, controls were ultimately carried out at only a small number of businesses.

The total number of written measures (written warnings/fine reports) was slightly higher in 2019 than in 2018, but there was a marked rise in the number of fine reports compared to previous years (from 6 to 18). This was largely due to the administrative traceability controls mentioned earlier.

[3] A qualified person (QP, as defined in Regulation No. 853/2004, Annex III Section IV) should carry out an initial assessment on wild game that has been shot and record the findings in a statement. This QP statement must be submitted to the game processing business alongside the game that has been shot.

Trend in the number of written measures taken by the NVWA

A written measure is a written warning (WW) or a fine report (FR). The table includes all measures that fall within this domain, in other words measures relating to food safety (including animal by-products) imposed upon the businesses that fall within this domain. In addition to the infringements for which written measures were imposed, there were infringements to which the response was an different intervention such as a verbal warning or corrective measures, including halting the production process.

There has been a downward trend in the number of written measures since 2017. In 2019, this number fell by 8% compared with 2018, to 894. This fall was more pronounced for written warnings (9.6%) than for fine reports (4.4%). Red meat and poultry slaughterhouses account more than 96% of these measures, with poultry slaughterhouses receiving more than twice as many warnings and 65% more fine reports than red meat slaughterhouses. The large numbers of measures at slaughterhouses are mainly a consequence of the risk-based supervision system for slaughterhouses, under which the detection of infringements and the associated enforcement in a specific risk area automatically results in an increase in the frequency of controls on this component by the system, which in turn leads to a greater likelihood of further infringements being detected.

In the case of poultry slaughterhouses, only the number of warnings was down from 2018; the number of fine reports remained the same. Red meat slaughterhouses saw a similar reduction in the numbers of both warnings and fine reports. The downward trend could also be partly due to a backlog in processing these enforcement measures. The NVWA plans to carry out a specific project in 2020 aimed at reducing the processing time of these measures.

Incidents/projects

2Solve/report and Internal Audit Service report
Further to allegations of potential malpractice in the supervision of small and medium-sized slaughterhouses in the northern Netherlands, as well as an internal NVWA audit report, the Ministry of Agriculture, Nature and Food Quality commissioned an external investigation (2Solve) that was also carried out in 2019.

The findings of both the external investigation and the audit report revealed a lack of consistency in the assessment of dairy cows supplied by the small and medium-sized slaughterhouses inspected for fitness for slaughter (food safety) and fitness for transport (animal welfare) and, where necessary, enforcement action. Differences were identified in the interpretation of the relevant standards, but also in willingness to enforce these standards. The procedures for reporting malpractice and the handling of such reports were also found to be inadequate, partly due to a lack of cooperation between the different departments of the supervisory authority.

A programme of improvements was launched in response to these findings, which addresses the supervision/enforcement culture and internal cooperation. More specifically, the following measures were introduced:

- Increased cooperation through data sharing between supervision at primary livestock farms and the slaughter phase and joint risk analyses.
- Improvement/refinement of the existing standards (for instance fitness of dairy cows), including through process accreditation and peer assessment of professional flexibility in this context.
- Intensification of the crackdown policy by reducing the processing time for imposing sanctions (particularly fine reports).
- Boosting veterinarian capacity to allow rotation.
- Improving the traceability of carcasses and rejected carcasses by intensifying administrative checks and exploring the options for private self assessment systems.
- More opportunities for the supervisory officer to investigate and analyse reports, make enquiries, draw up reports on findings and impose sanctions based on these reports, and conduct in-depth criminal and other investigations.
- Application of the ‘four eyes’ principle.
- Research into a potentially greater organisational separation of approval and supervision.

All these activities were shaped and developed further in the second half of 2019 and will continue in the years ahead. They will then be expected to produce results in the relevant areas. The NVWA's capacity will also need to be expanded in order to achieve the desired outcome. However, where possible, these activities will be incorporated into other ongoing activities (for example the new supervisory regime based on the new Official Controls Regulation).

DutriRock bedding powder
In May, June and July 2019 the NVWA, together with the Ministry of Infrastructure and Water Management's Human Environment and Transport Inspectorate (*Inspectie Leefomgeving en Transport*, ILT), was involved in an incident involving the use of a housing disinfectant in poultry houses (DutriRock bedding powder) containing the active substance chlorine dioxide. The agent is presented as a drying agent for bedding with the added benefit that it kills bacteria and viruses. This agent was imported from China and supplied to a total of 26 broiler chick farms. Of these 26 farms, 13 were found to have also used the agent in reared flocks. No egg-producing, breeding or rearing poultry farms were involved.
The NVWA took enforcement measures against the poultry farms due to the use of an unauthorised biocide, while the ILT took enforcement measures against the importer/distributor. A request for administrative support (an AAC notification) was also sent on 11 July to the European Commission and 10 Member States to which the agent had potentially been supplied.

Based on a literature study, the NVWA's Office for Risk Assessment & Research (*bureau Risicobeoordeling & onderzoek*, BuRO) reported that there was no anticipated risk to food safety. Nevertheless, test measurements were carried out on chicken and chicken liver in order to verify this conclusion. No residues of the active substance or its metabolites were detected. Tests were also carried out for dioxins and heavy metals as a result of the binding agent. These tests were also negative or well below the legal standards.

Since the use of DutriRock to treat housing units could potentially affect the legally required *Salmonella* test (SE/ST) in the housing, the 13 farms where the agent was used were required to slaughter their flocks as a precaution as a *salmonella* (SE/ST) -positive flock, or verification testing could be performed on the SE/ST status on the slaughterline. This proved not to be an option, as testing on the housing units had already shown the flock to be SE/ST positive.

Implementation of the new Official Controls Regulation
In the context of the implementation of the new Official Controls Regulation, which entered into force for this domain on 14 December 2019, the supervision system for slaughterhouses was reviewed in 2019 and a new, improved risk analysis was drawn up for small slaughterhouses. As part of this implementation and the new requirements for small slaughterhouses, the Netherlands notified the EU in December 2019 that some businesses not subject to continuous supervision will be permitted to slaughter more than 1000 LU or 150,000 birds each year, but that the total slaughter volume of businesses not subject to continuous supervision will not exceed 5% of the slaughter volume of businesses under continuous supervision. The new rules allow such a derogation subject to the aforementioned condition.
The development process and full roll-out of the improved supervisory regime will continue in 2020. Changes to how slaughter data is recorded also mean that this implementation process will cause a break in the data trend.
The implementation of the new supervision system will be accompanied by the standardisation of post-mortem (PM) inspection conditions at small slaughterhouses.

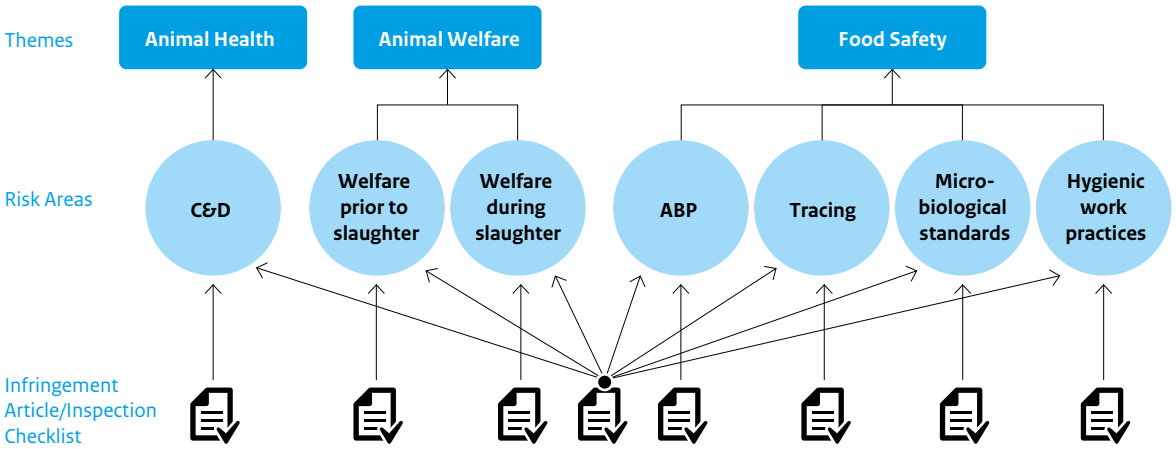
Under the new Official Controls Regulation, an official veterinarian must also carry out the ante mortem (AM) inspection of emergency slaughter at businesses. As of December 2019, all veterinarians listed in the Dutch registry of practitioners are approved to perform this task in the capacity of official veterinarian.

Publication of compliance data (phase 2)
In 2014, the NVWA started more uniform and risk-based supervision of slaughterhouses. From a systematic analysis of the checklists based on a number of key high-risk parameters, a clear picture emerged of compliance at each business. In 2018, this data was published alongside the names of the businesses for the first time, giving a clear picture of the performance of individual slaughterhouses.

In order to meet the requirements of the sector and the NVWA, a new model was developed for the publication of data relating to slaughterhouses under continuous supervision in 2019.

In contrast to the compliance monitor, which is based solely on tactical inspections, this model will encompass all operational, tactical and enhanced supervision inspections. Infringements that resulted in written warnings and fine reports determine the total number of infringements. The inspections and the corresponding infringements are broken down according to risk areas and these risk areas are associated with a theme. See diagram below.

Publication Phase 2 Structure



A rate of infringement is then published for each theme and risk area along with the number of inspections at this level for each slaughterhouse.

Example overview of controls and infringements per theme Red meat slaughterhouses

business	number of Food Safety controls	rate of Food Safety infringements	number of Animal Welfare controls	rate of Animal Welfare infringements	number of Animal Health controls	rate of Animal Health infringements
Business 1	356	4.21	245	0.82	116	0
Business 2	242	4.55	183	0	88	0
Business 3	248	0.81	198	0	86	0

The trend over the years is also published at overall level and for each individual slaughterhouse. This method was developed in 2019, however no data has as yet been published according to this method pending political decision-making.

Image database

In 2019, the NVWA launched an Inspection Image Database project in the context of innovation and standardisation of the PM inspection. Innovative IT capabilities such as image recognition software, rapid image comparison, and feedback to the supervisory officer can be used to support the decision-making process by officers conducting inspections at slaughterhouses, based on pre-existing and verified information. The decision was reached in 2019 to carry out a proof of concept in 2020. This will involve using labelled images, which are accompanied by information and have been verified by pathologists from the Faculty of Veterinary Medicine, to teach in image recognition software. A limited group of supervisory officers will test the reliability and efficiency of the software and the connections in a limited practical environment (a small number of cattle slaughterhouses). The gathering of images and labelling commenced in 2019.

Impact assessment

From a systematic analysis of the checklists based on a number of key high-risk parameters, a clear picture emerged of compliance at each business. This data has been published alongside the names of the businesses up to and including the first half of 2018, giving a clear indication of how each individual slaughterhouse is performing. Another publication system is currently being prepared (see above under Publication of compliance data, phase 2). This data is available for 2019 on an aggregate level for the large red meat and poultry slaughterhouses (see below).

Red meat slaughterhouses under continuous supervision

Following a rise in compliance with the requirement to supply clean animals from 2017 to 2018, the compliance rate improved again in 2019 to 94%. Weather conditions are one of the factors that can affect this rate. A high compliance rate of over 96% was also achieved in 2019 for cleaning and disinfection of means of transport. This aspect is vital to the prevention of infectious animal diseases (biosafety).

The slaughter process encompasses a number of process steps, such as skinning, dehairing, and evisceration, that present a high risk as the carcass can easily become contaminated with manure and hair.
Compliance rates for these steps have been high in recent years (over 95% in 2019). Operators evidently pay close attention to these activities. The same applies to compliance with the requirement to disinfect knives and tools.

With regard to controls on the contamination of carcasses during the slaughter process, i.e. before the PM inspection, 88.9% of controls in 2019 showed red meat slaughterhouses to be compliant with the stipulated requirements (no more than 2% contaminated carcasses for pigs, 5% for cattle, calves, sheep and goats). This marked an end to the downward trend in compliance in the second half of 2018, and saw the compliance rate return to the level in the first half of 2018. Optimal prevention of contamination during the slaughter process, and the correct measures in the event of deviations, contribute to the safe production of meat.

No contamination should ultimately be found on the carcass during the PM inspection (0% contaminated carcasses). The rate of compliance with this standard was high in the first half of 2019, but fell to below 90% in the second half of the year. Operators must consistently ensure the delivery of clean carcasses as one of the key parameters for a hygienic slaughter process. The NVWA will continue to ensure that companies and businesses take responsibility in this regard and to intervene in the event of non-compliance.

large red meat slaughterhouses	1st half of 2019	2nd half of 2019	2019 total
Clean animals?	94.6%	93.7%	**94.2%**
C&D of livestock trailers	100%	94.1%	**96.7%**
Skinning	96.4%	98.4%	**97.3%**
Removal of gastrointestinal tract	95.4%	95.5%	**95.4%**
Disinfection of tools	95.0%	95.5%	**95.2%**
Contamination before PM within the norm?	88.3%	89.6%	**88.9%**
Contamination after PM	94.2%	89.9%	**92.3%**
Temperature of the meat	98.6%	98.8%	**98.7%**

Poultry slaughterhouses under continuous supervision

Compliance with the rules regarding the cleaning & disinfection (C&D) of means of transport fell to 76.9% in 2019. This is worrying, particularly due to the important role these activities play in preventing infectious animal diseases such as Avian influenza (bird flu). Businesses themselves must have sufficient oversight of C&D, be alert to shortcomings and rectify any that occur as soon as possible.
Biosecurity, clean areas, equipment and materials form the basis for hygienic slaughter and processing. Despite an improvement in compliance from 2018 to 2019, the average compliance rate is relatively low with huge differences between slaughterhouses.

Compliance with regard to avoidable cross-contamination varies over time and can fluctuate sharply even within the same year. However, there has been an upward trend over the years. Businesses can avoid cross-contamination in many cases by looking closely at their processes and guiding staff.

Large volumes of water are used at poultry slaughterhouses. Good ventilation and temperature control can reduce the occurrence of condensation. Drying an area and materials after cleaning and disinfecting can also help. Over the years, there has been a slight upward trend in compliance with these rules, with a rate in excess of 90% throughout 2019.

At the end of the slaughter process, carcasses must be entirely free of contamination (visible traces of contamination from the contents of the digestive tract). If any contamination is found, the business must remove it and ascertain whether the slaughter process is being adequately controlled. The average rate of compliance is reasonably high (> 95%), with no change in the intensity of supervision.

large poultry slaughterhouses	1st half of 2019	2nd half of 2019	2019 total
C&D of transport vehicles	83.3%	76.9%	**80.7%**
Materials & equipment prior to slaughter	67.0%	54.3%	**60.7%**
Spaces sufficiently clean prior to slaughter	73.0%	58.0%	**65.6%**
Staff personal hygiene	93.1%	89.3%	**91.2%**
Condensation formation above the meat	91.8%	92.6%	**92.2%**
Avoidable cross-contamination during the process	91.2%	87.2%	**89.2%**
Sterilisers	98.1%	93.4%	**95.6%**
Contamination at the end of processing	94.1%	93.3%	**93.7%**
Temperature of the meat	96.2%	95.7%	**95.9%**

Conclusions

In 2019, the number of audits and inspections for approval review conducted was lower than in 2018 but similar to 2017, with a roughly equivalent number of target businesses. The number of re-inspections remained the same. However, the re-inspection rate is not directly comparable with the rate in 2018 as the population of businesses inspected was not the same. Limited capacity meant that controls were carried out on a more risk-oriented basis, essentially resulting in a higher probability of re-inspection.
Nevertheless, the capacity for the performance of the controls needs to be brought closer in line with the planning for the best possible supervisory outcome. Supervision capacity will also need to be expanded in order to achieve the specified goals of more risk-based and more uniform supervision.

Although the number of written measures taken by the NVWA fell again compared with 2018, the number of fine reports appears to be consolidating, particularly in the case of poultry slaughterhouses. Poultry slaughterhouses remain the biggest offenders with around double the number of written measures compared to red meat slaughterhouses.

The results for cutting plants and cold and frozen stores are comparable to 2018.

Based on the compliance monitor for slaughterhouses, it appears that, since the new method of supervision was introduced, compliance has improved. The results (compliance rates) appear to be consolidating at a relatively high level in a number of areas compared with 2018, however there are still a number of specific areas requiring attention and fluctuations in the rates. The supervisory authority will examine the extent to which the enforcement instruments used (particularly repressive supervision) can be supplemented with other existing or new instruments (for example phase 2 data transparency). Specific development projects will be set up and implemented where necessary for this purpose in 2020.

3.8 Industrial production: meat products, fish products and composite products

Control body or bodies: NVWA

List of the main legislation under which controls were carried out in 2019

EU legislation	
Regulation (EC) No. 178/2002	General principles and requirements of food law
Council Regulation (EC) No. 852/2004	Hygiene of foodstuffs
Council Regulation (EC) No. 853/2004	Hygiene rules for food of animal origin
Commission Regulation (EC) No. 2073/2005	Microbiological criteria for foodstuffs
Commission Implementing Regulation (EU) No. 2019/627	Performance of official controls on products of animal origin

Size of the control file in 2019

type of business	**number**
Artisanal businesses	308
Importers	842
Trading companies	3073
Warehouses	892
Production businesses	3647
Total number of businesses	**8762**

NB: since, from this year onwards, the businesses under 'Industrial production' will include businesses that produce fish and fish products (938 businesses in 2019 with 750 inspections performed), the above numbers may differ significantly from the numbers provided for previous years. From 2019, the 'aquaculture' section previously included in Chapter 3.10 Fish, fish products and aquaculture will now be covered in Chapter 3.3 Animal health - prevention.

Supervision of industrial production: meat, fish and composite products, results in 2019

supervision of industrial production	**number**
Audits	243
Inspections	6335
Samples*	
Measures at audits and inspections	1855

* *The samples taken at industrial businesses are reported by the domains responsible for analysing the samples (including Microbiology and Contaminants). Samples of live bivalve molluscs are reported separately.*

Production areas for live bivalve molluscs

production areas	**number**
Number of production areas (open) Class A Class B	14 14 0
Number of designated rewatering areas* Mussel water plots Oyster beds	 94 90

* *Set annually; non-designated rewatering areas are part of the production area in which they are situated.*

monitoring	number of samples	number of non-compliant samples
E. coli in rewatering areas	167	0
E. coli in production areas	1,095	1*
Phytoplankton	320	20**
Biotoxins	383	4**
Chemical contaminants	14	0

** Five samples are taken in each sampling. Non-compliance is when over 700 cfu (colony forming units)/100g are detected in 1 or more samples or over 230 cfu/100g are detected in 2 or more samples.*

*** In the event of non-compliance, the number of samples taken within the production area is increased. This may therefore refer to multiple samples per sampling.*

measures/non-compliances	number
Area declassification for rewatering areas (E. coli)	0
Area declassification for production areas (E. coli)	1
Measures for phytoplankton in production areas	4
Measures for biotoxins in production areas	1
Measures for chemical contaminants in production areas	0
Other (preventative) measures for rewatering areas	0
Other (preventative) measures for production areas	0

Explanatory notes to results for industrial production: meat, fish and composite products

Due to a sharp reduction in inspection capacity, the number of inspections and audits conducted had fallen significantly in recent years. In 2018, the NVWA carried out 4383 inspections and 125 audits. One reason for the rise in the numbers of inspections and audits in 2019 may be an increase in available capacity within the inspection teams. A second may be that the inspections and audits of fish farms have been included in the total number of audits and inspections for the first time this year.

During audits of industrial companies, all aspects of the food safety system of a business are assessed as a rule. Businesses have the option to make use of their own food safety plan or an approved hygiene code to meet the requirement to have a food safety system. The procedure for using a hygiene code can be summarised as follows: the sector organisations of specific sectors produce a draft hygiene code for the sector in question. The NVWA then reviews the content of this draft hygiene code and issues a recommendation to the Ministry of Health, Welfare and Sport. If the recommendation is positive, the hygiene code is formally approved by the relevant Ministry.

As a result of the still limited capacity with regard to inspectors, no audits were carried out at registered businesses in 2019. A decision was made in 2019 for a limited number of audits to be carried out at approved businesses. The reason behind this decision is that audits are relatively time consuming, which means that for more audits to be scheduled, a comparatively high number of inspections would need to be cancelled.

There are 2 types of inspections: inspections relating to basic conditions and system inspections (SI). System inspections primarily relate to the following issues: hazard identification, critical control points, monitoring procedures, verification procedures, reporting and tracing, executing recalls, testing of microbiological criteria, correct application of the hygiene code and the use of an approved food safety plan. Corresponding inspection checklists are also available for these different issues for the relevant inspection to be carried out and for information to be collected. In 2019, there was specific focus on the requirements of Commission Regulation No. 2073/2005 on microbiological criteria, on tracing and reporting, and on the appropriate way to conduct a recall.

In addition, the inspectors at the industrial businesses are increasingly focusing on the complaints and reports that are submitted to the NVWA. These include RASFF (the European Commission's Rapid Alert System

Food and Feed) reports, but also reports in the context of the General Food Law Regulation, complaints from consumers, businesses and other bodies.

The table below shows the number of inspections performed per inspection type, as well as the rate of non-compliance. The number of inspections and rate of non-compliance for 2018 is given in brackets.

Table: Inspections performed and percentage of interventions

inspection component	number of inspections in 2019 (in brackets: 2018)	non-compliance rate in 2019 (in brackets: 2018)
Basic requirements	1935 (1861)	23% (22%)
Hazard Identification (SI)	187 (206)	35% (29%)
Critical control points (SI)	119 (79)	19% (10%)
Monitoring procedures (SI)	540 (406)	12% (8%)
Verification procedures (SI)	250 (221)	25% (28%)
Tracing and reporting (SI)	404 (559)	18% (15%)
Execution of recall (SI)	82 (88)	21% (8%)
Microbiological criteria (SI)	673 (535)	36% (43%)
Implementation of hygiene code (SI)	207 (242)	22% (25%)
No food safety plan (SI)	106 (150)	80% (89%)
Total system inspections	**2568 (2486)**	**25% (27%)**

The above overview of the non-compliance rates shows that in more than 1 in 5 inspections regarding basic conditions (approximately 23%), deficiencies are identified that warrant an intervention, i.e. a written warning or a fine report.

In relation to system inspections, an average of 1 in 4 inspections result in non-compliance that is cause for an intervention to be imposed. The system inspection components with the lowest compliance rates are: hazard identification, implementation of verification procedure, implementation of the hygiene code and assessment of the microbiological criteria.

It should, however, be noted that the system inspections at businesses are carried out on the basis of a risk assessment and the previous occurrence of violations. In other words, the system inspections are carried out according to a risk-based approach. This means that the non-compliance rate in the right-hand column of the table cannot be regarded as a deviation in a random sample from the total number of businesses, since system inspections are carried out at specific businesses in a targeted manner. This is not the case for inspections regarding basic conditions, which are carried out in combination with one or more system inspections wherever possible and whose results accurately represent the rate of non-compliance with the basic requirements.

Projects

Tracing and reporting: businesses must be able to trace their products. They must be able to establish the business of origin and destination of each product. The NVWA devotes specific attention to the obligation for businesses to notify the competent authority if they are aware that unsafe or harmful food has been introduced to the market.

Microbiological criteria: do businesses comply with the microbiological criteria laid down in Regulation (EC) No. 2073/2005, which also focuses on the method by which businesses should verify the food safety criteria in this Regulation. Specific attention will be paid to controlling *Listeria monocytogenes*, particularly in meat and meat products and fish and fish products.

Modified oversight at businesses that use a certification scheme approved by the NVWA (PQS [private quality system] supervision). These are the approved BRC, IFS and FSSC 22000 schemes (please see below for more information on the pilot concerning approved PQS systems).

Incidents

***Listeria monocytogenes* in cut meat products**

In the period July to September 2019, the NVWA investigated a meat cutting plant in connection with a Listeria problem. The NVWA expressed concerns to the cutting plant in September regarding recent measurement results and potentially harmful products sold by the business. At that time, four patients (two from 2017 and two from August 2019) had a match with Listeria the NVWA had detected in a drain outlet at the production site. The business responded by performing a deep clean of the production facility and carrying out intensive sampling and testing for Listeria. The isolates found were sent to the Wageningen Food Safety Research (WFSR) laboratory for classification.

In early October, the NVWA received DNA typing results from the WFSR linking the current cluster of sick people to a number of recent food isolates from the meat producer in question. Nine strains of Listeria found in products supplied by the company matched Listeria strains detected in 20 patients. The RIVM also reported new information on the cases involved in the current cluster: according to the RIVM's records, the number of people affected to date had risen to 20, including one patient who had a miscarriage (2018) and three deaths (2019).

Based on this information, the NVWA exercised its powers under Article 54 of Regulation 882/2004 by ordering the company to take measures. The NVWA produced a RASFF report for consumers in other countries. The cutting plant issued recalls and public warnings in relation to these meat products, which were also published on the NVWA website. The Minister of Health, Welfare and Sport was informed about the incident and a letter was sent to the House of Representatives.

During discussions between the management of the cutting plant and the NVWA, the company decided to cease production entirely at the affected site and to focus all its efforts on tracing those products that had entered circulation. The cutting plant agreed that it would notify the NVWA once it had completed all cleaning and restructuring activities at the production site, and that it would not recommence production until it received approval from the NVWA. In 2019, the NVWA-IOD launched a criminal investigation into the Listeria incident at the cutting plant with the aim of determining whether there was any evidence of criminal culpability.

***Salmonella enteritidis* in Spanish eggs**

In August 2019, the NVWA received a report from the Municipal Health Service (GGD) that several people from various regions of the Netherlands had fallen ill with a suspected *Salmonella* infection. It was found that a number of the sick people had consumed tiramisu containing raw egg. As a result, further investigations were launched into the illnesses that occurred and the eggs used. Later tests revealed *Salmonella enteritidis*.
It soon emerged that, in the Netherlands, 23 of the 35 suspected cases could be linked to the suspect food product, with 10 people admitted to hospital. There was also a residual supply of the eggs used in the tiramisu and knowledge of where these eggs had been purchased, which made it possible to identify the wholesaler that had supplied the eggs. The egg code was used to link the *Salmonella* status to the egg-laying poultry farm. The eggs involved were category 3 or 'cage' eggs. This laying method is no longer used in the Netherlands. Further investigation indicated that most of these cage eggs were sold to businesses such as Chinese supermarkets, small convenience stores and the food service industry. Enquiries with the Spanish authorities revealed a negative *Salmonella* status, and additional tests by the NVWA also failed to produce any evidence of *Salmonella*.

Large-scale testing on the eggs in late August detected *Salmonella enteritidis* contamination on the eggshells. Tests carried out on the residual supply of eggs were negative for *Salmonella*, but positive for the egg samples taken from the convenience store bearing the same egg code. The level of contamination on these eggs was low, however the whole genome sequencing (WGS) data obtained from the *Salmonella enteritidis* detected on the eggs matched the isolates from the patients. Rapid follow-up measures were implemented: a RASSF was produced, a public warning was issued and an Incident Team was set up comprising several disciplines from various departments and staff from the Netherlands Controlling Authority for Eggs (NCAE) section of the Netherlands Controlling Authority for Milk and Milk Products (COKZ).

The importer and the intermediaries/wholesalers then had to execute a recall. According to the tracing investigation, a volume of 300,000 eggs per week were potentially contaminated. The decision was made to perform random checks at the customers of seven intermediaries to ascertain whether the recall had been carried out correctly. These checks

yielded a lot of information, which also showed that the intermediaries had not executed the recall properly. The address lists supplied proved to be incorrect. Many of the businesses checked were entirely unaware of the situation or were only partly informed, posters to alert consumers had not been displayed, and NVWA inspectors found the eggs on the shelves in the stores. It also emerged that unstamped eggs had been distributed on the market and intermediaries were involved that were not known to the NVWA.

A number of the intermediaries were therefore required to repeat the recall process, which was followed by further random checks. It subsequently came to light that the importer/distributor of the eggs had supplied them not only to the intermediaries, but also directly to retail and food service industry businesses, and had failed to inform the NVWA. This company was also required to execute a new recall and the NVWA carried out further random checks to verify this process, which revealed significant failings in the provision of information to the buyers.

Following the public warning, the NVWA received a report from a consumer that a trader was still selling the eggs in question. This trader was unknown to the NVWA, and was found to have received the eggs directly from the importer after the recall had commenced. There was also evidence of tampering with the expiry dates of the eggs. The NVWA-IOD carried out a raid on the importer/distributor based on this and other information. The criminal investigation is still ongoing.

A total of more than 100 random checks were performed on these recall operations. Generally speaking, the wholesalers involved failed to inform their customers swiftly and effectively. In a number of cases this meant that the suspect eggs evidently remained on the market for longer than necessary. In some cases the customers were correctly informed, but failed to take appropriate action. In all these cases this led to proper intervention and the eventual withdrawal of the suspect eggs from the market.

Impact assessment

No activities were carried out in relation to measuring the impact of oversight/monitoring.

Actions taken to improve official controls

Modified oversight at PQS-certified businesses
Businesses that are certified under a Private Quality System (PQS) based on the BRC, FSSC 22000 or IFS have been subject to modified oversight in 2019 through a pilot programme that was launched in 2017 and implemented as part of the standard supervision process in 2018. The guiding principle is that the NVWA is increasingly using the inspection results from these systems. The NVWA is constantly monitoring the extent to which the established confidence in the systems of the certifying bodies is justified. The results for 2019 have not yet been fully processed and will be reported in autumn 2020, but an initial analysis shows that they confirm the general conclusions reached from the results in 2017 and 2018.

The quality systems in question add value to the NVWA's supervision activities. Certified businesses consistently exhibit a higher level of compliance than non-certified businesses. Consequently, the modified oversight has led to a lower NVWA supervision intensity in the case of certified businesses. The NVWA has also been able to adopt a more risk-based, and thus more effective and efficient, approach to the deployment of people and resources.

In accordance with the guiding principle, no assessment was carried out regarding the basic conditions during inspections of businesses making use of one of the PQS systems mentioned. This principle applies to both registered and approved businesses. Any outstanding or unresolved findings of previous inspections will nevertheless by handled by the inspectors of the NVWA - where necessary, by means of a re-inspection.

If food safety should become threatened and/or a quiet or regular recall takes place as a result of the shortcomings of a business using an approved PQS system, then the business will be charged by the inspector to set such a recall in motion immediately and with adherence to the applicable intervention policies.

Actions taken to improve compliance by businesses

Enhanced supervision
Industrial businesses that have received three reports on findings within a period of two years, will be subject to enhanced and intensive supervision by the NVWA. These businesses will have to adequately resolve the shortcomings in question in order to meet statutory requirements. If they do not, they will ultimately have to terminate their business operations.

The process in which these businesses end up is called enhanced supervision. This approach consists of a number of fixed steps that these businesses will have to follow. On the one hand, there is the 'roadmap' in which any deficiencies identified during re-inspections as well as consultations with the economic operator are recorded in detail. On the other hand, there are the follow-up inspections, during which the economic operator is able to demonstrate that he/she is once again in compliance with all statutory requirements and after which regular supervision can resume. Within this process, NVWA inspectors have the authority to exercise a large number of powers in order to compel businesses to comply with statutory requirements. A number of examples of such powers include: imposing an incremental penalty, imposing a decision for the termination of business operations, implementing emergency closure, halting specific processes at a business and confiscating harmful foodstuffs.

Numbers and nature of businesses subject to enhanced supervision
In the reporting year 2019, 55 businesses were inspected as part of the enhanced supervision approach. This figure includes businesses that were already subject to this approach prior to 1 January 2019 (33 businesses) and those that entered the enhanced supervision track over the course of 2019 (22 businesses). At the end of 2019, 29 businesses were still under enhanced supervision as a total of 26 businesses were able to leave the enhanced supervision track in the course of the year. The number of businesses under enhanced supervision in 2018 was 65. This means that the number of businesses under enhanced supervision in 2019 was significantly down from 2018 (15%).

Fewer inspections of registered businesses in recent years due to a lack of resources in the Inspection department may be a contributing factor. Fewer inspections in a specific period also means fewer interventions. To qualify for enhanced supervision, a business must have received three or more fine reports over a two-year period. If fewer inspections are carried out, it will take longer for a business to receive these three fine reports and fewer businesses will therefore enter the enhanced supervision track.

A total of 150 inspections were carried out at businesses under enhanced supervision in the reporting year. In addition, 33 inspections were conducted for the purpose of checking compliance with the decision. Most businesses that enter the enhanced supervision track are in the following categories of businesses: bread and pastry businesses, wholesalers of food, fish and fish products and meat and meat products. These four categories of businesses collectively account for nearly 60% of the total number of businesses subject to enhanced supervision.

If we were to examine the different types of businesses, it becomes apparent that roughly 63% of businesses subject to enhanced supervision are production businesses, with the remaining types of businesses relating to warehouses and importers of foodstuffs.

Inspections conducted at businesses subject to enhanced supervision
The percentage of roadmap inspections accounted for approximately 30% of the total number of enhanced supervision inspections. Approximately 41% of inspections consisted of follow-up inspections aimed at determining whether the businesses had made systematic improvements. Almost 18% of the inspections consisted of verifying the decision that had been imposed on businesses as a sanction at an earlier stage. Approximately 6% of inspections related to so-called opening inspections. In cases where businesses did not comply with requirements, this would often lead to temporary closure of the business. Once the business is subsequently convinced that it meets the statutory requirements again, it must contact the NVWA for the organisation to conduct an opening inspection. If this inspection reveals that the business does once again meet the requirements, production can recommence and sales can be started up again.

Violations detected at businesses in the enhanced supervision track
The most common infringements that occur at businesses subject to enhanced supervision are: deficiencies with regard to the design and the implementation of the business's food safety plan (approx. 40%), deficiencies in the area of hygiene (approx. 33%) and the presence of pests within the business (approx. 10%). Several of the deficiencies listed above may occur simultaneously. Deficiencies in relation to the business's food safety system also include any shortcomings regarding shelf life investigations for Listeria, where the businesses do not or insufficiently demonstrate that the foods they produce and distribute on the market are safe.

Supply chain tracing

A study was conducted into the traceability of meat at industrial meat processing businesses to assess the tracing of products from the slaughterhouse to the consumer. This study yielded a large amount of information. For example, non-compliance with the traceability requirements was demonstrated for 23% and suspected for 20% of the businesses inspected. Document checks also revealed that 29% of the businesses involved in the supply chain were not listed in the NVWA database, demonstrating a need to improve the accuracy and completeness of the NVWA database of registered and approved businesses. The traceability study showed that traceability compliance is relatively low where intensive research is carried out into traceability in the meat supply chain. Greater priority will therefore be given to traceability in the meat supply chain during supervision activities in 2020.

Olive oil conformity checks
In the context of EU olive oil conformity checks, 28 olive oil samples were collected from the commercial chain and tested for compliance with the statutory criteria set out in Regulation (EU) no. 1308/2013, Regulation (EU) no. 29/2012 and Regulation (EC) no. 2568/1991. These criteria mainly relate to chemical and organoleptic standards for the different qualities of olive oil and specific labelling requirements.

