Advisory Committee on Releases to the Environment

Advice on applications to import and process food and feed from genetically modified (GM) crops that are unable to grow in the UK

Advice of the Advisory Committee on Releases to the Environment (ACRE) under S.124 of the Environmental Protection Act 1990 (Part VI)

This advice applies to the applications listed below.

These applications are for the import of GMOs and their processing and consumption as food or feed. The advice is specific to GMOs (usually grain) derived from crops that are unable to grow (i.e., establish a viable growing population) outside of agricultural (managed) conditions in the UK, e.g., if spilled during transportation or processing.

ACRE is satisfied that, in the UK, the import and processing of the GMOs listed below does not pose a greater risk to the environment or human health than do their non-GM counterparts.

Authorisation will only be granted if the applicant has demonstrated that the GMOs in question are as safe as their non-GM equivalents. The Food Standards Agency (FSA) is responsible for food and feed safety. It is ACRE's responsibility to assess the potential environmental impacts. This advice concerns the environmental risk assessment (ERA) and post-market environmental monitoring (PMEM) components of the applications listed below.

Comment

Environmental risk assessment (ERA)

This advice applies to crops that have been genetically modified with traits that do not increase the crop's ability to establish and persist, unmanaged, under UK conditions.

We have considered the ERA, and the PMEP plan and reports for each application on a case-by-case basis before deciding whether this advice reflects the conclusions of the specific risk assessment.

We have considered the following potential pathways to environmental exposure.

The ability of reproductive material, e.g., grain, to germinate and establish if spilled during transportation and processing is a crucial aspect in terms of the environmental consequences of importing GMOs. This is because the environmental risk posed by the GMO is a function of any hazards it presents to the environment and the exposure of the environment to these hazards.

In the case of the GMOs listed below, grain spilt during transport and processing, and left unattended, cannot establish a viable growing population. This restricts environmental exposure. The crops listed below do not have sexually compatible wild relatives in the UK.

Exposure of soil organisms to the GMOs listed below will be minimal due to a combination of the low risk of spillage and ~~that~~ these plants being unable to establish a viable growing population in the UK's climate.

Regarding indirect exposure of organisms to transgene-encoded proteins that might remain in decomposing food, feed or reproductive material and/or in manure or faeces from animals fed these GMOs, our assessment is that such exposure would be extremely low and of no ecological relevance.

Theoretically, it is possible that environmental exposure to GM proteins could increase if the transgenes encoding these proteins transferred to, and were expressed by, soil bacteria. Our view is that horizontal gene transfer (HGT) between plants and soil bacteria under field conditions can occur but is a very rare phenomenon. ACRE is content that if the transgenes encoding these proteins did transfer from plants to soil bacteria, fungi or other plants, they would not pose a greater risk to the environment than their non-GM counterparts.

GM crops that have been processed into food or feed products do not pose an environmental risk as they cannot germinate.

This advice is relevant to the UK only and we recognise that the situation regarding germination and survival of spilled seed or grain may be different in other countries.

Post-market environmental monitoring plans (PMEMs)

All applications to market GMOs must include a PMEM plan. This plan should incorporate general surveillance for unanticipated adverse effects and, if necessary, case specific monitoring focusing on specific adverse effects identified in the ERA.

The ERAs relating to applications covered by this advice do not identify any requirement for case-specific monitoring in the UK

Consequently, general surveillance PMEMs are appropriate for applications covered by this advice.

We recommend that PMEM plans should include details of who will be responsible for providing any required information; what type of information is to be provided, and the

frequency; and how the applicant will ensure participation to allow a robust assessment to be performed.

Summary conclusion

The plants listed below cannot establish a viable growing population in UK conditions. This advice applies to GMOs that do not show altered characteristics that could indicate a greater potential to persist or to invade new habitats. As such, any GM plants carrying the transgenic events listed below that may germinate from grain spilled during importation or transport will not persist or survive in the receiving environments of the UK. They do not pose a greater risk to the environment than their non-GM counterparts. We advise that it is not necessary to control plants containing the GM events listed below. Due to the lack of significant environmental exposure, we consider that general surveillance is appropriate.

Applications

Reference	Crop type	Event	Applicant	Advice agreed by ACRE
EFSA/GMO/NL/2005/13	Cotton	LLCotton25 Herbicide tolerant	Bayer CropScience	23/03/2007
EFSA/GMO/NL/2011/97	Cotton	T304-40 Insect resistant Herbicide tolerant	Bayer CropScience	16/7/2013
EFSA/GMO/NL/2010/77	Cotton	GHB614xLLCotton25 Herbicide tolerant	Bayer CropScience	2/6/2014
EFSA/UK/2008/57	Cotton	MON15985 Insect resistant	Monsanto	9/9/2014
EFSA/GMO/UK/2007/41	Cotton	MON88913 Herbicide tolerant	Monsanto	21/10/14
EFSA/GMO/NL/2009/68	Cotton	281-24-236x3006-210-23x MON88913 Insect resistant Herbicide tolerant	Dow Agro Sciences and Mycogen	29/04/16
EFSA/GMO/NL/20011/96	Cotton	GHB119 Insect resistant Herbicide tolerant	Bayer CropScience AG	14/12/16
EFSA-GMO-NL-2011-94	Cotton	GHB614 x LLCotton25 x MON15985 Insect resistant Herbicide tolerance	Bayer CropScience AG	18/05/2018

EFSA-GMO-NL-2014-1222	Cotton	GHB614 x T304-40 x GHB119 Insect resistant Herbicide tolerant	Bayer CropScience N.V.	24/08/2018
RP608	Cotton	GHB614 Herbicide tolerant	BASF	25/04/2023
RP1232	Cotton	GHB811 Herbicide tolerant	BASF Agricultural Solutions	25/07/2023
RP1569	Cotton	281-24-236 x 3006-210-23 Insect resistant	Corteva Agriscience LLC	07/06/2024
RP2148	Cotton	COT102 Insect resistant	Syngenta	11/02/2025