Keeping your area GM free

A guide to EU decision making for Local Authorities and National Parks

"We want protection for our area because GM crops were perceived by the local food and farming industries as not only a threat to local biodiversity and local farming but also to the local economy – of which green tourism is a major part. This pack will be invaluable in helping us make the best case for keeping our area GM free"

Councillor Anne Ward, South Hams District Council, Devon

Friends of the Earth

Keeping your local area GM free

Decisions on applications to grow GM crops in Europe are being made now. Local Authorities and National Park Authorities which have voted to stay GM free must put in applications for exemption under Article 19 of the EU Directive on GMOs during the consultation period on each GM crop.

Responsible officers need to engage with the decision-making process and prepare their case.

This briefing provides guidance on doing this quickly and efficiently.

In the back cover pocket you will find your local information:

Location of organic farms – enclosed
Distribution of oilseed rape relatives – enclosed
Distribution of endangered arable weeds – enclosed
Distribution of beet relatives – enclosed

To find out more about the GM-Free Britain campaign, and how you can get involved:

Visit: www.GMFreeBritain.com

Telephone: Friends of the Earth Information Service on Freephone 0808 800 1111

Write to: GM-Free Britain, Friends of the Earth, 26-28 Underwood Street, London N1 7JQ

For detailed objections to GM marketing applications:

Visit: www.foe.co.uk/campaigns/real_food/resource/local.html

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Section 1
Introduction

Over the coming year European governments will decide whether to allow the growing and marketing across Europe of a large number of genetically-modified (GM) crops. Many city, district and regional governments across Europe want their areas to remain GM free and in the UK many Local Authorities plan to use new EU legislation to do so. Article 19 of the GMO Deliberate Release Directive (2001/18/EC) allows them, on a crop-by-crop basis, to request exemption from the growing in their area of GM crops. But to keep your area GM free, Local Authorities will need to act now – decisions are already being made, and on each decision there is only a short time allowed in which exemption requests can be made.

This briefing is for GM-free Local Authorities, GM-free National Park Authorities and their officers:

- **it explains how the EU decision-making process on GM crops operates**
- **it outlines why Article 19 exemption requests are so important, not just for local areas but for the UK and EU as a whole**
- **it provides a step-by-step guide to presenting Article 19 exemption requests**
- **it outlines concerns relating to GM crops**
- **it will help officers establish what aspects of their local environment and economy they should highlight in order to make a strong case.**

Friends of the Earth believes that decisions about GM crops should take into account the concerns of European citizens and that if areas want to remain GM free they should be allowed to do so, if they think that is best for their local economy and environment.

Friends of the Earth believes that by declaring against GM crops:

- Local Authorities and National Park Authorities can avoid the practical difficulties and drain on resources that GM crops and food would bring
- businesses in the food chain – from farmers to food manufacturers and retailers – will be able to safeguard the reputation and quality of their produce
- the public can be confident that their environment and wildlife are protected, and that they have a real choice to buy GM-free food
- farmers will be responding to public demand and get closer to their customers
- areas of the UK will be supporting similar moves across Europe in rejecting GM crops and moving towards a more sustainable and just food chain.

"You have to make a choice, and the choice frankly is: are we going to go for GM, for which there is no market and no-one wants to buy at the expense of organic, which people do want to buy and for which there is a tremendous market? You cannot have both"

former Environment Minister Michael Meacher, July 2003

Section 2
GM crops: it's decision time

The five-year moratorium

Since 1998 a number of EU member countries have been refusing to allow Europe-wide approvals of GM crops until such time as new legislation was in place on the release of GM crops into the environment and on traceability and labelling. The actions of these countries – including at various times Austria, Denmark, Greece, Luxembourg, France, Italy, Germany and Belgium – have amounted to a *de facto* moratorium on new GM crop approvals in Europe and all new applications for their marketing have been effectively on hold.

However, much of the new labelling and traceability legislation has now been agreed, and this, combined with changes in the policies of individual governments, means that decisions will probably soon be made on many new GM crop applications.

The moratorium has had a huge impact on the profits and share values of biotech companies, such as Monsanto, which for five years have been unable to get any real hold over European agriculture and food markets. As a result, the United States is applying pressure through the World Trade Organisation to try to ensure that GM crop applications go through quickly and without objections, so that US companies can start selling their GM products in Europe as soon as possible.

