Netherlands Food and Consumer Product Safety Authority
Ministry of Agriculture, Nature and Food Quality

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To the Head of Agency of the Netherlands Food and Consumer Product Safety Authority

Advice of the Director of the Office for Risk Assessment & Research

Advice on the implementation of the National Residues Plan

Office for Risk Assessment & Research

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Background

The National Residues Plan (NPR) is the Dutch elaboration of Directive 96/22/EC[1] and 96/23/EC[2]. This Directive specifies which groups of substances the Member States are required to include in their annual monitoring of animal products. As such, the NPR is an important cornerstone for the free movement of animal products within the EU and for the export of animal products outside the EU. At the end of 2022, Directive 96/23/EC will be repealed and replaced by Regulation EU 2017/625[3]. In addition to the specified compulsory controls, this new regulation offers more space for risk-based controls by the Member States.

In 2017, the Office for Risk Assessment & Research (BuRO) commissioned WFSR[4] to develop an approach that can be used to structure the NPR in a risk-oriented manner. For the choice of substances, WFSR designed decision trees according to which substances can be classified with a high, medium or low priority (van Asselt et al., 2018a; van Asselt et al., 2018b). The classification is carried out on the basis of risks for food safety (probability x effect). The criteria are reproduced in table 1. The accompanying decision trees can be found in annex 1. Substances classified high deserve more attention than substances classified medium or low. BuRO subsequently advised the Netherlands Food and Consumer Product Safety Authority (NVWA) about the structure of the NPR and on the layout of the monitoring (BuRO, 2018).

[1] Council Directive 96/22/EC of 29 April 1996 concerning the prohibition on the use in livestock farming of certain substances having a hormonal or thyreostatic action and of B-agonists, and repealing Directives 81/602/EEC, 88/146/EEC and 88/299/EEC.
[2] Council Directive 96/23/EC on measures to monitor certain substances and residues thereof in live animals and animal products and repealing Directives 85/358/EEC and 86/469/EEC and Decisions 89/187/EEC and 91/664/EEC.
[3] Regulation (EU) 2017/625 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health and plant protection products, amending Regulations (EC) No 999/2001, (EC) No 396/2005, (EC) No 1069/2009, (EC) No 1107/2009, (EU) No 1151/2012, (EU) No 652/2014, (EU) 2016/429 and (EU) 2016/2031 of the European Parliament and of the Council, Council Regulations (EC) No 1/2005 and (EC) No 1099/2009 and Council Directives 98/58/EC, 1999/74/EC, 2007/43/EC, 2008/119/EC and 2008/120/EC, and repealing Regulations (EC) No 854/2004 and (EC) No 882/2004 of the European Parliament and of the Council, Council Directives 89/608/EEC, 89/662/EEC, 90/425/EEC, 91/496/EEC, 96/23/EC, 96/93/EC and 97/78/EC and Council Decision 92/438/EEC (Official Controls Regulation).
[4] Wageningen Food Safety Research, up to 1-6-2019 RIKILT

Table 1. Criteria in decision trees that are used to classify substances on the basis of food safety risks.

criteria used in the decision trees	**group I prohibited substances**	**group II contaminants**	**group III authorised veterinary medicinal products**
Is there an action limit, MRL/ML[5] or detection limit?		X	X
Limit exceeded in the last five years	X	X	X
Use (or probability thereof)	X		X
Scientific information about risks to humans	X	X	
Length of waiting period			X
Limit exceeded in animal feed in the last 5 years		X	
Transfer of substance to animal product		X	

In response to the WFSR study and the BuRO advice and in advance of the coming into effect of Regulation (EU) 2017/625, the National Residues Plan working group of the NVWA asked BuRO to "issue advice on how the NPR can be restructured in a risk-oriented manner, taking into account the space afforded by the new Official Control Regulation (EU) 2017/625 and the previously issued advice by RIKILT."

