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To the Minister for the Environment
drs. V.L.W.A. Heijnen
P. O. Box 20901
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DATE	23 June 2022
REFERENCE	CGM/220623-01
SUBJECT	Advisory letter on the 'Research project on GM seeds in seed mixtures'

Dear Minister,

COGEM commissioned a research project to obtain a better understanding of the possible dissemination routes of seeds of genetically modified (GM) plants. The study examined the possibility of GM seeds being present in bird feed and seed mixtures for flower-rich field margins ('flower seed mixtures'). The results of the study are described in the research report 'Bird feed and flower seed mixtures: potential for disseminating genetically modified seeds' (CGM 2022-02) prepared by Perseus B.V. The researchers have demonstrated that despite the measures taken by some producers to prevent the presence of GM seeds in seed mixtures, several of the analysed bird feed mixtures contained seed of (approved) GM oilseed rape lines.

1. Reason for the study

Previous research in Switzerland[1] and the Netherlands[2] has demonstrated the presence of seeds of GM plants in bird feed. In view of these results, COGEM commissioned a study of bird feed and other seed mixtures. The aim of the study was to gain more insight into the possible presence of seeds of GM plants in seed mixtures, which could possibly lead to their dispersal and to unintended effects.

2. Research results

2.1 Inventory of plant species in seed mixtures and analysis of possible GM variants

The researchers made an inventory of the plant species in more than 900 seed mixtures and identified species with GM variants that are known to be commercially grown or which have been the subject of field trials. Some of the identified plant species can survive in the

Netherlands. From the inventory, the researchers identified a few species that are able to become established in the Netherlands, have a GM variant and were considered most likely to be present in the seed mixtures. These species are *Medicago sativa* (lucerne), *Carthamus tinctorius* (safflower) and Brassica species (*Brassica napus*, oilseed rape; *Brassica rapa*). If GM variants of *Camelina sativa* (gold-of-pleasure) are grown on a larger scale in future, this species should also be on the list.

2.2 Differences in origin and certification of seed mixtures

Interviews with companies producing seed mixtures and distributors of seed mixtures revealed that the seeds used in flower seed mixtures are produced mainly in Europe, where hardly any GM crops are cultivated. In contrast, most seeds used in bird feed mixtures are imported from countries outside the European Union. Although various GM crops are approved for use in animal feed, bird feed producers take measures to ensure their seed mixtures remain GMO-free, either by testing or through certification. GMO-free certificates are generally not required by producers of flower seed mixtures.

2.3 Analysis of selected seed mixtures

Based on the results of the inventory, the researchers analysed several bird feed and flower seed mixtures for the presence of GM seeds. No GM seeds were found in the 20 samples of flower seed mixtures that were analysed. However, despite the measures taken by a number of bird feed producers, GM seeds were found in 5 of the 30 bird seed mixtures that were analysed. The seeds in these bird seed mixtures were viable (able to germinate).

2.4 Follow-up study confirms the presence of GM oilseed rape in bird feed

COGEM commissioned Wageningen Food Safety Research (WFSR) to verify the results of the analysis. WFSR is the national reference laboratory in the Netherlands that tests food and feed for the presence of residues and contaminants, including GM organisms.[3,4] The tests conducted by WFSR revealed the presence of several transgenic elements – sequences indicative of a GM variant – in the bird feed seed mixtures. This confirms the findings of the authors of the research report. WFSR then performed tests designed to detect specific GM variants. The results of these tests are consistent with the presence of GM oilseed rape lines approved for use in the EU (GT73, MS8 and RF3). The WFSR did not determine how many GM seeds were present in the mixtures; neither is it known how many oilseed rape seeds were present in the analysed seed mixture samples. For this reason, it is not known whether or not these bird feed seed mixtures should have been labelled as containing GM seeds.

3. Conclusions and recommendations by COGEM

3.1 Conclusions

The study shows that despite the measures taken by a number of bird feed producers, GM seeds were found in 5 of the 30 analysed bird seed mixtures. The seeds in these bird seed

mixtures were viable. The possibility of GM crops not approved for use in the EU being present in bird feed mixtures cannot be ruled out.

Given the above, COGEM makes a number of recommendations to prevent unintended effects that could arise from the presence of GM seeds in bird feed and from the dispersal of those seeds.

3.2 Recommendations on enforcement and inspection

COGEM recommends that inspection and enforcement agencies should pay more attention to bird feed seed mixtures,* for example by raising awareness among distributors and producers of bird feed seed mixtures. The research report contains lists of plant species in seed mixtures and the known GM variants of those species, including GM crops not authorised in the EU. Seeds of the plant species *M. sativa* (lucerne), *C. tinctorius* (safflower) and Brassica species deserve particular attention, followed by *C. sativa* (gold-of-pleasure). It should be noted that no GM variants of these species were found in this study.

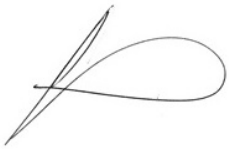
3.3 Recommendation for expanding monitoring

Holders of permits for GM crops are required to monitor their crops for any unanticipated adverse effects (general surveillance). At the moment, monitoring of GM crops focuses on transhipment points and the processing industry. For many years, COGEM has pressed for the monitoring of GM oilseed rape along transport routes (including roadsides and railway beddings). In the past, COGEM has commissioned many studies into the presence of oilseed rape plants, including GM oilseed rape plants, in the environment in the Netherlands and the possibility of outcrossing with sexually compatible species.[5,6,7] The current study shows that authorised GM crops can also be introduced into the environment via bird feed. COGEM therefore recommends that future monitoring plans should include this introduction route, for example by involving bird feed producers and distributors in monitoring and by setting up a contact point where nature conservation managers, poultry farmers and individuals can report any unusual or unexpected observations.

In summary, this research project confirms that GM seeds may be unintentionally present in bird feed. COGEM points out that this is a possible dissemination route for GM seeds and makes recommendations on improving the monitoring of GM oilseed rape and, in future, other GM crops that are able to survive and become established in the Netherlands.

* COGEM points out that, in addition to the possible presence of GM variants, the use of viable seeds in natural areas may be undesirable for other reasons. Distribution of these seeds may result in the introduction of species in areas in which the species did not occur before. However, this falls outside the scope of the Dutch GMO legislation.

Yours sincerely,



Professor Sybe Schaap
Chair of COGEM

c.c.

- Ministry of Infrastructure and Water Management, Environmental Safety and Risks Directorate, Directorate-General for the Environment and International Affairs
- Y. de Keulenaar, Head of the GMO Office
- M.H. Spreuwenberg, Human Environment and Transport Inspectorate

- C.C. van der Weijden, Netherlands Food and Consumer Product Safety Authority

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