

EU legitimizes GM crop exclusion zones

To the Editor:

On July 13, 2010, the European Commission (EC) officially proposed to give member states the freedom to veto the cultivation of genetically modified (GM) crops on their own territory without having to provide any scientific evidence relating to new risks¹. The objective of the legislation is ostensibly to make individual member states responsible for their own policy on GM crops, and therefore to speed up pending authorizations by removing the ability of those member states to veto approval throughout the European Union by avoiding a qualified majority (Fig. 1). However, we argue that the opt-out will have exactly the opposite effect to that intended, allowing the creation of arbitrary GM-free zones in Europe that will cause untold damage to the EU economy and its global scientific standing.

The removal of any need for scientific justification in decisions concerning GM crops effectively serves to legalize the currently illegal practice in which individual member states arbitrarily declare GM-free zones within their borders, or ban GM crops altogether². The only GM crops currently grown in Europe are the pest-resistant maize variety MON810 and the Amflora potato variety engineered to produce modified starch. Both are banned in Austria, Hungary and Luxembourg, and the MON810 event is also banned in France, Greece and Germany (Table 1). Poland is currently drawing up legislation to ban all GM seeds, and other member states are considering similar proposals. Although these existing and proposed bans are technically in breach of EU regulations, at least those member states implementing a ban have to make some sort of effort to justify their decision on scientific grounds, even if the evidence used in such cases is dubious (the 'safeguard clause'). When the legal amendment enters into force, member states will be free to restrict or prohibit the cultivation of all or particular GM crops within their territory, including crops that have already been authorized for cultivation under Directive 2001/18/EC and Regulation EC 1829/2003, and will be able to do so without explanation. This places the future of GM agriculture in Europe at the whim of politicians who may feel compelled to act in response to the media or activist propaganda.

EU policy on agriculture has evolved over the past 50 years as the continent has

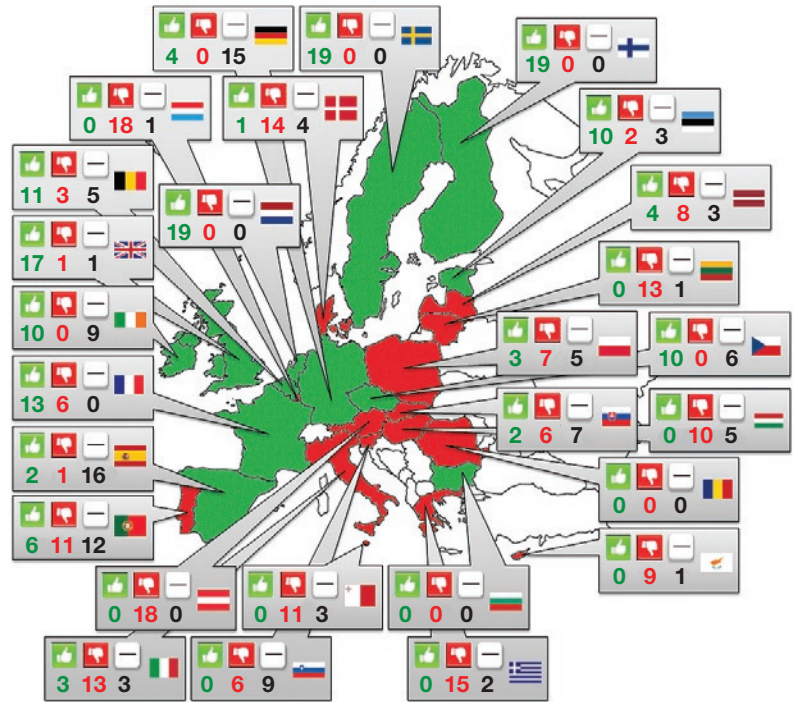


Figure 1 The previous voting habits of the EU ministers on matters concerning GM crops. Europe divides into two roughly equal camps (pro-GM in green and anti-GM in red) based on votes cast on 19 GM proposals between 2003 and 2005. In 2005, the pro-GM camp had a slight advantage because several of the most populous member states were pro-GM. More recently, there has been a slip towards the anti-GM stance with Germany and France now adopting an anti-GM position, although they are more likely to abstain on proposals rather than actively oppose. This is reflected in the voting for the approval of the Amflora GM potato on February 18, 2008. (Data from Friends of the Earth; symbols represent votes for, against and abstentions; not all countries voted on every proposal; the authors thank Michael Green for assistance in the preparation of this figure.)