Approach

BuRO commissioned WFSR to apply the previously designed decision trees to a number of substance groups and animals/animal products. In consultation with the National Residues Plan working group of the NVWA, the decision was taken to first classify the antimicrobial agents (including sulfonamides and quinolones; group B1 in Regulation 2017/625), antiparasitic agents (group B2), carbamates (group B4) and non-steroidal anti-inflammatory drugs (NSAIDs; group B6). This decision was based on the fact that these are the substance groups with the highest number of samples and analyses in the current NPR. The chosen animals/animal products are cattle, pig, chicken and egg. These are the animal types with the highest production and as a consequence the greatest sample numbers. Eggs were chosen following the contamination with fipronil in the summer of 2017.

One of the selection criteria in the decision trees is the actual use of agents. To obtain this information, BuRO contacted the trade association of Manufacturers and Importers of Veterinary Medicines (FIDIN) and the Netherlands Veterinary Medicines Institute (SDa). Both FIDIN and the SDa supplied the requested information directly to WFSR.

For a risk-oriented structure, the focus of the advice is on the choice of substances according to the classification. The choice of a suitable matrix was discussed in outline in the previous advice of BuRO (BuRO, 2018). For this information, we also refer to a recent report from WFSR (van Asselt et al., 2018b).

The questions of how many samples should be taken and in what matrix (urine, blood, kidney, liver, muscle) require a separate study, because the answers depend heavily on the purpose of the control (identifying violations of the standard, determining prevalence, satisfying legislation that relates to the number of samples to production volume).

Findings

- Figures 1 to 4 provide an overview per substance group of the number of substances classified low, medium or high for four animal types (for the classification of all individual substances see (van Asselt et al., 2019).