The primary aim of the checks is to oversee fair practices in trade and combat fraud. The checks are therefore carried out according to a risk-based approach, in other words sampling takes into account the size of the product flows at the various links in the chain and the vulnerability to fraud of the different qualities of olive oil.
Chemical analysis was carried out by the Wageningen Food Safety Research laboratory and organoleptic analysis by approved panels in Portugal (primary test) and Germany (counter-test).

The number of samples was determined by law and the samples were taken from importers, wholesalers, supermarkets, retail traders and specialist stores (table 1). Twenty-seven samples were taken of extra virgin olive oil and one sample of virgin olive oil. Five of the oils sampled were organic farming products.

Table Summary of visits and olive oil samples

type of business	number of visitors	number of samples	number of non-compliant samples
Importers	3	3	3
Wholesalers	3	8	2
Supermarkets	6	14	5
Retail traders and specialist stores	3	3	0
Total	**12**	**28**	**10**

Nine olive oil samples (32%) did not meet the organoleptic criteria applicable to the specific quality description under which they were being sold: 8 extra virgin olive oil samples and 1 virgin olive oil sample. All non-conformities involved deviations from the median of defects (Md).

Only two of the above-mentioned non-compliant samples were also found to have a (single) chemical deviation: one with a palmitoleic acid content that was below the minimum level and one with a non-compliant spectrophotometric parameter (variation in the specific extinction, Delta K). Six of these non-compliant samples were also found to have labelling issues. There was also one sample that only failed to meet the labelling requirements.

There is a notable difference between the organoleptic analyses and the chemical analyses. The rate of non-compliances identified using both types of analysis was 32% and 7% respectively.

The irregularities observed did not pose any risk to public health and related solely to quality. It is not known whether any fraud was involved pending reports from the European Commission following the investigations carried out in all Member States. Once the investigations are complete, the European Commission will be responsible for determining the appropriate follow-up action.

No link was established between the irregularities observed and the practices at a specific point in the supply chain or of specific businesses. The non-compliant samples all came from different businesses.

The breaches of the labelling requirements (25%) are not indicative of fraud or a risk to public health and can instead be attributed to deliberate liberties taken in the context of product marketing and in some cases to carelessness. Most cases concerned a failure to use compulsory statutory information in favour of more appealing text.

Conclusions

Increased capacity within the inspection teams for industrial businesses meant that more inspections and audits were carried out in 2019 than in 2018.

During official controls, omissions to which intervention policy applies are often identified at the businesses that produce, import, store or distribute meat products, fish products or composite products. The rate of non-compliance is 23% for inspections relating to basic conditions and 25% for system inspections. We will continue to place a strong focus on these inspections in 2020. The NVWA will also develop a compliance monitor in 2020 to gain a better understanding of the biggest problem areas in terms of compliance (business groups, statutory requirements, etc.). The risk-based approach to supervision will also be further refined in 2020. A pilot project has been set up and will be implemented in 2020.

With regard to meat products, fish products and composite products, it seems that many producing businesses continue to have major difficulties concerning compliance with the requirements of Regulation 2073/2005 (microbiological criteria). This is a situation that has become increasingly clear in recent years, given the high rate of non-compliances regarding this issue. We will continue to place a strong focus on these inspections again in 2020. The above-mentioned compliance monitor will help us to identify those groups of businesses that are experiencing the most problems, so that we can target our supervisory activities more directly in the near future.

A traceability study in the meat supply chain has shown that traceability compliance proves to be relatively low where more intensive investigations are conducted. Greater priority will therefore be given to traceability in the meat supply chain during supervision activities in 2020.

3.9 Imports of veterinary consignments

Control body or bodies: NVWA, Dutch Customs

List of the main legislation under which controls were carried out in 2019

EU legislation	
Council Directive No. 91/496/EEC	Veterinary checks on animals from third countries
Council Directive 97/78/EC	Veterinary checks on animal products from third countries
Council Directive 2002/99/EC	Animal health rules governing the production, processing, distribution and introduction of products of animal origin for human consumption
Commission Decision 2004/292/EC	Introduction of TRACES
Council Regulation (EC) No. 282/2004	Document for the declaration of, and veterinary checks on, animals from third countries
Council Regulation (EC) No. 136/2004	Procedures for veterinary checks on products imported from third countries
Council Regulation (EC) No. 882/2004	Official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules
Council Regulation (EC) No. 853/2004	Specific hygiene rules for food of animal origin
Council Regulation (EC) No. 854/2004	Specific rules for the organisation of official controls on products of animal origin intended for human consumption
Commission Decision 2007/275/EC	Lists of animals and products to be subject to controls at border inspection posts
Commission Decision 2011/163/EU	Residue monitoring plans of third countries

National legislation
In the Netherlands, two ministries are involved with the NVWA at a policy level: the Ministry of Health, Welfare and Sport and the Ministry of Agriculture, Nature and Food Quality.

Ministry of Health, Welfare and Sport
Commodities Act (*Warenwet*), Section 9
Import of Egg Products from Third Countries (Commodities Act) Decree (*Warenwetbesluit Invoer levensmiddelen uit derde landen*) Veterinary Controls on Products Imported from Third Countries (Commodities Act) Regulations (*Warenwetregeling Veterinaire controles [derde landen]*) Import of Egg Products from Third Countries (Commodities Act) Regulations (*Warenwetregeling invoer eiproducten uit derde landen*)

Ministry of Agriculture, Nature and Food Quality
Decree establishing the mandate, powers and authority of the Ministry of Agriculture, Nature and Food Quality (previously Economic Affairs) 2016 (*Besluit mandaat, volmacht en machtiging LNV [voorheen EZ] 2016*)
Decree on the marketing of animals and products and the application of measures relating to animals and products brought into the Netherlands (*Besluit inzake het in de handel brengen van dieren en producten en de toepassing van maatregelen met betrekking tot in Nederland gebrachte dieren en producten*)
Regulation governing the veterinary legal rules on trade in animal products (*Regeling veterinair rechterlijke voorschriften handel dierlijke producten*) Live animals and Live Products Trading Regulation (*Regeling handel levende dieren en levende producten*)

Size of the control file in 2019

type of business	number
External-boundary inspection centres	7
Inspection Centres	22
Warehouses Without Veterinarians	12
Ship suppliers	7
Special Warehouses	12

Supervision of imports of veterinary consignments, results in 2019

supervision domain name	number
Inspections	60,465
Samples	3,280
Measures	658

Explanatory notes to the results for imports of veterinary consignments
Please see Conclusions heading.

Actions taken to improve official controls

Work is being done in the Netherlands to grant accreditation to all aspects of the import process. The process of accrediting the supervision of warehouses and oversight of the import of food and animal feed of non-animal origin is progressing, and will probably be completed in 2020.

The import control process is still largely paper-based. In an effort to optimise this process, a digitalisation project was launched in 2019 to take advantage of the opportunities presented by Regulation (EU) no. 2017/625, which entered into force in December 2019.

Actions taken to improve compliance by businesses

Businesses as a group are consulted regularly (four times a year) about import-related matters; a variety of different topics are discussed.

In the context of a collaboration project between the government and the business sector, efforts commenced in 2019 to improve the efficiency of the inspection chain in the Port of Rotterdam. The primary aim is to reduce the number of incorrect documents submitted. Rotterdam has been chosen in the first instance as the location where most documents are assessed.

Conclusions

The total number of consignments offered for inspection and the resulting measures remained largely stable in 2019, with a slight fall of 0.6%. The number of consignments offered for inspection has fluctuated at around 60,000 plus or minus up to 2% for at least the last 10 years.

The number of laboratory analyses fell by more than 21% from 4,180 to 3,280, despite the fact that the measures in respect of Brazil, meaning more intensive controls, remained in force. However, a lower number of consignments was received from that country.

3.10 Fish, fish products and aquaculture

The results for 2019 of the official controls in the Fish, fish products and aquaculture domain are reported in the Industrial production domain (fish and fish products) and the Animal health – prevention domain. This means that the number of inspections and samples taken for these individual domains cannot be compared to previous years. However, the total number of inspections and samples in 2019 remains comparable.

3.11 Dairy, eggs and egg products

3.11.1 Dairy

Control body or bodies: COKZ, regarding the package of hygiene measures and animal by-products

List of the main EU legislation under which supervision was carried out in 2019

EU legislation	
Commission Regulation (EC) No 178/2002	General Food Law Regulation
Council Regulation (EC) No. 852/2004	Hygiene of foodstuffs
Council Regulation (EC) No. 853/2004	Hygiene during production of products of animal origin
Commission Regulation (EC) No. 2073/2005	Microbiological criteria for foodstuffs
Regulation (EC) No. 1069/2009	Animal by-products
Commission Regulation (EU) No. 142/2011	Animal by-products
Regulation (EU) No. 1169/2011	The provision of food information to consumers
Commission Regulation (EC) No. 1333/2008	Food additives
Commission Regulation (EC) No. 37/2010	Veterinary medicinal product residues
Commission Regulation (EC) No. 1881/2006	Maximum levels for contaminants in foodstuffs
Commission Directive 2006/141/EC	Infant formulae and follow-on formulae
Commission Directive 1999/21/EC	Dietary foods for special medical purposes

Relevant national legislation

- Dairy (Commodities Act) Decree (*Warenwetbesluit zuivel*)
- Food Hygiene (Commodities Act) Decree (*Warenwetbesluit hygiëne van levensmiddelen*)
- Preparation and Handling of Food (Commodities Act) Decree (*Warenwetbesluit bereiding en behandeling van levensmiddelen*)
- Commodities Act Regulation on Infant Formulae 2007 (*Warenwetregeling zuigelingenvoeding 2007*)
- Commodities Act Regulation on Dietary Foods for Special Medical Purposes (*Warenwetregeling dieetvoeding voor medisch gebruik*)
- Food Information (Commodities Act) Decree (*Warenwetbesluit informatie levensmiddelen*)
- Animal Products Decree (*Besluit dierlijke producten*)
- Regulation on Animal Products (*Regeling dierlijke producten*)

Size of the control file in 2019

type of business	number
Primary phase:	
• Cow milk farms	± 16,500
• Goat milk farms	± 500
• Sheep milk farms	± 30
• Horse milk farms	11
• Buffalo milk farms	4
• Donkey milk farms	1
• Camel milk farms	1
Total	**± 17,047**
Secondary phase:	
• Farm milk recipients	38
• Industrial dairy processors	142
• Subsequent processors of cheese	33
• Cheese affineurs	92
• Storage locations	57
• Small-scale dairy producers and farmhouse dairy producers	538
• Producers of foods for particular nutritional uses	15
Total	**915**

Supervision in the context of the package of hygiene measures (HP) and animal by-products (ABPs), results in 2019

type of business	number
Primary phase (HP):	
• Inspections (random and re-inspections) of dairy farms (with a quality system)	67
• Audits (routine and re-audits) of dairy farms not covered by a quality system	34
• Inspections of the sale of raw milk directly to consumers	104
Secondary phase (HP/ABPs):	
• Audits of farm milk recipients	38
• Audits of industrial dairy processors (routine and re-audits)	119
• Inspections of industrial dairy processors (random, including businesses in the process of shutting down and re-inspections)	18 63
• Audits of subsequent processors of cheese (routine and re-audits)	13
• Inspections of subsequent processors (random, including businesses in the process of shutting down and re-inspections)	48 16
• Audits of cheese affineurs (routine and re-audits)	32
• Inspections of cheese affineurs (random, including businesses in the process of shutting down and re-inspections)	7 459
• Audits of storage locations (routine and re-audits)	
• Inspections of storage locations (sample including businesses in the process of shutting down and re-inspections)	59 18
• Audits of small-scale and farmhouse dairy producers (routine and re-audits)	
• inspections of small-scale and farmhouse dairy producers (random, including businesses in the process of shutting down and re-inspections)	103 7
• Audits of producers of foods for particular nutritional uses (routine and re-audits)	
• Processed case files as a result of reports and indicators (including following individual sampling)	
• Inspections of the processing of milk from businesses with suspected cases of animal diseases	
Sampling (results):	
• Number of batches tested at dairy businesses - microbiology	126
- number of analyses	606
- number of batches breaching the standard (in %)	0 (0%)
• Number of batches tested at small-scale and farmhouse dairy producers – microbiology	1765
- number of analyses	2949
- number of batches breaching the standard (in %)	5 (0.3%)
• Number of batches tested at producers of foods for particular nutritional uses - microbiology	48
- number of analyses	2970
- number of batches breaching the standard (in %)	6 (12.5%)
• Number of batches of Category 3 material tested - animal by-products	90
- number of analyses	230
- number of batches breaching the standard (in %)	17 (18.8%)
Microbiological sampling for specific projects:	
• Number of batches of surface matured or soft raw milk cheese	39
- number of Shiga toxin-producing E.Coli (STEC) analyses	39
- number of batches breaching the standard (in %)	1 (2.6%)
• Number of raw milk samples (for direct sale to consumers)	104
- number of analyses	728
- number of batches breaching the standard (in %)	47 (45.2%)
Measures pursuant to the intervention policy:	
• Warnings (on 1 or more points per assessment)	143
- relating to the package of hygiene measures	132
- relating to animal by-products	11
• Administrative fines (on 1 or more points per assessment)	9
- relating to the package of hygiene measures	9
- relating to animal by-products	0
• Official reports	0
• Withdrawals/suspensions of registrations/approvals	28

Explanatory notes to the results for supervision of the dairy industry Primary phase
Dairy farms that supply dairy companies sign up to quality assurance systems managed by the dairy companies. If these companies do not carry out any processing activities (see under small-scale producers and farmhouse dairy producers), the COKZ conducts random inspections of their compliance with the package of hygiene measures. A limited number of dairy farms do not use such a quality assurance system; these dairy farms are directly supervised by the COKZ. These farms are audited every year on their compliance with the package of hygiene measures.

As in 2018, the findings of the COKZ in 2019 in relation to its supervision of dairy farms were communicated to sector representatives and to the NVWA.
During this consultation, the following topics were discussed: the setting up of the quality assurance system, reports of milk refusals and exceeding of antibiotics MRLs (see also recipients of farm milk), supervision of animal health and the results of assessments by quality assurance systems compared to COKZ assessments. It was agreed that the quality assurance system will be further evaluated/reviewed by the industry, with the starting point being that statutory and non-statutory assessment points will be assessed separately. Regarding the statutory aspects, there has been an effort to align the quality assurance system with the COKZ assessment list.

In 2019, 7.9% of dairy farms with a quality assurance system did not fully comply with the requirements applicable to dairy farms in respect of the package of hygiene measures. Of the dairy farms with no quality assurance system (directly supervised by the COKZ), 1.6% were non-compliant.

The COKZ has embarked on an enforcement strategy cycle in an effort to better understand what motivates businesses to comply, with the ultimate aim of improving the selection of businesses to ensure tighter and more efficient supervision.

Secondary phase

Farm milk recipients
During annual audits, it is assessed whether the established practice in the event of a breach of a standard (plate count and/or cell count or excessive antibiotics MRLs) has been followed. In addition, there is an assessment of whether dairy farms supplying farm milk recipients have signed up to a quality assurance system, and also whether the established practice in the event of milk refusal by the recipient has been followed. In 2019, 6.0% of farm milk recipients were not fully compliant with the statutory provisions.

Industrial dairy processors, subsequent processors, cheese affineurs and storage locations
These businesses undergo one audit (system monitoring) or inspection per year in relation to approval in the context of the package of hygiene measures. The audit can include the following aspects: general, documentation, HACCP, quality of raw materials, hygiene and design of processing areas and facilities, cleaning and disinfection, water, pests/vermin, cross-contamination, personal hygiene, heat treatment, storage, refrigeration/freezing, packaging and labelling, transport, sampling and testing. Regular supervision in accordance with the above is also carried out in businesses that are not subject to approval, such as ice-cream makers.
Supervision with regard to the assessments listed above is also carried out for compliance in relation to animal by-products, with an assessment of the extent to which businesses correctly handle the identification, storage and sale of such products.

In 2019, 16.5% of industrial processors were not fully in compliance with the statutory provisions with regard to the package of hygiene measures. For subsequent processors this rate was 16.4%, cheese affineurs 3.8%, and 2.9% of storage locations were not fully in compliance with the applicable statutory provisions.

With regard to animal by-product compliance, the levels were as follows:
7.6% of industrial dairy processors and 9.7% of storage locations did not comply with animal by-product legislation. No breaches of these laws were identified at subsequent processors of cheese or cheese affineurs.

In addition to assessments, microbiological sampling is used to check whether dairy products meet the standards in the package of hygiene measures in relation to pathogens. The frequency of testing and the parameters for the tests

depend on the product type and the risk assessment for the business type. In 2019, all batches tested at this category of businesses met the applicable statutory microbiological standards.

Small-scale processors and farmhouse dairy processors
These businesses (including businesses that produce raw milk products other than raw-milk cheeses) undergo one audit (system monitoring) or inspection per year in relation to approval in the context of the package of hygiene measures. The audit can include the following aspects: general, documentation, HACCP, quality of raw materials, hygiene and design of processing areas and facilities, cleaning and disinfection, water, pests/vermin, cross-contamination, personal hygiene, heat treatment, storage, refrigeration/freezing, packaging and labelling, transport, sampling and testing. The NVWA also regularly carries out audits in accordance with the above at businesses in this category that are not subject to approval, because they primarily supply consumers directly. For businesses that produce raw milk products other than raw-milk cheeses, the inspection frequency was increased on a risk-oriented basis to two inspections/audits per year in 2019.

Supervision with regard to the assessments listed above is also carried out for compliance in relation to animal by-products, with an assessment of the extent to which businesses correctly handle the identification, storage and sale of such products.

Some farmhouse dairy processors apply the farmhouse dairy production hygiene code to their production process; these businesses are assessed with regard to whether they comply with that code.

Of small-scale processors and farmhouse dairy processors, 10.5% were not fully in compliance with the statutory requirements relating to the package of hygiene measures. This is a 50% reduction compared with 2018 (20.1%). With regard to compliance with the animal by-product requirements, no infringements were observed in 2019. This number was also down compared with 2018 (1%).

In addition to assessments, microbiological sampling is used to check whether dairy products meet the standards in the package of hygiene measures in relation to pathogens. The frequency of testing and the parameters for the tests depend on the product type and the risk assessment for the business type.

In 2019, 0.3% of batches tested at small-scale producers and farmhouse dairy producers did not meet the applicable statutory microbiological standards. It should be noted that, as of 2019, only pathogen testing will be carried out. The process hygiene criteria will no longer be assessed.

Producers of foods for particular nutritional uses
In a European context, foods for particular nutritional uses are regulated by the national implementation of the European directive on foodstuffs intended for particular nutritional uses. In line with the categories defined in this directive, the COKZ supervises Dutch producers of infant formula, dietary foods for special medical purposes, processed cereal-based foods and baby food for infants and young children.

In 2019, there were 15 businesses in the Netherlands producing one or more of the above categories of foods and supervised by the COKZ. This supervision focuses on the provisions of the package of hygiene measures (see 'Industrial processors'), composition and the provisions of the other Commodities Act regulations. Supervision of claims for these types of products is not part of the scope of the COKZ's oversight; this supervision is performed by the NVWA (as part of the 'Special food and drink' domain).

Supervision with regard to the assessments listed above is also carried out for compliance in relation to animal by-products, with an assessment of the extent to which businesses correctly handle the identification, storage and sale of such products.

Each year, producers of foods for particular nutritional uses are subject to one audit (system monitoring) in relation to approval of the business.

In 2019, 8% of producers of foods for particular nutritional uses (1 business) was found not to be fully in compliance with the statutory provisions with regard to the package of hygiene measures. This marked a continuation of the

downward trend (54% in 2017, 13% in 2018). The businesses were fully in compliance with the animal by-product requirements.

In addition to assessments, microbiological sampling is used to check whether dairy products meet the standards in the package of hygiene measures. The frequency of testing and the parameters for the tests depend on the product type and the risk assessment for the business type.

In 2019, 16.7% of batches tested did not meet the applicable statutory microbiological standards. This is a slight increase compared with 2018 (14%). One area of concern is the deviations from the standards for Enterobacteriaceae. The COKZ has established a dialogue with the businesses involved, which have set up a project in order to carry out a thorough investigation into the cause and subsequently roll out appropriate improvement measures.

Control and processing of milk from businesses with suspected cases of animal diseases
Milk from dairy farms with suspected cases of tuberculosis or brucellosis must be heat treated under the supervision of the competent authority. In 2019, the COKZ performed 7 audits of dairy product processors.
The purpose of these audits was to check that the milk concerned was processed correctly at the processing location. Where appropriate, the processing of milk relating to multiple separate reports of suspicions can be checked during an inspection.

During administrative controls on farm milk, an assessment takes place of whether the milk from the farm concerned was actually processed at the indicated processing location. In 2019, 22 administrative assessments were conducted. In the case of two of these controls, it was observed that the milk was not processed at the indicated processing locations.

Projects in 2019

Investigation of Shiga toxin-producing E-coli (STEC)
Further research was once again carried out into the STEC parameter in 2019. Testing for STEC is a new development for dairy products, and Regulation (EC) No. 2073/2005 does not set out any standards for these tests. The aim of this project is to learn more about the presence of STEC in high-risk raw milk and/or soft-ripened cheese products. This research will continue for a period of one year in order to form a statistically robust picture.

Raw-milk and/or soft-ripened cheese samples were taken from 15 producers and 4 cutters to be tested for STEC. A total of 39 samples were taken (25 samples of soft-ripened cheese and 14 samples of soft or raw-milk cheese). STEC was found in 1 batch.

Investigation into the sale of raw milk for direct supply to consumers
In 2019, as in 2018, an inventory survey was carried out into the sale of raw milk of various animal species, designed for direct supply to consumers. This survey also involved taking samples for an examination of the microbiological quality of the milk.

The relevant inspection focused specifically on the following issues:
- Assessment of whether the compulsory notice of 'Raw milk, please boil before consumption' was present on or in the immediate environment of milk tanks/points of sale in relation to the sale of raw milk (obligation only applicable to raw cow's milk).
- Assessment of the storage temperature of the raw milk and whether there was compliance with the requirement in relation to the storage temperature of raw cow's milk.
- Assessment of whether the raw cow's milk had been offered in the manner prescribed by the Food Hygiene (Commodities Act) Decree (*Warenwetbesluit Hygiëne van Levensmiddelen*, WHL); at the business of the dairy farmer and in a receptacle that would not be suitable to be delivered to private individuals alongside the content (i.e. not pre-packaged).

A total of 104 inspections were conducted, of which 99 took place at producers of cow's milk and 5 at producers of goat's milk. The microbiological examination showed that 47% of the samples taken did not comply with standards. A warning was drawn up for 1 or more infringements in 33% of the inspections in respect of the key points listed above. The results of the investigation into the sale of raw milk are a cause for concern, due in part to the rising trend in the

consumption of raw milk by consumers because of the perceived health benefits. The COKZ has discussed this issue with the Ministry of Health, Welfare and Sport, and has developed a proposal to amend national legislation[4] and current intervention policy in this area. Neither the current legislation nor the intervention policy provide an adequate basis for effective enforcement.

Reports and incidents in 2019

Reports are received through a variety of channels. These include reports via the European Commission's Rapid Alert System for Food and Feed, reports under the General Food Law Regulation from businesses themselves, as well as alerts from other competent authorities or directly from consumers. In 2019, the COKZ handled a total of 103 cases based on reports and alerts received through one of the foregoing channels. A total of 77 cases related to the product deviations, of which 56 were microbiological in nature (including 19x *Listeria monocytogenes*, 5x *Salmonella* and 4x STEC). The remaining deviations related to a range of issues (physical or chemical contaminants, but also qualitative deviations and labelling aspects). The non-product-related reports related to the effects of fire, duty of recognition, refusal to cooperate, etc.

Official sampling by the COKZ itself can also result in a case being taken on. In 2019, a total of 20 cases were handled in response to official sampling in the context of the EU Package of Hygiene Measures due to failure to meet the food safety criteria.

Impact assessment

The report for this component is incorporated into the sections on dairy farms, dairy businesses, small-scale and farmhouse dairy processors and producers of foods for particular nutritional uses in the paragraphs above.

Actions taken to improve official controls

The report for this component is incorporated into the sections on dairy farms, dairy businesses, small-scale and farmhouse dairy processors and producers of foods for particular nutritional uses in the paragraphs above.

The alignment of the COKZ's intervention policy with that of the NVWA continued to take shape in 2019. A project was also started to further align the assessment lists with these policies, to also create a better link between the findings in the reports and the legal violation.

2019 marked the beginning of an enforcement strategy cycle relating to controls in the primary sector: dairy farms. This cycle revealed the need for an information provision programme, which will be launched in 2020.

In 2019, as in 2018, the COKZ made a risk-based classification of supervision in the dairy supply chain and adapted the inspection plans accordingly.

In response to the fipronil incident in the egg sector, the Food Safety Action Plan was launched in late 2018 to provide a framework for implementing the recommendations of the Sorgdrager committee. One recommendation that was acted on was to improve cooperation between the NVWA and the COKZ, partly to ensure greater uniformity in enforcement. This action plan was elaborated and implemented in 2019. The results include joint inspections and closer cooperation in terms of training and consultations.

[4] Food Hygiene (Commodities Act) Decree (*Warenwetbesluit hygiëne van levensmiddelen*), Article 8

Actions taken to improve compliance by businesses

In 2019, work continued on the enforcement strategy cycle for the target group of farmhouse dairy producers and small-scale producers who produce non-pasteurised products. This was a result of the recommendations of the Integrated Risk Analysis of the Dairy Supply Chain (IRA) that the NVWA published in the summer of 2017. Further progress will be made in 2020 on the implementation of the recommendations that arose from this process.

Conclusions

Overall, the results of supervision show a downward trend in the number of deficiencies compared with 2018. A possible reason for this is that the COKZ visits most businesses on an annual basis. The businesses then receive written feedback on the findings, clearly identifying the measures that need to be taken in order to comply.

However, there are a number of areas requiring attention, showing an upward trend in the rate of non-compliance:
- dairy farms
- microbiological results for producers of foods for particular nutritional uses (Enterobacteriacea)
- sale of raw milk for direct supply to consumers

See earlier in this document for details of the action taken in these areas.

3.11.2 Eggs and egg products

Control bodies: NCAE, regarding the package of hygiene measures and animal by-products

List of the main EU legislation under which supervision was carried out in 2019

EU legislation	
Regulation (EC) No. 178/2002	General Food Law Regulation
Council Regulation (EC) No. 852/2004	Hygiene of foodstuffs
Council Regulation (EC) No. 853/2004	Hygiene during production of products of animal origin
Commission Regulation (EC) No. 2073/2005	Microbiological criteria for foodstuffs
Regulation (EC) No. 1069/2009	Animal by-products
Commission Regulation (EU) No. 142/2011	Animal by-products
Regulation (EU) No. 1169/2011	The provision of food information to consumers
Commission Regulation (EC) No. 1333/2008	Food additives
Commission Regulation (EC) No. 1881/2006	Maximum levels for contaminants in foodstuffs
Regulation (EC) No. 2160/2003	Control of Salmonella

Relevant national legislation

Commodities Act (*Warenwet*):
- Food Hygiene (Commodities Act) Decree (*Warenwetbesluit hygiëne van levensmiddelen*)
- Preparation and Handling of Food (Commodities Act) Decree (*Warenwetbesluit bereiding en behandeling van levensmiddelen*)
- Food Hygiene (Commodities Act) Decree (*Warenwetbesluit hygiëne van levensmiddelen*)
- Food Information (Commodities Act) Decree (*Warenwetbesluit informatie levensmiddelen*)

Animals Act (*Wet Dieren*):
- Animal Products Decree (*Besluit dierlijke producten*)
- Regulation on Animal Products (*Regeling dierlijke producten*)

Size of the control file in 2019

type of business	number
Primary phase:	
• Egg-laying poultry farms	851
Secondary phase:	
• Collectors	7
• Packing stations	112
• Egg product producers	21
• Egg product traders	12
Total primary and secondary	**1,003**

Supervision of the egg sector, results in 2019

type of business	number
Assessments:	
• Egg-laying poultry farms (inspections and re-inspections)	247
• Collectors (inspections and re-inspections)	6
• Packing stations (audits, re-audits, inspections and re-inspections)	120
• Egg product producers (audits, re-audits, inspections and re-inspections)	53
• Egg product traders (audits and inspections)	14
• Processed case files as a result of reports and indicators (including following individual sampling)	37
• Audits and inspections as a result of Salmonella infection at egg-laying poultry farms (including re-audits/inspections)	52
• Inspections as a result of withdrawals/suspensions of registrations/approvals	5
Samples/analyses from egg product producers – microbiology:	
• Number of batches tested	107
• Number of analyses	535
• Number of batches breaching the standard (in %)	1 (0.9%)
Samples/analyses from laying poultry farms – contaminants (dioxins, dioxin-like polychlorinated biphenyls [PCBs] and other PCBs)	
• Number of batches tested	57
• Number of analyses (n=56 screening + n=33 confirmation)	89
• Number of batches breaching the legal standard (in %)	0 (0%)
• Number of batches breaching the action standard (in %)	1 (1.8%)
Samples/analyses from laying poultry farms - manure sample testing for *Salmonella* (boot swabs 3 pairs per housing unit)	
• Number of housing units tested	20
• Number of housing units breaching the standard	0
Measures pursuant to the intervention policy:	
• Warnings	21
- relating to the package of hygiene measures	20
- relating to animal by-products	1
• Administrative fines	9
- relating to the package of hygiene measures	7
- relating to animal by-products	2
• Official reports	0

Explanatory notes to the results for supervision of the egg sector Primary phase

Egg-laying poultry farms
Assurance systems were not taken into account in the supervision of egg-laying poultry farms in 2019, as they have not yet been accepted by ketenborging.nl.

All businesses are assessed once every three years and all assessments are unannounced. Assessments focus on hygienic aspects, administration, accommodation, drinking water and cross-contamination, and random samples are taken to test for other dioxins in eggs (see below). At egg-laying poultry farms, supervision by the NCAE of the use of veterinary medicinal products focuses solely on the use of veterinary medicinal products that could lead to residue formation in the eggs.

Supervision with regard to the assessments listed above is also carried out for compliance in relation to animal by-products, with an assessment of the extent to which businesses correctly handle the identification, storage and sale of such products.

In 2019, 2.5% of inspected egg-laying poultry farms were not fully in compliance with the requirements of the package of hygiene measures. The deficiencies detected were mostly related to inadequate hygiene in the processing areas (egg packing room), and in particular the presence of old egg residues.

Two reports on findings were drawn up and no written warnings were issued in relation to animal by-products.

Since 2014, random testing has been performed for the presence of dioxins, dioxin-like PCBs and indicator PCBs in the eggs of free-range chickens. In 2019, eggs from 57 housing units at 54 egg-laying poultry farms in the Netherlands were analysed. This took place in response to a report at four businesses. At one business, the test results showed that the level of dioxin-like PCBs, 1.99 pg TEQ/g fat - without deducting the 15% measurement uncertainty, exceeded the action threshold of 1.75 pg I-TEQ/g fat.

At a second business, the action threshold of 1.75 pg I-TEQ/g fat was exceeded, but the legal standard was not.
Legal standards for dioxins:
- Dioxins: 2.5 picograms I-TEQ per gram of fat.
- The sum of dioxins and dioxin-like PCBs: 5.0 picograms I-TEQ per gram of fat.
- Non-dioxin-like PCBs: 40 nanograms per gram of fat.

In 2019, manure samples were taken from one housing unit at 20 farms, depending on *Salmonella* risk factors such as the vaccination status and age of the flock at the farm. Samples were collected by taking three pairs of boot swabs. *Salmonella* was not detected in any of these samples.

Secondary phase

Collectors
Inspections of collectors are conducted annually and are unannounced. These inspections focus on hazard identification and risk assessment, food safety, traceability, general hygiene rules, specific requirements relating to design and environment, transport, waste, personal hygiene, packaging, training, suppliers and specific requirements relating to eggs. The handling of animal by-products is also assessed.

In 2019, six inspections of collectors were conducted. No deficiencies were observed during these assessments, either in relation to the package of hygiene measures or in relation to animal by-products.

Packing stations
Packing stations are subject to one routine announced inspection per year. Additional inspections may also be conducted on the basis of a risk analysis.

There were 115 audits at packing stations. Almost all packing stations operate according to the 'Hygiene code for egg packing stations, collectors and wholesalers'. This hygiene code has been approved by the Ministry of Health, Welfare and Sport. Packing stations are assessed by means of an audit into their implementation of this hygiene code. The following components are assessed: design and maintenance of processing areas and equipment, hygiene, cleaning and disinfection, water quality, HACCP including documentation, quality of raw materials, pest control, cross-contamination risk, personal hygiene, training and instruction of staff, cold chain, packing, transport, sampling and testing. The correct handling of animal by-products is also assessed.

In 2019, 7.8% of packing stations were not fully in compliance with the applicable statutory requirements with regard to the package of hygiene measures. Written warnings were issued in relation to animal by-products.

Egg product producers
Egg product producers are subject to one routine announced inspection per year, as well as one routine unannounced inspection. The following components are assessed: design and maintenance of processing areas and equipment, hygiene, cleaning and disinfection, water quality, HACCP including documentation, quality of eggs and other raw materials, pest control, cross-contamination risk, personal hygiene, training and instruction of staff, cold chain, packing, transport, sampling and testing, and correct handling of animal by-products.
In 2019, 16 routine announced and 15 unannounced assessments were performed.
In 8 assessments of 7 different egg product producers, 1 or more deficiencies in relation to the package of hygiene measures were detected. This resulted in 7 written warnings and 1 refusal to grant approval.

One written warning and one report on findings were also issued in relation to the package of hygiene measures, to an egg product producer during an assessment in response to a report. Please see the reports and incidents section.

This means that 26% of egg product producers were, in some cases repeatedly, not fully in compliance with the statutory provisions with regard to the package of hygiene measures.

With regard to animal by-product compliance, 5.0% of businesses were not fully in compliance with the statutory provisions.

In addition to the above assessments, in 2019, the NVWA performed assessments assessments (n=16) in the context of supervising compliance with Commodities Act regulations (food labelling) in relation to the correct indication of the farming method upon delivery of egg products by egg product producers. If the farming method was indicated on or near the end product, it was checked whether the eggs used had actually originated from a farm using the method in question. This was checked in relation to a number of batches during such controls. No deficiencies were found.

In addition to assessments, microbiological sampling is used to check whether egg products meet the standards in the package of hygiene measures. The frequency of testing and the parameters for the tests depend on the product type and the risk assessment for the business type.

In 2019, a total of 107 batches were tested for Salmonella, and 107 batches were tested for *Listeria monocytogenes*.

No deviations from the standards were found during the testing for *Salmonella*, whereas the following findings were made during the tests for *Listeria monocytogenes*. Contamination with *Listeria monocytogenes* was detected in three subsamples from one batch of liquid whole egg product. The business involved was informed and was instructed to carry out an investigation into the cause and to inform the customer. The customer was found to have used the product as a raw material for a bakery product, which had undergone adequate heat treatment. The investigation into the cause revealed that the problem was probably due to cross-contamination from splashing water. Listeria was detected in environment samples (drain). There were cracks in the floor around the drain. The flooring was repaired and deep cleaned, following which there were no further traces of Listeria in the environment samples.

