Netherlands Food and Consumer
Product Safety Authority
Ministry of Economic Affairs

National Plant Protection Organization
POBox 9102
6700 HC Wageningen
The Netherlands

August 2016 PEST Report - THE NETHERLANDS

1.1 First finding of *Contarinia* sp. in *Alstroemeria* flower buds in a production greenhouse in the municipality 'Kaag en Braassem'.

1.2 Executive summary

This report concerns the official finding of *Contarinia* sp. at one greenhouse location in the Netherlands on *Alstroemeria* grown for production of cut-flowers. Findings were triggered by the observation of severely malformed flowers and flower buds. Gall midge larvae were present inside these flower buds. Identification of these larvae as *Contarinia* sp. was based on morphological and DNA analysis. Identification is limited to the genus level as the finding likely concerns an undescribed species.

The origin of the finding is unknown. The organism is not listed as a harmful organism in the EU directive 2000/29/EC and is not listed on the EPPO A1 or A2 list.

Identity of the pest: *Contarinia* sp.
Categorization of the pest: none
Location: municipality 'Kaag en Braassem' in the province Zuid-Holland
Reason of the notification: New pest
How the pest was found : (6) information submitted by professional operators, laboratories or other persons
Information on the infested area, severity and source of the outbreak: The pest has been found in two greenhouse compartments in which large numbers of *Alstroemeria* plants were infected which displayed malformed flowers and flower buds. The gall midge has a significant impact on marketability of the product.
Official phytosanitary measures: Decision on whether official phytosanitary measures will be taken is pending. The grower is taking measures in order to eradicate the pest.

1.3 Type of notification	(2) full notification (notification within 30 days)
2.1 Single Authority	Notification from the National Plant Protection Organization of the Netherlands – Netherlands Consumer and Product Safety Authority PO Box 9102 6700 HC Wageningen, the Netherlands
2.2 Official contact	M.S.W Gerrits +31651229622; Email: m.s.w.gerrits@nvwa.nl

3. Location of presence of harmful organism	One greenhouse in the municipality 'Kaag en Braassem' (province Zuid-Holland).
3.2 Map of the location	
4. Reason of the notification and pest status	4.1 (1) First presence of the harmful organism. New pest.
4.3 Previous Pest status	(8) Absent: no pest records.
4.4 Current Pest status	(14) Transient: actionable, under surveillance.
5. Information relating to the finding.	(6) Information submitted by professional operators, laboratories or other persons. Symptoms were observed by the grower, who notified a diagnostic laboratory, which in turn notified the NPPO. The NPPO received a diagnostic sample. The location was subsequently visited to assess the impact of the pest.
5.2 Date of finding	Symptoms were first reported to the NPPO on July, 26 2016. The NPPO received a diagnostic sample and the official diagnosis was obtained on August 16, 2016.
5.3 Sampling for laboratory analysis	On July 27, 2016 the entomologist of the National Reference Centre found gall midge larvae inside flower buds received

	for diagnostics.
5.4 Laboratory	NPPO of the Netherlands National Reference Centre Geertjesweg 15, 6706 EA Wageningen, the Netherlands Contact person: Ir. Anton T.C. van der Sommen Tel: +31 65 124 7175; Email: a.t.c.vandersommen@nvwa.nl
5.5 Diagnostic method.	(2) Other, morphological identification and DNA analysis. Gall midge larvae were found when opening affected flower buds. These larvae were confirmed to belong to the family Cecidomyiidae (Diptera). Larvae were tentatively identified as *Contarinia* sp. DNA data revealed a 99% match with an unidentified *Contarinia* sp. supporting the view that the finding concerns the genus *Contarinia*. Rearing of adults is necessary to confirm the identification at the genus level and for further research. We excluded the possibility that the infestation involved *Contarinia quinquenotata*, which is known to infect Hemerocallis in the Netherlands.
5.6 Date of official confirmation of the harmful organism's identity	August 16, 2016
6. Information related to the area, severity of the finding and source of the finding	(1) Two greenhouse compartments of 0.1 ha each are infested
6.2. Characteristics of the infested area and its vicinity.	(3) Physically closed conditions (3.1) Greenhouse The infestation concerns plants grown for production of cut-flowers.

	 One of the affected compartments.
6.3. Host plants in the infested area and its vicinity.	The *Alstroemeria* hybrid 'Granada' is grown for cut-flower production in the affected greenhouse compartments.
6.4. Infested plant(s), plant product(s) and other object(s).	Only *Alstroemeria* 'Granada' is affected.
6.5. Vectors present in the area.	Not relevant
6.6. Severity of the outbreak.	Large numbers of flower buds of *Alstroemeria* were malformed as a result of the infection with gall midge larvae. No cut flowers could be harvested due to the infestation.  Affected flower bud, resulting in non-marketable cut flowers.

	 Affected plant
6.7. Source of the outbreak.	The origin of the finding is unknown. Given the large impact of the pest on marketability of cut-flowers and clear symptoms, we assume that the gall midge recently infested the greenhouse compartments. No link was established with import of cut flowers or plants for planting. The native range of *Alstroemeria* spp. is South-America and this seems the most likely origin of the midge species. Interestingly, the Plant Protection Service of Japan has intercepted *Contarinia* larvae in Alstroemeria flowers imported from Australia and New Zealand (Iwaizumi et al, 2007), but it is not known whether this concerns the same species as in the Netherlands.
7. Official phytosanitary measures	
7.1. Adoption of official phytosanitary measures.	(4) Decision on whether official phytosanitary measures will be taken is pending. The grower has volunteered to remove (and eliminate) all flowers and flower buds for a period of five weeks, thereby removing all potential sites for egg laying. Plants are sprayed weekly to eliminate adult midges. The NPPO monitors the situation during this period and will monitor

	again next spring when the new flower production cycle starts.
7.2. Date of adoption of the official phytosanitary measures. In case of temporary measures, indication of their expected duration.	Decision is pending, while awaiting better understanding of the current spread of the organism.
7.4. Objective of the official phytosanitary measures.	Eradication, providing the midge species is not already widespread.
7.5. Measures affecting the movement of goods.	(2) Measures do not affect import into or movement within the Union of goods.
7.6. Specific surveys.	The decision on a specific survey is pending.
8. Pest risk analysis/assessment	(3) Preliminary pest risk analysis exists. The relevant quick scan will become available on the website of the NPPO (https://english.nvwa.nl/documents/document/pest-risk-analysis/quick-scans).
9. Links to relevant websites, other sources of information.	Iwaizumi, R., Tokuda, M. & Yukawa, J. (2007). Identification of gall midges (Diptera: Cecidomyiidae) intercepted under plant quarantine inspection at Japanese sea-and airports from 2000-2005. Appl. Entomol. Zool. 42(2):231-240.