

GeneWatch UK submission to the Scottish Government consultation on transposition of the GM Directive – Changes to the Genetically Modified Organisms Legislation in Scotland

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GeneWatch UK is a not-for profit organisation, which aims to ensure that genetic technologies are used in the public interest. We support a precautionary approach to GM crops and campaign for safeguards for people, animals and the environment.

GeneWatch UK welcomes the Scottish Government's decision to join the majority of EU member states in adopting the transitional provisions which allow Member States and regions to restrict or ban (opt out) of growing the one GM maize variety that is already approved in the EU (MON810) and others that are pending EU approval.

Risks to human health and the environment posed by herbicide tolerant GM crops

All the GM crops currently in the pipeline for approval for commercial cultivation in the EU, and the vast majority of such crops grown commercially worldwide, have been genetically engineered with one of two traits: insect resistance (so called Bt crops, containing Bt toxins) and herbicide tolerance (allowing the crop to survive blanket spraying with the relevant weedkiller, usually glyphosate, brandname RoundUp).

Bt crops are not suitable for growing in Scotland, or the rest of the UK, since the target pests are not a problem here. However, herbicide tolerant (HT) crops, including "RoundUp Ready" GM crops (tolerant to glyphosate), could potentially be grown in the UK in future. Major concerns exist regarding the risks these crops pose to human health and the environment. Problems due to blanket spraying of these crops with weedkiller include:

- Risks posed by increased herbicide residues on the crop (posing health risks for human or animal consumption) and in the environment e.g. soils, watercourses (posing risks to wildlife e.g. frogs and worms);
- The spread of resistant weeds ('superweeds') across farmland, which evolve in response to blanket spraying;
- Loss of habitat for wildlife (e.g. butterflies, birds) as surrounding weedy habitat is killed.

These concerns have been exacerbated by: the International Agency for Research on Cancer (IARC)'s recent designation of glyphosate as a "probable human carcinogen"; the use of additional chemicals in commercial weedkiller formulations (other than the active ingredient) which are untested but may considerably increase toxicity; and the need for farmers to spray more weedkillers (including tank mixes) over time, as resistant weeds develop.

Further, there is no evidence that HT crops provide increased yields or any other benefit to farmers, except in the short-term (before resistant weeds develop) when they simplify the herbicide regime, allowing spraying with only one weedkiller. This benefit is lost overtime as resistant weeds develop and cause major problems for farmers.

The need for a precautionary approach to future GM crops

Many misleading claims have been made that future generations of GM crops will have more useful traits, such as drought-tolerance or disease resistance. However, in practice such traits have not been delivered.¹

Further, new traits would introduce new risks, which would require more in-depth consideration.

In reality, the next-generation GM traits now entering the market in the USA are tolerant to more toxic herbicides (such as 2,4-D and dicamba) as well as glyphosate, in a misguided attempt to deal with the problem of glyphosate-resistant weeds. These new crops only exacerbate concerns about the risks to human health and the environment, and will lead to more resistant weeds.

Social and economic benefits of remaining free of GM crop cultivation

Due to public concerns about the risks and about corporate control of GM seeds through patenting, GM crops command lower prices on the market than conventionally bred or organic crops. Foods containing GM ingredients require traceability and labelling in the EU and are rarely stocked by retailers due to the lack of a market. Even in the USA, where GM crops are widely grown and labelling is not (yet) required, many food manufacturers are now seeking to source non-GM ingredients. There is also growing interest in sourcing GM-free animal feed in many EU countries.

Where GM crops are grown, segregation is required to maintain alternative GM-free supplies for consumers and to allow product recalls should anything go wrong. The costs of segregation are normally borne by non-GM farmers and add to the overall costs of the food supply. Further, expensive contamination incidents inevitably occur, typically costing hundreds of millions of dollars and sometimes leading to the loss of whole markets for non-GM or organic crops. Remaining GM-free is the best way to avoid these additional costs and to avoid expensive contamination incidents and loss of consumer trust.

Thus, Scotland's decision to opt out of growing GM crops will enable it to retain its clean, green image and to remain a producer and exporter of high-value products.

ⁱ For example, 21,458 trials for traits other than Bt and HT crops have been conducted to date in the USA: <http://www.isb.vt.edu/release-summary-data.aspx> . Yet, according to industry figures (<http://www.isaaa.org/>) approx. 85% of the commercial cultivated area of GM crops worldwide contains the HT trait (mostly RoundUp Ready) either alone or in combination with Bt toxins. Most of the remaining area consists of Bt crops (mainly cotton).