moved from the position of a net importer struggling to feed its population at the end of a devastating war, to today's near trade parity with the rest of the world. Even so, the EU is still a net importer of agricultural raw materials and 55% of imports come from ten countries, with Brazil, the United States and Argentina ranking in the top three positions³. The same three countries also happen to be the world's largest adopters of GM technology, with the United States planting 64 million hectares of transgenic crops in 2009 and both Brazil and Argentina planting just over 21 million hectares⁴. Paradoxically, although the proposed amendment will allow member states to adopt measures against the cultivation of GM crops, they will not be allowed to adopt measures prohibiting the import or marketing in the European Union of authorized GM products from elsewhere, which means that EU markets are likely to

be flooded with imported GM products that could just as easily be homegrown. However, the import of GM products is also heavily regulated, as is particularly apparent in the EU's treatment of imported maize and soybean from the United States and elsewhere, which has a substantial knock-on effect on animal agriculture. In this context, the European Union is deficient in feed protein and is ultimately dependent on soybean meal imports. However, imports have declined considerably (from \$2.8 billion in 1997 to \$1.9 billion in 2008)⁵, predominantly because of the complex and onerous process for approving imported GM products, which is administrated at the member state level after the European Food Safety Authority (Parma, Italy) has issued opinions declaring that products are safe. The United States Department of Agriculture states that GM events take on average 15 months to approve in the

United States but 40 months in the European Union⁵.

Implementation of the July 13, 2010, recommendations also means that co-existence measures for registered GM products will be deferred to national competent authorities, making each member state responsible for the establishment of a legislative framework on a crop-by-crop basis. The practical effect of this recommendation is that member states can impose excessive and arbitrary co-existence rules that effectively suppress GM agriculture over large areas of Europe. Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Germany, Hungary, Latvia, Luxembourg, Portugal, Romania and the Slovak Republic have already started adopting regulations governing the planting and handling of GM crops, whereas others are still in the process of developing their regulations. The lack of EU-wide regulations means that member states can impose minimum isolation distances that are completely removed from the requirements necessary to meet Europe's strict adventitious-presence thresholds and serve only as an artificial strategy to suppress GM agriculture. The EU's stated policy on co-existence is to develop measures that avoid the unintended presence of GM material in conventional and organic crops through transparency, cross-border cooperation, stakeholder involvement and proportionality. Instead, co-existence requirements are confusing and unfathomable, those implementing them are unaccountable, there is no cooperation because member states act independently, those farmers who choose to plant GM crops are sidelined and the rules are as far from proportional as it is possible to be. Furthermore, the strict liability regulations mean that GM farmers are always responsible for any admixture and will be fined accordingly, and risk litigation from surrounding farms.

The United States, Brazil, Argentina and other countries with substantial GM adoption rates have also recognized that biotech can be used to limit the environmental footprint of conventional agriculture (that is, by reducing pesticide use and also fuel consumption by reducing the need for spraying, and by eliminating tillage). In 2008, these savings amounted to 35 million metric tons of pesticides, over 1.2 million metric tons of CO₂ saved from the use of fossil fuels and an additional 13.2 million metric tons of CO₂ sequestered into the soil through the implementation

Table 1 National bans currently implemented under the 'safeguard clause'

Country	Event	Date	Coverage
Austria	Bt176 maize	1997 ^a	Cultivation
	MON810 maize	1999 ^a	Cultivation
	T25 maize	2000 ^a	Cultivation
	GT73 rapeseed	2007 ^a	Import
	MON863 maize	2008	Import
	Ms8 rapeseed	2008	Import
	Rf3 rapeseed	2008	Import
	Ms8/Rf3 rapeseed hybrid	2008	Import
	EH92-527-1 potato	2010	Import
France	Topas 19/2 rapeseed	1998	Import
	MS1/Rf1 rapeseed hybrid	1998	Import
	MON810 maize	2008	Cultivation
Germany	Bt176 maize	2000	Cultivation
	MON810 maize	2009	Cultivation
Greece	Bt176 maize	1997	Cultivation
	T25 maize	1997	Import
	Topas 19/2 rapeseed	1998	Import
	MS1/Rf1 rapeseed hybrid	1998	Import
	MON810 maize	2001	Cultivation
Luxembourg	Bt176 maize	1997	Cultivation
	MON810 maize	2009	Cultivation
Hungary	MON810 maize	2005	Cultivation

^aThese bans were amended in 2008.

of no-tillage policies⁶. If the EU continues obstructing the deployment of GM crops in Europe, it will force farmers to use environmentally hazardous, expensive and unsustainable agricultural practices, spend unnecessary resources on fossil fuels and agrochemicals, while at the same time letting the same products be imported from the United States and South America, further tipping the balance of trade in the wrong direction.