Egg product traders
A total of 14 assessments of egg product traders were performed, 13 announced and 1 unannounced. No deficiencies were observed during these assessments, either in relation to the package of hygiene measures or in relation to animal by-products.

Reports and incidents in 2019

Reports are received via the European Commission's Rapid Alert System for Food and Feed, and in the form of reports under the General Food Law Regulation from businesses themselves. Alerts are also received from other competent authorities or directly from consumers.

In 2019, 32 cases based on reports were received via the above channels.

Official sampling by the NCAE itself can also result in a case being taken on. In 2019, a total of 2 cases were handled (1x *Listeria monocytogenes* and 1x dioxins) in response to official sampling in the context of the EU package of hygiene measures.

Salmonella infections at egg-laying poultry farms in the Netherlands
The NVWA will notify the NCAE in the event of any detected *Salmonella* infection. The NCAE will then conduct controls at the relevant egg-laying poultry farms to verify whether the eggs have been marked in the correct manner and whether the eggs have been given the correct destination (direct disposal to the egg processing industry). In addition, verification will take place at the relevant egg product producers as to whether the eggs were actually broken, cooked and processed in the correct logistical manner. In total, the NCAE took up 29 notifications in 2019.

Deficiencies were observed at 15 egg-laying poultry farms in 2019 with regard to incorrect marking of eggs. As no intervention policy has as yet been adopted in this area, no formal written warnings were issued. However, the businesses in question were notified of the deficiencies by letter.

Impact assessment

The report on this section is included in the egg-laying poultry farms, collectors, packing stations, egg product producers and egg product traders sections of the paragraphs above.

Actions taken to improve official controls

In response to the recommendations from the Risk Analysis of the Egg Supply Chain published by the NVWA in spring 2018, supervision of the egg laying poultry sector took place in a more risk-based manner in 2019. For example, the collection of *Salmonella* manure samples in the primary phase was introduced and will be expanded further in 2020.

In response to the fipronil incident, the Food Safety Action Plan was launched in late 2018 to provide a framework for implementing the recommendations of the Sorgdrager committee.

One recommendation that was acted on was to improve cooperation between the NVWA and the COKZ (of which the NCAE is part), partly to ensure greater uniformity in enforcement. This action plan was elaborated and implemented in 2019. The results include joint inspections and closer cooperation in terms of training and consultations.

Actions taken to improve compliance by businesses

Following the fipronil incident, a working group was set up at the initiative of the Ministry of Agriculture, Nature and Food Quality, which has been asked to make recommendations aimed at improving self-regulation within the egg supply chain. The NCAE took part in this working group. In May 2018, the report drafted by this working group containing 22 recommendations was presented. Almost all recommendations have been implemented in 2019. Cooperation with the industry organisations and the regulatory authority was also strengthened.

Conclusions

The results of the supervision in 2019 show a fluctuating trend in the number of shortcomings compared with 2018. The supervision year 2019, compared with 2018, saw the following percentages of businesses that were not fully in compliance with the statutory requirements relating to the package of hygiene measures.

	2018	2019
Egg-laying poultry farms	1%	2.5%
Collectors	0%	0%
Packing stations	4%	7.8%
Egg product producers	45%	26%
Egg product producers (ABPs)	5%	5%
Egg product producer labelling	0%	0%
Egg product traders	0%	0%

Looking at the previous year, there was no change in the compliance rates for collectors and for egg product producers in relation to ABP and labelling.

The compliance rate fell in the case of egg-laying poultry farms and packing stations, and rose in the case of egg product producers.

It should be noted that the latter category consists of a small number of businesses, which means that greater or lesser compliance by just one business can have a major impact on the overall rate.

3.12 Food service industry and artisanal production

Controlling authority or authorities: NVWA

List of the main legislation under which controls were carried out in 2019

EU legislation	
Regulation (EC) No 178/2002	General principles and requirements of food law
Regulation (EC) No 852/2004	Hygiene of foodstuffs

National legislation
Commodities Act (*Warenwet*)

Size of the control file in 2019

type of business	**number**
Food service industry	± 60,000
Retail (supermarket and similar)	± 21,000
Artisanal (butcher, baker, greengrocer, poulterer, market trader)	± 25,500
Institutions (including crèches)	± 10,000

Supervision of the food service industry and artisanal production, results in 2019

inspections	**number**
Food service industry	17,552
Artisanal	2,803
Institutions	179
Retail	2,702
Total	**23,236**
Of which chargeable re-inspections	9,667
Of which digital re-inspections	4,116
Samples/analyses (microbiological)	**4,026**
Inspection measures	**7,582**
Food service industry	
Fine/official report	2,643
Written warning	3,357
Artisanal	
Fine/official report	334
written warning	508
Institutions	
Fine/official report	4
Written warning	18
Retail	
Fine/official report	323
Written warning	394
Temporary shut-down of activities	
Emergency shut-down	106
Shut-down of enhanced supervision	204
Prohibition on selling contaminated food	51

Reference to specific reports

-

Explanatory notes to the results for the food service industry and artisanal production

In 2019, more than 23,000 inspections and re-inspections were conducted at food service industry businesses, artisanal businesses, institutions and retail outlets. The total number of inspections and re-inspections in 2018 was over 25,000. One of the reasons for the decrease compared to 2018 was a further delay in the implementation of the new inspection registration system and a continuing failure to adequately organise inspection locations. 2019 also saw a reduction in the available capacity for inspections in this domain.

During the inspections and re-inspections, a total of 7,582 measures were imposed. Of these, 44% were fines and 56% were written warnings. The fine percentage was higher than in 2017 and 2018 (2017: 34%, 2018: 41%). This is due to more risk-based inspections and an adjustment to the intervention policy at the start of 2017, as a result of which reports of findings are more likely to be drawn up.

Enhanced supervision

The NVWA cracks down hard on businesses that endanger the health of consumers. These businesses are placed under enhanced supervision. The enhanced supervision approach is followed for businesses that pose an acute risk and/or businesses that repeatedly fail to comply with the statutory provisions over a specific period of time. In 2019, a total of 429 businesses in the Food service industry and artisanal production domain were placed under enhanced supervision. The ratio of businesses under enhanced supervision versus businesses under regular supervision within the domain fell from 3.7% in 2018 to 3.2% in 2019. Over 3/4 of businesses under enhanced supervision were food service industry businesses.

Chain approach

The chain approach is characterised by the use of random samples to determine the level of compliance across the chain (one business with multiple locations). This method has been adopted for well-known national chains (also known as 'formulas') of supermarkets, bakeries, caterers, petrol stations, hotels and restaurants. The control file for chain businesses consists of around
15,000 outlets that form part of a chain.

Based on random sampling, the NVWA has divided the businesses into:
- 'green' chains, where more than 90 percent of locations comply with food safety requirements
- 'yellow' chains, where fewer than 90 percent of locations comply with food safety requirements

Green chains are eligible for reduced supervision, in which the focus is placed on systems control at the head office and the business's own control data. For chains in the yellow category, a random sample of outlets are inspected for enforcement purposes.

This efficient and effective method was continued in 2019. The table below presents an overview of the random inspections performed and the measures imposed by chain type.

sector	number of formula establishments	number of enforcement inspections	number of measures
Bakeries	6	0	
Catering	12	0	
Food service industry	53	193	37
Butchers	1	33	8
Supermarkets	22	36	2
Petrol stations	4	0	
Total	**98**	**262**	**47**

At the end of 2019, the chain approach encompassed 98 chains in total, of which 8 were categorised as yellow and 90 as green. For 16 chains, a random sample was taken for enforcement purposes in 2019, which involved the execution of 262 inspections.
The annual results by chain are published on the NVWA website.

In addition, for some chains, there are individual outlets with such poor compliance that they have been placed under enhanced supervision. In 2019, 16 businesses were subject to enhanced supervision, of which 3 were supermarkets, 12 were food service industry businesses and 1 was a bakery.

Projects in 2019

Enforcement strategy
A multi-year development of the use of special and/or specific instruments for each target group with an emphasis on influencing behaviour was continued in 2019.

The combination of instruments for Chinese food service industry entrepreneurs, which was qualitatively evaluated in 2016 and was subsequently adapted in 2017, after which the adapted combination of instruments (including instructional videos and an alternative intervention) was implemented in 360 businesses in 2017/2018. The impact measurement took place until the end of 2019, after which an assessment can take place of the impact of the various instruments. The final report will be presented in 2020.

Work started in 2019 on the continuous measurement of the level of compliance in the target groups of the food service industry, artisanal, institutions and retail, using reliable random samples. This compliance measurement will be carried out as a four-year cycle focusing on one target group each year. The first target group was the food service industry in 2019.

Publication
The NVWA is taking steps to improve the transparency of its supervision. The Food service industry and artisanal production domain has made an important contribution to this goal in the form of publication of control results for the food service industry. As well as cafés, the inspection results were published for the food service industry in the municipalities of Utrecht, The Hague, Amsterdam and Rotterdam. In addition, as part of the chain approach, results of controls at the chain level have also been published.

The next step in preparations for the publication of the inspection results for all food service industry businesses in the Netherlands was taken in 2019, on the basis of the Public Health Act (*Gezondheidswet*).

Incidents

In October 2019, there was a major recall of meat and meat products due to *Listeria monocytogenes* contamination. Random checks within this domain revealed that the target group Institutions failed to adequately comply with the recall. Thanks to communication with the sectors and daily random checks in this target group, compliance was brought to an acceptable level after four days. An evaluation with this sector will take place in 2020.

Actions taken to improve compliance by businesses

Private-body inspection systems (POCs)
The NVWA makes use of private-body inspection systems in its supervision. Nine such systems are currently approved. At the end of 2019, 2,736 businesses took part in a POC system, which means that the POC carries out the controls and the NVWA carries out reduced supervision at the relevant businesses. There was a slight increase in participating businesses (4%) compared to 2018 (2,631). In 2019, three desk studies/audits, two random samples (72 locations) and three assessments of POC inspection reports were carried out.

In the years to come, the objective will be to professionalise, harmonise and intensify cooperation with private-body inspection systems.

In addition, there have been voluntary cooperation agreements (covenants) in place with four chain businesses for a number of years. The NVWA conducts no direct supervision at the outlets of these businesses, which number 2,000 in total.

Hygiene codes
In the Netherlands, HACCP obligations are encapsulated in hygiene codes for the different sectors. Individual businesses can use these codes to comply with their statutory obligations. The codes describe the applicable work processes for safe production and safe handling of food. The codes are reviewed periodically. Evaluations are currently underway and are expected to continue through 2020 and into 2021.

Conclusions

In 2019, more than 23,000 inspections and re-inspections were conducted at food service industry businesses, artisanal businesses, institutions and retail outlets. In total, 7,582 measures were taken during these inspections. In 2019, a higher percentage of measures were taken on the total number of inspections (2018: 33% and 2019: 41%), which suggests that the more risk-based approach to supervision is having an impact.

As a consequence of a stricter intervention policy, the percentage of fines increased again in 2019 compared to 2017 and 2018 (2017: 34% and 2018: 41%; 2019: 44%). Due to the risk-oriented inspection approach, this trend is expected to continue. The NVWA cannot draw any conclusions about compliance based on normal – risk-oriented – supervision. The compliance measurements launched in 2019 will provide further clarity on this in 2020.

Over 3/4 of businesses that fell under enhanced supervision were in the food service industry. A risk-based approach is still needed when selecting food service industry businesses for inspection.

The recall operation for meat and meat products potentially contaminated with *Listeria monocytogenes* carried out by institutions will be evaluated in 2020. Based on the outcome of this evaluation, it will be explored whether inspections at institutions should be given higher priority.

The supervision of the NVWA within this domain will continue to be pursued by means of a broad range of instruments in the years to come with the aim of increasing compliance. Supervision is largely carried out on a risk-oriented basis. It is also important to continue to monitor compliance through compliance measurements.

3.13 Food labelling and compliance with additives legislation

List of the main legislation under which controls were carried out in 2019

EU legislation	
Regulation (EU) No 1169/2011	The provision of food information to consumers
Regulation (EC) No 1333/2008	On food additives
Commission Regulation (EU) No 231/2012	Laying down specifications for food additives

Food labelling

The NVWA did not carry out a specific supervision project for the labelling of foodstuffs in 2019. However, the NVWA did carry out enforcement efforts in relation to infringements detected in another context, such as in inspections on the use of food additives (please see below). In addition, the NVWA followed up on reports of misleading or erroneous labelling. Most of these were reports received in the context of the General Food Law Regulation regarding the switching of labels or packaging, resulting in the incorrect allergens being listed on the list of ingredients. The number of these reports received rose again in 2019 compared to previous years. When such a report is received, the NVWA assesses whether or not the business is taking the correct measures, including whether the business should warn consumers. If so, the NVWA also publishes this warning on its website. In addition to these types of reports concerning unadvertised allergens, the NVWA also received reports regarding incorrect labelling of pre-packaged foods in 2019.

These reports originated from other Member States and were higher in number than in previous years. The products in question were sold in the relevant Member State but were produced or imported by a Dutch company/business. The NVWA notified the relevant Dutch company or business of the incorrect labelling and instructed the business to take measures to resolve the infringement.
A number of reports concerned possible violations involving possible misleading information, where the NVWA assessed whether a violation had indeed occurred and took measures where necessary.

Additives

In 2019, the NVWA started to supervise the use of additives in the fish sector. Assessments encompassed fish, crustaceans, molluscs and products thereof. Checks were performed at processing businesses to determine whether the additives used were permitted and at traders to ascertain whether the products traded complied with the rules on additives. This project will continue in 2020. The results will be announced in the course of that year.

In spring 2019, as in 2018, the NVWA supervised the use of sulphite by meat processing businesses, with a particular focus on butchers who sell products directly to the consumer. Evidence was again found of the prohibited use of sulphite in meat. Sulphite gives the meat an attractive red colour, but its use in meat is banned according to the legislation on additives. Inspections were performed at 42 businesses that were known to have purchased sulphite from an additives supplier in the recent past. Of these 42 businesses, half were found to use sulphite in minced meat and meat preparations such as hamburgers, sausages, steak tartare and stewing steak. A total of 134 samples of minced meat and meat preparations were collected from the businesses. Sulphite was detected in 52 of the samples taken, which originated from 21 individual businesses. Sulphite levels of up to 4,000 mg/kg were found.

The same checks were repeated in the autumn. Of the 32 businesses caught out by previous checks for sulphite use, 3 were found to still be using sulphite. Of the 14 businesses that had not previously undergone sulphite checks, 4 were found to be using sulphite. All businesses using sulphite were penalised with an administrative fine.

As a result of these findings, the prohibited use of sulphite by meat processing business will be a focus area again in 2020.

Web dossier

During the supervision of labelling and additives in the recent past, the NVWA found that there was a discrepancy in terms of the way the legislation was interpreted between the business sector and the NVWA. For that reason, in 2018, the NVWA began compiling a web dossier on food labelling and a web dossier on food additives. These web dossiers clarify the legislation and the various positions and views of the NVWA.
The web dossier on food additives was published on the NVWA website in June 2019. The web dossier on food labelling is due to be published in 2020.

3.14 Contaminants, residues and GMOs in food

Control body or bodies: NVWA

List of the main legislation under which controls were carried out in 2019

EU legislation	
Commission Regulation (EC) No 1881/2006	Maximum levels for certain contaminants in foodstuffs
Regulation (EC) No 396/2005	Maximum residue levels of pesticides
Commission Regulation (EC) No 669/2009 (replaced by Commission Implementing Regulation (EU) 2019/627 as of 13 December 2019)	Increased level of official controls on imports of certain feed and food of non-animal origin
Commission Implementing Regulation (EU) No 884/2014	Special conditions governing the import of certain feed and food from certain third countries due to contamination risk by aflatoxins
Commission Regulation (EU) 2017/2158	Establishing mitigation measures and benchmark levels for the reduction of the presence of acrylamide in food
Commission Regulation (EC) No 2073/2005	Microbiological criteria for foodstuffs, including histamine
Regulation (EC) No 1829/2003, Regulation (EC) No 1830/2003	Authorised GMOs in animal feed and foodstuffs
Regulation (EC) No 1333/2008	Food additives, including Sudan dyes
Regulation (EC) No 1334/2008	Flavourings in foods, including cyanide
Commission Implementing Decision 2013/287/EU	Emergency measures regarding unauthorised genetically modified rice in rice products originating from China
Commission Recommendation 2012/154/EU	Monitoring of the presence of ergot alkaloids in feed and food
Commission Recommendation 2013/165/EU	Presence of T-2 and HT-2 toxin in cereals and cereal products
Commission Recommendation 2014/661/EU	Monitoring of the presence of 2 and 3-monochloropropane-1,2-diol (2- and 3-MCPD), 2- and 3-MCPD fatty acid esters and glycidyl fatty acid esters in food
Commission Recommendation (EU) 2017/84	Monitoring of mineral oil hydrocarbons in food and in materials and articles intended to come into contact with food
Commission Recommendation (EU) 2018/464	Monitoring of metals and iodine in seaweed, halophytes and products based on seaweed
Commission Recommendation (EU) 2019/1888	Monitoring of the presence of acrylamide in certain foods

National legislation

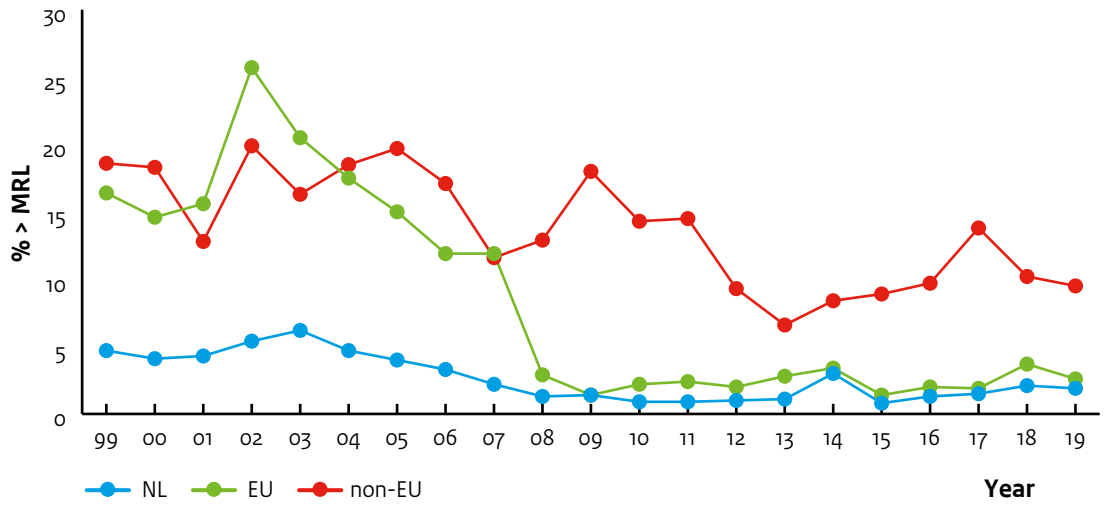
- Commodities Act (*Warenwet*);
- Preparation and Handling of Food (Commodities Act) Decree (*Warenwetbesluit Bereiding en behandeling van levensmiddelen*);
- Contaminants in Food (Commodities Act) Regulations (*Warenwetregeling Verontreinigingen in levensmiddelen*);
- Pesticide Residues (Commodities Act) Regulations (*Warenwetregeling Residuen van bestrijdingsmiddelen*).

Supervision of contaminants, residues and GMOs in food, results in 2019

results of nvwa inspections/samples	number of samples
Pesticide residues:	**3,178**
• On the basis of the National Control Plan	2,573
- Representative for the market	1,494
- On the basis of a risk profile	1,079
• On the basis of Commission Regulation (EC) No 669/2009	605
Non-compliant samples:	**231**
• On the basis of the National Control Plan	146
- Representative for the market	51
- On the basis of a risk profile	95
• On the basis of Commission Regulation (EC) No 669/2009	85
Mycotoxins	**2,578**
• On the basis of the National Control Plan	1,287
- Representative for the market	635
- On the basis of a risk profile	652
• On the basis of Commission Regulation (EC) No 669/2009 and Commission Implementing Regulation (EU) No 884/2014	1,291
Non-compliant samples on the basis of mycotoxins:	**144**
• On the basis of the National Control Plan	46
- Representative for the market	9
- On the basis of a risk profile	37
• On the basis of Commission Regulation (EC) No 669/2009 and Commission Implementing Regulation (EU) No 884/2014	98
Environmental and process contaminants, plant toxins	**1,264**
• On the basis of the National Control Plan	1,264
- PAHs	108
- 3-MCPD and glycidyl fatty acid esters	144
- Acrylamide	463
- Heavy metals in food	313
- Mineral oils	125
- Cyanide	84
Miscellaneous	
• Sudan dyes (prohibited additive)	27

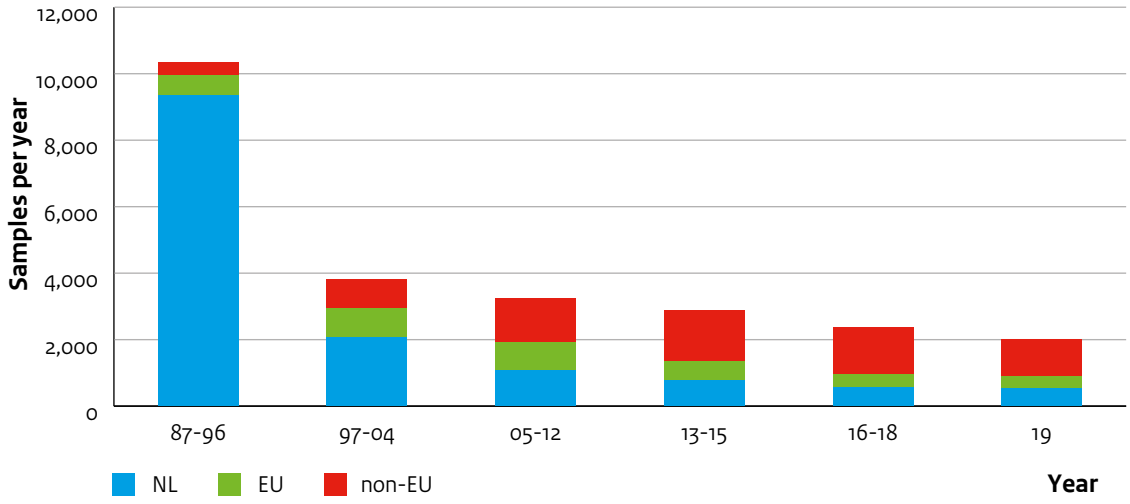
non-compliant samples of environmental and process contaminants, plant toxins (for which MLs or reference levels apply)	number of samples/number of non-compliances
PAHs	91/1
3-MCPD and glycidyl fatty acid esters	67/3
Acrylamide (reference level)	375/33
Heavy metals in food	231/3
Cyanide	52/0
Miscellaneous	
Sudan dyes (prohibited additive)	27/4
Total non-compliant for environmental and process contaminants, plant toxins	5%
GMOs	**265**
• On the basis of the National Control Plan	209
- Regular sampling	197
- With GMO-free label or organic	12
• Controls on unauthorised GMOs	56
- Papayas	5
- Chinese rice products (Commission Implementing Decision 2013/287/EU)	51
• Non-compliant samples on the basis of GMOs	13
- Regular sampling	9
- With GMO-free label or organic	4
• Controls on unauthorised GMOs	4
- Papayas	0
- Chinese rice products (Commission Implementing Decision 2013/287/EU)	4

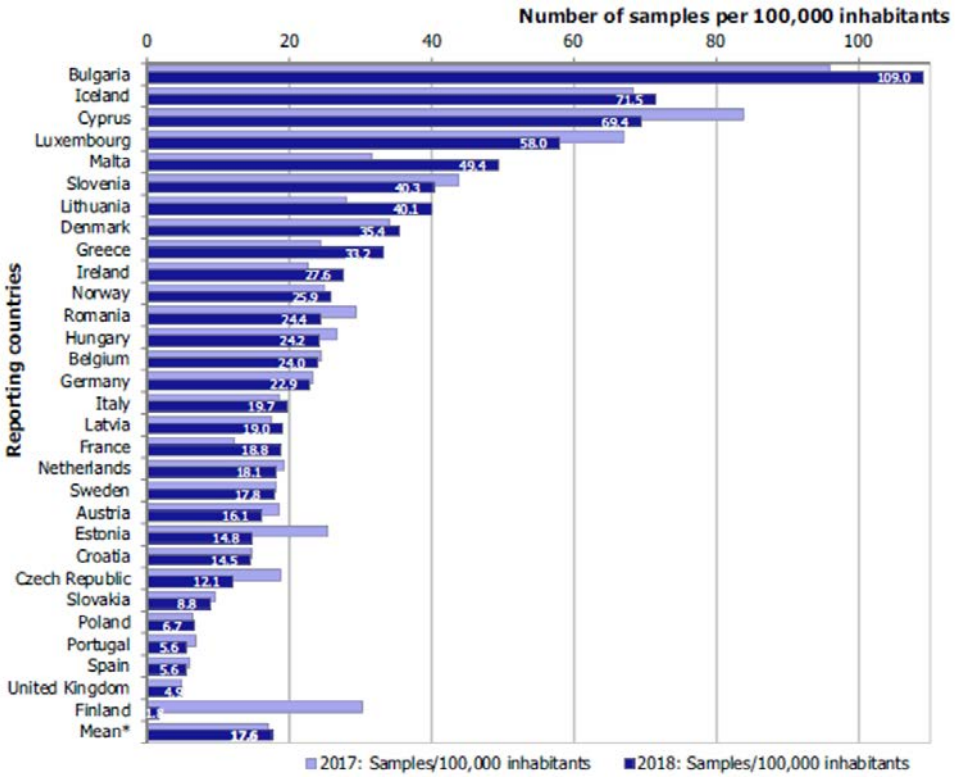
Pesticide residues



The graph above shows the % of non-compliant samples (>MRL) from products included in Regulation (EC) No 396/2005. Since the introduction in 2006 of this Regulation on maximum residue levels of pesticides in or on food and feed of plant and animal origin, the % of MRL non-compliances for products originating within the EU has fallen sharply. The decline has been more marked than the fall in the % of MRL non-compliances for products originating outside the EU.

However, there have been signs of a slight upward trend since 2015. This trend is expected to continue in the coming years as the NVWA increases its use of risk-based enforcement and selective sampling. Nevertheless, the NVWA wonders about the reason behind this rise and will seek to answer this question in the years ahead.





Risk-based sampling

The volume of sampling performed by the NVWA in the context of Regulation (EC) No 396/2005 is falling. The reason for this downward trend is risk-based and selective supervision. However, the Netherlands is a major global food exporter. This means that the risk-based and selective approach must not lead to a lower probability of detecting breaches.
A total of 405 businesses were visited in order to collect one or more samples for pesticide residue testing in 2019: just 3% of the total number of industrial businesses. The Netherlands also ranks low on the list of European countries in terms of the number of samples collected per inhabitant. These figures indicate that the Netherlands needs to free up more resources (budget) for food sampling and analysis. Given the strong global position of the Dutch food industry, this is therefore an issue that requires attention in the years ahead.

Table 1. Products with high non-compliance rates (from the National Control Plan and imports, Commission Regulation (EC) No 669/2009).

product	main pesticides	%>MRL	country of origin
Vine leaves	lambda-cyhalothrin; metalaxyl; boscalid; triadimenol; cypermethrin; azoxystrobin; carbendazim; miscellaneous	65	Turkey
Passion fruits/maracujas	profenofos; methamidophos; miscellaneous	40	Colombia
Chilli peppers	chlorpyrifos, miscellaneous	24	China, Malaysia, Vietnam, Turkey, Zimbabwe, Uganda, Egypt
Rice	tricyclazole; thiamethoxam	20	India
Goji berries/wolfberries	thiamethoxam; acetamiprid	17	China

The list of top 5 products with high MRL non-compliance rates is dominated by products from outside the EU once again this year. This finding is not a one-off and is in line with the results of previous years.

The results are not surprising, as the EU imposes strict requirements on the use of pesticides. For some countries outside the EU, weather conditions sometimes necessitate the use of more and different pesticides. Moreover, not all countries have similar legal regulations governing the use of pesticides to those in the EU. Products from outside the EU will usually spend longer in transit and are therefore more vulnerable to spoilage, resulting in a greater need for pesticides. Countries can apply for an EU import tolerance for pesticide residues, but this does not occur on a large scale in practice.

The focal point of the NVWA's risk-based supervision is therefore products from outside the EU and products with high consumption levels. However, we must also focus on high volume products in the years ahead. Proportional sampling will need to be carried out for products imported or exported in high volumes by the Netherlands. In the years to come, the NVWA therefore aims to take product import and export data into account in its risk-based supervision. Alongside the risk-based profile produced by the NVWA, compulsory supervision also takes place in the context of Commission Implementing Regulation (EU) 2018/555. Certain products from outside the EU are also subject to obligatory import controls in accordance with Commission Implementing Regulation (EU) No. 2019/1793 and Commission Regulation (EC) No 669/2009.

Publication
Analysis data and corresponding business data generated by the NVWA's supervision activities are published on the NVWA website. Transparency is important to the NVWA, and by publishing these data, the NVWA aims to keep both the general public and the business sector informed. The NVWA also hopes that the publication of this information will improve compliance by prompting a change in behaviour.

The full analysis results are submitted to the European Food Safety Authority (EFSA) via the Quality Programme for Agricultural Products (*Kwaliteitsprogrammering Agrarische Producten*, KAP) database. This is a requirement imposed on all Member States by Regulation (EC) No 396/2005. The EFSA incorporates the data into its database and publishes them in the European Union report on pesticides residues in food, which can be found on the EFSA website.

All MRL non-compliances are assessed in the EFSA PRIMO model (available to the public on the EFSA website). If this model shows that the acute reference dose (ARfD) is being exceeded, the NVWA reports the infringement in the RASFF portal. This information is publicly available on the European Union website.

NVWA interventions in accordance with Regulation (EC) No 396/2005 (pesticide residues)
Pesticide residues were detected in 990 of the 3178 samples. These 990 samples were found to contain 7954 residues, and 231 samples contained pesticide levels above the MRL. The majority of these infringements led to the rejection of imports into the EU. This means the product in question is not permitted to enter the EU, and the importer has the option of destroying the product or sending it on to a country outside the EU. In other instances, the intervention in response to MRL non-compliance consisted of a fine in 65 cases and a written warning in 15 cases.

Cumulative risk assessment
In many cases, multiple pesticide residues were found in a single food product. However, a risk assessment can currently only be carried out per residue, which means the impact of multiple residues in a single food product remains unclear. The EU reached this conclusion and took action a few years ago. In the coming period, the EU will develop a tool for cumulative risk assessments in collaboration with the EFSA, the RIVM and various experts from Member States.
A summary of the methodology used and an overview of progress in this area can be found on the EU website.

Rapid Alert System Food and Feed (RASFF) reports
According to Regulation (EC) No 178/2002 (the General Food Law, GFL), businesses are obliged to notify the NVWA if they store, produce, transport or sell an unsafe food product. Any product that exceeds the MRL as defined in Regulation (EC) No 396/2005 is classed as an unsafe food product. In 2019, businesses in the Netherlands submitted 387 reports regarding unsafe products in the context of the GFL. These GFL reports do not include any frequently recurring food products.

However, if the level of pesticide in a food product is so high that the product could present an acute hazard, a report is submitted in the European Committee's RASFF portal. RASFF reports can only be submitted by authorities in EU Member States. In 2019, a total of 71 RASFF reports were recorded from EU Member States relating to food products

containing pesticides that directly or indirectly originated in the Netherlands. This concerns food products produced in the Netherlands or imported into the Netherlands from outside the EU.

These RASFF reports are divided into alerts and notifications. Alerts are reports requiring immediate action; the product could present an acute hazard and may still be available in the EU market. Notifications are reports regarding products that are not or no longer available on the EU market, for instance due to border rejection or because the product has not yet been delivered.

In 2019, the 71 RASFF reports relating to food products originating in the Netherlands consisted of 21 notifications and 50 alerts.

RASFF alerts
In 2019, 297 RASFF pesticide alerts were recorded across the EU. As previously stated, the Netherlands was the source of these RASFF alerts in 50 cases (17%). This is a large number, but the Netherlands is not a small country and is in fact the largest producer of food products in the EU. In addition, businesses in the Netherlands sell many food products from outside the EU, often imported into Schiphol and the ports of Rotterdam and Amsterdam.

Of the 50 RASFF alerts with a source in the Netherlands, 13 were reported by the Netherlands itself, 5 resulted from an official NVWA border check and 8 resulted from checks by businesses themselves. A total of 37 RASFF alerts with a source in the Netherlands were reported by other Member States, with most coming from the authorities in Germany and Belgium.

Frequently occurring products in the RASFF alerts with a source in the Netherlands in 2019:

Table 2. Key products with a high % of RASFF alerts with a source in the Netherlands.

product	country of origin	main pesticides	% of RASFF alerts with a source in the NL	reporting Member State
Rice	India, Vietnam	tricyclazole, hexaconazole, thiamethoxam	12	Belgium, Germany, Denmark, Slovenia.
Peppers (capsicum annuum)	mainly Turkey	acetamiprid, formetanate	10	Bulgaria, the Netherlands.
Tea	Vietnam, Syria	anthraquinone, carbendazim, chlorothanolil	10	Germany, Belgium, France

Pesticide residue incidents

In 2019, there were no incidents that had a significant impact on public health or on the import into and/or export from the Netherlands of certain food products. Nevertheless, the NVWA is continuing its focus on improving official controls. One of the ways it is doing this is by improving analysis methods, while another is by increasing controls on food products that are consumed or produced in high volumes.

Mycotoxins

As the severity of fungal attacks may vary in each harvesting season and by country of origin, the enforcement of EU regulations governing mycotoxins must be a key area of focus each year. Sampling of relevant products has been tailored accordingly. In addition to risk-based controls on imports from third countries and at production businesses, attention was also devoted to products from other EU Member States, since risky products can enter the Netherlands by this route as well. A multi-method analysis is used, which allows multiple mycotoxins to be measured at the same time. The data gathered are sent to the EFSA, which performs a risk assessment to determine the need for maximum limits for new mycotoxin/food combinations. This procedure has again generated the necessary proposals this year, which will lead to new statutory provisions in 2020. Sampling that is required under Commission Regulation (EC) No 669/2009 and Commission Implementing Regulation (EC) No 884/2014 constitutes the bulk of import controls. If the event that these regulations are amended, the relevant product/country combinations that have been excluded from the regulation will

be transferred to the national plan in order to monitor whether the lower control frequency is sufficient. Commission Implementing Regulation (EU) 2019/1793, which incorporates Commission Regulation (EC) No 669/2009 and Commission Implementing Regulation (EC) No 884/2014, entered into force on 14 December 2019. A summary of the results can be found in Table 3.

Table 3. Number of samples under the National Plan and Imports and rate of non-compliance with a maximum limit (ML) under Commission Regulation (EC) No 1881/2006.

product	national plan	%>ML	imports	%>ML
Cereals (and cereal products, including cake)	204	2.0	12	0
Dried fruit (including subtropical fruit)	229	5.7	131	6.9
Nuts and seeds (and nut and seed products)	497	4.4	1,105	8.0
Wine, beer and fruit juice	64	0	0	0
Baby foods	82	0	0	0
Herbs and spices	161	1.9	43	13.9
Coffee and tea (including liquorice and Dutch liquorice (drop))	50	0	0	0
Final total	**1,287**		**1,291**	

Figure 1. Deviation percentages for mycotoxins in samples from various product groups since 2001.