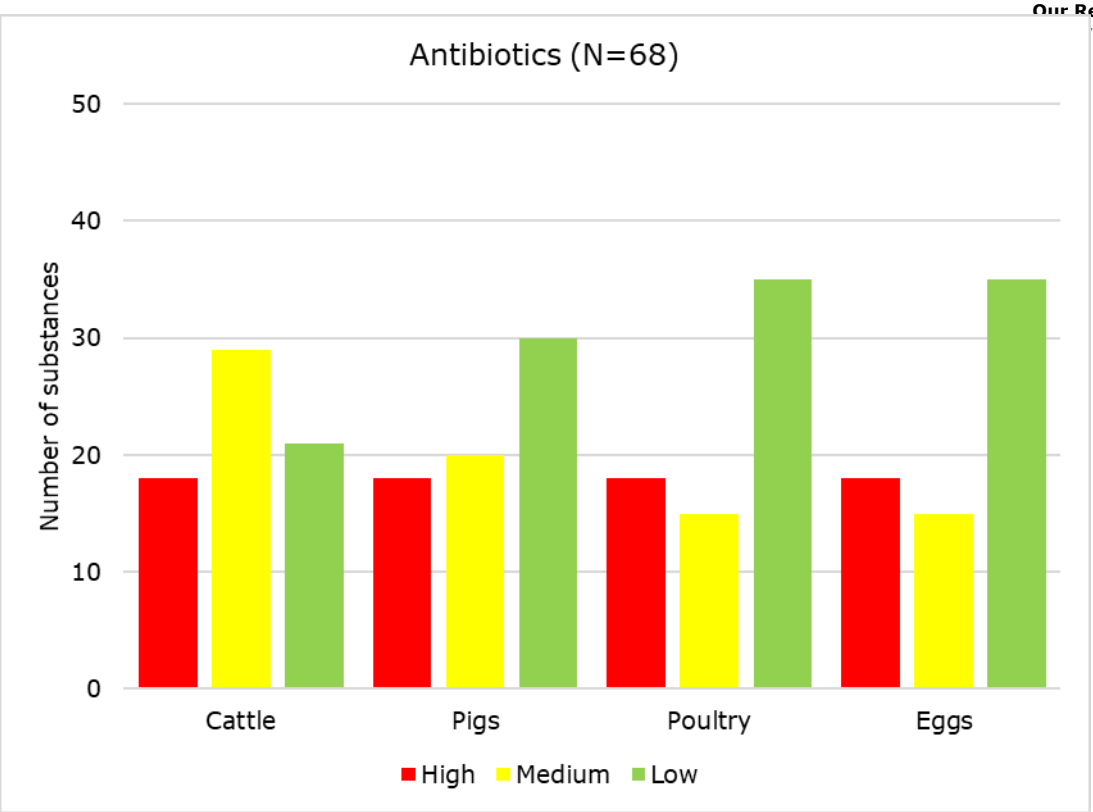

Figure 1. An overview of the number of low, medium or high classified antibiotics (substances) for cattle, pigs, poultry and eggs.

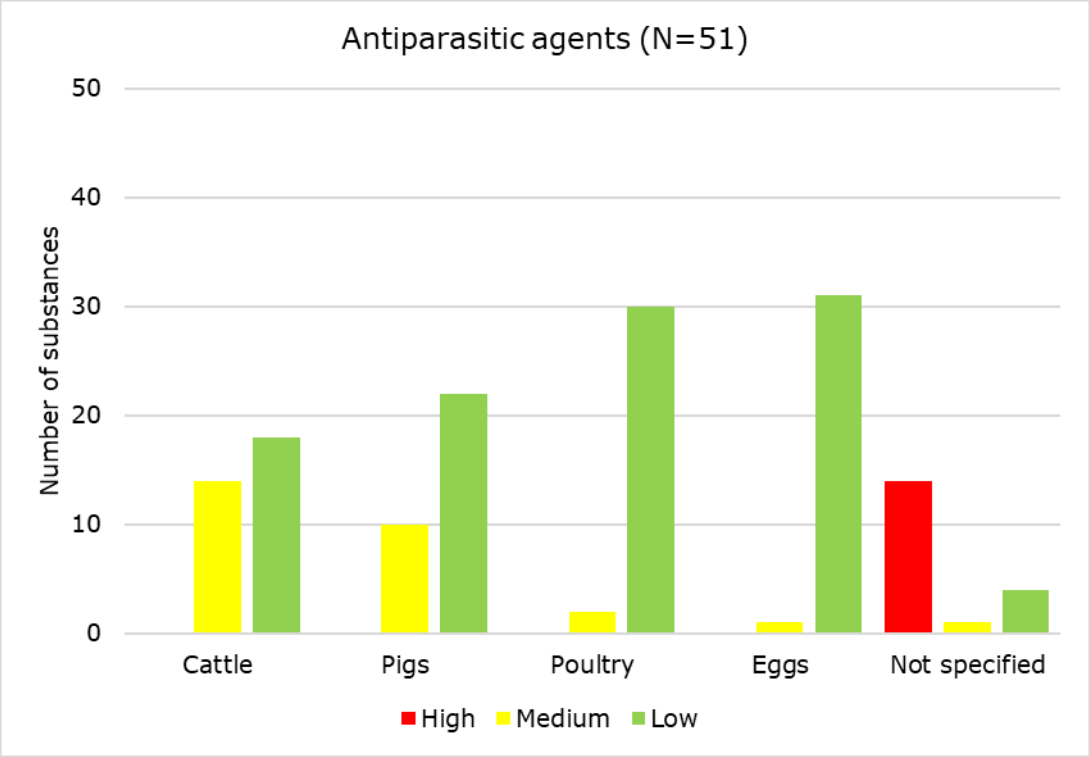

Figure 2. An overview of the number of low, medium or high classified antiparasitic agents (substances) for cattle, pig, poultry and eggs. In the unspecified category, no distinction is made according to animal type or animal product.