One of the reasons for the low take-up of GM crops in Europe is low consumer demand and public trust in the technology compared with conventional or organic crops. Mistrust of GM crops by the European public is hard to rationalize, given that >70% of processed foods consumed by humans in the United States and Canada contain GM ingredients, a similar proportion of white maize in Africa is transgenic and several GM products are consumed by humans in China, all with no reported ill effects after 10 years. These countries also export GM seeds to other markets (including the European Union) with no reported incidents.

The failure of the EU to support the adoption of GM crops is symptomatic of the largely unsuccessful Lisbon Agenda, which set out in 2000 to change the EU into a highly competitive knowledge-

based economy with innovation, economic vitality, social and environmental renewal and sustainability as its core values. GM crops are an innovation supported by many EU research organizations and they have already proven successful in other countries in terms of economic growth, environmental sustainability and competition. Yet every possible obstacle has been erected in the European Union to prevent this beneficial form of agriculture from being adopted, leading to economic stagnation, trade disputes and the continued destruction of the environment through chemical use and intensive tillage.

One additional impact of the EU's policy on GM agriculture is to discourage homegrown research in agbiotech and drive researchers overseas where the value chain can be realized in terms of released GM crops. Within the European Union, researchers working on transgenic plants know that the best they can expect for their products is greenhouse cultivation, and that despite their benefits, transgenic plants are unlikely to be deployed in any setting where they could perform a useful function. Here the EU policy on GM crops is attacking its own foundations as a competitive bioeconomy because with one hand the EC offers funding for innovative biotech research and values (or even requires) the

participation of small- to medium-sized enterprises (SMEs) and large industry partners, but with the other hand they slam the door in the face of the same companies by offering them little hope of commercial realization. Many large corporations with ambitious GM research projects have already decamped to the United States or elsewhere to continue their work, and promising European SMEs have been stifled because they are unable to find investment partners. No agbiotech company is likely to invest significantly in Europe unless there is an opportunity to recoup their R&D costs by offering their products to farmers. The attitude of European policymakers reveals the immense divide between the rational evaluation of science and business, and the panicky, expedient politics pandering to a populist media and activists.

The new EC recommendations relating to the approval of GM crops in Europe aim to combine the EU science-based authorization system with freedom for member states to decide on their own cultivation policies. We firmly believe that these concepts are irreconcilable because the freedom of member states to ban GM crops is granted with no conditions, allowing decisions to be made based on irrational criteria ('any grounds') and essentially rendering the whole process of risk assessment obsolete. The new recommendation on co-existence recognizes that member states may adopt measures to avoid the unintended presence of GM material in other products below the labeling threshold of 0.9%, and such measures may include the restriction or outright banning of GM agriculture within their borders. Such measures should be proportionate to the objective, but obviously they are not, given the arbitrary and excessive isolation distances that are enforced without any scientific data to show that such distances are necessary². The recommendations apply to cultivated GM crops but not to imported GM products, even if the two represent identical events. This is clearly an illogical position to adopt. Any safety concerns about commercialized GM products should apply equally to cultivated and imported material, and the artificial distinction only serves to highlight the double standard that is being employed in this context. The EC states that "...ensuring a safety assessment following the highest scientific standards and a reinforcement of the monitoring function were and remain priorities for the Commission as

concerns GMO cultivation..." while at the same time stating that no grounds are required at all for member states to limit or ban GM agriculture¹. This clearly is not a high scientific standard by any stretch of the imagination. The proposed legislation does nothing to smooth the authorization process for GM crops in Europe but does provide activists and the media with fuel for their anti-GM propaganda and will no doubt cause massive confusion among the public. The EC proposal also contrasts with one of the EU's key goals (that is, the creation of a free market economy without border controls) because it imposes arbitrary segregation with respect to GM and non-GM agriculture. Although the authorization system is still science-based, the EC has rendered this system toothless by giving member states the means to ignore or overturn regulatory guidance and allow the implementation of policies that have no rational basis by people who have no accountability.

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COMPETING FINANCIAL INTERESTS

The authors declare no competing financial interests.

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