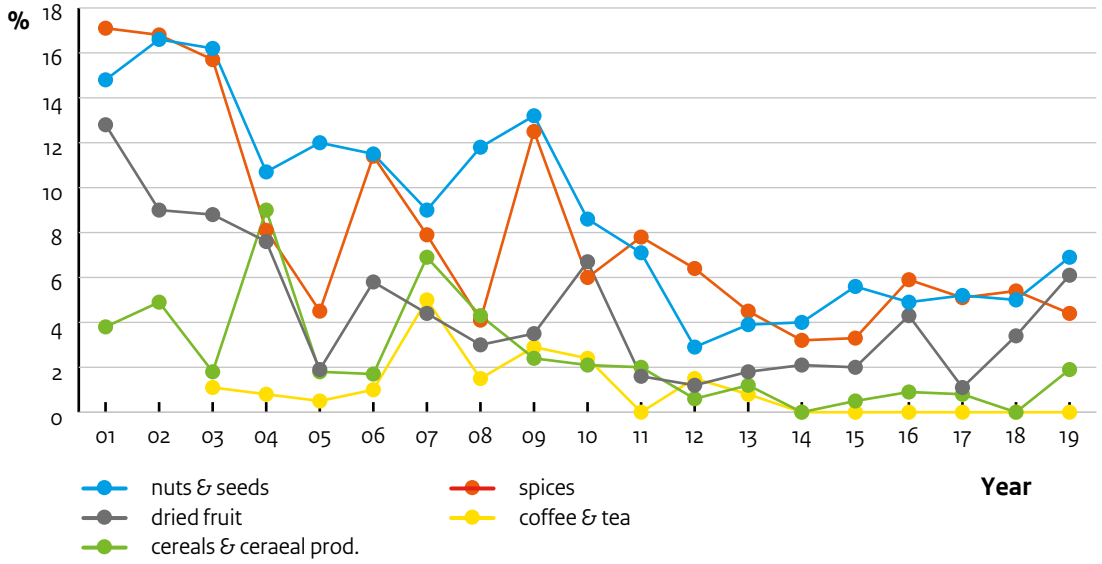


Figure 1 shows the rate of non-compliance with mycotoxin limits for various product groups since 2001. Fluctuations over the years are due not only to differences between harvest years but also to changes in the statutory limits and continuous updating of the risk rates in EU legislation over the period 2001-2019. As this overview is not the product of a continuous monitoring programme, comparisons can only be made between the years shown by examining them in detail. However, the graph shows at a glance that, as a general trend, the long-term outcome of targeted and risk-based enforcement has been a reduction in the non-compliance rate over the period represented.

Nuts and seeds

The rate of non-compliance in this product group has risen slightly this year, due to a somewhat higher number of non-compliances among the leading countries in the export of peanuts, particularly Argentina and, to a far lesser degree, the United States and China. Imports from countries such as Brazil, Egypt and India are far smaller in quantity. Gambia, Bolivia, Ghana, Senegal and Sudan each exported only one container. The consignment from Senegal had to be

rejected due to an aflatoxin B1 level of 24 µg/kg. Exports from the other four countries mentioned met the requirements, which was a first for those countries. This was a significant improvement particularly in the case of Gambia. This country had previously only exported peanuts intended for bird food, to which a maximum limit of 20 µg/kg applies and which, despite the much higher limit, were rejected in over 50% of cases. The sole consignment for this reporting year remained below the limit for human consumption, which at 2 µg/kg is 10 times lower than that applicable to bird food, marking a substantial improvement.

In addition to aflatoxins, ochratoxin A was also regularly detected in nuts. The NVWA intervention policy for ochratoxin A prescribes a maximum limit of 10 µg/kg based on the Preparation and Handling of Food (Commodities Act) Decree. An ochratoxin A level of 1.4-25 µg/kg was measured in six consignments of peanuts, of which only one consignment exceeded the limit with a level of 25 µg/kg. Ochratoxin A was found more frequently in pistachio nuts, having been measured at levels of 1.5-93 µg/kg in 12 consignments, which was actually lower than the levels measured in the previous year. Levels exceeding 10 µg/kg were detected in 7 of the 12 consignments. The consignments that did not meet statutory requirements were not permitted to be distributed on the Dutch market. A recommended limit of 5 µg/kg has now been submitted to the European Commission.

Herbs and spices

The percentage of irregularities in this product group continues to fluctuate around the 5% mark, with most breaches relating to chilli powder and paprika powder. The highest levels detected were lower than in previous years, which is an improvement. A striking observation was that, of the 46 consignments of nutmeg samples, only 1 exceeded the limits for aflatoxin B1 and ochratoxin A. This concerned the same consignment, which is unusual because aflatoxin and ochratoxin are produced by different fungi. Both 12 µg/kg of aflatoxin B1 and 26 µg/kg of ochratoxin A were measured in one consignment of ground nutmeg, in other words a homogenised product.

Dried fruit (including subtropical fruit)

The rise in the percentage of irregularities in this product group was a result of a somewhat higher number of non-compliances in raisins and the detection of contamination in some other products such as prunes and mulberries. A few other mycotoxins were also found in this product group. A sample of dates, a product that is virtually never found to contain aflatoxin or ochratoxin, was found to contain a citrinin level of 48 µg/kg. This mycotoxin is regulated for food supplements, with a limit of 2,000 µg/kg. The level detected in this sample was therefore negligible. Other mycotoxins encountered were fumonisins B1 and B2. These were first detected years ago in figs and were found in 23 of the 51 samples tested this year at levels of 40 to 230 µg/kg. Compared to the fumonisin limits in other food products, which vary from 200 to 1,000 µg/kg, these levels are not a cause for concern.

Baby foods

Processed cereal-based foods and baby foods for infants and toddlers were analysed according to the more stringent requirements for aflatoxins and ochratoxin A applicable to that product group. None of the samples were found to exceed the much lower maximum limits.

Cereals, wine, beer, fruit juice, coffee, tea, liquorice and Dutch liquorice

In these products, the number of samples was almost entirely determined by the monitoring of the market as it was to be carried out under the national plan. Breaches of the limits are rare occurrences in this product group. The low rate of non-compliance in the cereals category was due to the detection of 3.2-9.1 µg/kg of ochratoxin A in a single sample of maize, muesli, oats and barley. In this category, 17 samples of apple sauce and apple juice were also tested for patulin. This mycotoxin was detected in all samples, but in quantities of 7-27 µg/kg, way below the respective limits of 25 and 50 µg/kg for these products.

Environmental and process contaminants, plant toxins

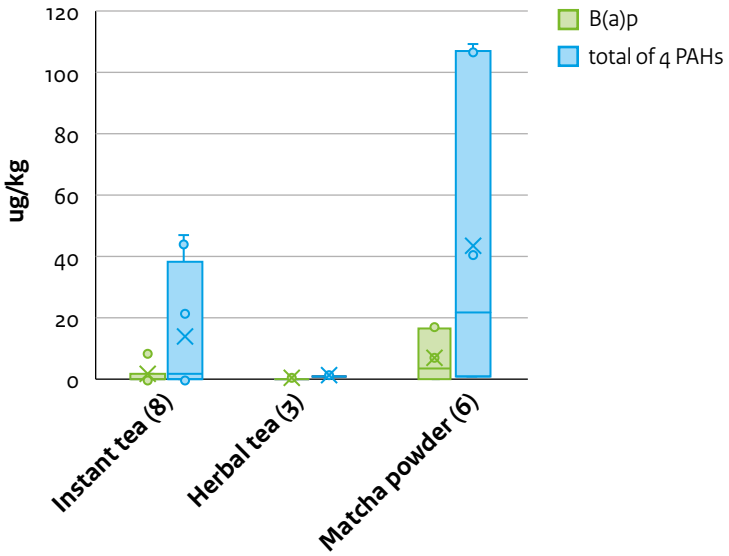
Environmental and process contaminants are chemical substances that are absorbed from the environment during crop cultivation and can unintentionally end up in food products, or are formed during the food production process. Plant toxins are chemical substances produced by plants themselves. Commission Regulation (EC) No 1881/2006 includes maximum limits (MLs) for these contaminants for various product groups.
In addition, Regulation (EC) No 1334/2008 contains a number of MLs for hydrogen cyanide, Commission Regulation (EC) No 2017/2158 establishes reference levels for acrylamide in certain food products and various recommendations apply to the monitoring of these contaminants. For the purpose of detecting these contaminants in food products, risk-based sampling was carried out at importers, production businesses, wholesalers and retail chain distribution centres across the country. The samples were analysed at the Wageningen Food Safety Research (WFSR) laboratory.

Polycyclic Aromatic Hydrocarbons (PAHs)

PAHs are formed when some food products are cooked for a long time or at excessively high temperatures. They are carcinogenic substances. PAHs can be found in dried herbs, oils and smoked products, such as smoked fish.
In 2019, a total of 67 samples of vegetable oils (palm, coconut, groundnut, grape seed, frying, corn, olive, rapeseed, rice bran, salad, soybean and sunflower oil) were tested for PAHs. Out of the 27 palm oil samples, 1 was found to be non-compliant (benzo(a)pyrene 5.64 µg/kg and total PAHs 35.95 µg/kg). None of the 15 coconut oil samples were found to exceed the associated ML for total PAHs or benzo(a)pyrene. Tests were also performed on 24 fish samples, including salmon, mackerel and eel, in which no breaches of the ML were measured and the highest measured value for benzo(a) pyrene was 2.0 µg/kg.

In the context of monitoring, 17 tea samples (8x instant tea, 6x matcha powder and 3x herbal tea) were taken for PAHs testing (see Figure 2). Compared to herbal tea, high values were measured in matcha powder and instant tea, and the businesses in question were contacted. The total PAH values measured in these products generally fell within the range of 0.08-109 µg/kg, with an average of 22.4 µg/kg. The average benzo(a)pyrene value was around 3.3 µg/kg with a maximum of 17 µg/kg.

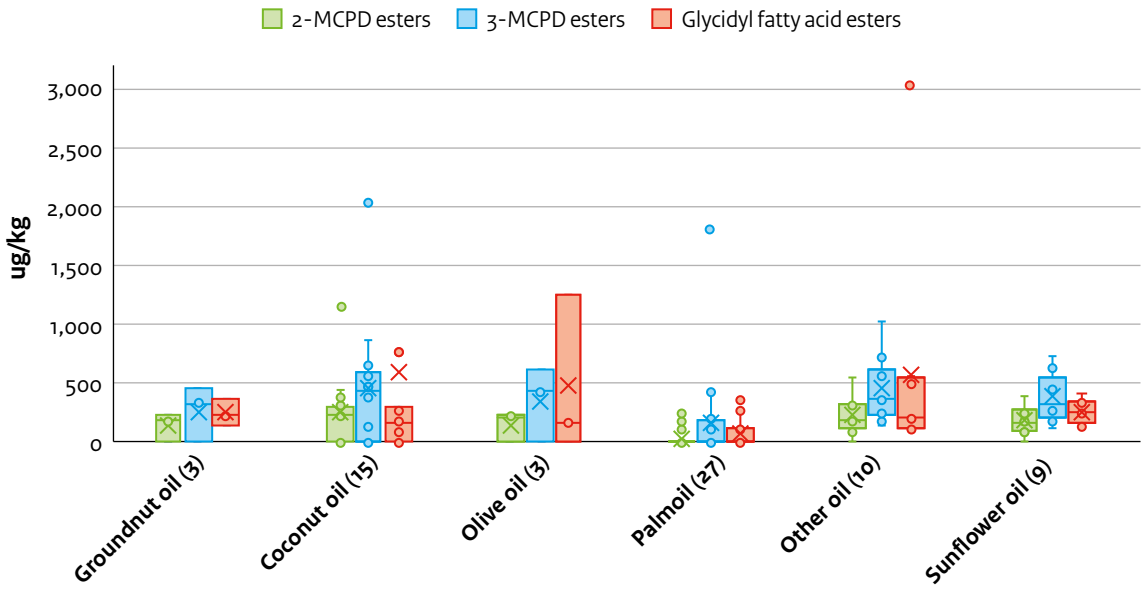
Figure 2. Monitoring of tea: measured values of (total) PAHs and Benzo(a)pyrene in 17 tea samples



2-,3-MCPD and glycidyl fatty acid esters

Glycidyl fatty acid esters are process contaminants formed during refining, more specifically during the deodorisation phase, of vegetable oils, for which maximum limits have recently been included in Commission Regulation (EC) No 1881/2006. The NVWA therefore tested 67 vegetable oil samples (including palm, coconut, groundnut, olive and sunflower oil) for glycidyl fatty acid esters, to which an ML of 1,000 µg/kg applies (see Figure 3). An average glycidyl fatty acid esters value of 332 µg/kg was measured in these products, with the highest measured averages found in olive and coconut oil (467 and 588 µg/kg) and the lowest measured averages in palm oil (70 µg/kg). Levels that exceeded the ML were measured in three samples: 1,252, 3,024 and 5,989 µg/kg.
These vegetable oil samples were also tested for 2- and 3-MCPD esters in the context of Commission Recommendation 2014/661/EU on the monitoring of the presence of 2- and 3-monochloropropane-1,2-diol (2- and 3-MCPD), 2- and 3-MCPD fatty acid esters and glycidyl fatty acid esters in food. An average level of 345 µg/kg 3-MCPD esters was measured in vegetable oils, with the highest measured average found in coconut oil (466 µg/kg). The highest measured values were identified in coconut oil (2,040 µg/kg) and palm oil (1,794 µg/kg). The average measured 2-MCPD ester values in vegetable oils were around 172 µg/kg, with the highest measured average found in coconut oil (253 µg/kg) with a maximum of 1,140 µg/kg.

Figure 3. Monitoring of vegetable oils: measured values of 2- and 3-MCPD esters and glycidyl fatty acid esters in 67 vegetable oil samples



As part of the monitoring activities, samples of crisps, chocolate and hazelnut spread and cereal-based baby foods were also tested for these substances. In 50 crisps samples (38x potato and 12x vegetable and fruit crisps), average values of 735 µg/kg of 3-MCPD-esters, 331 µg/kg of 2-MCPD esters and 421 µg/kg of glycidyl fatty acid esters were measured with respective maximums of 2,949 µg/kg, 1,634 µg/kg and 2,721 µg/kg of glycidyl fatty acid esters. In 20 samples of chocolate and hazelnut spread, the average 3-MCPD ester values were around 962 µg/kg, 2-MCPD esters were around 509 µg/kg and glycidyl fatty acid esters were around 159 µg/kg.

The highest measured values of these substances in chocolate and hazelnut spread were 1,708 µg/kg for 3-MCPD esters, 917 µg/kg for 2-MCPD esters and 349 µg/kg for glycidyl fatty acid esters. High levels of 3-MCPD esters (2,720 and 2,790 µg/kg) and 2-MCPD esters (1,425 and 1,453 µg/kg) were detected in two of the seven cereal-based baby food samples. Other measured values fell within the range 237-571 µg/kg for 3-MCPD esters and within the range 106-291 µg/kg for 2-MCPD. Glycidyl fatty acid esters were also measured in three of the seven baby food samples: 113, 169 and 173 µg/kg.
As the majority of the fat in crisps comes from vegetable oil, and the substances in the extracted fat from these products were measured, the average measured values in crisps can be compared with those in vegetable oils. A comparison of these data showed that the average values for both glycidyl fatty acid esters and for 2- and 3-MCPD esters in crisps were higher than the average measured values in vegetable oils. The average levels of 2- and 3-MCPD esters in chocolate and hazelnut spread were also higher than those in vegetable oils, but not for glycidyl fatty acid esters.
Too little is known about the extent to which the baking process contributes towards the formation of these chemical substances. Higher or lower levels can occur in some cases, depending on the preparation process and types of ingredients.

Acrylamide

Acrylamide is produced by heating starchy foods containing reducing sugars and the amino acid asparagine. Acrylamide is a known carcinogen in mice and rats and is classed as a suspect carcinogen in humans. Commission Regulation (EU) 2017/2158 of 20 November 2017 establishing mitigation measures and benchmark levels for the reduction of the presence of acrylamide in food was introduced in 2018.

This requires food business operators to take risk mitigation measures to minimise the formation of acrylamide in certain foods. This regulation lays down risk mitigation measures and reference levels (RFs), which are established on the basis of the ALARA principle (As Low As Reasonably Achievable). If these RFs are breached, the NVWA will visit the business to ascertain whether the risk of acrylamide formation is included in the food safety plan, whether the risk is being adequately controlled and whether corrective measures have been taken where high levels have been identified.

The following product groups were tested for acrylamide in 2019: cereal-based baby foods (24x porridge samples and 5x baby biscuit samples), various baked goods (including 23x cake samples, 11x biscuit/wafer samples, 20x kruidnoten samples, 27x cracker samples, 12x toast samples and 15x rusk samples), crisps (21x crisps made from potato dough and 15x potato crisps, including 8x organic) and 202 French fry samples (163x samples of French fries made from potatoes and 39x samples of French fries made from potato dough). In all these products, the relevant RF was found to have been breached in 33 samples (see Table 4). This was the case for 19 French fry samples (14x French fries made from potatoes and 5x French fries made from potato dough) taken from restaurants and cafés, 5 potato crisp samples (893-1,788 µg/kg), 4 kruidnoten samples (400-438 µg/kg), 3 biscuit/wafer samples (417, 478 and 879 µg/kg) and 2 cracker samples (534 and 771 µg/kg).

Table 4. Number of samples taken for acrylamide testing under the National Plan and number of breaches of the reference levels set out in Commission Regulation (EU) 2017/2158 and Commission Recommendation (EU) 2019/1888.

commission regulation (EC) No 2017/2158				
product	**number (N)**	**number (N) non-compliant with RF**	**RF**	**measured values>RF**
Cereal-based baby foods; cake	5	0	150 µg/kg	
Cake	23	0	300 µg/kg	
Biscuit/wafer	11	3	350 µg/kg	417;478;879 µg/kg
Kruidnoten	20	4	300 µg/kg	400-438 µg/kg
Crackers	27	2	400 µg/kg	534 and 771 µg/kg
Toast	12	0	350 µg/kg	
Rusk	15	0	350 µg/kg	
Potato crisps	21	5	750 µg/kg	893-1788 µg/kg
Crisps made from potato dough	15	0	750 µg/kg	
French fries made from potatoes	163	14	500 µg/kg	594-1,237 µg/kg
French fries made from potato dough	39	5	750 µg/kg	790-1,984 µg/kg
Total	**375**	**33**		

commission recommendation (EU) 2019/1888				
product	**number (N)**	**number (N) non-compliant with most closely related RF**	**RF**	**measured values>RF**
Croissants	21	0	300 µg/kg	
Pancakes/poffertjes (Dutch mini pancakes)	16	0	300 µg/kg	
Vegetable crisps	15	2	Potato crisps 750 µg/kg	1,765 and 1,801 µg/kg
Potato croquettes/Duchess potatoes	13	2	Products made from potato dough 750 µg/kg	904 and 1,026 µg/kg
Rice crackers	15	0	400 µg/kg	
Cocoa	8	0	400 µg/kg	
Total	**88**	**4**		

Samples were also taken of 88 other food products in the context of the new acrylamide recommendation (EU 2019/1888): 21x croissants, 16x pancakes/poffertjes, 15x vegetable crisps, 15x rice crackers, 13x potato croquettes/ Duchess potatoes and 8x cocoa. No reference values currently apply to these categories. In order to estimate whether the acrylamide levels measured in these products are raised, a comparison can be made with the existing RFs for the most closely related product groups (see Table 4). In that case, two vegetable crisps samples would contain elevated acrylamide levels (1,765 and 1,801 µg/kg) when compared to the RF for potato crisps (750 µg/kg), as would two Duchess potato samples (904 and 1,026 µg/kg acrylamide) when compared to the RF for products made from potato dough (750 µg/kg).

Heavy metals, nickel and iodine

Heavy metals are present in the environment, for example in the soil. These substances can therefore be absorbed by crops and end up in food products. Children in particular are at higher risk if they exceed the tolerable daily intake of heavy metals. Commission Regulation (EC) No 1881/2006 sets out maximum limits for lead, cadmium, mercury, tin and inorganic arsenic.

In 2019, 284 samples were taken for heavy metal testing (lead, cadmium, mercury and arsenic) in the following product groups: swordfish, rice and rice products, chocolate, chocolate spread, cocoa powder, various vegetables (36 samples including lettuce, green beans, courgettes, aubergines, endive, peas and potatoes), seaweed, sushi and various types of baby foods. Of the 26 swordfish samples, 3 did not meet the ML (1.0 mg/kg) for mercury. The mercury levels measured were: 1.2, 2.0 and 2.2 mg/kg. None of the other samples tested for heavy metals and to which MLs apply were found to exceed the MLs. The average, maximum and significant measured levels in these products were:

- In 21 rice samples, an average of 0.12 mg/kg of total arsenic was measured with a maximum of 0.2 mg/kg. Lead was also detected in two samples (0.011 and 0.043 mg/kg), well below the ML of 0.20 mg/kg for lead in cereals. Cadmium levels were also below the ML for cadmium in rice (0.20 mg/kg) with a maximum of 0.071 mg/kg.
- In 15 rice cracker samples, an average total arsenic level of 0.16 mg/kg was measured with a maximum of 0.32 mg/kg. Given that the ML for inorganic arsenic in rice crackers is 0.30 mg/kg, this is no cause for concern, since inorganic arsenic is only part of the measured total arsenic.
- In 26 chocolate samples, an average cadmium level of 0.04 mg/kg was measured with a maximum of 0.19 mg/kg.
- In 20 samples of cocoa powder (and sweetened cocoa powder products for making drinking chocolate), an average cadmium level of 0.12 mg/kg was measured and a maximum of 0.58 mg/kg. The ML for cadmium in these types of products of 0.60 mg/kg was therefore not exceeded.
- Out of 29 samples of baby food in jars, including fruit snacks, 10 were found to contain lead at levels ranging from 0.0043 to 0.0079 mg/kg. Mercury was also detected in one sample (0.0081 mg/kg) and total arsenic in three samples: 0.025, 0.028 and 0.045 mg/kg. These measured values of total arsenic remain well below the ML of 0.10 mg/kg applicable to inorganic arsenic in rice intended for the production of food for infants and toddlers. These products were also tested for nickel in the context of monitoring. The levels detected ranged between 0.025 and 0.21 mg/kg, with an average of 0.074 mg/kg.
- A total of 4 of the 33 cereal-based baby food samples were found to contain levels of lead (0.0089, 0.0095, 0.014 and 0.022 mg/kg of lead), which were all below the ML (0.05 mg/kg). Of the 33 cereal-based baby food samples, 7 were rice porridge that all complied with the ML for inorganic arsenic (0.10 mg/kg).
- Out of the 25 samples of infant formula and follow-on formula, one sample was found to contain mercury (0.006 mg/kg) and one contained lead (0.0069 mg/kg). The ML for lead in infant formula is 0.050 mg/kg, which means that this sample was compliant with the ML.

A total of 39 seaweed samples (including 28x seaweed and 11x samples of glasswort, sea lavender, beach bananas and sea fennel) and 23 sushi samples were tested in the context of Commission Recommendation (EU) 2018/464 on the monitoring of metals and iodine in seaweed, halophytes and products based on seaweed. Seaweed and algae may absorb these elements and trace elements from the sea in which they grow, resulting in levels that can vary significantly. Iodine and arsenic levels in particular may be relatively high in these types of product. On average, between 669 mg/kg and 8,100 mg/kg of iodine was measured in seaweed. Iodine levels in dried seaweed can be significantly reduced after preparation, however, depending on the preparation process. Arsenic levels in the range <0.015 to 69 mg/kg were measured in seaweed, and inorganic arsenic levels of between <0.028 and 0.27 mg/kg. A total of 21 seaweed samples were also tested for nickel, with levels ranging from <0.025 to 1.0 mg/kg and an average of 0.17 mg/kg. In sushi (ready-made products), iodine levels averaged at around 0.6 mg/kg, with a maximum of 1.0 mg/kg. Arsenic levels of between <0.15 and 0.6 mg/kg (total arsenic) were measured in these sushi products, with inorganic arsenic levels of between <0.018 and 0.023 mg/kg and averaging 0.019 mg/kg.

The 20 samples of chocolate and chocolate spread were tested for heavy metals in the context of monitoring. The average cadmium level measured in these products was 0.026 mg/kg, with a maximum of 0.11 mg/kg. Mercury was also detected in three samples (0.0084, 0.0087 and 0.0088 mg/kg).

Cyanide

High levels of dangerous plant toxins (cyanogenic glycosides) may be naturally present in unprocessed bitter apricot kernels and bitter almonds. These plant toxins are hazardous because they are converted into cyanide (hydrocyanic acid) in the body, which may have a fatal impact on people's health. An ML of 20 mg/kg therefore applies to cyanide in apricot kernels intended for direct human consumption. High cyanide levels were detected in apricot kernels in 2018, resulting in the issuing of public warnings and the removal of these products from the market. These findings prompted the NVWA to carry out a follow-up investigation into these products in 2019. However, sampling proved impossible as there were no new apricot kernels on the market. Another aspect of the follow-up was to look at other products potentially containing cyanide. Regulation (EC) No 1334/2008 sets out MLs for marzipan and nougat (50 mg/kg) and alcoholic beverages (35 mg/kg).

Samples of nougat (15), marzipan (22) and liqueurs (15, almond, cherry and peach) were taken in this product category. None were found to exceed the MLs. The average cynanide levels measured were 2.1 mg/kg in nougat, 14 mg/kg in marzipan and 0.6 mg/kg in liqueur. Testing was also conducted on other products potentially containing cyanide, but for which no MLs have yet been established, such as linseed and macaroons. In 15 macaroon samples, an average cadmium level of 8.0 mg/kg was measured with a maximum of 42 mg/kg. Cyanide was detected in 17 linseed samples at levels between 139 and 260 mg/kg, with an average of 203 mg/kg. The NVWA has asked the Office for Risk Assessment & Research (BuRO) to carry out a risk assessment to ensure the correct interpretation of the cyanide levels measured, particularly in linseed, as only a proportion of this cyanide would be released into the body.

Mineral oils

Mineral oils (mineral oil hydrocarbons: MOHs) are usually produced as a high-boiling petroleum distillate, of which specific fractions, such as saturated hydrocarbons (Mineral Oil Saturated Hydrocarbons; MOSH) and aromatic hydrocarbons (Mineral Oil Aromatic Hydrocarbons; MOAH), can be harmful to health. According to the EFSA, the effects on human health can vary significantly. Some MOAHs can be carcinogenic, and MOSHs may accumulate in human tissue and have negative effects on the liver. These substances can enter foods in various ways: as a result of environmental contamination, during the production process (via lubricants) or via the packaging materials (such as recycled paper or cardboard). The greatest source of contamination with these substances in food products is unknown.
However, recent research (RIVM, 2018: DOI 10.21945/RIVM-2017-0182) has shown that cardboard packaging plays a smaller role in exposing consumers to these substances than previously thought.

In 2017, the European Commission published a recommendation for the monitoring of mineral oils in foodstuffs and packaging materials that come into contact with foodstuffs. The NVWA took samples (125) again in 2019 to test for mineral oils (MOSHs and MOAHs) in foods, with a focus on product categories that appear to make the biggest contribution towards MOH exposure in the Dutch population.

Samples were collected in the following categories: bread (24 samples, including 5x white baguette, 10x sliced wholemeal bread and 9x soft white rolls), chocolate sprinkles (12 samples of milk and dark chocolate), Dutch liquorice (25), vanilla ice cream (17), apple sauce (10), cereal-based baby foods (12 samples, which involved a re-sampling of samples taken in 2018) and pasta (10 samples in plastic packaging, in contrast to samples in 2018 that were all packaged in cardboard). WFSR is currently still analysing these products and is expected to process the samples using both a manual method and an online method that is still at the development stage.

In addition to the above monitoring activities, a further five samples of infant formula were taken at the end of 2019 on the orders of the European Commission. This was in response to a Foodwatch report suggesting that infant formula was contaminated with mineral oils. The type of analysis involved is complex, making the measurements difficult to interpret, and WFSR did not yet have an analysis method with the required level of sensitivity, so these samples were analysed in Switzerland at the Kantonales Labor in Zurich (KLZH). The analysis results have already been passed on to the EFSA and the European Commission, as well as the producers in question. In 2020, the NVWA will follow up the findings with further investigations into mineral oils in infant formula and/or sources of contamination.

Miscellaneous

Sudan dyes
The Sudan Dyes group, of which Sudan Red is the most well known, cannot be added to food, because they are potentially genotoxic and carcinogenic (Regulation (EC) No 1333/2008). In 2019, 27 samples of vegetable oil (palm oil) were tested for these substances. Sudan IV dyes were detected in four samples (18, 22, 60 and 154 µg/kg).

Environmental and process contaminants, plant toxins – conclusion

Risk-based measurements of environmental and process contaminants and plant toxins in various foodstuffs showed that the majority of the products available on the market in the Netherlands in 2019 met the relevant maximum limits. Breaches of MLs were detected for PAHs and glycidyl fatty acid esters in vegetable oils and for heavy metals in swordfish. In addition, the presence of acrylamide that exceeded the corresponding reference levels was also detected in a number of product groups such as French fries, crisps, crackers, biscuits/wafers and kruidnoten. This underlines the importance of a conclusion reached in 2017 (RIVM report '*Wat ligt er op ons bord?*' (What are we eating?)) that acrylamide is a substance for which some consumers are exceeding the recommended safe intake, in response to which reference levels were then established in Commission Regulation (EU) 2017/2158.

The NVWA therefore looks at acrylamide during its supervision activities with the aim of reducing consumer exposure and started to conduct inspections in 2019 in sectors where high levels of acrylamide are detected on the basis of sampling. The NVWA also monitors other food products in addition to those listed in the acrylamide regulation, to help gather data for the EFSA. The NVWA will continue to supervise acrylamide in foods in the years ahead, while also placing a greater focus on reducing contamination in vegetable oils.

Monitoring activities have revealed increased levels of cyanide in linseed, as well as MCPD and glycidyl esters in crisps, chocolate and hazelnut spread. These results will be used in further research and risk assessments and will be included where necessary in relevant discussions at meetings of the European working group. High levels of iodine were also measured in seaweed, but it remains difficult to assess the risk associated with these levels, as the substance can be lost during preparation, which means the actual intake on consumption is unclear. The NVWA plans to carry out more extensive research next year into the preparation of these types of products and the effect on iodine levels. The NVWA will also take action in relation to mineral oils, particularly the further development of a specific analysis method that allows more extensive follow-up screening for these substances in infant formula and follow-on formula.

GMOs

Regular GMO sampling was carried out anonymously. The four positive GMO-free samples contained traces of an authorised GMO. Of the other nine non-compliant regular samples, five originated directly from the United States. No unauthorised GMOs were found other than 4 positive samples from the 51 Chinese rice products tested.

3.15 Veterinary medicinal products

Control body or bodies: NVWA

List of the main legislation

Commission Regulation (EU) No 37/2010	MRLs for residues of veterinary medicinal products
Regulation (EC) No 470/2009	Veterinary medicinal product residues
Council Directive 96/22/EC	Prohibition on the use of growth promoters
Council Directive 96/23/EC	Monitoring residues in live animals and animal products
Council Directive 2001/82/EC	Veterinary medicinal product directive

National legislation

- Animals Act (*Wet dieren*);
- Veterinary Medicines Decree (*Besluit diergeneesmiddelen*);
- Veterinary Medicines Regulations (*Regeling diergeneesmiddelen*);
- Veterinarians Decree (*Besluit diergeneeskundigen*);
- Veterinarians Regulations (*Regeling diergeneeskundigen*);
- Animal Keepers Decree (*Besluit houders van dieren*);
- Animal Keepers Regulations (*Regeling houders van dieren*).

Size of the control file in 2019

businesses broken down by animal species	number as at 1 april 2019*
Laying hens	896
Calves	1,680
Pigs	4,090
Cattle	22,930
Sheep	5,480
Goats	570
Broiler parent stock and broiler chicks	1,038
Flightless birds	3
Ducks	50
Geese	0
Fur animals	130
Turkeys	30
Rabbits	41

* *Statistics Netherlands (CBS), The Hague/Heerlen and AVINED*

Results for 2019

	number of inspections	number of measures
FCI reports	136	100
National Residues Plan reports	18	13
Other reports	110	65
Self assessment	25	1
Compliance measurement regarding the use of antibiotics in rabbits	12	3
Quadratic comparison by veterinary practices	6	4
Total	**307**	**186**

	number of analyses	number of measures
National Residues Plan	40,591	71

Explanatory notes to the results

General
A large part of the veterinary medicinal product inspections take place on the basis of reports. These reports can relate to the Food Chain Information Form (FCI), the National Residues Plan (NP) or other reports.

Reports/incidents

Slaughterhouses sometimes have doubts with regard to the accuracy of the information provided in the FCI. A total of 136 inspections were conducted at cattle, poultry, pig, horse and goat farms in the context of these reports. A total of 95 of these inspections identified non-compliance. Irregularities were found in relation to administrative obligations, incorrect FCI and the use and stocking of veterinary medicinal products (channelling).

Pursuant to EU legislation that requires each country to conduct an annual surveillance programme for residues in live animals and products of animal origin, reports are received from the Netherlands or other EU Member States of active substance residues that exceed the permitted level (Maximum Residue Limit) or prohibited substances detected during sampling activities. A total of 18 inspections were carried out at poultry, pig, cattle and goat farms in the context of these reports. Thirteen of these inspections identified non-compliance. Irregularities were found in relation to MRL non-compliance, administrative obligations, incorrect completion of the FCI, the use of veterinary medicinal products and failure to observe the waiting period.

The NVWA also receives other reports regarding veterinary medicinal products via channels such as Dutch Customs, farm advisers and suppliers, the network of inspectors or businesses and citizens who send reports directly to the NVWA. A total of 110 inspections were conducted in this context. The inspections were carried out at various keepers of animals (poultry, cattle, pigs, sheep, pets), veterinarians and parties required to hold a permit (traders and producers). A total of 65 of these inspections identified non-compliance. Irregularities were found in areas such as the stocking of veterinary medicinal products, failure to meet administrative obligations, the practice of veterinary medicine, incorrect supply, incorrect packaging/labelling, the dispensing of antibiotics without a diagnosis and failure to inform a keeper of the cascade. Veterinarians can apply the cascade system if there is no registered veterinary medicinal product for the animal species and condition in question. In this case, they can use another veterinary medicinal product according to a pre-determined step-by-step plan.

As inspections in response to reports are selective, the number of resulting measures is not representative of the level of compliance within the different sectors.

There were no specific incidents in 2018.

National Residues Plan

In 2019, a total of some 40,591 analyses were carried out on products of animal origin in the context of the National Residues Plan. The results of 80 of these analyses (0.2%) were non-compliant. A total of 26,522 unique samples were analysed in 2019.