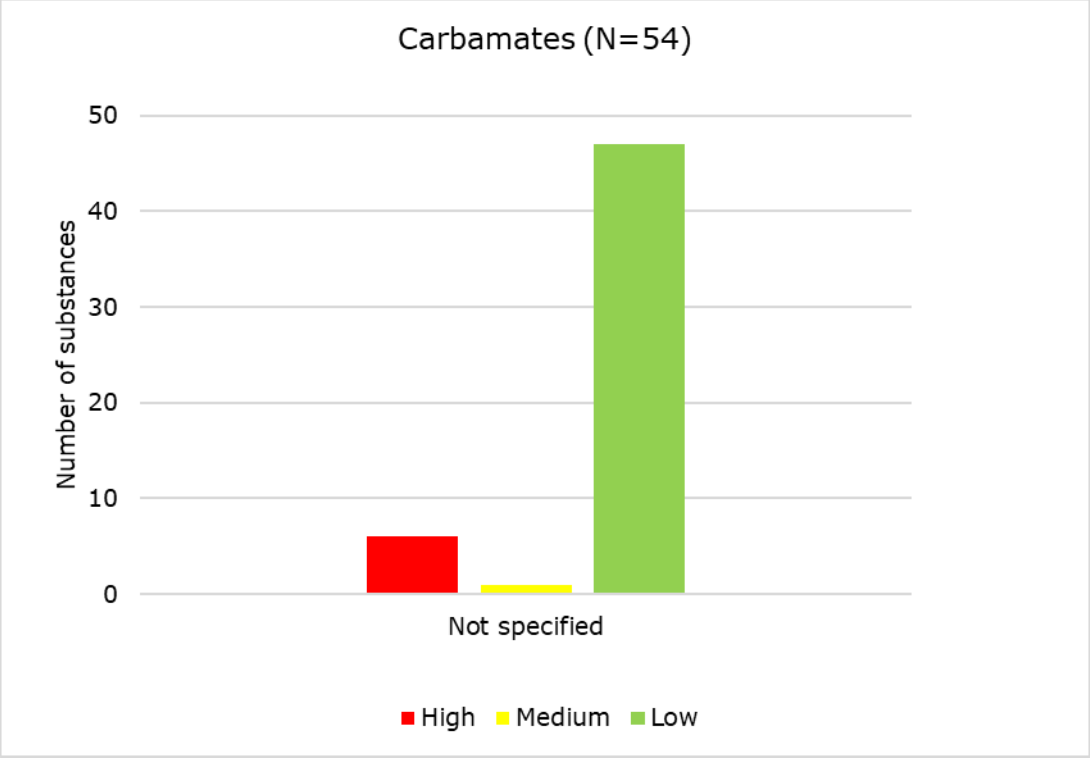

Figure 3. An overview of the number of low, medium or high classified carbamates (substances). No distinction is made according to animal type or animal product.