Group A substances (as set out in the Annex to Council Directive 96/23/EC)
In the testing performed on group A substances (20,625 analyses), 32 samples were found to be non-compliant, i.e. 0.16% of analyses on group A substances. The substances detected were thiouracil (26), β-nortestosterone (4), β-boldenone and nitrofurazone (SEM; 1).

Group B substances (as set out in the Annex to Council Directive 96/23/EC)
In the testing performed on group B substances (18,591 analyses), 46 samples were found to be non-compliant, i.e. 0.25% of the analyses. The non-compliant samples were distributed as follows among groups B1, B2 and B3:

- In the testing performed on group B1 (antibiotics), 5 samples of the 7,834 analysed were found to be non-compliant, i.e. 0.06% of the antibiotics analyses. The substances detected were dihydrostreptomycin (1), oxytetracycline (1), sulfadiazine (1), gentamicin (1) and doxycycline (1).
- In the testing performed on group B2 (other veterinary medicinal products), 12 samples of the 8,330 analysed were found to be non-compliant, i.e. 0.14% of the analyses of other veterinary medicinal products. The substances found were toltrazuril sulfone (1), dexamethasone (1), diclofenac (1), paracetamol (6) and DDAC-C10 (3).
- In the testing performed on group B3 (contaminants), 31 samples of the 2,427 analysed were found to be non-compliant, i.e. 1.28 % of the contaminants analyses. The substances detected were cadmium [cattle kidney (18), sheep kidney (1), poultry liver (1), pigeon meat (2), fish (1)], mercury [cattle kidney (1), pig kidney (1), duck meat (1), fish (1)], lead [cattle kidney (2)] and arsenic [fish (2)].

Key findings

The naturally occurring hormones thiouracil (from brassicas) and β-nortestosterone produce many positive results, which on further investigation often do not lead to enforcement measures. Due to the absence of a standard for lead in game, samples in which lead was found were reported as positive, but the samples were found to be in compliance unlike in previous years. The analysis of the use of painkillers has been added to the National Residues Plan in products of animal origin as of 2018. This analysis led to six positive findings in cattle in 2019.

Projects in 2019

Self assessment among pig farmers
The self assessment obligation for residues of veterinary medicinal products and prohibited substances applies to keepers of farm animals to prevent animal products containing prohibited substances or with residue levels that exceed the permitted limits from entering the food chain. Livestock farmers comply with this obligation by participating in a self assessment programme as part of a sectoral quality system. Those who do not participate must be able to demonstrate to the NVWA how they are complying with this obligation, for example by setting up their own self assessment programme involving sampling and analysis.

Pig farmers that had not joined a self assessment programme as part of a quality system were informed by letter at the end of 2018 to allow them to take part if they wished to do so. Non-commercial farms, slaughterhouses and AI stations were not contacted, nor were small-scale farms and farms that had not submitted any registrations, deregistrations or death reports and whose annual statement did not include any pigs. In 2019, 25 of the 230 remaining non-participating businesses were selected at random to undergo an inspection. Twenty-four of these businesses were found to be compliant. One business was found to be non-compliant, but this business was about to stop keeping pigs following handover of the remaining animals.

Compliance measurement regarding the use of antibiotics in rabbits
Rabbits were included in Appendix 9 of the Veterinary Medicines Regulation with effect from 1 January 2016. Rabbit keepers must therefore meet the conditions of the 'Only to be administered by Veterinarians' (*Uitsluitend door Dierenarts*, UDD) regulation in order to administer antibiotics. Only veterinarians are permitted to administer veterinary medicinal products with UDD status (only to be administered by veterinarians). Antibiotics, for example, fall in this group.
To gain an insight into the level of compliance with regard to antibiotic use in the rabbit for meat sector, 15 out of a total of 41 rabbit keepers were subjected to random inspections.

A total of nine inspections were found to be acceptable and three were found to be unacceptable. These farms did not always meet the conditions of the UDD regulation relating to periodic farm visits, the farm health plan, the farm treatment plan and clinical inspections. There were also a number of issues in relation to record keeping. Investigations were still ongoing for three inspections.

Quadratic comparison by veterinary practices
Veterinary practices are legally required to produce a quadratic comparison at least once every calendar year. This involves a detailed audit of the records in which the veterinary medicinal products received and dispensed are compared with the stock actually held and the drafting of a report showing any discrepancies that might be uncovered. In the case of the animal sectors listed in Appendix 9 of the Veterinary Medicines Regulation, veterinarians are also obliged to report all antibiotics dispensed in a compulsory database maintained by the sector in question.

Of the approximately 2,400 veterinary practices in the Netherlands, 6 were inspected. The findings for two inspections were found to be acceptable.

In the case of three of the practices inspected, the quadratic comparison was non-compliant. One practice was non-compliant in relation to database reporting.

Feather testing
The use of antibiotics in the broiler chick sector was assessed by performing a rapid test on feathers. This test was developed as an innovative enforcement tool and is used in this context as a screening method.

Feather samples were collected at slaughterhouses from a total of 91 flocks belonging to 56 broiler farmers and tested for antibiotic residues. The results were compared with the FCI and the delivery details in the database. This testing did not reveal any irregularities.

The test can also be used as a rapid test at the primary business to detect antibiotics in feathers on site and is currently being adapted for use for alternative matrices such as hair and urine.

Actions taken to improve official controls

The NVWA is working hard to improve official controls, including through consultations, enforcement communication, evaluations and cooperation in scientific research.

For example, the NVWA holds regular discussions that take place between the NVWA and policymakers, representatives of the livestock sectors and veterinarians about how compliance can collectively be improved and how enforcement communications could play a role in this.

Working instructions and protocols are being further honed based on the latest insights and evaluations, and enforcement through administrative law, veterinary disciplinary law and criminal law will continue to be optimised.

Innovative developments in supervision are also being introduced, for instance through support for risk-based controls in the form of targeted analyses based on relevant data and through the development of on-site rapid tests for veterinary medicinal product use.

Actions taken to improve compliance

The NVWA holds regular consultations with professional groups/sectors for the purpose of sharing inspection results, but also to discuss warning signs, trends and developments in relation to veterinary medicinal products. The NVWA has also intensified its enforcement communication. By implementing these measures, along with compliance measurements and risk-based inspections, the NVWA aims to improve compliance with veterinary medicinal product regulations within the various sectors and by private individuals.

Conclusions

Various inspections of veterinary medicinal products were conducted among farmers, private individuals, veterinarians and permit holders in 2019.

A wide range of irregularities were found, including in areas such as the supply, stocking and use of veterinary medicinal products, administrative obligations, food chain information forms and veterinary activities. These findings are similar to the inspection results in 2018.

Since failure to exercise due care in the use of veterinary medicinal products can pose a risk to public health, food safety, animal health and the environment, the NVWA will continue to focus on the production, trade and proper prescription and use of veterinary medicinal products by carrying out targeted inspections in the coming years. It will also continue to use instruments such as enforcement communications to promote compliance with the legislation governing veterinary medicinal products.

3.16 Microbiology (pathogens, food-borne infections and zoonoses)

Control body or bodies: NVWA

The majority of analyses are carried out by Wageningen Food Safety Research (WFSR); some antimicrobial resistance analyses are carried out by Wageningen Bioveterinary Research (WBVR); source detection in collaboration with the National Institute for Public Health and the Environment (RIVM).

List of the main legislation under which controls were carried out in 2019

EU legislation	
Directive 2003/99/EC	Zoonoses and zoonotic agents
Regulation (EC) No 178/2002	General Food Law Regulation (GFLR)
Regulation (EC) No 854/2004	Products of animal origin
Commission Regulation (EC) No 2073/2005	Microbiological criteria for foodstuffs
Commission Implementing Decision 2013/652/EU	Monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria

National legislation

- Preparation and Handling of Food (Commodities Act) Decree;
- Decree on Zoonoses (*Besluit Zoönosen*).

Supervision of microbiology, results in 2019

sampling	**number of samples**
1. Monitoring of pathogens, primary phase (farm/slaughterhouse; animal): including farm animals, antimicrobial resistance sampling by WBVR	1,453
2. Monitoring of pathogens, secondary phase (import, industry, wholesale): projects in the red meat, poultry meat, fish and clam, vegetable and compound foods supply chains.	2,267
3. Monitoring and surveillance of pathogens in retail phase: projects in the red meat, poultry meat, fish and clam, vegetable and compound foods supply chains.	5,090
4. Complaints and reports, source tracing (bacteriology, virology)	321
Total samples	**9,131**

isolates*	**number of isolates**
5. Antibiotics resistance (susceptibility of pathogens, indicators from products)	890
6. Active surveillance of ESBL isolates	241
Total isolates	**1,131**

* *These are not separate samples; they are tests for bacterial isolates taken from routine sample testing*

cases reported	**number of samples**
7. In the Netherlands	499
8. International involvement (RASFF/Infosan)	391
Total cases reported	**890**

Reference to specific reports

Results obtained from sampling can be found in various publicly accessible reports. Depending on the data processing time, the following reports use data from the year prior to the year covered by this MANCP Annual Report. Publications are included in this list if they were published in 2019.

Periodic publications

- *Surveillance van STEC in Nederland, 2018* (STEC surveillance in the Netherlands, 2018) (coordinator: RIVM);
- *Trends in Salmonella bij de mens, landbouwhuisdieren en in voedsel in Nederland, 2018* (Salmonella Trends in humans, farm animals and food and feed in the Netherlands, 2018) (RIVM);
- *Surveillance van Listeria monocytogenes in Nederland, 2018* (Surveillance of Listeria monocytogenes in the Netherlands, 2018) (RIVM);
- *Surveillance zoönosen in vleesrunderen 2017* (Surveillance of zoonoses in bovine animals for meat production 2017) (RIVM), *Surveillance van zoönoseverwekkers in de vleesveehouderij* (Surveillance of zoonotic agents in livestock meat farming) (RIVM);
- *Staat van Zoonosen 2018* (State of Zoonotic Diseases 2018) (RIVM);
- Nethmap-MARAN 2019 (WBVR);
- The European Union One Health 2018 Zoonoses Report (EFSA);
- The European Union Summary Report on Antimicrobial Resistance in zoonotic and indicator bacteria from humans, animals and food in 2017/2018 (EFSA);
- *Voedselgerelateerde uitbraken in Nederland 2006-2017* (Food-related outbreaks in the Netherlands 2006-2017) (RIVM).

Non-periodic reports

- Monitoring of pork liver and meat products on the Dutch market for the presence of HEV RNA (WFSR);
- Characterization and whole genome sequencing of closely related multidrug-resistant Salmonella enterica serovar Heidelberg isolates from imported poultry meat in the Netherlands (WFSR);
- Validation of Characterization and Molecular Typing by Whole-Genome Sequencing for Shiga Toxin-Producing Escherichia coli from food (WFSR);
- An international outbreak of Salmonella enterica serotype Enteritidis linked to eggs from Poland: a microbiological and epidemiological study (RIVM/WFSR);
- Changing epidemiology of invasive non-typhoid Salmonella infection: a nationwide population-based registry study (RIVM/WBVR);
- Novel Carbapenemases FLC-1 and IMI-2 Encoded by an Enterobacter cloacae Complex Isolated from Food Products (WBVR/WFSR);
- Phenotypic and Genotypic Analysis of Antibiotic Resistance of Listeria monocytogenes Isolated from Food Products (WFSR);
- Diversity of Plasmids and Genes Encoding Resistance to Extended Spectrum Cephalosporins in Commensal Escherichia coli From Dutch Livestock in 2007-2017 (WBVR).

Explanatory notes to the results for Microbiology

The Microbiology domain (pathogens, food-borne infections and food-borne zoonoses) uses the laws and regulations listed above to supervise the prevention of pathogenic microorganisms in food and to monitor antimicrobial resistance. The main tool for this is projects where samples are taken from the entire food chain, from primary production businesses to the retail trade.

The selection of the products to be sampled, their location in the supply chain and the pathogens to be analysed are determined based on: integrated supply chain analyses, policy framework letters, results from previous projects, scientific insights, complaints and reports. Where any statutory criteria are breached, implementation of the legally required measures is ensured, such as recall from distribution of a harmful consignment and warnings for consumers where necessary, in accordance with intervention policy.

In addition, this domain is responsible for assessing microbiology-related complaints and reports from consumers, producers and competent authorities in other countries and EU Member States and for source investigations arising from disease notifications.

Selection of projects in 2019

1. Monitoring of pathogens, primary phase (farm/slaughterhouse)
Since 2013, work has been ongoing on a master plan for periodic monitoring of farm animals within the context of European Directive 2003/99/EC. This plan can be used to track trends in the prevalence of zoonotic agents in populations of farm animals. The results are submitted to the European Food Safety Authority (EFSA) in the annual EU zoonosis report. In addition, possible relationships can be identified between different types of zoonotic agents carried by farm animals and people living or working on livestock farms. This is a repeating cycle in which a different animal supply chain is studied each year.

The RIVM report (2019-0081) describes the results of sampling in bovine animals for meat production (sampling in 2017), which were also published in the Dutch journal of veterinary medicine *Tijdschrift voor Diergeneeskunde* in November 2019. *Campylobacter* was detected at 86% of businesses and in just 2% of the people from whom samples were collected. STEC was detected at 25% and ESBL-producing E. coli at 15% of businesses. One of the participants was a STEC carrier and 7% were ESBL carriers, which is roughly equivalent to the prevalence in the total population of the Netherlands. The most common types of STEC associated with infections in humans, O157, O26, O91 and O103, were also found at beef cattle farms. The prevalence rate of *Salmonella* at these farms was 4%.

In 2019, visits and investigations were carried out at 57 broiler chick farms and 89 fattening pig farms. The report on broiler chick farms is in the final stage and will be published in mid-2020. A number of fattening pig farms remain to be visited in 2020.

The competent authority has an obligation under Regulation (EC) No 854/2004 (replaced on 14 December 2019 by Commission Implementing Regulation (EU) 2019/627) to verify *Salmonella* results as sampled by pig slaughterhouses. In addition to samples at pig slaughterhouses, the NVWA also collected samples from poultry, calf and cattle slaughterhouses. The total number of samples taken was 1084. The NVWA also took 263 samples from poultry slaughterhouses in 2019 that were analysed for *Campylobacter*.

2. Monitoring and surveillance of pathogens, secondary phase (import, industry, wholesale)
In the secondary phase, the Microbiology domain takes risk-based samples from a wide range of food supply chains. With regard to pathogens, products of animal origin, and meat in particular, are the most susceptible products. In addition to risk-based sampling, samples have for many years been collected under the heading of 'exotic meat' from animals that are not farmed for meat consumption, or at least not on a large scale, and that are often imported, such as kangaroos, ostriches and crocodiles. The rates of incidence of *Salmonella, Listeria monocytogenes* and STEC in exotic meat were lower in 2019 (2-6%) than in the previous two years (4-13%). As in 2018, *Listeria monocytogenes* was found in one in three batches of fresh poultry meat. *Campylobacter* once again had a high rate of prevalence in poultry meat at 77%, whereas the rate for *Salmonella* has been lower in the last two years (4-6%) than in the period before that (usually >10%). *Salmonella* remains a concern in the case of dried herbs, with a prevalence of 8%.

3. Monitoring and surveillance of pathogens in retail phase
Risk-based sampling was also carried out on a wide range of products in the retail phase. *Salmonella* was found in 2-3% of poultry meat samples and to a lesser extent in red meat (0.2-2%). It was also found on one other occasion in products of plant origin (1x endive), but not in fish.

Listeria monocytogenes is found much more frequently in fresh poultry meat, fresh beef, meat preparations intended for raw consumption and fish products (18%, 8.5%, 11% and 5.7% of samples respectively), but only occasionally at levels exceeding the standard of 100 colony-forming units (cfu) per gram. In relation to the presence of *Listeria monocytogenes*, there should be substantiation that the standard remains below 100 cfu per gram until the end of the shelf life. This still requires a lot of attention from many producers and remains a key priority for the NVWA.

STEC has a relatively high rate of prevalence in lamb (14.6% of samples). STEC is found less frequently in minced meat/meat preparations, fresh veal, fresh beef and meat preparations intended for raw consumption (4.7%, 3.8%, 2.4% and 2.6% of samples taken respectively).

Another significant finding is that the presence of *Campylobacter* in meat from small ruminants has fallen (from 2.1% in 2018 to 0.8% in 2019). However, the figures for fresh poultry meat (32.6%) and poultry meat preparations (34.4%) were similar to the previous year. With regard to poultry meat, additional warnings are issued to consumers regarding sufficient heating and preventing cross-contamination, by way of compulsory statutory information on the label. It appears that this information is still necessary.

4. Antibiotics resistance (pathogen susceptibility, indicators from products) and

5. Active surveillance of ESBL isolates
Within the context of European Commission Implementing Decision 2013/652/EU, the NVWA, together with the WFSR, the WBVR and the RIVM, has for some years been monitoring various isolates for antibiotics resistance.

Extended spectrum beta-lactamases (ESBL) producing *E. coli* were primarily found in poultry meat (40% of fresh poultry meat in processing [n=5 sampling]; 11% from sampling in the retail phase [n=5 sampling). In other types of meat (or fish), it was found at most in 2.4% of samples.

Methicillin-resistant *Staphylococcus aureus* (MRSA) also has its highest prevalence in (fresh) poultry meat (20%) and is found in pork or beef to a lesser extent (8.4% and 3.8% respectively).
Sensitivities to antibiotics, including (indicator) organisms such as *Salmonella*, *Campylobacter*, *E. coli* and *Enteroccoci*, have been outlined in the Monitoring of Antimicrobial Resistance and Antibiotic Usage in Animals in the Netherlands (MARAN) report, of which WBVR is the author.

6. Reports within the Netherlands and

7. Reports with international involvement (RASFF/Infosan)
Food can cause people to fall ill. If two or more people fall ill at the same time after having eaten the same food, this is referred to as an outbreak of a food-borne infection.

Due to a delay in retrieving the data for 2018, the RIVM worked with the NVWA in 2019 to carry out an analysis of reports of illness in the period 2006 to 2017. In the case of 138 of the 4,155 recorded outbreaks, it was possible to identify the food product that caused the illness. The main pathogens found were *Bacillus cereus*, *Salmonella* spp. and norovirus.
The harmful substances produced by the bacterium *Bacillus cereus* are most commonly found in composite products such as nasi and bami. These substances are formed when a product cools off too slowly and can survive heating. Pathogens were most commonly found in meat, crustaceans and shellfish. (RIVM rapport 2019-0059)

In addition to the reports of illness described above, a total of 3,082 reports of (potentially) unsafe food were made to the NVWA in 2019 and were processed within the Microbiology domain (in 2018, this number was 3,168). Following a steady increase over a number of years, the number of reports in 2019 was similar to the previous year for the first time. The Microbiology domain follows up on and assesses any potentially unsafe foods with a microbiological cause, as well as those with a physical cause (such as the presence of glass, metal or plastic). These reports may be made by consumers, food business operators or fellow food safety or other authorities within the EU. If tracing is performed, all businesses involved are required to make a report. Multiple reports can be combined into a smaller number of case files to this end, so that the combined reports for a single instance of contamination can be processed together. In 2019, reports for the Microbiology domain were combined into 890 case files (829 in 2018). Although the number of reports in 2019 was similar to 2018, there was a further increase in the number of case files in 2019 (+7%).

Incidents

If necessary, a complaint, report and/or source detection following illness can be escalated into an incident. This is considered in instances where it is expected that the case may require more attention and/or capacity within the normal regulatory oversight framework. In the event of an incident, a multidisciplinary incident team is assembled, supported by the NVWA Incident & Crisis Management team (ICM). This team will meet regularly, make the necessary capacity available and allocate it as required. It will maintain short lines of communication with the senior management of the NVWA and relevant policy departments of the ministries in question.

In 2019, there were two such incidents that related to the domain of Microbiology:

- In mid-August, it was reported via the Municipal Health Service (GGD) that a number of people had fallen ill after attending a family party. Out of a total of 35 attendees, 23 had fallen ill. An investigation into the source revealed that eggs contaminated with *Salmonella Enteritidis*, which had been used to prepare a home-made tiramisu, were the source of this outbreak. Using Whole Genome Sequencing (WGS), the RIVM was able to establish that this specific Salmonella had been a source of illness in consumers since at least December 2018. Over a million eggs were traced and withdrawn from circulation where necessary.
- In early October, WGS also identified a meat cutting plant as the most likely source of a longer-standing outbreak of listeriosis. This discovery resulted in a major recall of a large variety of meat products, primarily from supermarkets and company canteens.

In both cases, once measures were taken in relation to the source and taking into account the disease incubation period, there was a significant reduction in the number of people falling ill.

Impact assessment

Before the restructuring of the NVWA, which took place in 2017, impact assessment was seen as irrelevant to the Microbiology domain, as it does not manage a specific target group where targeted activities can be used to encourage compliance. Following the restructuring of the NVWA, the Microbiology domain has taken charge of inspections to a greater extent in respect of the implementation of the Microbiological Criteria Regulation, particularly in respect of *Listeria monocytogenes*.

The number of reports of unsafe batches of food that are made by the businesses themselves is an indicator of businesses' awareness of microbiological and other risks across the entire food supply chain. These reports, which are required under the General Food Law Regulation, GFLR (Regulation (EC) No 178/2002), are being submitted more and more often. The number of reports in the Microbiology domain did not increase in 2019 compared with the previous year. There was a rise in the number of case files (+7%), however, which means that fewer reports related to the same infection and therefore could not be combined in one case file. The NVWA's sampling programme did not reveal any signs that there has been an increase in the actual number of unsafe batches of food in 2019.

Actions taken to improve official controls

European legislation relating to microbiological risks is complex (particularly with regard to *Listeria monocytogenes*, due to the double standard included in Commission Regulation (EC) No 2073/2005 and the studies to establish a shelf life), and it sometimes allows Member States considerable leeway in their interpretation (such as in cases where no standards exist or where there is flexibility for small businesses). A contribution was made in 2019 towards pan-European harmonisation that resulted in the development of a BTSF (Better Training for Safer Food) training course on the subject of shelf life investigations, which will be delivered from 2020.

Actions taken to improve compliance by businesses

In 2019, as in 2018, the NVWA devoted considerable attention to shelf life studies by following up on sampling with regard to *Listeria monocytogenes*. In spite of an improvement in the quality of these studies, the NVWA intends to actively express its views with regard to the studies, outlined in NVWA Info Sheet 85 (Amended Interpretation Document on Microbiological Criteria), throughout 2020, as well as conduct targeted inspections by following a sector-based approach.

Conclusions

The increase in cases reported by food establishments (+7%), the results of the NVWA's monitoring programmes and investigations into the sources of food-related outbreaks show that there is a continuing need for both food establishments and the regulatory authority to pay attention to microbiological risks. Risk-based supervision shows that targeted monitoring of specific foods (exotic meats, herbs/spices, smoked fish) results in targeted inspections of businesses with regard to compliance and control of microbiological hazards and can provide businesses and consumers with a framework for action.

3.17 Nutrition and health, special foods and drinks

Control body or bodies: NVWA

Summary of the main European legislation addressed by controls in 2019

EU legislation	
Directive 2001/83/EC	On the Community code relating to medicinal products for human use (hereinafter referred to as the Medicines Act)
Directive 2002/46/EC	On the approximation of the laws of the Member States relating to food supplements
Commission Directive 2006/125/EC	On processed cereal-based foods and baby foods for infants and
young children	On the approximation of the laws of the Member States relating to food supplements
Regulation (EU) No 2015/2283	On novel foods
Commission Regulation (EC) No 1881/2006	Setting maximum levels for certain contaminants in foodstuffs
Regulation (EC) No 1924/2006	On nutrition and health claims made on foods
Regulation (EC) No 1925/2006	On the addition of vitamins and minerals and of certain other substances to foods
Regulation (EU) No 1169/2011	On the provision of food information to consumers
Regulation (EU) No 609/2013	On food intended for infants and young children, food for special medical purposes, and total diet replacement for weight control
Commission Delegated Regulation (EU) 2016/127	Supplementing Regulation (EU) No 609/2013 regarding the specific compositional and information requirements for infant formula and follow-on formula and regarding requirements on information relating to infant and young child feeding
(Commission Directive 2006/141/EC may also still apply in the transitional period)	On food intended for infants and young children, food for special medical purposes, and total diet replacement for weight control
Commission Delegated Regulation (EU) 2016/128	Supplementing Regulation (EU) No 609/2013 as regards the specific compositional and information requirements for food for special medical purposes (Commission Directive 2006/141 may also still apply in the transitional period)
Commission Delegated Regulation (EU) 2017/1798	of 2 June 2017 supplementing Regulation (EU) No 609/2013 of the European Parliament and of the Council as regards the specific compositional and information requirements for total diet replacement for weight control (Commission Directive 2006/141 may also still apply in the transitional period)

Specific national legislation is also applicable, the most important of which are the Commodities Act (*Warenwet*), the Herbal Preparations (Commodities Act) Decree (*Warenwetbesluit Kruidenpreparaten*), the Addition of Micronutrients to Foodstuffs (Commodities Act) Decree (*Warenwetbesluit Toevoeging micro-voedingsstoffen aan levensmiddelen*) and the Exemption of Nutritional Supplements (Commodities Act) Regulations (*Warenwetregeling Vrijstelling voedingssupplementen*). In addition, all other EU and national legislation also applies within this domain, such as Regulation (EC) No 852/2004 on the hygiene of foodstuffs, Regulation (EC) No 178/2002 laying down the general principles and requirements of food law and Regulation No 1333/2008 on food additives.

It is characteristic of this domain that the legal status of many products must first be established. Certain products may be covered by the definition in the Medicines Act (*Geneesmiddelenwet*) or the Opium Act (*Opiumwet*) and are therefore not a food (see Article 2 of Regulation (EC) No 178/2002).

Categories of businesses covered by the Special foods and drinks domain in 2019

Importers
Label holders
Producers
Web shops

Categories of foods covered by the Special foods and drinks domain in 2019

Herbal preparations
Foods bearing claims
Novel foods
Fortified foods
Vitamin preparations
Food for specific target groups
Food supplements

Special foods and drinks, results in 2019

special foods and drinks	number
Inspections/checklists completed at businesses	1,308
Samples	47
Measures (inspections and samples):	
• warnings	154
• administrative fines	87
• official reports	9

Inspections at businesses
In total, 1,308 inspection checklists were completed in 2019. Several checklists can be used during an inspection. In terms of unique visit dates, 907 inspection checklists were completed at 455 businesses. In other words, inspections were carried out on 907 occasions at 455 businesses. This includes reports made by consumers and businesses or following a General Food Law Regulation (ALV) or European Commission Rapid Alert System Food and Feed (RASFF) report and 170 inspections in the context of remote certification. The numbers also include data from the System Inspection project involving producers, label holders and importers, claims made on infant formula and follow-on formula and the sampling of St John's Wort preparations for analysis of pyrrolizidine alkaloids. Inspections at businesses are focused on the following:

- labelling, nutrition and health claims and the use of broad medical claims
- advertising of infant formulae
- novel foods
- prohibited herbs/spices

Specific label controls
Specific label controls are focused on the following:

- nutrition and health claims and the use of medical claims
- other labelling requirements

Reports made by consumers, businesses, etc.
In 2019, inspections were carried out at 146 businesses in response to one or more reports made by consumers or businesses or following a GFL or RASFF report. A total of 213 such reports were made.

One or more irregularities were found at 46 of the 146 businesses. In other words, at 32% of the businesses, the reports were justified.

Advertising of infant formulae
Advertising of infant formulae is an infringement of the Infant Formulae (Commodities Act) Regulation 2007 (*Warenwetregeling zuigelingenvoeding 2007*), which is based on Commission Directive 2006/141/EC. In 2019, two out of four reports were found to relate to an actual breach of the statutory provisions.

Measures following inspections
In 2019, 1 or more measures were imposed on 170 businesses on the basis of a single inspection. This means that 1 or more infringements were identified at 37% of all businesses visited by inspectors in 2019 (455 in total). A total of 87 administrative fines were imposed, and 154 written warnings were issued.

In total, 504 businesses were visited in 2018. A total of 291 measures were taken at 191 businesses (38%).

Most of the infringements in 2019 related to a failure to meet the conditions set out in Articles 4 and 5 of Regulation (EC) No 852/2004 (38%), followed by Regulation (EC) No 1924/2006 (the nutrition and health claims regulation) (26%). Of all cases, 93% concerned a failure to comply with the conditions set out in Article 5 (Hazard analysis and critical control points). In the remaining 7% of cases, the businesses did not comply with the general and specific hygiene rules as laid down in Article 4 of the Regulation.

The figures are shown in the table below. The percentages from 2018 have been included for the purpose of comparison.

regulation	rate of infringement in 2018	rate of infringement in 2019
Council Regulation (EC) No 852/2004	18	38
Regulation (EC) No 1924/2006	38	26
Regulation (EU) No 1169/2011	12	10
Medicines Act	21	6
Regulation (EC) No 178/2002	4	4
Regulation (EC) 2015/2283	3	3
Other	4	13
Total	100	100

Web shops
A web shop inspection was also carried out for 145 businesses. Website inspections resulted in 87 measures being carried out at 64 businesses (44%). The majority of measures were taken in response to infringements of the nutrition and health claims regulation.

Project on food safety system inspections of importers, label holders and producers of special foods and drinks products
In 2019, 165 special foods and drinks businesses were inspected in the context of food safety system inspections. Special food and drink inspectors inspect importers, label holders and producers that sell special foods and drinks products. They conduct product-related inspections in combination with food safety system inspections. A food safety system inspection is an inspection that looks at the extent to which an establishment ensures the safety of food in the food supply chain with regard to the dangers associated with raw materials.

In this investigation, 86 infringements were detected at 75 of the 165 businesses inspected (45%). In 3/4 of the cases, the business had failed to meet the HACCP conditions set out in Article 5 of Regulation (EC) No 852/2004.

In 2018, 70 of the 134 businesses inspected (44%) were found to be non-compliant.

Project on claims on infant formula and follow-on formula
In the period April to October 2019, the NVWA assessed the labels of 29 different infant formulae and 44 different follow-on formulae originating from 15 different businesses for compliance with the labelling rules and rules governing the use of nutrition and health claims. All of these products were available on the market in the Netherlands during the project period. In addition to the labels, an inspection of the business web shop was also conducted in relation to the product in question.

A similar project was carried out in 2015. Compliance during the first round of inspections in 2015 was 53%. In 2019, compliance during the first round of inspections was 74%.

The NVWA found only one prohibited health claim in 2019, whereas such claims were still widespread in 2015. The use of prohibited health claims can be misleading for consumers.

One of the reasons behind this improvement in compliance may be the NVWA's intensive enforcement activities in recent years; another reason is that some manufacturers had compliance checks carried out on their labels. This self-regulation, initiated by the sector, appears to have played a major role in improving compliance. At the time of the project in 2019, 50% of the labels had undergone a compliance check by the Inspection Board for the Public Promotion of Medicines (*Keuringsraad Openlijke Aanprijzing Geneesmiddelen*, KOAG) and the Inspection Board for the Promotion of Health Products (*Keuringsraad Aanprijzing Gezondheidsproducten*, KAG).

The compliance rate for websites advertising and/or selling products in 2019 was 48% during the first round of inspections. Businesses need to make substantial improvements in this area. Very few compliance checks were carried out on web shops.

Despite the increase in compliance during the first round of labelling inspections, there is still room for improvement. Once the re-inspections and corrective actions by the Inspection Board had been completed, all infant formula labels and websites assessed were compliant with the legislation. It is now essential for the businesses to maintain this high level of compliance when developing new labels or websites for their products. To ensure that these new labels and/or websites are also compliant, the NVWA calls on those businesses that do not yet follow a self-regulation model to submit their labels and websites to the Inspection Board for compliance checks. The NVWA will closely monitor the situation and take enforcement action where necessary.

Project on the sampling of St John's Wort preparations for analysis of pyrrolizidine alkaloids (PAs)
At the start of 2019, the NVWA tested 47 herbal preparations containing St John's Wort for the presence of pyrrolizidine alkaloids (PAs). These substances occur naturally in some plant species, but not in St John's Wort. The plant toxins may have ended up in the herbal preparations as a result of the simultaneous harvesting of plants containing these substances. PAs are harmful to health.

Nine herbal preparations were found to contain PA levels that exceeded the draft legal maximum level of 400 µg/kg. The European Commission has established this level on the basis of the available analysis data. The NVWA deemed these samples to be harmful and implemented nine measures in response. The NVWA also instructed the businesses involved to stop selling the products. In addition, they were required to issue a public warning regarding supplements that were still available in stores or had already been purchased by consumers. The other herbal preparations containing St John's Wort were also found to contain substantial PA levels. The NVWA has advised the business sector that businesses must take measures to limit the presence of PAs in preparations containing St John's Wort as much as possible. The NVWA is monitoring the situation closely, including by carrying out food safety system inspections at the businesses in question.

Conclusions

The compliance rate for system inspections has fluctuated around 45% for the past two years. Supervision is risk based. Ways to improve this rate will be explored over the next few years.

Inspections in the context of claims on infant formula and follow-on formula revealed a 21% improvement in compliance compared to 2015. Self-regulation, initiated by the sector, appears to have played a major role in improving compliance.

The sampling of St John's Wort preparations for the analysis of pyrrolizidine alkaloids (PAs) project revealed that nine preparations contained PA levels deemed harmful by the NVWA. The NVWA took enforcement measures in response to these results and will assess the impact of its enforcement actions in 2021.

3.18 Plant health

Control bodies: NVWA, KCB, NAK, Naktuinbouw and BKD.

List of the main legislation in force in 2019

EU legislation	
Council Directive 2000/29/EC	On protective measures against the introduction into the Community of organisms harmful to plants or plant products and against their spread within the Community
Council Directive 2007/33/EC	On the control of potato cyst nematodes
Commission Directive 2006/63/EC and Council Directive 98/57/EC	On the control of *Ralstonia solanacearum* (Smith) Yabuuchi et al.
Commission Directive 2006/56/EC and Council Directive 93/85/EEC	On the control of potato ring rot
Council Directive 69/464/EEC	On control of potato wart disease
Regulation (EU) No 2016/2031	On protective measures against pests of plants

National legislation
Plant Diseases Act (*Plantenziektenwet*)

Size of control file

type of business	**number in 2017**	**number in 2018**	**number in 2019**
Arable farming	10,685	10,842	10,979
Ornamental horticulture – flower bulbs	1,654	1,628	1,560
Ornamental horticulture – floristry	2,807	2,636	2,778
Ornamental horticulture – tree nurseries	3,508	3,265	3,310
Vegetables	4,164	4,049	3,960
Fruit	2,789	2,773	2,800

Results for arable agriculture

The situation in arable agriculture is characterised by the continual effort needed to control a small number of significant quarantine organisms in potato and seed potato cultivation. This relates to potato cyst nematode (PCN), *Meloidogyne chitwoodi & M. fallax*, brown rot, ring rot and potato wart disease.

inspections in arable farming	**number of inspections 2017**	**number of inspections 2018**	**number of inspections 2019**	**rejection due to quarantine organisms 2017**	**rejection due to quarantine organisms 2018**	**rejection due to quarantine organisms 2019**
Imports	1,721	1,915	3,082	0	0	0
Potato wart disease	341	140	468	0	1*	0
National seed potato crop	17,957	20,240	23,497	57	Unkn.	55
Exports	18,954	17,875	17,694	0	Unkn.	1

** Potato wart disease found on re-sampling of a plot for release following a previous finding. In other words, this is not a new finding*
Unkn. = exact figures unavailable at the time of publication of this report.