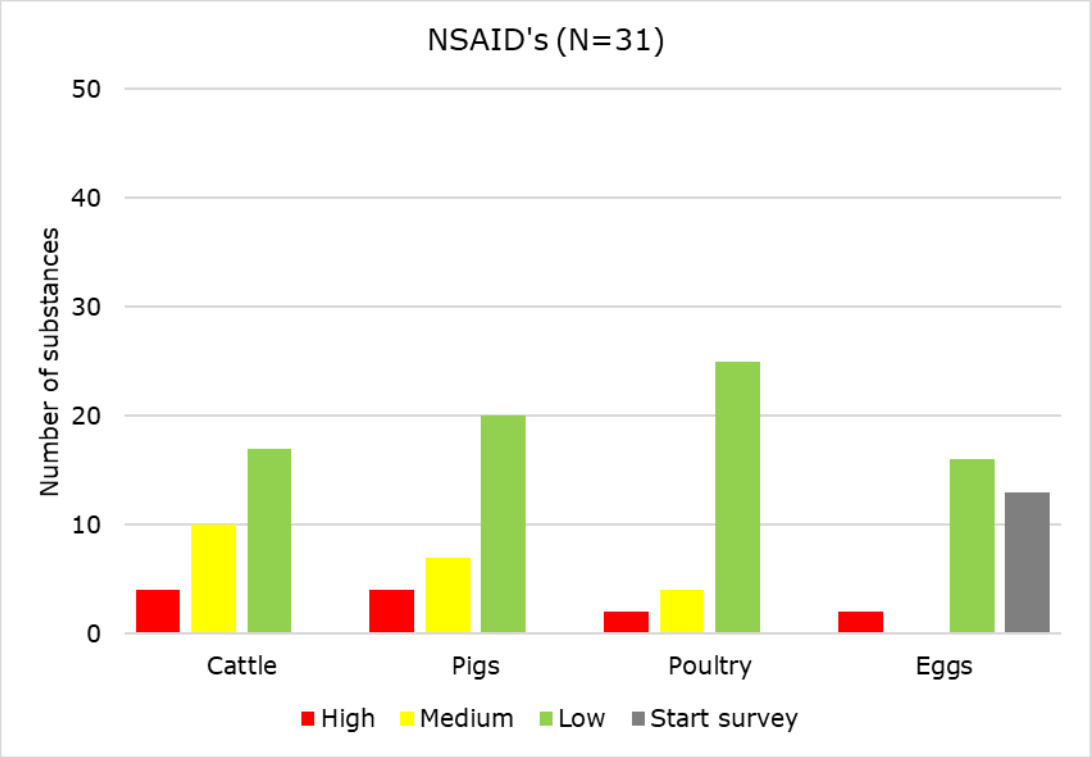

Figure 4. An overview of the number of low, medium or high classified NSAIDs (substances) for cattle, pigs, poultry and eggs.

- In the group antiparasitic agents, 19 substances are not specified according to animal or animal product (figure 2) because no information was available on these substances for each animal type.
- For all carbamates, no classification was made per animal type or animal product (figure 3). Farm animals are exposed to carbamates via residues in their feed. No distinction can be made between cattle, pigs and poultry with regard to carbamate exposure.
- A combination of prohibited substance - animal/animal product can be classified as high in either of two ways (decision tree I), to wit
  - There is sufficient information available, and that information results in a high classification.
  - There is insufficient information available about toxicity, while these substances were observed. In the decision tree, this classification is also referred to as high.

  In other words, there is a distinction between the classification high on the basis of sufficient information and classification high on the basis of insufficient information. The latter is based on prevention, specifically because information is missing, and these substances therefore deserve attention, and an assessment of the value and necessity of their inclusion and frequency in the National Residues Plan.
- In the group permitted non-steroidal anti-inflammatory drugs (NSAIDs), for 13 substances in the category eggs, insufficient information is available. These substances are not classified as high (decision tree III), but referred to as 'start survey'. This decision was taken because the MRLs are missing and possible use is unknown. Any survey should for example be focused on possible use.

- SDa has access to user data for individual antibiotics in farm animals per animal type in the Netherlands. FIDIN does not have use data, but is able to provide total sales data for individual veterinary medicinal products in the Netherlands. That a product is sold does not by definition mean that a product is also actually used. For non-antibiotics, these sales data were used because use data was not available. This may provide a distorted picture with regard to actual use of these substances.
- A determination has not yet been made whether analysis methods are also available for these substances classified as high and medium. If those methods are not available, they first need to be developed.

Answer to the question

How can the NPR be restructured in a risk-oriented manner, taking into account the space afforded by the new Official Control Regulation (EU) 2017/625 and the previously issued advice by RIKILT?

The tables drawn up by WFSR with low, medium or high classification can be used for a risk-oriented choice of substances for the structuring of the NPR by the Enforcement directorate of the NVWA.

The NPR can be structured in a risk-oriented manner, in respect of choice of substances, by opting for substance animal/animal product combination classified by WFSR as high and medium. The same applies for substance animal combinations whereby the animal type is unspecified. For the classification of all individual substances, see (van Asselt et al., 2019).

Advice from BuRO

To the Head of Agency

- Use the classification of substance - animal/animal product combinations as reported in this advice for a risk-oriented substance choice in structuring the NPR.
- Also make a classification for the remaining substance groups animal/animal product combinations specified for the NPR, so that a risk-oriented choice can also be made for the remaining substances.
- Evaluate the classification of the substance animal/animal product combinations regularly. Focus on making structural agreements with FIDIN and SDa in the field of data interchange.

Yours sincerely,

Office for Risk Assessment & Research
Prof. Antoon Opperhuizen

Appendix 1. Decision trees

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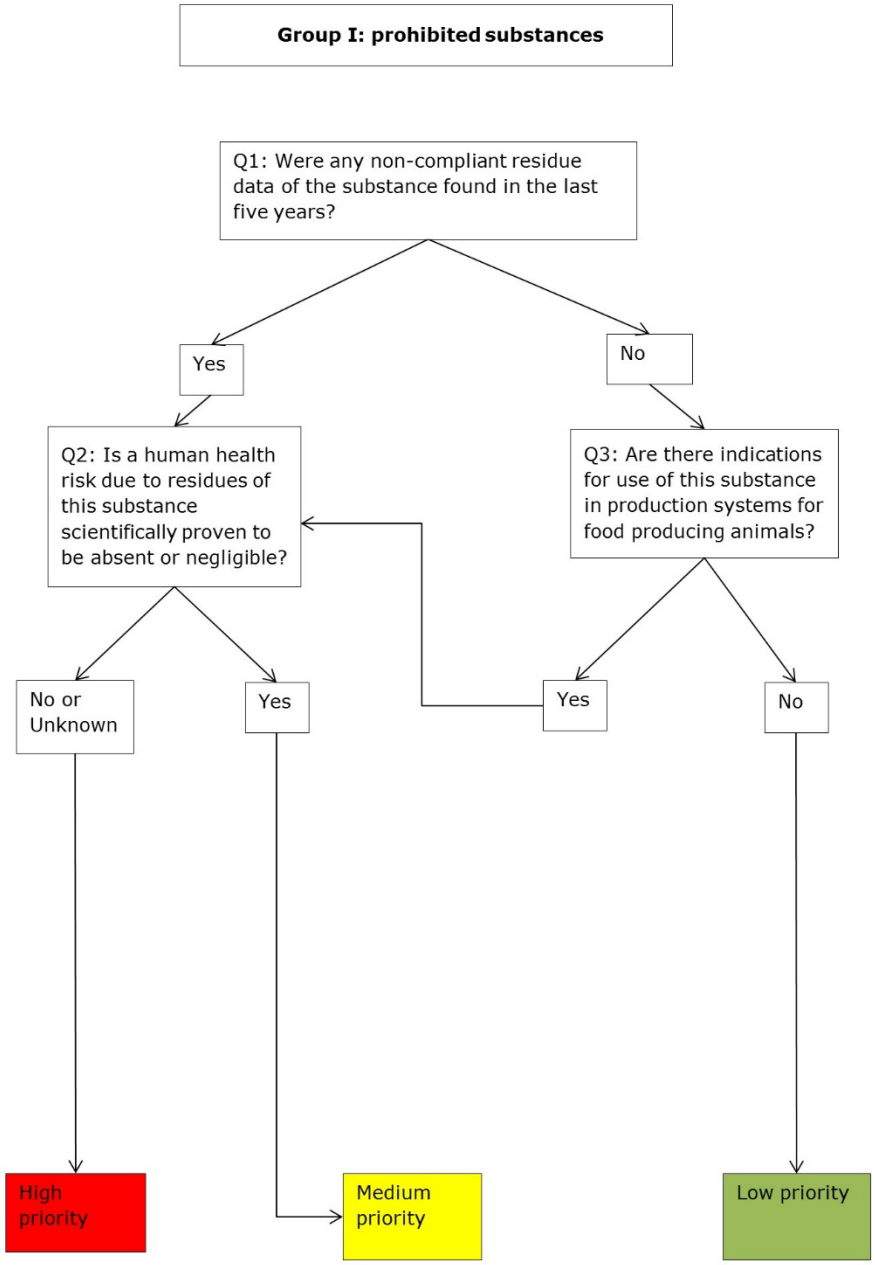
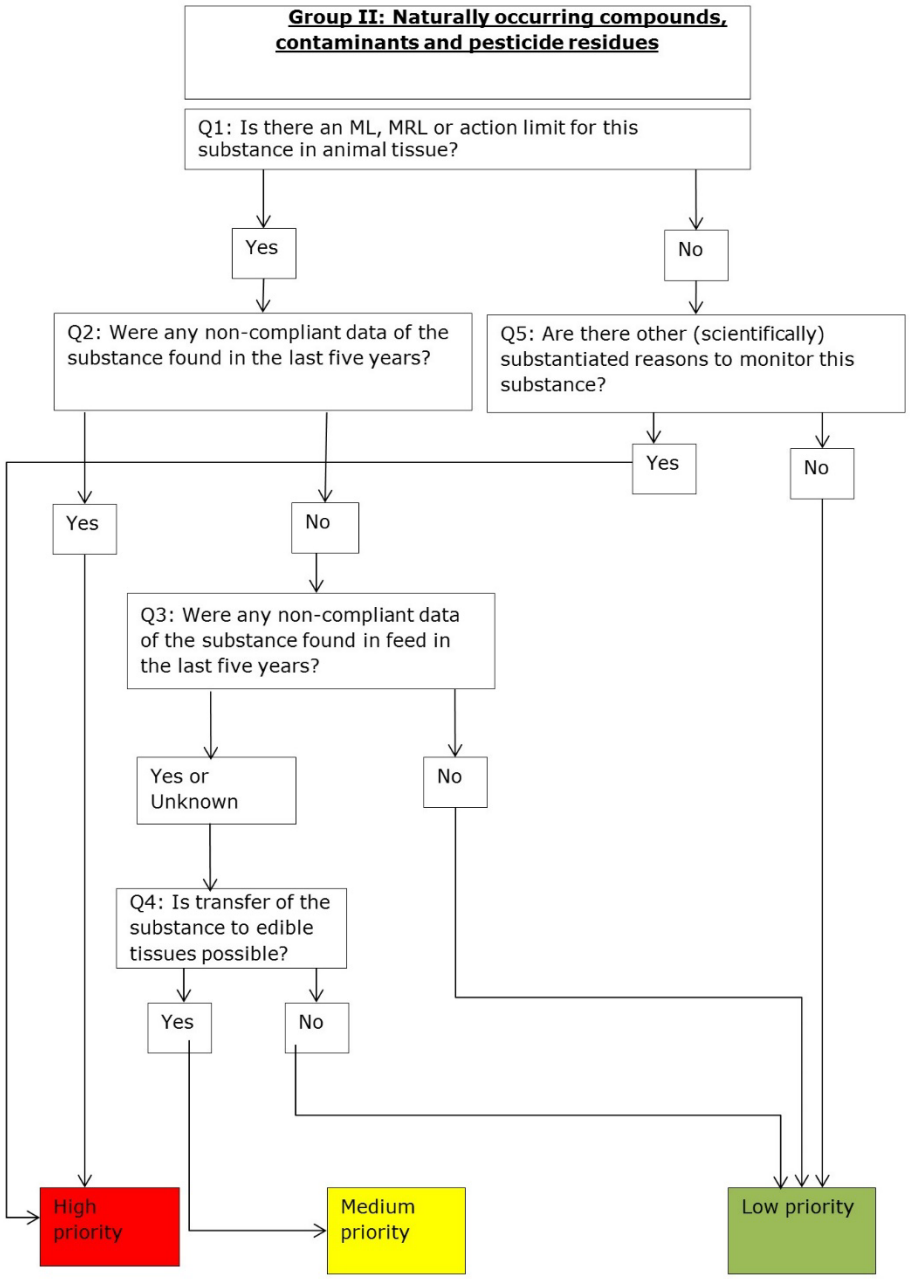
Group I – prohibited substances