In 2019, the key findings in the arable agriculture sector were as follows:
- As in 2018, no ring rot was detected in the Netherlands in 2019. This suggests good compliance with the measures designed to combat ring rot in the Netherlands.
- In 2019, 54 cases of *Meloidogyne chitwoodi* and/or *M. fallax* were detected during integral tests of seed potatoes.
- In 2019, one case of *Ralstonia solanacearum* was detected during integral tests of seed potatoes.
- One case of *R. solanacearum* was detected in exports to Egypt.

- In 2019, Germany received a report of a consignment of seed potatoes allegedly contaminated with
- *R. solanacearum*. It is now known (2020) that this report was confirmed by testing related material in the Netherlands.
- One case of *R. solanacearum* was detected during the national survey on potatoes for human consumption for the processing industry in 2019. Tracing carried out after the discovery did not reveal any other cases.
- There were no established cases of potato wart disease in the arable farming sector in 2019.
- Two cases of *Phthorimaea operculella* were detected in imported consignments of potatoes for human consumption, one from Egypt and one from Israel. *Phthorimaea operculella* is not an EU quarantine organism.

Results for fruit & vegetables

The fruit and vegetables sector covers the development of new varieties, global seed production and distribution, plant propagation and the cultivation of fruit and vegetables, outdoors or in greenhouses. Within this sector, plants and seeds are imported from all parts of the world, with distribution taking place throughout Europe and exports going out to every corner of the world.

inspections in the fruit and vegetable sector	number of inspections 2017	number of inspections 2018	number of inspections 2019	rejection due to quarantine organisms 2017	rejection due to quarantine organisms 2018	rejection due to quarantine organisms 2019
Imports	73,705	86,907	78,931	176	273	285
National survey	4,231	429*	544	86	Unkn.	1**
Plant passport	3,819	3,595	3,470	34	29	43
Exports	43,568	Unkn.	40,258	1,103	Unkn.	Unkn.***

** Since 2018, Phytomonitoring inspections of unregulated products by the KCB are no longer included.*

*** Tomato brown rugose fruit virus (ToBRFV) detected at a tomato grower during the national survey with subsequent control measures.*

**** There were 593 recorded cases of insects and mites, 478 cases of nematodes and 4 cases of fungi relating to the export of fruit and vegetables in 2019.*

Unkn. = exact figures unavailable at the time of publication of this report.

In 2019, the key findings in the fruit and vegetables sector were as follows:
- The number of interceptions of quarantine organisms on import in 2019 was similar to 2018, although it should be noted that there were slightly fewer import inspections.
- Most interceptions involved the plant genera *Solanum* (n=60), *Citrus* (n=51), *Capsicum* (n=35) and *Ocimum* (n=26).
- The highest number of interceptions related to the quarantine organisms *Bemisia tabaci* (n=55), *Spodoptera frugiperda* (n=47), *Thrips palmi* (n=38), *Thaumatotibia leucotreta* (n=35) and *Bactrocera* sp. (n=30).
- The countries with the highest number of intercepted consignments were Suriname (n= 96), South Africa (n=27), Israel (n=24), Peru (n=20) and China (n=12).

The first case of ToBRFV was detected at a tomato grower in 2019 in the context of the Phytomonitoring programme. Additional tracing activities were commenced in response to this finding, revealing several infected premises. European emergency measures have applied to this virus since November 2019.

The following regulated organisms were also found during Phytomonitoring in 2019:
- 2x *Liriomyza bryoniae*: Protected Zone quarantine organism in the United Kingdom and Ireland. Detected in cucumber cultivation;
- 1x tomato chlorosis virus (ToCV): quarantine organism up to and including 14 December 2019. Efforts have been made in recent years to control the vector and eliminate the virus during crop rotation;
- 1x plum pox virus: detected in plum cultivation. Regulated organism up to and including 14 December 2019 for plants intended for planting. Deregulated after 14 December and currently has Regulated Non-Quarantine Pest (RNQP) status.

Results for the floristry sector

The floristry sector covers a wide range of products for ornamental horticulture, including propagation material, end products and products at all stages in between. The highly internationalised production chains have close connections between the different links in the chain.

inspections in the floristry sector	number of inspections 2017	number of inspections 2018	number of inspections 2019	rejection due to quarantine organisms 2017	rejection due to quarantine organisms 2018	rejection due to quarantine organisms 2019
Floristry imports	80,545	73,667	82,808	108	216	145
Floristry, national survey	1,247	263	231	10	Unkn.	14
Floristry, plant passport	10,309	13,818*	1,343	8	8	21
Floristry exports	38,999	47,850	50,200	Unkn.	Unkn.	0**

** These data are not comparable from year to year. In 2018, all plant passport inspections were aggregated. In 2017, vegetable crops were excluded but tree nurseries were included. For 2019, the same format has been used as in the Naktuinbouw Annual Report 2019. The table above shows the number of inspections of flower crops and end products.*

*** Based on the available information, no EU quarantine organisms were detected in exports. However, around 300 batches/consignments were rejected by Naktuinbouw due to the presence of an organism. In the context of floristry exports in 2019, 8,099 cases of insects and mites, 19 cases of nematodes, 42 cases of fungi, 5 cases of bacteria and 8 cases of viruses were recorded in the Inter-Administrative Programme (IBP).*

Unkn. = exact figures unavailable at the time of publication of this report.

The key findings for the floristry sector in 2019 were as follows:

- The number of interceptions fell somewhat compared to 2018, but was still higher than in 2017. A large number of the interceptions involved the plant genera *Rosa* (n=74), *Gypsophila* (n=9) & *Dendrobium* (n=6).
- The highest number of interceptions related to the quarantine organisms *Thaumatotibia leucotreta* (n=68), *Bemisia tabaci* (n=23), *Lyriomyza* sp. (n=22) and *Spodoptera* sp. (n=15).
- The countries with the highest number of intercepted consignments were Kenya (n=47), Uganda (n=16), Israel (n=15), Zimbabwe (n=13) and Tanzania (n=13).
- Tobacco ringspot virus (TRSV) was found in 5 batches of *Ajuga* in 2019 in the context of the Phytomonitoring national survey programme. The batches found to be contaminated were destroyed. Given that the vector of this virus, *Xiphinema americanum sensu lato*, does not occur in the Netherlands, there is no risk of horizontal transmission.
- Samples and tested Phlox batches were negative for TRSV and ToRSV (tomato ringspot virus).
- One case of the quarantine organism *Radopholus similis* was detected through the Anthurium survey. This organism was deregulated on 14 December 2019.
- As part of Naktuinbouw's continued import surveillance mandate, a number of regulated organisms were found in ornamental products:
  - 1x *Scirtothrips dorsalis* (in *Podocarpus*), which was quarantine-worthy in 2019 for all plant species intended for planting in the Netherlands. *S. dorsalis* has been an EU IIA quarantine organism since 14 December 2019;
  - 6x *Opogona sacchari* (*Pachira* (3x), *Dracaena* (1x), *Beaucarnea* (1x) & *Ficus* (1x));
  - 1x *Paysandisia archon* (in *Chamaerops*).

Results for flower bulbs

Outdoor cultivation of flower bulbs involves cultivation in open ground, which entails specific risks relating to soil-borne organisms. Other non-soil-borne organisms, such as viruses, are also a threat to the cultivation and global sale of flower bulbs.

inspections of flower bulbs in 2018	number of inspections 2017	number of inspections 2018	number of inspections 2019	rejection due to quarantine organisms 2017	rejection due to quarantine organisms 2018	rejection due to quarantine organisms 2019
Flower bulb imports	581	586	505	0	1	0
Flower bulbs, plant passport	44,926	30,947	Unkn.	81	61	Unkn.
Flower bulb exports	8,244	8,225	8,062	264	212*	165
Flower bulbs, national survey	-	-	30	-	-	1

* *Relates to rejections due to the presence of organisms.*

Unkn. = exact figures unavailable at the time of publication of this report.

- = not specified in reports for 2017 and 2018.

The key phytosanitary findings for the flower bulb sector in 2019 were as follows:
With regard to exports, the two main reasons for rejections were the presence of soil and the presence of fungi (particularly *Fusarium*).

For the lilium survey, soil samples were gathered to be tested for the presence of *Xiphinema americanum* species, which are a vector of various quarantine viruses. The target organism was not found, but one case of *Meloidogyne chitwoodi* was detected.

Results for tree nurseries and green spaces

The tree nursery sector is closely connected with woods, gardens, public plantings and parks in what are referred to as 'green spaces'. Infections in green spaces can have serious consequences for tree nurseries and vice versa.

tree nurseries and green spaces	number in 2017	number in 2018	number in 2019	rejection due to quarantine organisms 2017	rejection due to quarantine organisms 2018	rejection due to quarantine organisms 2019
Tree nurseries, national survey	100	110	67	0	0	0
Tree nurseries, plant passport	9,431	9,423	9,865	48	69	40
Wood packaging materials inspection programme	2,846	1,596	1,460	6	2	3
Green spaces, national surveys	771	849	745	104*	142*	189*

* *Relates to cases of Erwinia amylovora (fire blight) detected in buffer zones outside nurseries*

The key phytosanitary findings for tree nurseries and green spaces in 2019 were as follows:

- Three cases of pine wood nematode (*Bursaphelenchus xylophilus*) were detected in wood packaging materials from Spain (n=2) and China (n=1) as part of the wood packaging materials inspection programme.
- The following regulated organisms were detected during plant passport field inspections at tree nurseries (including perennials) in 2019: *Erwinia amylovora* (30x), Pear decline mycoplasm (5x), *Xanthomonas arboricola pv. pruni*, *Phytophthora ramorum* (2x). The lower number of cases detected in 2019 compared to 2018 can primarily be explained by the fact that around 20 cases of ToRSV/TRSV were detected in *Iris* and *Hemerocallis* in 2018. There were no established cases of ToRSV/TRSV at tree nurseries (including perennials) in 2019. TRSV was, however, found in *Ajuga* (see Inspections in the floristry sector).

- One case of *Aculops fuchsiae* was detected in *Fuchsia* plants in the garden of a hobby grower in response to a report received in 2019. At the time of the report, *Aculops fuchsiae* was a quarantine organism for *Fuchsia* plants intended for planting. All potentially infected plant material was destroyed.
- *Aculops fuchsiae* became a Regulated Non-Quarantine Pest (RNQP) with effect from 14 December 2019, which means that no measures have been imposed in respect of infected material present in private gardens since that date.

Projects in 2019

-

Incidents

The list below shows the incidents that occurred in the plant health domain in 2019. Due to time pressure this is only a brief summary and does not reflect the actual number of incidents, also depending on the definition.
- wood packaging materials: pine wood nematode (PWN) detected at Nippon
- *Aculops fuchsiae* detected in a private garden
- ToBRFV detected at several tomato growers

Impact assessment

No impact assessments were carried out in the plant health domain in 2019.

Actions taken to improve official controls

Recently imported wood packaging materials pose a risk. Inspections in the context of the Wood Packaging Materials Phytomonitoring programme are only conducted at locations that have received recently imported consignments of wood packaging materials.

Naktuinbouw will start to carry out wood packaging material (WPM) controls, which will include inspections at import businesses of the wood packaging accompanying propagating material (for example of consignments of pot plants and tree nursery products in which wooden packaging materials are used).

Actions taken to improve compliance by businesses

Businesses that commit a breach that does not pose a serious phytosanitary risk receive a written warning. This warning imposes an obligation on the recipient to draw up and implement an improvement plan. The NVWA will monitor the quality of the improvement plan. The NVWA or the inspection agency involved supervises implementation by means of a control inspection. A total of 16 written warnings were issued in 2019.

If a business fails to comply with the cultivation regulations, a cease and desist order can be imposed. This occurred twice in 2019. In the event of recurrence of a non-compliance, an official report can be drawn up and submitted to the Public Prosecution Service.

In the event of non-compliance due to forgery of documents (fraud), the case is transferred to the NVWA-IOD. One case was transferred to the NVWA-IOD in 2019.

The SPECS for the plant health domain will be developed further in 2020. In addition, the new legislation that has entered into force makes it possible to impose an administrative fine in the event of a breach. This will ensure that the supervisory bodies (the NVWA and the plant-related inspection agencies) are better equipped to take decisive action when dealing with infringements of phytosanitary laws and regulations.

Conclusions

The number of reports in the floristry sector in 2019 fell slightly compared to 2018. The number of reports in the other sectors appears to have remained relatively constant. It should be noted that the organisms that were often intercepted in 2019 were also intercepted relatively often in 2018, indicating that the current supervision of this flow of goods is still relevant.

The number of quarantine organisms detected as part of the national survey programme was similar to previous years. Most cases detected involved known quarantine organisms such as *Ralstonia solanacearum*, *Meloidogyne chitwoodi*, *Meloidogyne fallax* and TRSV. *Meloidogyne chitwoodi* and *Meloidogyne fallax* have been included in integral tests of seed potatoes since 2019, which is why there was no separate survey to assess seed potatoes this year unlike in previous years. A specific survey may be set up to assess internal traffic of seed potatoes and/or potatoes for human consumption in the years to come.

The first case of ToBRFV was detected in the tomato cultivation sector in the context of the survey programme in 2019. The pest status of ToBRFV has consequently been updated from 'Present' to 'Transient, under eradication'. Emergency measures have applied to ToBRFV since November 2019, and the first case has prompted tracing and eradication activities that will continue into 2020.

Sources consulted

- Europhyt interceptions, Europhyt Outbreaks
- Statistics Netherlands
- Annual reports of NAK, Naktuinbouw, BKD and KCB
- NVWA – IBP import data, Phytomonitoring, Pest status register (06 31)

3.19 Plant protection

Control body or bodies: NVWA, the Dutch Water Boards

List of the main legislation under which inspections were carried out in 2019

EU legislation	
Regulation (EC) No 1107/2009	Placing of plant protection products on the market
Directive 2009/128/EU	Sustainable use of pesticides
Regulation (EC) No 1185/2009	Statistics on pesticides
Directive 2006/42/EC amended by Directive 2009/127/EC	Machinery for pesticide application
Regulation (EC) No 396/2005	Residue levels of pesticides

National legislation

- Plant Protection Products and Biocides Act (*Wet gewasbeschermingsmiddelen en biociden*)
- Plant Protection Products and Biocides Decree (*Besluit gewasbeschermingsmiddelen en biociden*)
- Plant Protection Products and Biocides Regulations (*Regeling gewasbeschermingsmiddelen en biociden*)
- Activities (Environmental Management) Decree (*Activiteitenbesluit milieubeheer*)

Size of the inspection file in 2019

type of business	**number (approx.)**	**hectares (approx.)**
Approval holders	150	N/A
Importers of plant protection products	40	N/A
Trade (products for professional use)	206[1]	N/A
Users of plant protection products:[2]		
• ornamental crops grown in greenhouses[3]	2.330	4.300
• field-scale vegetable production	8.3004	90.010
• outdoor trees and perennial cultivation	2.750	16.700
• arable agriculture	13.270	467.490
• outdoor field-scale fruit cultivation	2.680	20.380
• flower bulbs	1.560	27.220
• vegetables grown in greenhouses	1.220	5.290
• outdoor cultivation of ornamental crops	1.080	3.270

[1] *Source: CDG** list. 173 CDG branches; 33 VKL*** certified branches.*

[2] *Encompasses tree nurseries and tree and perennial cultivation in greenhouses*

*3 Figures from CBS**

4 Also encompasses vegetable growers on arable farms

CBS = Statistics Netherlands

** *CDG = Certification for the distribution of plant protection products (Certificatie distributie in gewasbeschermingsmiddelen)*

*** *VKL = Food Quality Contract Work (Voedselkwaliteit loonwerk)*

Target groups

The supervision by the NVWA is organised according to a knowledge-driven and risk-based approach. A distinction is made between compliance measurements and risk-based projects. The purpose of a compliance measurement is to obtain an overview of a specific target group, as well as to gain an insight into the extent to which the NVWA needs to continue to include this target group in its supervision programme by placing it in a specific risk category. The risk classification is also based on other indicators, however, such as specific reports or specific issues within a particular target group or a particular location, making it a dynamic process. The following risk classification was used at the start of 2019. The 2019 results will be taken into account in the assessment of whether this classification should be carried over to 2020.

high risk	medium risk	low risk
Ornamental crops grown in greenhouses	Tree nurseries	Arable farming
Trade (professional)	Outdoor cultivation of ornamental crops	Field-scale vegetable cultivation
Imports	Fruit cultivation	Approval holders
Plant protection outside of the agricultural sector	Vegetables grown in greenhouses	
Flower bulb cultivation		

This table lists the most important target groups. The classification is based on cultivation or activity type in terms of the plant protection chain.

Certain risks in the cultivation phase are also not directly related to the type of cultivation but instead to other factors, for instance because the plots are located in groundwater protection areas. Inspections will therefore focus on that aspect instead of on the type of cultivation.

The target groups/activities 'trade in products for professional use' and 'imports' are classed as high risk due to the potential impact on the supply chain. As a result of its position in the chain, trade has an effect on the compliance level for all target groups. After all, correct use of a product depends on the provision of the correct information and resources to the users. Given the number of illegal imports observed and the knock-on effects of illegal agents in the rest of the chain, this target group has also been classified as high risk.

Plant protection outside of the agriculture sector has been classified as high risk due to the fact that the inspections in 2017, 2018 and 2019 identified a large number of infringements within this target group.

Inspections

The NVWA uses two types of inspections when supervising users of plant protection products:

- Application inspections: these are inspections in the field at the moment when plant protection products are applied (execution of spraying). These inspections primarily focus on the (exclusive) use of plant protection products authorised in the Netherlands and on compliance with the statutory usage requirements relating to emission mitigation measures that apply in the vicinity of surface water and/or for the protection of non-target organisms. Furthermore, they are used to assess compliance with cross-contamination reduction measures that are included in the (Environmental Management) Activities Decree and apply both to plots adjacent to surface water and plots not adjacent to surface water.
- Business inspections: these are inspections of businesses and their records to check whether growers only use authorised products and comply with the statutory regulations that apply to these products. In addition to a thorough inspection of businesses and their records, inspectors may also take samples for laboratory testing for residues of unauthorised products. This enables the NVWA to determine whether growers have used unauthorised plant protection products and whether they have complied with the instructions on the label. The spraying records are also inspected, including the presence of a qualification certificate.

For inspections of both open-air and protected crops, the NVWA works with other bodies, in particular the Dutch Water Boards. In 2011, a covenant for joint supervision of the import of plant protection products was signed with Dutch Customs.

Supervision of plant protection, results in 2019

	number of inspections	administrative and criminal law settlements	warnings
Approval holders	28	0	4
Importers	134	7	3
Trade	34	13	7
Users of plant protection products:			
• ornamental crops grown in greenhouses	157	38	22
• field-scale vegetable cultivation	78	9	4
• arable agriculture	105	6	12
• field-scale fruit cultivation	6	3	0
• flower bulbs	14	5	1
• plant protection outside of the agricultural sector	99	26	20
• vegetables grown in greenhouses	1	1	0
• other (test exemptions/contract workers/private individuals/livestock farmers)	18	2	0
• outdoor tree nurseries, cultivation of perennials and ornamental crops	27	3	0
Total users of plant protection products	**505**	**93**	**59**
Application inspections	138	34	17
Reports/complaints/incidents	73	11	4
Total results in 2018	**894**	**136**	**90**

A total of 579 samples were taken and tested during these inspections.

The results in the above table are not representative of the Dutch situation as a whole, because, in addition to monitoring, the NVWA also took targeted action based on inadequate compliance, reports and other signs. In other words, the NVWA primarily inspects businesses where a higher probability of infringements is already expected.

The NVWA regularly carries out compliance measurements at cultivation level, which provide a representative picture for a specific type of cultivation. See also under the Cultivation heading.

Re-inspections
In more than 159 inspections, 1 or more aspects that had previously been found to be unacceptable were found to be acceptable after a re-inspection.

Cross-compliance
In 2019, the NVWA carried out 480 cross-compliance inspections, which determined whether good plant protection practices and instructions for use had been followed.

Hygiene Regulation
The compliance measurement for arable agriculture and open-field vegetables included inspections carried out at 69 businesses regarding the hygiene requirements for primary plant production.

In 2019, the NVWA carried out over 1,000 inspections specifically relating to the use of plant protection products and around 500 inspections in which the use of such products was considered in a wider context.

Dutch water boards
Together with the NVWA, the water boards oversee the use of plant protection products near surface water. In 2019, based on their supervision, the water boards submitted 87 reports of findings to the

NVWA for further administrative processing. The results from the water boards are not included in the above table.

Explanatory notes to the results for plant protection

Approval holders
In order to comply with the European obligations in Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market, the NVWA made a risk-based selection of plant protection product case files for 22 approval holders and carried out inspections. This involved the analysis of 50 samples taken from 34 different products (from a number of products with multiple badges/ charges) to check for compliance with the quality requirements. The authorisation decisions for these products were also compared with the text on the label. The analyses of the sampled products did not reveal any irregularities. Due to a lack of specifications or analysis methods, not all physical and chemical parameters and additives could be checked for accuracy.

Testing was performed to fill in these gaps as much as possible. This is a common problem encountered in all EU Member States. Various irregularities were identified in nine different products at seven approval holders during controls on label texts. In the case of three approval holders, this related to minor omissions where an approval following correction was sufficient after remedial measures were carried out. On four occasions, a warning was issued due to multiple major omissions.

A total of 23 samples of plant protection products taken from 6 different approval holders were also tested as part of a parallel approval process. The product samples were taken from distributors' trading stock or during a parallel import inspection (See under 'Imports'). All of these products were tested to ascertain whether they were identical to the reference product by comparing the composition of the product imported in parallel to the composition of the reference product. One sample was found to have a different composition and was identified as a potential imitation/counterfeit product. This investigation is still ongoing. No irregularities were found in the remaining 22 samples.

Imports
In 2019, in collaboration with Dutch Customs, the NVWA inspected 63 containers (sea freight) and 10 air freight consignments (including postal parcels) being imported from third countries that potentially contained plant protection products. Two containers (from China) were found to contain illegal products. In both cases, a report of findings was drawn up with regard to the sale and distribution of unauthorised products. One consignment contained unauthorised biocides destined for Albania. These biocides were destroyed at the offending party's expense. The other consignment contained unauthorised plant protection products. This investigation is still ongoing.

Unauthorised plant protection products or biocides were found in 6 of the 10 air freight consignments inspected. In four cases, an official report or report of findings was drawn up. In addition, six container shipments did not comply with the administrative requirements due to a failure to draw up an automatic transfer provision. A written warning was issued in the case of one consignment. The other cases were handled with an approval following correction after remedial measures were put in place.

The import inspections involved visits to eight current or potential storers of plant protection products, at which physical and administrative checks were performed on the available stock of plant protection products. During these inspections, one report of findings was drawn up in relation to the sale and distribution of unauthorised plant protection products. In addition, one storer had failed to update its registration in good time. This was handled with an approval following correction after remedial measures were put in place.

There were 74 reports of parallel imports of plant protection products in 2019. A physical inspection was carried out for 53 of these reports in relation to the requirements for parallel imports and the sale and distribution of plant protection products. Irregularities were established in the case of six batches of plant protection products imported in parallel. The irregularities related to non-compliance with the record-keeping requirements and/or labelling requirements on the packaging. In four cases, an approval following correction was sufficient after remedial measures were carried out. A written warning was issued in the case of two inspections.

Trade
In 2019, 32 inspections were carried out at businesses selling professional plant protection products to end users and/or other distributors in the context of the trade project. A further two inspections were conducted of natural persons who were involved in the sale of unauthorised plant protection products via the internet. These inspections were carried out based on a selection in response to reports or findings from other inspections within the Plant Protection domain. Infringements were identified during 23 inspections, relating to the stocking of products for sale, the supply of products, administrative obligations and/or advertising plant protection products.

Most infringements related to the stocking or sale of products that were unauthorised or no longer authorised or products bearing outdated label texts (W code) on the packaging. A number of business had also sold Dutch products to end users in another EU Member State. A total of 13 businesses that had committed this infringement were the subject of an official report (2) or a report of findings (11). It must be noted that seven reports of findings were drawn up on the basis of a single inspection at a business selling unauthorised products, and six inspections were subsequently conducted at suppliers of these products. The remaining nine businesses received a written warning (7) as a result of these infringements, or an approval following correction was deemed sufficient (3).

Cultivation
The Plant Protection domain encompasses various target groups (see the Target Groups table). The aim is to carry out a compliance measurement for each target group once every four years. A compliance measurement on the use of products in arable agriculture and open-field vegetables was carried out in 2019 (183 inspections). The compliance rate in arable agriculture and open-field vegetables based on fine reports and warnings was 83%. This is slightly lower than the previous compliance measurements in 2013 and 2015, which saw a compliance rate based on fine reports and warnings of 86%.

Most infringements related to use. In six cases, the non-compliance involved the use of products that were not authorised for cultivation. In another six cases, the non-compliance involved the use of a product that was not or no longer authorised in the Netherlands. Fine reports were issued in these 12 cases. A total of eight cases involved breaches of the statutory provisions in relation to product use, including overdosage, too frequent application and failure to observe the minimum spraying interval. These findings resulted in the issuing of one fine report and seven written warnings.

Some businesses (30%) were found to be stocking some expired products. After the surrender of these products, these inspections were concluded with an approval following correction. None of the inspections uncovered any irregularities in relation to qualification certificates. A few irregularities were found with regard to the registration of plant protection products, the plant protection monitor and due care. Most of these infringements could be rectified, and the inspections were concluded with an approval following correction.

The outdoor use of the three neonicotinoids clothianidin, imidacloprid and thiamethoxam has been banned in Europe since 19 December 2018. The reason behind this ban is the risk to the bee population. The three substances were mainly used as seed treatments in various arable and open-field vegetable crops. In certain types of cultivation, the substances were a key component of plant protection products due to their broad effect and long period of action. A specific focus was placed on the use of these three neonicotinoids during inspections. Crop, soil or harvested product samples were therefore collected at the majority of businesses and analysed for the presence of the three neonicotinoids. In 2 of the 133 samples gathered (1.5%), 1 of the 3 neonicotinoids was detected.

Based on a journal publication and a report, 15 targeted inspections were carried out in 2019 of the use of formaldehyde during the disinfection of flower bulbs. The use of formaldehyde was detected in seven cases. These seven inspections led to administrative and criminal-law settlements. The results of these inspections show that the unauthorised use of formaldehyde by flower bulb producers still needs to be addressed.

A project focusing on ornamental crops grown in greenhouses was carried out in 2019, involving 155 inspections. Three target groups were inspected during the project:
- producers of cut flowers
- producers of pot plants, tree nursery plants and perennials
- businesses found to be non-compliant in previous checks ('non-compliers')

Of the businesses inspected in the cut flower sector, 40% were subject to an enforcement measure in the form of a fine report or a warning. For businesses in the pot plant, tree nursery plant and perennial sectors, this percentage was 43%. The percentage for non-compliers was 25%. Among the non-compliers, 17 of the businesses inspected were orchid growers previously issued with a fine report due to unauthorised use of chlorpyrifos in bark.[5] Orchid bark samples were taken from all these businesses. Chlorpyrifos was detected in nine samples. Fine reports were issued in two cases. In seven cases, the sample results revealed a low level of the substance.

For the three target groups combined, most non-compliances identified related to the use of plant protection products. The majority of infringements, 62%, involved insecticides. There were 11 cases that involved products containing spirotetramat, 9 cases with products containing indoxacarb and 7 cases with products containing abamectin. In many cases, such as those involving spirotetramat and abamectin, the infringement related to the excessive application of an active substance.

Plant protection outside of the agricultural sector
In response to the ban on the use of plant protection products outside of the agricultural sector by professional users, the NVWA implemented an inspection programme. Three types of businesses were visited as part of this programme in 2019, namely:
- businesses located in business parks
- gardening companies with Internet texts that indicate the potential use of plant protection products
- amusement parks

A total of 13 business parks were visited and inspected for visible signs of dying weeds and/or possible use of chemical weed control. At five of these parks, a count was performed of the number of sites or locations where signs of dying weeds and/or possible use of chemical weed control were observed. The counts revealed visible signs of use at 22% of the businesses located at business parks. This is merely an indication of possible use of chemical products, as dying weeds can be due to other causes such as burning or steaming.

The businesses located at the business parks with the clearest signs were visited. Inspections were carried out at 52 businesses. At 34 of the 52 businesses, a written warning or report on findings was issued in relation to the unauthorised use of chemical weed control products on hard surfaces. Many cases involved the use of glyphosate. A total of 25 of the 34 offending parties (74%) were found to be completely unaware (21) or not sufficiently aware (4) of the ban on the use of plant protection products or the restrictions on use. This is in line with the findings in 2017 and 2018. Of the offending parties, 77% were found to be completely unaware or not sufficiently aware of the ban in 2017 and 74% in 2018.

Visits were paid to 13 gardening companies with Internet texts that indicated the potential use of chemical products. A written warning or report of findings was issued to 5 of the 13 businesses: three due to the use of plant protection products to control weeds; one due to the stocking of products from abroad; and one due to incomplete spraying records. Visits were paid to 17 amusement parks and 2 race circuits. At 2 of the 17 amusement parks (12%) a report of findings was issued due to the use of glyphosate on weeds.

A business that was selling a hard surface cleaner was inspected on the basis of a report. Enquiries among 10 gardening companies revealed that the business was advertising and marketing the hard surface cleaner as a weed control product.

[5] Bark: substrate for orchids

A report of findings was drawn up against the business in relation to the sale and distribution of an unauthorised plant protection product.

Whenever inspectors, whilst on the road, encounter someone applying plant protection products or observe signs that plant protection products are being used, an inspection is carried out if appropriate. In 2019, 17 application inspections were carried out on the use of plant protection products outside of the agricultural sector. In nine instances, these inspections resulted in the issuing of a written warning or report of findings in relation to the unauthorised use of chemical weed control products on hard surfaces.

Inspections affecting all target groups

Application inspections
In 2019, 138 inspections were carried out during the application of plant protection products. This concerned 88 instances of downward spraying, 26 instances of upward and lateral spraying, 17 applications outside of the agricultural sector and 7 other applications. Based on fine reports and warnings, the compliance rate with downward, upward and lateral spraying was 67%. The majority of infringements (23, equivalent to 61%) related to non-compliance with the required spray drift mitigation measures. In the case of downward spraying, there were 13 instances in which spraying was carried out alongside surface water without using an end nozzle. In downward, upward and lateral spraying, there were 10 instances in which there was a failure to use a technology that meets the minimum standard for drift reduction.

Other infringements related to the absence of a correct qualification certificate (spraying licence), spraying using unapproved equipment, spraying using unauthorised products and various breaches of the statutory instructions for use. The low compliance rate of 67% is grounds for a further analysis of how compliance can be improved.

A total of seven inspections were conducted in relation to other applications. This included the application of plant protection products during potato planting, the use of artificial fertiliser, the application of foliar feeds using a field sprayer and the sowing of seeds coated with plant protection products. Warnings were issued during two inspections.

The 17 application inspections outside the agricultural sector have already been described in the previous section.

Plant protection monitor
Growers are required to keep an up-to-date plant protection monitor, recording information such as the pests and diseases they have encountered and the measures they have taken. This can be the use of plant protection products or other types of measures. A total of 325 inspections were conducted on the presence of the plant protection monitor. Non-compliances were found in 31 cases (10%). The monitor was absent in almost all of these cases. These results are similar to the previous year, in which 10% of the inspections found non-compliance.

Certification of spraying equipment
In the application inspections, the inspectors also looked at whether the spraying equipment was certified.
The equipment was found to be uncertified in eight cases.

Reports

In 2019, the NVWA received 321 reports via the NVWA notification system containing the subject/description plant protection products or pesticides. These reports can be divided into the following categories.

category	number of reports
Local residents	71
Bee mortality	27
Imports	74
Use	116
Trade	33

Of the 321 reports, 220 reports did not lead to a plant protection inspection. The reasons for not launching an inspection may relate to lack of sufficient information, insufficient reasons to suspect a violation and/or the responsibility for the follow-up of the report not lying within the remit of plant protection enforcement. Where applicable, the report is carried over to a different domain in such cases. Reports regarding imports have already been covered in the chapter on imports.

Of the 71 reports from neighbours, 11 were related to health complaints or concerns about the effects of the spraying on their health. One report from the latter category was investigated. No breaches were identified. Cases of physical health complaints or concerns were referred to the GGD (Municipal Health Service). The other 60 reports related to public nuisance, failure to exercise due care or potential damage as a result of an application. Of these reports, nine were investigated. No breaches were identified during any of the nine investigations.

In 2019, the NVWA received 27 reports on the topic of bee mortality. Of these, 10 prompted an investigation into whether the bee mortality was connected to the possible use or incorrect use of plant protection products. Investigation of nine of these reports failed to prove that bee mortality was due to the use of plant protection products, and this mortality was instead attributed to other (suspected) causes. One report concerned the deaths of hundreds of thousands of bees. A sample was taken of the bees to which this report related, in which the active substance fipronil was detected. Plant protection products containing fipronil have been banned since 2007 and, due to their toxicity to bees, can only be used in greenhouses. Investigation revealed that a tree grower had used a plant protection product containing fipronil on plants in the field.

During a search at the tree grower's business, fipronil was found that had been supplied by a cultivation consultant. Official reports were drawn up against both the tree grower and the cultivation consultant. A similar case occurred in 2016, in which mass bee death was observed due to the use of fipronil. The other 17 reports that were not investigated merely related to a small number of dead bees or bumblebees, and there was no direct link to plant protection products whatsoever.

There were 116 reports in relation to the use of plant protection products. Of these, 109 enquired as to whether a legal violation had occurred. Of these reports, 11 were investigated, and 2 fine reports were drawn up. A total of three reports were received regarding the possible use of herbicides on the roadside, two of which were investigated. No infringements were observed in relation to these reports. There were four reports regarding instances in which use of plant protection products may have resulted in damage to nature or the environment. None of these reports were investigated.

Regarding the trade of plant protection products, some 33 reports were submitted, with 24 reports relating to Internet sales. None of the reports were investigated. In the case of 13 reports relating to Internet sales, this related to the sale of plant protection products via Facebook. Enforcement via Facebook in the field of plant protection is currently under development. The NVWA is engaged in talks with Facebook to explore the possibilities.

In response to reports received in 2017, a visit was paid to a business that was trading an unauthorised plant protection product to control box tree moth. The business in question was issued a warning in 2017, but it emerged in 2018 that the business

had not stopped trading in the product after receiving the warning. This prompted a large-scale investigation, which was completed in 2019 and revealed that the business had traded in the unauthorised products on a large scale at a financial gain of more than €250,000. The business was subject to criminal prosecution.

Actions taken to improve compliance

The 2019 inspections show that, as in previous years, most infringements are committed in relation to the use of products that are banned from use in cultivation. Growers require a sufficient products and measures package. This is seen as a crucial prerequisite for improving compliance among growers. In 2019, the NVWA continued to work hard at both a national and international level to identify and improve the accessibility of plant protection products. Its actions included dispensing advice with regard to small-scale applications and determining the agricultural necessity for the granting of exemptions for use.