Group II – Contaminants



Group III – Authorised substances

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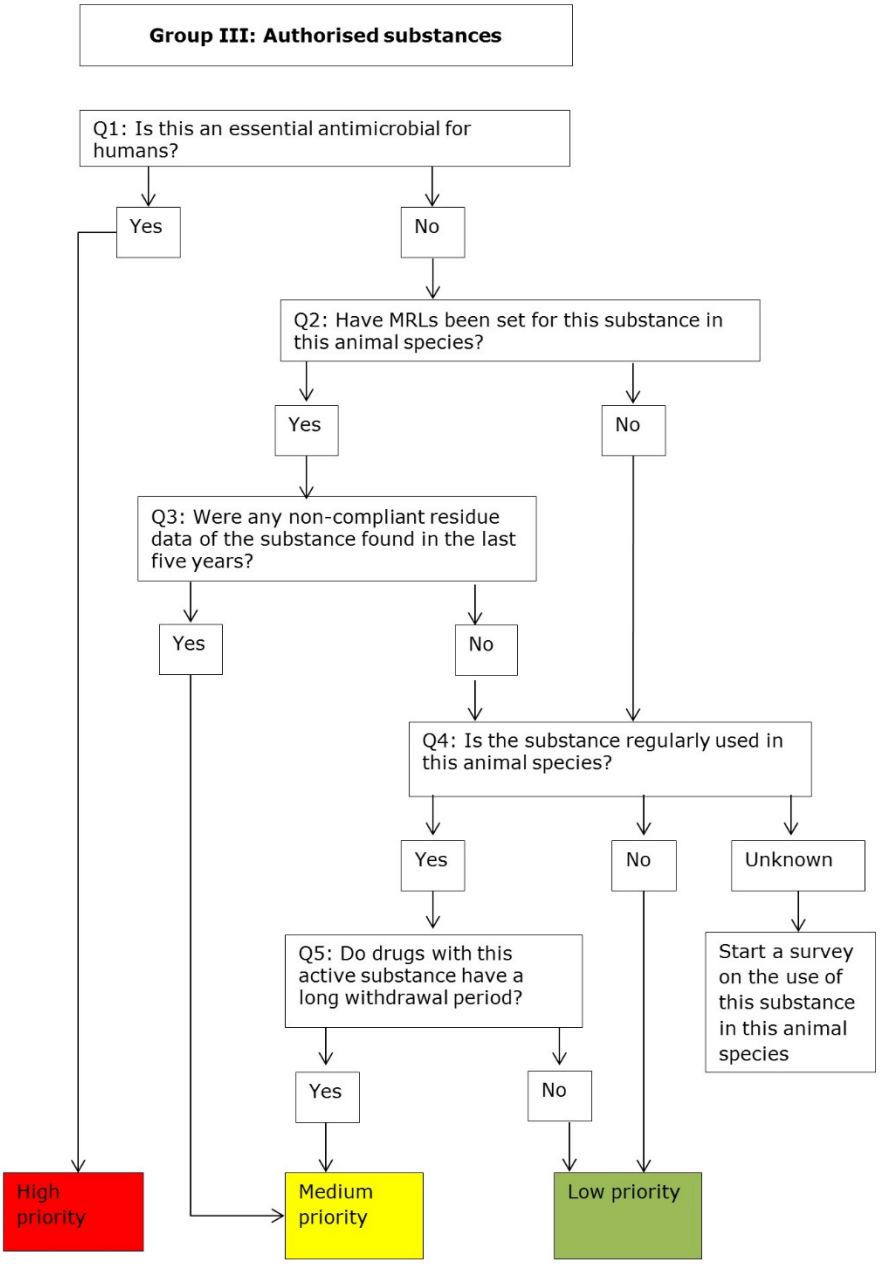

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