The 2016 and 2017 inspections showed that the plant protection monitor was often not or insufficiently updated. In 2017, 2018 and 2019, the NVWA explored the possibilities of increasing the practical value of the plant protection monitor.

In recent years, there has been a noticeable increase in the trade and use of green products, including biostimulants and basic substances. There is a significant lack of clarity on the matter, and producers have a lot of questions about green products. In 2018, a project was launched within the NVWA to develop an enforcement approach for green products, which was still ongoing in 2019. The aim of the project is to provide guidelines on how to handle green products in the context of enforcement.

Conclusions

The NVWA carries out supervision according to a knowledge-driven and risk-based approach. The following conclusions can be drawn with regard to these activities in terms of the results in 2019 and their impact on the programme in the years ahead.

A large number of irregularities were found in relation to the trade of plant protection products. Consequently, the NVWA continues to assess this activity as high risk and to structure its supervision accordingly.

A compliance measurement in arable agriculture and open-field vegetables was carried out in 2019 (183 inspections). The compliance rate in arable agriculture and open-field vegetables based on fine reports and warnings was 83%. This is lower than the previous compliance measurements in 2013 and 2015, which saw a compliance rate based on fine reports and warnings of 86%. However, there was only a small decline. The NVWA therefore does not feel that a change to the risk classification is justified for this sector.

Most infringements related to use. A total of 133 samples were taken, which were also analysed for the presence of the three neonicotinoids clothianidin, imidacloprid and thiamethoxam. The outdoor use of the three neonicotinoids clothianidin, imidacloprid and thiamethoxam has been banned in Europe since 19 December 2018. One of the three neonicotinoids was detected in two samples (1.5%), a sign that the illegal use of these substances has also been all but eradicated. The NVWA will continue to monitor the presence of prohibited substances.

It was noted in 2018 that compliance in the flower bulb sector had risen overall compared to a previous compliance measurement, but certain aspects of this sector still required attention. In 2019, 15 targeted inspections were therefore conducted on the use of formaldehyde during the disinfection of flower bulbs. The use of formaldehyde was detected in seven cases, indicating that this issue still needs to be addressed.

Compliance in the ornamental cultivation sector was low in 2019: 60% for cut flowers, 57% for pot plants, tree nursery plants and perennials and 75% for non-compliers. The majority of infringements, 62%, involved insecticides. The NVWA will therefore continue its supervision within this sector according to a risk-oriented approach in order to improve compliance. The possibility of using other instruments to boost compliance will also be explored.

In 2019, in response to the ban on the use of plant protection products outside of the agricultural sector by professional users, the NVWA conducted risk-based inspections at 52 businesses located in business parks. A written warning or report of findings was issued to 34 of the 52 businesses. The NVWA feels that these results point to insufficient compliance. The 2017 compliance measurement had already revealed a low rate of compliance. Again, the NVWA will continue its supervision in this sector according to a risk-based approach in an attempt to improve compliance. The possibility of using other enforcement instruments to boost compliance will also be explored here.

Only one case of mass bee death due to the use of a prohibited substance was identified in 2019. The NVWA will continue to conduct bee death inspections due to the major impact of such incidents.

Finally, 138 inspections were carried out in 2019 during the application of plant protection products. Based on fine reports and warnings, the compliance rate with downward, upward and lateral spraying was 67%. Failure to exercise due care during spraying can lead to risks to humans (the user and local residents) and the environment. This low rate of compliance requires robust follow-up in the years to come.

The general conclusion is that compliance within some target groups was too low and, in some cases, repeatedly too low. The rate of compliance in the arable agriculture sector was high and similar to a previous measurement. These findings give direction as to where the NVWA should focus its supervision activities.

3.20 Organic products

Control body or bodies: Skal Biocontrol

List of the main legislation under which controls were carried out in 2019

EU legislation	
Council Regulation (EC) No 834/2007, Commission Regulation (EC) No 889/2008	Basic legislation, rules for implementation
Commission Regulation (EC) No 1235/2008	Arrangements for imports

National legislation

Section 15 of the Agricultural Quality Decree 2007 (*Landbouwkwaliteitsbesluit 2007*):
Skal Biocontrol is the authority as referred to under Article 27.4.(a) of Council Regulation (EC) No 834/2007 and is entrusted with:

a. supervising compliance with the rules laid down in or pursuant to this decree with regard to organic production methods and the production methods designated as equivalent by ministerial regulation
b. keeping the records referred to in Article 28 of Council Regulation (EC) No 834/2007
c. other implementation activities required for the proper implementation of the abovementioned regulation

Size of the control file in 2019

type of business	**number**
Agricultural businesses	2,067
Food manufacturers, importers, trading and storage establishments	3,174
Total number of businesses	**5,241**

Supervision of organic products, results in 2019

supervision of organic production	**number**
Annual inspections	5,951
Additional risk-based visits	1,447
Measures relating to products	28
Number of businesses suspended	3
Number of businesses whose organic certificate was revoked	8

types of inspections	**number**
Permit inspections	662
Expansion as a result of a broader scope	1,104
Annual inspections	5,289
Re-inspections	343
Targeted inspections	216
Sampling by inspectors	673
Total	**8,287**

Reference to specific reports

Jaarverslag Skal 2019 (Skal Biocontrol Annual Report 2019), published on 15 March 2020.

Explanatory notes to the results for organic products in 2019
Every business wishing to produce, process, package, import, trade in or store organic products must be certified by Skal Biocontrol to do so. Skal Biocontrol oversees the entire organic supply chain in the Netherlands. A component of certification is a compulsory annual inspection of all organic establishments. During the annual inspection, Skal Biocontrol determines whether the business still meets the conditions. All organic businesses were subject to a permit inspection or annual inspection by Skal Biocontrol in 2019. Consequently, Skal Biocontrol has met its statutory obligation to inspect all organic businesses on an annual basis. On average, Skal Biocontrol inspectors made 1.5 visits to organic businesses in 2019.

Skal Biocontrol adheres to a clearly structured non-compliance system aimed at promoting compliance with all of the standard elements set out in the laws and regulations governing organic production.

A minor non-compliance is a small deviation from the rules that does not impact on the product but still needs to be addressed. The non-compliance has been rectified if the business has corrected the process and the remedial measures have been verified by Skal Biocontrol. For a minor non-compliance, this usually occurs at the annual inspection in the next calendar year. In 2019, 3,355 minor non-compliances were established at 1,871 businesses; 343 more minor non-compliances than the total of 3,012 in 2018. Although the number of minor non-compliances rose in absolute terms, the percentage of businesses with minor non-compliances fell to 29% compared to 34% in 2018. A total of 3,214 minor non-compliances were rectified and therefore closed in 2019. A proportion of these closed non-compliances were identified during inspections in 2018.

A serious non-compliance can be either a repeated minor non-compliance or a one-off non-compliance that could affect the organic process. The certificate holder is granted a rectification period in which to rectify the observed non-compliance. If the problem is not rectified within the rectification period, then the non-compliance may be upgraded to critical. In many cases, an additional re-inspection is carried out at the registered party's expense to check that serious non-compliances have been rectified. The aim of this strategy is to promote compliance.

In 2019, 1,166 serious non-compliances were observed at 786 businesses. A total of 106 critical non-compliances were also established in 2019. The percentage of registered businesses with a critical non-compliance was higher at 1.8% compared to 1% in 2017 and 2018. Four businesses had their organic certification temporarily suspended. Eight businesses had their organic certification revoked in 2019. The same applied to two plots. In addition, Skal Biocontrol revoked the organic status of 28 batches of products for reasons including failure to adequately demonstrate that the products were organic.

Risk-based supervision

As well as being responsible for the certification of all businesses that sell and distribute organic products, as the control authority, Skal is also the supervisory authority for the organic sector. This oversight encompasses a range of activities in addition to the certification process. As with certification, the aim of supervision is to promote compliance with the legislation. In terms of supervision, additional inspections, crosschecks and sampling specifically focus on high-risk themes.
Skal Biocontrol assigns a risk score to each economic operator.

Producing a risk model and determining the risk score is a legal requirement. In 2019, Skal Biocontrol carried out targeted inspections at 120 businesses with a high risk score. Skal Biocontrol conducted in-depth administrative inspections at five high-risk businesses.
In the area of plant protection, Skal Biocontrol supervises the use of unauthorised plant protection products. A total of 98 targeted inspections were carried out and 112 samples were collected in this context. Residues were found in 17 of these samples. Skal Biocontrol conducted further investigations into the batches in question. In the case of one business, the results led to the strong suspicion that the residue detected was due to active use. The business decided to terminate its organic certification.

Projects in 2019

Focus on imports
In 2019, Skal Biocontrol placed a special focus on the reliability of organic imports. In 2018, almost 1,015 million kg of organic products were imported by economic operators in the Netherlands. More than 922 million kg was cleared by Dutch Customs. The scale of this flow of goods is the reason why imports are a key area when it comes to supervision of the organic sector in the Netherlands. In 2019, 100 unannounced inspections were conducted of importers and first consignees. The focus of these inspections was the processing of the digital import certificate in the TRACES NT information system. There was a high rate of non-compliance. More than 40% of the importers and over 50% of first consignees were found to have irregularities in this area. Skal Biocontrol has concluded that three years of enhanced supervision of TRACES NT have not led to an improvement in compliance behaviour with regard to the correct processing of the digital import certificate in TRACES NT.

To improve compliance behaviour, Skal Biocontrol will adapt its current information provision where necessary. The structure of the permit inspection will also be reviewed. In 2019, 120 samplings were carried out of imported organic products. The percentage of samples containing residues was higher than in 2018 (10% non-compliant in 2019 compared to 7% in 2018).

Supermarket inspection pilot project
The rules governing sales to final consumers are set to change with the introduction of the new Regulation (EU) 2018/848 on 1 January 2021. Businesses that sell pre-packed organic products directly to the final consumer or end user will be exempt from mandatory notification and certification. There is limited scope for exemptions for the sale of unpackaged organic products to final consumers. Under the current European regulations, the Netherlands takes advantage of the option to exempt retailers who sell directly to final consumers from the requirement to hold a certificate. In preparation for the necessary changes, Skal Biocontrol carried out 32 store inspections in 2019 to gain a better understanding of the risks in this sector.

Skal Biocontrol has reached the conclusion that, although stores and supermarkets selling organic products take measures to prevent the mixing of standard and organic products, the risk of this occurring remains high. One of the reasons for this is a lack of supervision by the retailers themselves and training on the part of store employees. Another reason is the absence of incoming goods inspections focusing on the organic status of the products purchased. Unpackaged products and products that undergo further processing in store, such as cut meat products and cheese, are at particularly high risk of becoming confused with standard products. Skal Biocontrol is using the results of these inspections to develop its supervision strategy for stores and supermarkets.

Actions taken to improve official controls

Cross-sector plans for supervision
A sector-oriented approach makes it possible to organise the supervision of organic production more effectively, focusing on the risks associated with the specific sector. After producing cross-sector plans for web shops and imports in 2018, Skal Biocontrol began to develop cross-sector plans for dairy and arable farming in 2019. These plans will be completed in 2020.

Actions taken to improve compliance by businesses

Mijn.Skal.nl
2019 saw the further roll-out of the customer zone Mijn.Skal.nl. The new customer zone offers an extended range of customer services. Mijn.Skal.nl makes it easier for registered businesses to comply.

Use of 'bio' in the company name
In 2019, Skal Biocontrol started to supervise the use of references to organic production in company and product names. Businesses that were not certified by Skal Biocontrol and that used the words 'eco' or 'bio' (short for '*biologisch*', the Dutch word for 'organic') in their company name were contacted. These businesses have until 1 January 2021 to ensure that the products sold under their current company name are organic or to launch conventional products under a different company name.

Conclusions

Skal Biocontrol inspected 100% of organic businesses in 2019, while also implementing its supervision programme in full. The Skal Biocontrol inspections once again revealed that the vast majority of organic businesses complied with the statutory regulations in 2019. These businesses had their organic certificates extended or renewed, and newly-registered businesses received their first organic certificate. Regulatory compliance by organic businesses is a favourable indication of the reliability of the Dutch organic product.

Skal Biocontrol conducted additional inspections of importers in 2019 in relation to the processing of digital import certificates in the TRACES NT information system. Skal Biocontrol has concluded that enhanced supervision of TRACES NT has not led to an improvement in compliance behaviour with regard to the correct processing of the digital import certificates in TRACES NT. To improve compliance, Skal Biocontrol will adapt its current information provision where necessary. The structure of the importer permit inspection will also be reviewed.

3.21 Protected designation of origin (PDO), protected geographical indication (PGI) and traditional specialities guaranteed (TSG)

Control body or bodies: COKZ, KCB and NVWA

List of the main legislation under which controls were carried out in 2019

EU legislation	
Regulation (EU) No 1151/2012	Quality schemes for agricultural products and foodstuffs
Commission Delegated Regulation (EU) No 664/2014	The establishment of the Union symbols for protected designations of origin, protected geographical indications and traditional specialities guaranteed
Commission Implementing Regulation (EU) No 668/2014	Laying down rules for the application of Regulation (EU) No 1151/2012

National legislation

Animals Act (*Wet dieren*):

- Animal Products Decree (*Besluit dierlijke producten*)
- Regulation on Animal Products (*Regeling dierlijke producten*)

Size of the control file in 2019

type of business	
Producers, importers and trading and storage businesses of cheese with a protected designation	
• Industrial processors of PDO and/or PGI cheese	17
• Processors of Dutch farmhouse cheese (TSG) and/or Boeren-Leidse met sleutels (PDO)	230
• Subsequent processors of PDO, PGI and/or TSG cheese	92
Total	**339**

Monitoring of PDO, PGI and TSG cheese, results in 2019

results	**number**
COKZ inspections of cheese with a protected designation	
• Industrial processors of PDO and/or PGI cheese	138
• Sub-inspection I (PDO and PGI)	5,003
• Processors of Dutch farmhouse cheese (TSG) and/or Boeren-Leidse met sleutels (PDO)	330
• Subsequent processors of PDO, PGI and/or TSG cheese	113
• Sub-inspections II and III (PDO and PGI)	1,802
Samples/analyses of cheese with a protected designation	
• Industrial processors of PDO and/or PGI cheese	
- Microbiological analyses	911
- Phosphatase activity	109
- Composition analysis	5,368
• Processors of Dutch farmhouse cheese (TSG) and/or Boeren-Leidse met sleutels (PDO)	
- Composition analysis	484
- Phosphatase	153
• Subsequent processors of PDO, PGI and/or TSG cheese	
- Microorganic investigation	81
- Additives (cheese rind treatment)	94
- Phosphatase activity	56

Explanatory notes to the results of controls on PDO, PGI and TSG cheese

General
Under the regulations passed in the context of the Animals Act (the Animal Products Decree and the Regulation on Animal Products), the COKZ is mandated to carry out supervision in relation to the cheese varieties named in these regulations. In the context of this report, this includes the cheese varieties prepared in the Netherlands for which rules have been set in or pursuant to Regulation (EU) No 1151/2012 of the European Parliament and of the Council of 21 November 2012 on quality schemes for agricultural products and foodstuffs, namely:

- Gouda Holland and Edam Holland (both PGI cheeses) and Noord-Hollandse Gouda (PDO)
- (note: Noord-Hollandse Edammer, Kanterkaas, Kanternagelkaas and Kanterkomijnekaas are not currently being produced)
- Dutch farmhouse cheese (Boerenkaas) (TSG) and Boeren-Leidse met sleutels (PDO)
- Dutch Goat Cheese (BGA)

The COKZ performs its supervision duties using product-specific control regulations that are drawn up by the COKZ and approved by the Minister or control policy adopted in another way that has been made known to the parties being supervised.

Industrial processors of PDO and/or PGI cheese
The vast majority of naturally matured Gouda cheese and, increasingly, naturally matured Edam cheese is marketed under the respective EU-protected geographical indications (PGI) Gouda Holland and Edam Holland. Since 2016, goat cheese has also been produced and traded under the protected designation Hollandse geitenkaas (BGA). In addition, certain Gouda cheese produced in the Province of North Holland is marketed under the EU-protected designation of origin (PDO) Noord-Hollandse Gouda.

In total, there are 17 different industrial processors of PDO and/or PGI cheese:

- 14 producers of Gouda Holland and/or Edam Holland
- 2 producers of Noord-Hollandse Gouda
- 4 producers of Dutch Goat Cheese

The 14 processors of Gouda Holland and/or Edam Holland include 1 business that also produces Noord-Hollandse Gouda. Of these 14 processors, 2 also produce Dutch Goat Cheese. Finally, there are two processors that solely produce Dutch Goat Cheese.

Noord-Hollandse Gouda PDO
The product specifications for Noord-Hollandse Gouda were adopted in 1997. There are 2 initial processors and 24 subsequent processors of Noord-Hollandse Gouda.

In the fourth quarter of 2018, controls were expanded to a frequency that corresponds to the frequencies traditionally laid down in the product specifications via a trial period. This programme was then implemented in full in 2019. The system is similar to that used for Gouda Holland PGI, which is also based on traditionally applied controls.

The two initial processors of Noord-Hollandse Gouda were subject to seven controls on compliance with process requirements in 2019. At one of the processors, it was established that the prescribed maturing temperature had not been observed on multiple occasions. Stricter enforcement measures will be imposed in this context in 2020. One processor had failed to apply a specific casein mark. Liaison with the processor in question and the Ministry of Agriculture, Nature and Food Quality should provide a basis for better enforcement in this case.

Each processing location was also inspected to check that the dairy raw materials used in making the Noord-Hollandse Gouda came exclusively from North Holland. If non-North Holland milk was received, the procedures to separate the North Holland and non-North Holland milk, and compliance with these procedures, were assessed. During these administrative controls, the mass balance of the incoming milk from North Holland and the resulting Noord-Hollandse Gouda produced from that milk was also verified.

Gouda Holland and Edam Holland PGI
The designations Gouda Holland and Edam Holland have been protected under European law as geographical indications (PGI) since 24 December 2010 at the request of the Dutch Dairy Association (NZO). The basis for this protection can be found in the product specifications with the same names, which were approved by the European Commission on 2 December 2010.
These specifications include a stipulation that the milk used for Gouda Holland and Edam Holland must be produced in the Netherlands and that the cheese must mature naturally.

Initial processors of Gouda Holland (PGI) and Edam Holland (PGI)
In 2019, 6 companies with 14 production locations between them were operating as initial processors producing Gouda Holland (PGI) or Edam Holland (PGI). The standard control programme for PGI cheese includes nine control visits per quarter. Every quarter, up to 150 samples are taken to analyse the composition and pasteurisation of the cheese milk. Furthermore, samples are analysed at a specific frequency for microbiological aspects and nitrate, and the brine is analysed.

When samples are taken for composition analysis, the 'first sub-inspection' is performed at the same time. During this 'Sub-inspection I', the following requirements laid down in the product specifications are checked: the cheese mark used, maturing temperature, pH, shape, appearance, rind, the dairy, including consistency, colour and hole formation, the smell and flavour and the designation of the cheese. All initial processors are also inspected with regard to use of the correct rennet and starter culture and correct use of the PGI cheese mark, among other matters. No deficiencies were detected during these inspections.

The administrative control on the origin of the milk used in the production of the cheese takes place once each year. At each production location, a mass balance is used to compare all farm milk received with the amounts of cheese and PGI cheese produced. If non-Dutch milk is also received, the procedures to separate the Dutch milk and non-Dutch milk, and compliance with these procedures, are assessed. Traceability tests are used to verify whether PGI cheese is produced from Dutch milk. The annual check was carried out at all 14 processing locations in 2019.

During inspections at 2 processing sites, it was discovered that the milk was older than 72 hours after milking. The businesses involved changed their logistics process for milk collection to ensure that the milk will comply with the minimum freshness requirements in future. At one processing site, the milk was found to have come from non-Dutch dairy farmers. This infringement was put before the disciplinary tribunal. The business took corrective measures to prevent the situation from recurring.

Initial processors of PGI cheese can opt for partial self assessment. In this case, provided they use a COKZ-approved quality assurance system and once they have obtained permission from the COKZ, they become responsible for taking and analysing (or arranging for analysis of) two-thirds of the samples (100 samples) out of the minimum number of 150 samples that are to be taken for analysis each quarter. The analyses to be carried out by the business include, at a minimum, analysis of the composition and pasteurisation of the cheese milk. If warranted by its own supervision results, the COKZ can withdraw permission for partial self assessment.

In 2019, the COKZ carried out 100% of the controls at 7 processing locations of the 14 initial processors of Gouda Holland and/or Edam Holland in 1 or more quarters.

Regarding the moisture content of the Gouda Holland and Edam Holland, eight processors were found to have serious violations so as to warrant flagging for excessively high moisture content in one or more quarters. High moisture content was the cause of 99 infringements out of a total of 357 infringements across all businesses. The sanctions handed down by the disciplinary tribunal were in line with the proposals.

Regarding infringements relating to the fat content in the dry matter of the Gouda Holland and Edam Holland, 12 processors were found to have serious violations so as to warrant excessively high fat content being brought before the disciplinary tribunal in one or more quarters. This involved a total of 128 infringements of the total 209 infringements identified. Yet again, the sanctions handed down by the disciplinary tribunal were in line with the proposals.

Subsequent processors of Gouda Holland (PGI) and Edam Holland (PGI)
PGI cheese is inspected at the age of approximately 28 days (sub-inspection II) at the subsequent processors' premises. Sub-inspection II concerns the shape, appearance, rind, dairy, smell/flavour, cheese mark and maturing temperature. Sub-inspection III occurs when the cheese is delivered. In this random sub-inspection, the testing is supplemented by a control on the correct use of the Gouda Holland or Edam Holland designation. It is particularly important that, when the cheese is cut, it can be demonstrated that the cheese used is actually PGI cheese.

Inspections of subsequent processors uncovered six cases in 2019 in which the cheese did not comply with the minimum prescribed maturity period. These deficiencies, which were observed at one business, were in five cases referred to the disciplinary tribunal.

The deficiencies most frequently identified during sub-inspections I, II and III related to hole formation. In six cases, the cheese was rejected. However, these incidents involved minor irregularities that did not warrant or need to be put before the disciplinary tribunal.

Dutch Goat Cheese PGI
There are four producers in the Netherlands engaged in industrial production of the protected cheese variety Dutch Goat Cheese, or '*Hollandse geitenkaas*'. Dutch Goat Cheese is a traditional, geographical designation for a semi-hard cheese produced in the Netherlands and matured naturally or in foil. The cheese is prepared in accordance with a centuries-old production process for Gouda cheese. The milk originates exclusively from goat farms located in the Netherlands.
Dutch Goat Cheese must mature naturally for at least 25 days, allowing a rind to form, or be matured in foil packaging as a rindless cheese to create a product ready for the consumer. The associated product specifications, submitted to the European Commission by the Dutch Goat Milk Association (NGZO), were officially registered by the European Commission in May 2015.

With regard to the fat content of the dry matter, six infringements were identified at one initial processor of Dutch Goat Cheese. These incidents were referred to the disciplinary tribunal and involved a lower fat content than stated.

The various sub-inspections are also performed in relation to Dutch Goat Cheese. The first sub-inspection is performed on the premises of the producers. The second sub-inspection is performed on the premises of the subsequent processors, and the third at the time of delivery. No irregularities were observed during any of these sub-inspections.

Dutch farmhouse cheese TSG
The product specifications for Dutch farmhouse cheese were adopted in 2007. This cheese is made on the farm from raw milk largely supplied by the farm's own cows.

Supervision of this sub-sector revealed that, in 2019, there were around 220 active Dutch farmhouse cheese producers and 48 active subsequent processors of Dutch farmhouse cheese. The latter group is mainly involved in storing Dutch farmhouse cheese for maturing.

The majority of the Dutch farmhouse cheese inspected complied with the relevant requirements. The infringements identified mainly related to the fat content of the dry matter (4) and the moisture content (3). No fine regulations are in force for moisture content infringements. These infringements were dealt with by issuing a warning.
Three of the four infringements concerning fat content related to cheese that was designated as Dutch farmhouse cheese without any further statement of variety, such as 'Gouda', 'Leidse' or 'made from sheep's milk'. The Dutch farmhouse cheese product specifications do not contain a list of specific composition requirements for such Dutch farmhouse cheese. For the purpose of the statement of the fat content in the dry matter, Dutch farmhouse cheese without a designation of variety is tested against the relevant stipulations in the Dairy (Commodities Act) Decree, and if the fat content limit is exceeded, the standard response is a warning.

Phosphatase levels were analysed for all initial processors of Dutch farmhouse cheese. Of the 200 samples analysed in total, 2 were non-compliant. Disciplinary proceedings were brought against the business responsible for these non-compliances.

Boeren-Leidse met sleutels PDO
The product specifications for Boeren-Leidse met sleutels were adopted in 1997. This variety of cheese is a semi-hard farmhouse cheese produced in the Netherlands in accordance with the special recipe for this variety, in an area precisely defined in the product specifications. Four initial processors were engaged in the production of Boeren-Leidse met sleutels in 2019. Two subsequent processors were engaged in the production of Boeren-Leidse met sleutels.

The majority of the initial processors of Boeren-Leidse met sleutels can be assessed within the testing programme for Dutch farmhouse cheese (TSG); this is because the broad outlines of the programme cover the same testing aspects as the control programme drawn up specifically for Boeren-Leidse met sleutels. The other businesses are tested for compliance with the applicable requirements under the latter programme. Both programmes encompass analyses including the fat content in the dry matter, the moisture content and the raw-milk character of the cheese. There were two infringements relating to the fat content in the dry matter. These infringements were put before the disciplinary tribunal.

Projects in 2019

A project is being carried out in collaboration with Wageningen Food Safety Research (WFSR) to develop analysis methods that can more effectively determine the authenticity of the preparation of Dutch farmhouse cheese. A new phosphatase analysis method was introduced in 2018, which saw the phenol method replaced with the Fluorophos method. WFSR is carrying out further research into the 'fingerprint method', which measures volatile substances to determine whether and to what extent raw milk has been used in the preparation. This is a fundamentally different method to that used for measuring phosphatase. This research continued in 2019, but has not yet produced sufficient results to draw statistically proven conclusions. Further research will therefore be carried out in 2020.

Incidents

There were no significant or notable incidents.

Impact assessment

The method of monitoring and the corrective effect of penalties is well equipped to ensure that the preparation of protected cheeses can be adapted in businesses in the event that non-compliances are detected. However, the number of irregularities found during the preparation of Gouda Holland PGI and Edam Holland PGI in relation to composition (moisture and fat) was somewhat higher than in previous years. The penalties based on economic benefits gained were also higher, and the sampling frequency was intensified.

Actions taken to improve official controls

The principal item that cannot be tackled conclusively by way of the official controls is the issue of whether or not raw-milk cheeses have actually been produced using raw milk. For that reason, work is ongoing with WFSR to improve analysis methods to be able to determine and define the raw-milk character of raw-milk cheeses (Dutch farmhouse cheese and Boeren Leidse met sleutels) accurately (see also under the heading 'Projects in 2019').

A proposal for the adaptation of the product specifications for Dutch farmhouse cheese is currently being prepared and aims for the indication of fat content to be included more explicitly as a requirement, thus allowing actual enforcement to take place on this element in the context of controls on protected names.

Actions taken to improve compliance by businesses

In 2019, sampling, analysis and control in the supervision of Noord-Holland Gouda PDO were brought into better alignment with the requirements of the product specifications. Following a trial period in 2018, these changes were implemented in full in 2019.

Conclusions

The results of the controls show that the protected types of cheese generally meet the requirements in the corresponding product registration dossiers. It is primarily in Gouda Holland and Edam Holland that a number of violations are found. Corrections take place effectively by means of penalties that take away the economic advantage of the relevant party. If further correction is needed, more intensive sampling and analysis will be considered.

CHAPTER 4
AUDITS

Introduction

This chapter reviews the audits conducted in the context of Regulation (EC) No 882/2004 of the European Parliament and of the Council of 29 April 2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules in 2019. The chapter begins by describing the internal audits conducted by the NVWA and then moves on to the audits conducted by the NVWA in 2019 of external organisations that perform certain tasks under the responsibility of the NVWA. The internal audits are carried out by the Internal Audit Service (IAS). External audits are conducted by NVWA inspectors.

Internal audits at the NVWA in 2019

Various NVWA laboratory and control activities have been accredited by the Dutch Accreditation Council (RvA) on the basis of international quality standards. In addition to the annual audits of these NVWA activities conducted by the RvA, the NVWA also conducted a number of internal audits in 2019. The key conclusion from these audits was that the NVWA's quality system is appropriate and effective and complies with ISO 17025 or ISO 17020. These internal audits related to the following divisions:

- *Feed and Food Safety Laboratory*
  The laboratory performs laboratory research on products of animal origin and food; it is accredited by the Dutch Accreditation Council (RvA) and registered under the code L-104.

- *National Reference Centre (NRC)*
  The NRC is the knowledge centre dealing with phytosanitary organisms and diagnostics, vectors and invasive plants within the Enforcement Directorate in the Laboratories Division. The laboratory's research is RvA accredited and registered under the code L-522.

- *Supervision of Fish*
  The Fish Certification team within the Enforcement Directorate supervises compliance with the regulations upon landing and export of fishery products. This task is RvA accredited and registered under the code I-134.

- *Border Control Posts (BCPs)*
  One of the tasks of the Import Inspection Department of the Inspection Directorate is to supervise compliance with the regulations on imports of live animals and products of animal origin at border control posts (BCPs). This task is RvA accredited and registered under the code I-134.

  In addition, other organisational units within the NVWA also carry out the control tasks based on a quality system. In preparation for a future application for accreditation, the IAS carried out the following internal audits according to the ISO 17020 standard:

- *Warehouses*
  These controls relate to the intake, storage and loading of non-EU-worthy veterinary products from third countries at free veterinary warehouses. These are products that are intended for third countries, cross-border means of sea transport and drilling rigs. Once a number of improvement measures have been implemented within the quality system, an extension of the I-134 accreditation can be applied for.

- *Inspections – Poultry*
  The inspection and supervision of activities at poultry slaughterhouses are carried out by supervisory officers from the four teams within the Veterinary Inspection & Export Certification Departments. The teams continue to work on the implementation of the quality system based on the findings.

- *Inspections – Remote Certification*
  The Remote Certification Animal Cluster carries out activities in relation to the process from the receipt of an application up to and including the issuing of an official export document for (non-live) animal products. It also performs tasks in connection with replacing official export documents and issuing supplementary declarations. The activities are generally carried out in accordance with ISO 17020, but the process descriptions are not yet complete.

  In 2019, the IAS also carried out the following internal audits in the context of Regulation (EC) No 882/2004 of the European Parliament and of the Council of 29 April 2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules:

- *Standardisation (adherence to protocols)*
  A study of uniformity in the implementation of supervision within the Enforcement Directorate, the Consumer Department – Food Service Industry and Artisanal Production domain.
  The aim of the study was to give the organisation the tools to achieve and maintain the best possible balance between the professional flexibility granted to the inspectors in their day-to-day work and the more disciplinary frameworks the organisation provides for them.
  Specific recommendations were made to ensure a healthy balance between discipline and professional freedom, which indicated that proper implementation of the enforcement strategy can be helpful in this respect.

- *From farmer to slaughterhouse*
  The IAS conducted an investigation into potential gaps in oversight at the red meat supply chain at medium-sized cattle slaughterhouses. The scope of the investigation extended from the primary business up to and including the recipients of rejected carcasses and cadavers. The report presents the findings along the lines of 26 inherent risks describing what could potentially go wrong if the NVWA did not exist.

  The overall impression is that a great deal of care and attention is generally devoted to limiting the risks in the supervision of the red meat chain. The NVWA has developed and implemented measures across the entire breadth of the supply chain with the aim of minimising the risks to food safety, animal welfare and animal health.
  The NVWA could limit many of the risks mentioned by taking additional measures and organising its activities differently. Examples include the further embedding of uniformity, the registration of inspection results, internal collaboration between the Enforcement and Inspection directorates, the process of drafting reports on findings and the creation, adoption and application of specific intervention policy. Better use of these measures would not only place official veterinarians in a better position but also lead to more effective supervision across the entire supply chain.

Audits of external bodies conducted by the NVWA in 2019

Netherlands Controlling Authority for Milk and Milk Products (COKZ) and the Netherlands Controlling Authority for Eggs (NCAE)
In 2020, the COKZ, which consists of the Netherlands Controlling Authority for Milk and Milk Products and the Netherlands Controlling Authority for Eggs, will be renamed the Control Body for Quality Issues (*Stichting Controle Orgaan Kwaliteits Zaken*, COKZ).

In the Netherlands, the old COKZ has been designated as the authority for supervising the EU package of hygiene measures in the dairy industry. In addition, the NCAE has been designated as the authority for supervising this package in the egg sector in the Netherlands. At the dairy businesses and egg processing businesses supervised by the COKZ/NCAE for compliance with the package of hygiene measures, the COKZ also oversees compliance with other relevant Commodities Act regulations. These include the Commodities Act Regulations on Food Labelling, Infant Formulae, Baby Foods and Foods for Special Medical Purposes. As an exception, supervision of claims under the latter regulation is performed by the NVWA. Furthermore, the COKZ (and thus also the NCAE) has been appointed by the Head of Agency of the NVWA to perform supervision under the regulations concerning animal by-products (Regulation (EC) No 1069/2009 and Commission Regulation (EU) No 142/2011).
The NVWA is authorised to issue veterinary certificates on behalf of the Minister of Economic Affairs for milk and dairy products, including infant formulae and follow-on formulae. In issuing these certificates, the NVWA is relying on the supervision performed by the COKZ.

A compliance assurance programme was set up and implemented in 2019 on behalf of the head of the Tactical Direction & Expertise Division of the Enforcement Department. This assurance programme consisted of an audit (a desk study and 13 observations) of the execution of the activities of the COKZ/NCAE listed above.
The objective of the audit was to obtain an understanding of the performance of the supervision activities by assessing the extent to which the COKZ and the NCAE have adhered to the agreements recorded in the dairy and egg work plans for 2019 and in the agreement relating to the issuing of veterinary certificates.

In addition to the general assessment of the implementation of the annual plan, the audit for this period focused on the following issues:
- compliance with the recommendations and directions of the report of the audit activities for 2018
- execution of the NVWA intervention policy
- supervision of small-scale producers and farmhouse dairy producers
- supervision of egg-laying poultry farms
- traceability and supervision of veterinary certificates
- supervision of 'grey businesses'
- follow-up of reports in the context of the General Food Law Regulation

The COKZ has adequately implemented the dairy and egg work plans for 2019, in respect of the package of hygiene measures, animal by-products and various Commodities Act regulations. However, there is still room for improvement in a number of areas.

The COKZ has also contributed effectively towards the implementation of the arrangements described in the agreement between the NVWA and COKZ with regard to the issuing of veterinary certificates.

The report of this audit included 27 recommendations relating to improvements for the COKZ/NCAE. Additional focus and efforts were requested in relation to the following two recommendations, given that they are of direct and major importance to the quality of the supervision and performance of tasks by the COKZ and the NVWA.

- The COKZ was asked to adhere more consistently to NVWA intervention policy.
- The COKZ was asked to bring COKZ sampling procedures into line with the Commodities Act Regulations on Sampling and NVWA sampling procedures, to ensure that samples are taken, sealed and transported in a legally sound manner.

Animal Sector Quality Inspection (KDS)
The Animal Sector Quality Inspection Foundation (KDS) is an accredited private organisation, which carries out post-mortem (PM) inspections of red meat on behalf of and under the auspices of the NVWA. For this purpose, the covenant on the organisation of (post-mortem) red meat inspections (*convenant organisatie roodvleeskeuring post-mortem*) was drawn up in the Netherlands along with the associated regulatory arrangements. The NVWA and KDS recorded the Implementation of Article 3 of the aforementioned covenant and the inspection provisions in Regulation (EC) No 854/2004 in the VWA-KDS Contract, contract number: 001 and the associated annexes.

The NVWA conducts an audit to assess the KDA quality assurance system as well as the compliance and implementation of the agreements between the NVWA and KDS at least once a year.

The audit carried out by the NVWA revealed that KDS uses a clearly structured and clear quality assurance system. This system is documented in the quality manual with clear version control. This manual was made available to the auditor via the intranet and, according to KDS, is also available at all times to all official assistants (OAs).
A key area of improvement for the KDS was that instructions and procedures should be agreed with the NVWA, in order to achieve the intended purpose of the contract.

The NVWA audit team advised KDS:
- to optimise or intensify the procedure for reporting changes, as stated in the VWA-KDS Contract, Art. 4, item 5
- to review or optimise the consultation at local, executive management level and national level, including through standardising documents and through coordination between the different levels of consultation within the NVWA and KDS
- to draw up and implement a clear and approved complaints and reports procedure as a matter of urgency

Plant-related Inspection Agencies (Phytosanitary inspections and laboratory diagnoses)
The Ministry of Agriculture, Nature and Food Quality has delegated certain phytosanitary inspections to the four plant-related inspection agencies, namely the Flower Bulb Inspection Service (BKD), the Quality Control Bureau (KCB), the Netherlands General Inspection Service (NAK) and Naktuinbouw as part of the Multi-Year Phytosanitary Inspection Agreement (MJO). In addition, the laboratories of the NAK, Naktuinbouw and KCB carry out official phytosanitary analyses for which they have been given powers by the NVWA NRC (National Reference Centre). This relates to testing of 'official samples' for specific organisms referred to in Council Directive 2000/29/EC.

The NVWA oversees the implementation of the phytosanitary work by these inspection agencies and carries out regular supervision of the performance of the phytosanitary certification inspections and laboratory work for which they are authorised. The ongoing audits of inspection activities were completed in 2019, and a start was made in the last quarter on audits that will be conducted according to the audit plan. In 2019, supervision of the work of the laboratories was carried out in accordance with the audit plan.

A number of the activities of the phytosanitary inspection agencies, both inspection activities and laboratory activities, fall within the scope of the accreditation. The Dutch Accreditation Council (RvA) carries out periodic assessments to verify whether the inspection agencies meet the accreditation requirements. The corresponding reports are assessed by the NVWA and are part of the supervision remit exercised by the NVWA on the plant-related inspection services.

Flower Bulb Inspection Service (BKD)
An audit in the context of supervision of the BKD was commenced in the last quarter of 2019 and is currently still ongoing. The results of this audit are due in spring 2020.

The BKD is accredited in accordance with EN ISO/IEC 17025:2005 (L 285) and EN ISO/IEC 17020:2012 (I 096).

The BKD does not carry out laboratory tests on EU quarantine organisms. The NRC has authorised the BKD for seven operations on third-country quarantine organisms, six of which are accredited by the RvA. The RvA report stated that these operations are being carried out in accordance with the prescribed requirements.

Quality Control Bureau (KCB)
The 2016/2017 audit of the KCB in the context of supervision by the NVWA has been concluded, and a new audit was started in late 2019. The results of the NVWA audit are due in 2020. The KCB is accredited in accordance with EN ISO/IEC 17020:2012 (I 070). The KCB laboratory is authorised to carry out two operations. The KCB is working towards ISO 17025 accreditation. The laboratory component will be included in the audit that commenced at the end of 2019.

Netherlands General Inspection Service for agricultural seeds and seed potatoes (NAK)
In the context of supervision of the NAK, the NVWA started an audit of the performance of its inspection activities in the fourth quarter of 2019. The results of the NVWA audit are due in 2020. In addition, the report on the audit of inspection activities in 2016/2017 has also been finalised.

The NAK is accredited in accordance with EN ISO/IEC 17020:2012 (I 124) and EN ISO/IEC 17025:2017 (L 490).

The NAK laboratory is authorised to carry out 28 phytosanitary operations, of which 5 are accredited by the RvA. At the end of October 2019, the NVWA carried out an audit at the NAK laboratory. One Category B deficiency was identified. A final conclusion is therefore not yet available for this audit.

Naktuinbouw
The 2016/2017 audit of inspection activities by Naktuinbouw has been completed, and a new audit was commenced in the last quarter of 2019. Naktuinbouw is accredited in accordance with EN-ISO/IEC 17025:2005 (L 549) and EN ISO/IEC 17020:2012 (I 131).

The Naktuinbouw laboratory is authorised to carry out 56 operations, of which 7 are accredited by the RvA. The NVWA conducted an audit of Naktuinbouw in July 2019 at its laboratory in Roelofarendsveen (bacteriology and virology). This audit uncovered one Category B deficiency. Naktuinbouw responded to this deficiency within the prescribed time period. The potential solutions were approved by the audit team and the audit was closed with the conclusion that the Naktuinbouw laboratory meets the requirements of the Multi-Year Phytosanitary Inspection Agreement (MJO).

Resistance testing for potato cyst nematode and potato wart disease
Independent research institutions can make the results of their resistance tests available to the NVWA, to enable the NVWA to comply with its obligation to produce lists of resistant potato varieties.

These test results are used to produce such lists only if it is confirmed that the tests were carried out in accordance with the relevant version of the specified implementation protocols. The NVWA obtains such confirmation by auditing the research institutions. This concerns the resistance of potato varieties to potato cyst nematode disease (a disease caused by the nematodes *Globodera pallida* and *Globodera rostochiensis*) and potato wart disease (a disease caused by the fungus *Synchytrium endobioticum*).

In the Netherlands, there are two laboratories that are authorised to perform official resistance testing for potato cyst nematode disease (the NAK and the HLB laboratory) and one (the HLB laboratory) that can perform official resistance testing for potato wart disease. The NVWA supervises both laboratories. In 2019, the NVWA conducted audits of the laboratories while testing was being performed.

Three Category B deficiencies and one Category A deficiency were noted at the HLB laboratory. These deficiencies related to the performance of resistance testing for potato cyst nematode, in which the testing was not carried out according to the instructions and a non-validated method was used. HLB implemented corrective measures in a timely manner in accordance with the applicable agreements. The NVWA checked and approved these measures during an additional audit. HLB is accredited in accordance with EN ISO/IEC 17025:2017 (L 637).

In 2019, the NAK worked according to the potato cyst nematode disease resistance testing implementation protocol. The NAK holds accreditation under EN ISO/IEC 17025:2017 (L 490), and its quality management system meets the requirements.

CHAPTER 5
NVWA INTELLIGENCE AND INVESTIGATION SERVICE

The NVWA has its own Specialist Investigation Service, the NVWA Intelligence and Investigation Service (NVWA-IOD). The specific tasks of this special service include investigating criminal offences, gaining insight into and identifying compliance and non-compliance and improving compliance in all areas supervised by the NVWA. The NVWA-IOD focuses primarily on complex, supply chain-related, organised and international crime within the various public interests that the NVWA oversees. Many cases involve forms of financial and administrative fraud, which are complex in terms of content and scale.

In 2019, the subjects tackled in investigations conducted inside and outside the scope of the Official Controls Regulation included:

- fraud involving food products
- fraud involving the sale of manure
- fraud involving veterinary medicinal products
- product safety issues, such as the marketing of unsafe products and investigations into accidents involving inflatables
- fraud involving laboratory results
- fraud involving agricultural subsidies

Cooperation with other investigation agencies is ensured through the Special Investigative Services Platform and the National Intelligence Agenda. In areas relating to environmental enforcement, the NVWA IOD cooperates intensively with the police and the Intelligence and Investigation Service of the Human Environment and Transport Inspectorate (ILT-IOD). This cooperation is formalised in the Environmental Chamber.

Investigations in 2019

In 2019, the NVWA-IOD completed a range of investigations and referred them to the Public Prosecution Service's National Office for Serious Fraud, Environmental Crime and Asset Confiscation for follow-up. There were also multiple ongoing large-scale investigations, which were not completed before the end of the year.

Food fraud remains an important theme, but other topics, such as fraud in the export of horses and trade in unauthorised plant protection products, are also significant. In addition, in a number of different investigations in 2019, the NVWA-IOD targeted facilitators, which are organisations that help fraudsters prepare for, carry out or disguise their illegal activities. For example, the IOD launched a major investigation aimed at a consultancy firm suspected of playing a key role in manure fraud by facilitating fraudulent activities involving manure accounts by a large number of livestock holders.

Fraud Expertise Unit

Within the Enforcement Directorate, the Inspection Division and the NVWA-IOD work together in the Fraud Expertise Unit (FEK). This unit coordinates efforts to tackle fraud through combined and variable action by the Inspection Division. The NVWA-IOD advises inspectors on how to recognise and prove fraud and provides them with guidance on the application of criminal law and economic criminal law.

Other responsibilities

In addition to carrying out investigations, the expertise of the NVWA-IOD includes gathering and analysing information. To this end, the Intelligence team establishes a detailed picture of other domains/sectors/supply chains, forms of crime, modus operandi, risks, trends and developments, relevant laws and regulations and both NVWA-IOD activities and the oversight carried out by the NVWA.

The NVWA-IOD also plays a reflective and monitoring role within the NVWA and for the Ministries of Agriculture, Nature and Food Quality and Health, Welfare and Sport. In this role, it performs critical reviews of the course of investigations and makes recommendations relating to its own operations and those of the supervisory division concerned. Any gaps

uncovered in the investigation in relation to laws and regulations are referred to the aforementioned ministries. The partners involved also provide their perspectives. These insights are shared with the NVWA Management Board and with the three-way consultations between the clients the Ministry of Agriculture, Nature and Food Quality and the Ministry of Health, Welfare and Sport, the Public Prosecution Service and the NVWA.

In 2019, the NVWA-IOD completed the Fraud Letter 2020 outlining the fraud risks that were of concern for the NVWA Annual Plan for 2020 and the enforcement arrangement. The NVWA-IOD is working on fraud overviews for each of the twelve production chains identified by the NVWA and for which integrated supply chain analyses are also being prepared. The fraud overview for Animal feed was published in 2019, while work was also carried out on the fraud overviews for four other chains: Red meat and large game, Fishing, Flower bulbs and Consumer products. These overviews will be published at a later stage. The previously mentioned integrated supply chain analyses brought together insights from the scientific risk assessment of the Office for Risk Assessment & Research, fraud insights from the investigation service and information from supervision. This way, entire production chains were examined from a variety of perspectives and areas of expertise. The integrated supply chain analyses are critical to determining the NVWA's commitment and work in the years to come.

CHAPTER 6
THE CONTROL BODIES

Developments within the NVWA

Public interests and domains

In the Netherlands, the NVWA is for the first time presenting its results for 2019 according not to the 23 domains, but instead according to the 7 public interests that the NVWA oversees – food safety, animal health, animal welfare, nature and the environment, plant health, product safety and tobacco control. A shift is also taking place towards control and reporting based on output and, in time, according to outcome. The NVWA is making this move with the help of information and performance indicators, which provide quantitative and qualitative information about the performance of the NVWA's primary tasks as well as the continuity of the organisation.

Merger of NVWA and Wageningen University & Research laboratories

The NVWA's strategy for 2020 focuses on the NVWA as a modern and future-proof authority with a knowledge-driven and risk-based approach. This strategy saw the merger in 2019 of the NVWA Laboratory for Feed and Food Safety and RIKILT Wageningen University & Research to form a new institute to provide laboratory support in relation to feed and food safety. The new institute, Wageningen Food Safety Research (WFSR), is part of Wageningen University & Research and opened its doors on 1 June 2019.

This merger of laboratories that share some tasks has resulted in a unique laboratory that is essential to the NVWA, as it will provide long-term, sustainable support in risk-based supervision and current and future policy for feed and food safety. The merger has also resulted in greater sample analysis capacity and thus greater flexibility to respond to incidents and crises. The laboratory now offers a sound knowledge base to provide timely support for the supervision process that is anchored in the scientific dynamics of Wageningen University & Research. The latest innovations in feed and food safety are monitored and implemented.

The independence of the services provided by Wageningen Food Safety Research to the NVWA is guaranteed on the basis of the Official Controls Regulation (Regulation (EU) No 2017/625) and is set out in an 'Implementation Agreement' between the NVWA and Wageningen University & Research. This means that WFSR must be able to carry out NVWA assignments without interference by any other party. The lab's other activities also must not compromise the services provided to the NVWA. In specific terms, a number of rules therefore apply, including that WFSR must not carry out any activities for third parties (private companies or NGOs) unless the research offers clear added value in terms of food safety in the Netherlands and the laboratory's accumulation of knowledge, in order to improve the support provided to the NVWA.

The NVWA will therefore continue to be a strong central authority that functions as the central point of contact for third countries and the EU.

New EURL tasks

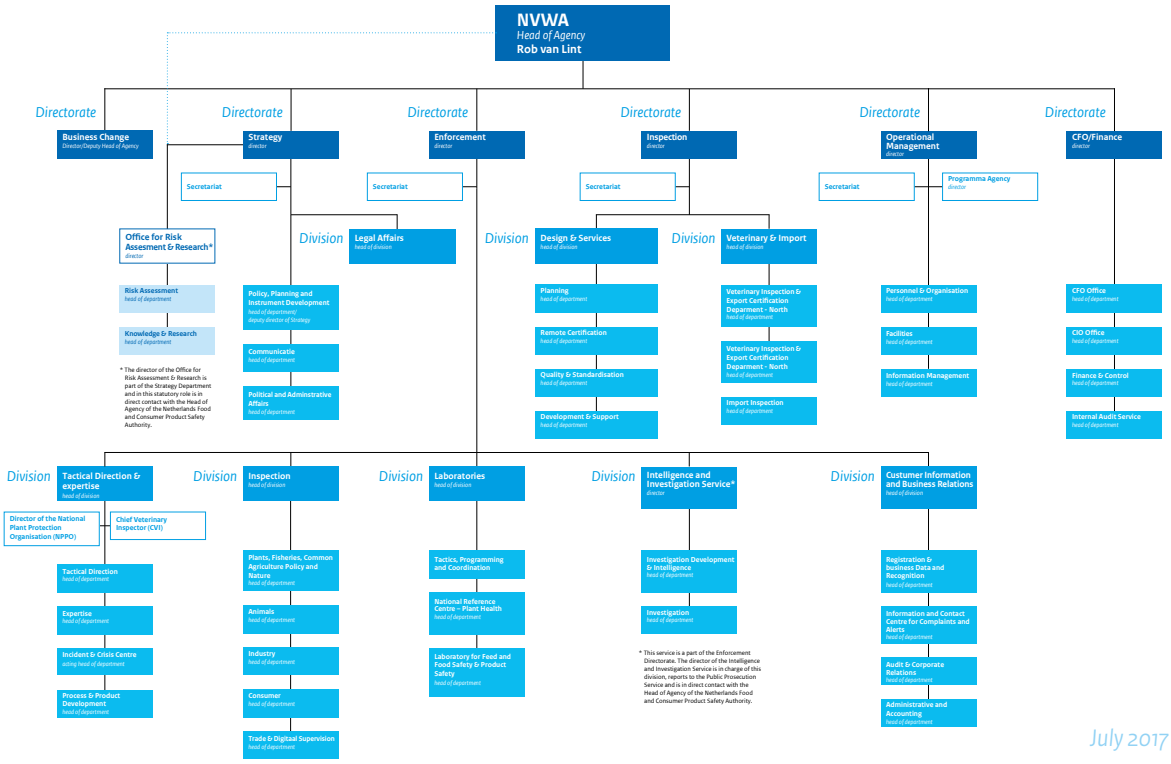
The new Official Controls Regulation imposes a requirement to assign European Union Reference Laboratories (EURLs). The aim of these EURLs is to improve the quality and comparability of test results from the National Reference Laboratories of the different Member States. These laboratories also provide scientific and technical support to the European Commission. In 2019, the National Reference Centre (NRC) of the NVWA was assigned EURL status for two areas of plant health, namely plant pathogenic bacteria and viruses. The activities of these EURLs commenced on 1 August 2019.

New EU regulations

In 2019, the NVWA made significant progress in the implementation of the Plant Health Regulation and the Official Controls Regulation, in close collaboration with the relevant plant-related inspection agencies. There has been a considerable focus on how, while minimising loss of functionality, we can ensure now and in the future that the NVWA systems for automated import/export data processing are in line with the European Commission's new reporting and notification system: the information management system for official controls (IMSOC). These existing functionalities are essential for the NVWA due to the huge volumes processed by the logistics chain in the Netherlands. The abovementioned regulations entered into force on 14 December 2019, with a few flaws still to be ironed out in IMSOC.

Description of the control bodies

The Netherlands Food and Consumer Product Safety Authority (NVWA)
The NVWA, part of the Ministry of Agriculture, Nature and Food Quality, was created from the Plant Protection Service (PD), the General Inspection Service (AID) and the Food and Consumer Product Safety Authority (VWA). The NVWA has two major clients: the Ministry of Agriculture, Nature and Food Quality and the Ministry of Health, Welfare and Sport. Since the restructuring in July 2017, the structure of the organisation is as follows:



In 2019, the NVWA had a budget of €342 million (€155 million from the Ministry of Agriculture, Nature and Food Quality, €90 million from other ministries (chiefly from the Ministry of Health, Welfare and Sport, €86 million) and €97 million from third parties). The organisation had a staff of 2,436 FTEs.

Staff working in the Enforcement and Inspection directorates are largely responsible for the results reported in Chapter 3.

Although the Product Safety domain falls within the Enforcement Directorate, it is not included in this annual report, as it does not fall within the scope of Regulation (EC) No 882/2004.

The Office for Risk Assessment & Research (BuRO) is authorised under the Food and Consumer Product Safety Authority Independent Risk Assessment Act (*Wet onafhankelijke risicobeoordeling 2006*) to provide independent advice to the Minister

and to the Head of Agency on feed, food and consumer product risks. Since 2015, its operations have been expanded to include animal welfare. The Office for Risk Assessment & Research operates in a similar way in the animal health and phytosanitary field. Its advice often relates to situations or actions, as well as products involving risks that could be mitigated by the implementation of measures. The advice of the Office for Risk Assessment & Research is underpinned by research it has commissioned from knowledge institutions such as the National Institute for Public Health and the Environment (RIVM), Wageningen Food Safety Research, Wageningen Bioveterinary Research and universities.
The Office for Risk Assessment & Research has a staff of more than 42 people. An advisory board monitors the scientific quality of the advice and of the evidence it is based on. This guarantees the independence and objectivity of its risk assessments and overall advice. The NVWA publishes its risk assessments and advice. The results of individual risk assessments are not included in this report, as risk assessment does not fall within the scope of Regulation (EC) No 882/2004.

The duties of the Special Investigation Service (IOD) of the Ministry of Agriculture, Nature and Food Quality and the Ministry of Health, Welfare and Sport have been incorporated into the NVWA Intelligence and Investigation Service (NVWA-IOD). The NVWA-IOD is deployed in the event of serious or systematic infringements of the law within any of the NVWA's enforcement domains. The NVWA-IOD focuses primarily on complex, supply chain-related, organised and international crime. A report on the NVWA-IOD's activities can be found in Chapter 5.

As of 1 June 2019, the merger with RIKILT to create the new Wageningen Food Safety Research resulted in a substantial increase in laboratory resources to analyse samples collected during official feed and food safety controls. In addition to these laboratory resources, the NVWA still has access to independent laboratories specialising in plant diseases and pests in Wageningen and in product safety (a microbiological and chemical analysis lab in Groningen and a physical, mechanical and electrical analysis lab in Zwijndrecht).

The national reference laboratory (NRL) duties are assigned as follows. The National Institute for Public Health and the Environment (RIVM) is the NRL for microbiology, with the exception of campylobacter. Wageningen Food Safety Research is the NRL for heavy metals, marine biotoxins, dioxins, polycyclic aromatic hydrocarbons (PAHs), growth promoters, veterinary medicinal product residues, animal feed, genetically modified organisms and pesticides in food. The NVWA laboratory in Wageningen is the NRL for plant diseases and pests, and the NVWA laboratory in Groningen is the NRL for food contact materials.

Netherlands Controlling Authority for Milk and Milk Products (COKZ)/Netherlands Controlling Authority for Eggs (NCAE)
The Netherlands Controlling Authority for Milk and Milk Products (COKZ)/Netherlands Controlling Authority for Eggs (NCAE) is the Dutch authority for the control of milk and milk products, as well as for eggs, egg products and poultry meat (trading standards). The control of eggs and poultry meat is carried out by a separate division of the COKZ, namely the Netherlands Controlling Authority for Eggs (NCAE).

The COKZ has been appointed to supervise compliance with the EU hygiene regulations for dairy cows and the dairy industry. Under the Animals Act, the COKZ is also appointed to oversee compliance with the requirements governing exports of infant formulae, the quality of Gouda, Edam and Dutch Mimolette cheese and the protected designation of origin, protected geographical indication and traditional specialities guaranteed certification of a number of specific cheese varieties.

The COKZ/NCAE supervises compliance with the requirements governing the egg trade. These requirements are laid down in Commission Regulation (EC) No 589/2008. In addition, the COKZ/NCAE supervises compliance with the requirements laid down in Commission Regulation (EC) No 543/2008 governing the poultry meat trade. The COKZ/NCAE is the designated regulatory authority for compliance with all EU hygiene regulations by all food business operators in the egg sector.

In 2019, the COKZ relocated to new premises in Leusden. In addition to the effort required for the move, the COKZ had to find its own solution to the facilities services that had previously been bought in from a company located on the same premises. A new department, Operational Management, was for instance created to encompass Finance and Administration, Invoicing, IT, Reception/Planning and Personnel. The quality objectives in 2019 therefore focused on the

continuation of the quality system, devoting attention to and improving the complaint handling process and the digitalisation of the document workflow within the COKZ. Thanks to these efforts, the COKZ had its accreditation continued in 2019.

In March 2019, the House of Representatives decided against the recommendation made by the Sorgdrager committee in the 'Investigation of fipronil in eggs' report to transfer the tasks of the NCAE to the NVWA. The Minister of Health, Welfare and Sport and the Minister of Agriculture, Nature and Food Quality agreed to implement this motion. The NCAE will therefore remain part of the COKZ, which will be renamed in 2020 as the Control Body for Quality Issues (*Stichting Controle Orgaan Kwaliteits Zaken*, COKZ).

A trend has been observed in the dairy sector of a growing number of independent dairy processors (so-called '*zelfzuivelaars*'). In 2018, more than 80,000 certificates for export to third countries were issued for the first time – an increase of almost 5% in respect of 2017. This upward trend continued in 2019 with a further 5% increase to 84,000 export certificates.

GD Animal Health
With over 500 staff, GD Animal Health works in the area of the health of farm animals and pets in the interests of animals, animal owners and society. GD Animal Health performs its work in conjunction with animal owners, veterinary practices, the government and the business community. GD Animal Health is based in Deventer, operates in the Dutch market and also undertakes international activities.

It has its own extensive veterinary laboratory for the 4.8 million laboratory tests it performs each year. GD Animal Health is accredited by the RvA under ISO 17025:2005 for the performance of many laboratory tests, under the registration number L120. It is also accredited (under the registration number R016) in accordance with ISO 17043:2010 for running a large number of proficiency testing schemes (PTS).

GD Animal Health is also certified under ISO 9001:2008, which means that it works in accordance with a quality management system that meets the requirements of the ISO 9001:2008 standard. For information security, GD Animal Health is certified under ISO 27001:2013, which means it handles customer data and information in a secure and responsible manner.

It has a team of veterinarians, specialists and scientists working in the areas of histology, microbiology (bacteriology and virology), molecular biology, immunology, epidemiology, chemistry and toxicology. Its Pathology Team has its own collection service for carcasses and a modern post-mortem room for both mammals and poultry. The GD Animal Health veterinary specialists provide livestock farmers, veterinarians and the government with assistance and advice on the control of infectious diseases and business-specific disorders, as well as on other aspects, such as biosafety and animal welfare. GD Animal Health has been commissioned to perform animal health monitoring and practice-oriented research and has developed a range of voluntary programmes for animal disease prevention and control.

For animal health monitoring in the Netherlands, a joint initiative by the government and the livestock sector, reports and results are gathered and analysed from the various monitoring instruments: consultations through the 'Veekijker' telephone help desk and business visits, the laboratory, the post-mortem room and data analysis. The results are incorporated in a periodic report or, if there is a possible acute risk to animals and/or people, a report is sent immediately to the clients.

GD Animal Health has also been commissioned by the government to monitor a number of notifiable animal diseases, such as classical swine fever, avian influenza (AI), brucellosis and leucosis.

To improve food quality and food safety (of milk and meat products, for example), GD Animal Health has developed a range of voluntary eradication and prevention programmes for livestock farmers to combat infectious animal diseases such as salmonellosis and paratuberculosis in the Netherlands.

GD Animal Health has a good reputation at the international level as a contract research organisation for applied research, education and consultancy. GD Academy, an education and training institute, runs training courses on animal

health for livestock farmers and their veterinarians and for the pharmaceutical and livestock feed industries. The courses cover both the theory and practice of veterinary diagnostics and laboratory testing.

Skal Biocontrol

In the Netherlands, Skal Biocontrol was appointed by the Minister of Agriculture, Nature and Food Quality in Section 15 of the Agricultural Quality Decree 2007 (*Landbouwkwaliteitsbesluit 2007*) as the control authority as defined by Council Regulation (EC) No 834/2007. Skal Biocontrol is tasked with supervising compliance with the rules concerning organic production methods. The European regulation allows Member States to choose the structure of their control regime. The Netherlands has opted for a straightforward structure: one control authority that is responsible for all statutory control tasks within organic production. Skal Biocontrol is an independent governing body subject to private law and performs a number of statutory duties. This means that Skal Biocontrol can sometimes give further interpretation to the regulations.

As an independent regulatory authority, Skal Biocontrol is committed to ensuring the demonstrable reliability of organic products in the Netherlands. Organic farming and feed are legally defined terms, and the word 'organic' is a legally protected term. The legislation focuses on the maintenance and justification of consumer confidence in organic products. In the EU, the designation 'organic' may only be used for agricultural products and foodstuffs that demonstrably comply with the applicable statutory requirements, laid down in Council Regulation (EC) No 834/2007 and Commission Regulation (EC) 889/2008.

If an organic business places pre-packaged consumer products on the market, use of the European certification label is mandatory. When it issues this label, Skal Biocontrol makes the reliability of organic products visible for both customers and consumers. The organic certification label may only be used by certified businesses and only on certified organic products.

'Demonstrably organic' means it is verified and certified by an EU-recognised inspection body. Skal Biocontrol translates the regulations into a workable supervision system for the Netherlands. The European authorities lay down the regulations, the certified organic businesses comply with them and Skal Biocontrol monitors compliance. The number of organic businesses in the Netherlands has risen sharply in recent years. The number of certified organic businesses is continuing to rise, although the growth that occurred in 2019 was lower than predicted. Where 2018 saw growth of 7.7%, net growth in 2019 was 3.3%, resulting in 5,241 registered organic businesses at the close of 2019. Every business wanting to produce, process, package, import, conduct intra-community trade, export or store organic products must be certified by Skal Biocontrol to do so. This includes all businesses in the supply chain, apart from shops that sell packaged products directly to the final consumer and food service businesses that serve Dutch citizens consuming food out of doors.

The new European legislation on organic production, Regulation (EU) 2018/848, takes effect on 1 January 2021. A lot of time and attention was devoted in 2019 to preparing for the implementation of the new legislation, but the production and control rules were still in development at the end of 2019. Skal Biocontrol is unable to start the transition to new information material for organic businesses until these rules are published. It is also expected that Skal Biocontrol will need to adapt both its work processes and its systems. An extensive change process has been initiated to implement all of the above, along with the new supervision arrangements. Skal Biocontrol also produced a new long-term outlook and developed a strategic IT agenda in 2019 with the aim of organising its certification and supervision activities more effectively based on data.

All costs of Skal Biocontrol's supervision are funded by contributions from the registered businesses. Skal Biocontrol's mission is: to perform efficient and effective supervision of compliance with the organic regulations and thus to contribute to confidence in the organic sector.

The Netherlands Inspection Service for Horticulture (Naktuinbouw)

The Netherlands Inspection Service for Horticulture is better known as Naktuinbouw. Naktuinbouw promotes and monitors the quality of products, processes and supply chains in the horticulture industry. It focuses on propagating material at both the national and international level. Naktuinbouw is an independent governing body, subject to oversight by the Ministry of Agriculture, Nature and Food Quality. Naktuinbouw's mandatory inspection system has

adopted the requirements of the European directives governing propagating material for floricultural, arboricultural and vegetable crops. These directives have been implemented in the Netherlands in the form of the Seeds and Planting Materials Act (ZPW). Naktuinbouw operates impartially and autonomously. Public duties relating to basic inspections assigned to other national or international quality and/or inspection services are not performed or are only performed on a collaboration basis. Naktuinbouw is the sole organisation in the Netherlands competent to assess varieties of vegetable, arable and ornamental plant crops in terms of their distinctness, uniformity and stability (DUS testing) for registration and/or plant breeders' rights.

Naktuinbouw operates voluntary quality certification systems. These complement the statutory certifications or extend beyond the legal guidelines. They include quality assessments of propagating material and examinations of varietal identity and varietal purity. The majority of the service's clients are individual producers and groups of producers of propagating material. In addition, Naktuinbouw focuses on promoting quality and certain specialist areas. This concerns businesses from the entire horticulture supply chain, including outside of the Netherlands.

In 2019, Naktuinbouw made significant efforts to prepare for the entry into force of the Plant Health Regulation on 14 December 2019. Businesses were provided with a great deal of information and support to enable them to comply with the new requirements on time. The new long-term plan was also written and adopted in 2019 under the title Naktuinbouw Next Level.

Flower Bulb Inspection Service (BKD)
The Ministry of Agriculture, Nature and Food Quality has given the BKD authority over quality certifications of all flower bulb crops in the Netherlands, other than Freesia and Nerine, which have been entrusted to Naktuinbouw. In addition, BKD conducts phytosanitary inspections and performs other tasks on behalf of the NVWA. The BKD inspects flower bulbs for both quality and damage caused by quarantine organisms. The BKD also carries out quality certifications, import inspections, inspections for exports to third countries and laboratory testing. The BKD's testing system has adopted the requirements of the European quality and phytosanitary directives governing propagating material for flower bulbs. These directives have been given shape in Dutch legal frameworks in the form of the Agricultural Quality Act (LKW), which in turn is implemented through the BKD Inspection Regulations and Implementation Guidelines. The BKD also applies the requirements stipulated by countries outside of Europe for flower bulbs originating from the Netherlands. This takes the form of inspections and tests, which are performed on behalf of growers and traders after coordination with the NVWA.

The new laboratory building was completed in 2019: a major milestone that will improve efficiency and provide more testing opportunities. Significant steps were also taken towards the digitalisation of the chain in 2019. An inspection app was introduced for exports, alongside a revamped crop registration system, making the activities within the chain more efficient.

Quality Control Bureau (KCB)
The Quality Control Bureau (KCB) is an independent administrative agency subject to oversight by the Ministry of Agriculture, Nature and Food Quality. The KCB exclusively performs public functions.

The KCB's control and inspection work is carried out from the offices in the various districts. The KCB is a foundation; it has a board with members who are appointed by sector organisations in the fruit and vegetable sector, the ornamental horticulture sector and the Dutch Food Retail Association (CBL). The Minister of Agriculture, Nature and Food Quality approves the appointment of the Board Chair. The KCB's most important duty is to inspect consignments and shipments of fresh fruit and vegetables, cut flowers and potted plants. The KCB also monitors the quality of fresh fruit and vegetables that are imported into, exported from and traded within the Netherlands. In addition to this, the KCB inspects businesses in the context of export programmes for specific third-country destinations. The government has appointed the KCB to conduct these inspections. Examples of these business inspections include monitoring exports to Japan for Medfly, monitoring the export of tomatoes to the USA and monitoring the export of pears to China.

Phytosanitary export inspections of plant products and the issuing of phytosanitary export certificates for exports to third countries are carried out by NVWA officers. As an independent organisation, the Dutch Accreditation Council (RvA) has accredited the KCB to conduct these inspections.

The KCB has developed a quality system that demonstrably meets the requirements imposed in ISO/IEC 17020 and places a continuous focus on process improvement. Quality of work is essential to the KCB and is an ongoing priority. In 2019, a start was made on securing the accreditation (under the ISO 17025 standard) of the diagnostic activities that the KCB has performed since the end of 2018. This process will be continued in 2020.

In addition to ongoing Brexit preparations, a key development for the KCB in 2019 was the preparations for the entry into force of the Plant Health Regulation and the Official Controls Regulation on 14 December 2019.

The Netherlands General Inspection Service for agricultural seeds and seed potatoes (NAK)
The NAK is the Netherlands General Inspection Service for agricultural seeds and seed potatoes. The NAK performs this statutory task on behalf of and under the oversight of the Minister of Agriculture, Nature and Food Quality. The service carries out phytosanitary controls under the responsibility of the NVWA. Specialist inspectors conduct field and batch testing that contributes to the high quality of Dutch export products. After certification by the inspector, the grower can order the NAK certificate that must be affixed to the packaging of potatoes and seeds. Potatoes and seeds cannot be traded without a NAK certificate, so businesses depend on the NAK to certify their seed potatoes and seeds. The NAK certificate represents independence, quality and expertise, which is recognised by foreign buyers. The NAK also conducts additional phytosanitary batch inspections for export to third countries. To support certification, the NAK has modern laboratories where large-scale virus and bacteria testing of seed potatoes is carried out using molecular testing techniques (PCR) and nematode testing of soil samples. Seeds are tested for moisture, purity, germination, health and cleanliness. The laboratory also has a diagnostics laboratory.

In addition to its head office (Emmeloord), the NAK has a Testing and Control business in Tollebeek where various trial field tests and controls are performed on agricultural crops (variety/type comparison, certification control).

The organisation structure of the NAK was changed in 2019, firstly to ensure closer cooperation between office staff and field staff and secondly to focus more on customer processes. The former Operations Department was therefore divided into the Inspection Department – consisting of the current Field Staff Department and the Customer Service Department – and the current Laboratory Department. The result is the creation of two work centres, each with their own specific dynamic. In addition, five regions have been established within the Field Staff Department instead of the current three regions, with a focus on clarity, digitalisation and uniformity. In 2019, the NAK was also closely involved, along with the Ministry of Agriculture, Nature and Food Quality, the NVWA and the other inspection agencies, in further elaborating and preparing for the implementation of the Plant Health Regulation.