"We provide what customers demand and they do not want GM food"

Richard Ali, Director of Food Policy, British Retail Consortium, July 2003

New applications

In 2003 biotech companies such as Monsanto, Bayer and Dow made more than 22 new applications to the European Union for approval to market different GM foods, including 10 applications for commercial growing of GM crops. So far, in the European Union GM crops have only ever been grown commercially in Spain and France (which subsequently halted commercial growing). If these new GM crops are approved then farmers, wildlife, consumers and the environment will feel the impacts for decades to come. Decisions made on these applications will have direct effects on communities, environments and farming in the UK. Local authorities will have to act fast and be on the ball if they want to stay GM free.

However, there has never been more opportunity for Local Authorities and National Park Authorities to influence decision-making on GM crops. Article 19 of the EU Directive on GMOs (2001/18/EC) allows for specific environments, ecosystems and geographical areas to be exempted from the growing of GM crops. Friends of the Earth believes that Local Authorities and National Park Authorities can use this provision to request that the area for which they are responsible is exempted from each GM crop approval.

Section 3
Going GM free: you're not alone

Friends of the Earth launched its GM-Free Britain campaign in October 2002. Since then a cascade of Local Authorities have followed the lead of the Welsh Assembly and made commitments to restrict GM in their area. Devon, Dorset, Lancashire, Cornwall, Warwickshire, South Gloucestershire, Shropshire, Cumbria, Somerset and the Lake District National Park have been joined by numerous town, city and district councils including York, Brighton, Ryedale and South Hams in Devon. Some have taken steps to stop tenant farmers growing GM crops, and banned GM food from services they provide such as school meals and residential homes. Some are already in the process of invoking the EU legislation to have their areas protected. By October 2003 more than 8.5 million people in Britain were living in areas that have declared themselves GM free.

Local Authorities are not alone in banning GM foods; they have been banned by catering services at Westminster, the European Parliament[1] and even Monsanto's UK headquarters.[2] In July 2003 the chief executives of the UK's biggest supermarkets told the Environment Minister Margaret Beckett that for the foreseeable future they could see no prospect of using GM ingredients in their own brands.[3]

Actions by local authorities, citizens and businesses in the UK have already shown that GM crops can be stopped. In 1999 an alliance of more than 300 organisations and individuals, including Local Authorities, placed objections to the addition of the first GM seed variety (GM maize ChardonLL) on to the UK's National List of seeds that can be sold to farmers. By the end of 2003 ChardonLL had still not been added to the National List and 41 of the 52 other applications for GM seeds had been withdrawn by the companies promoting them.

Countries around the world have imposed bans or restrictions on the growing of GM crops. New Zealand has had a five-year moratorium on growing GM crops; Brazil banned GM soya and as a result has seen a large rise in exports; Sri Lanka banned GM imports in 2000 and plans to switch 30 per cent of its farming to organic; the Chinese Government is planning to create GM-free zones out of its largest soya-producing provinces[4]; the Australian Government has approved GM oilseed rape but, at the urging of Australian farming organisations, all the states where it could be grown have imposed a state moratorium.[5] The European Court of Justice recently upheld the right of the Italian government to impose a national ban on the sale of GM foods if it had evidence they were unsafe, after the ban was challenged by a group of biotech companies, including Monsanto and Syngenta.[6] Organic farmers from adjoining provinces of Austria, Slovenia and Italy,

"We need a GM-free Wales – and a GM-free Britain for that matter"

Prince Charles, July 2003

1 "European parliament bans GM food", Friends of the Earth press release, 17 December 1999

2 "Monsanto canteen bans GM ingredients", Friends of the Earth press release, 22 December 1999

3 "Shops 'unlikely to stock GM foods'", *The Guardian*, 16 July 2003

4 "China able to lift soybean production", *People's Daily*, 21 April 2003 http://english.peopledaily.com.cn /200304/21/eng20030421_115532.shtml

5 "Australian approval of GM canola stalled by states", Environment News Service/Bob Burton, 25 July 2003

6 *Monsanto Italia SpA and Others v Presidenza del Consiglio dei Ministri*, press release No 67/03, Judgment of the Court in Case C-236/01, European Court of Justice Press and Information Division, 9 September 2003

supported by their regional governments, are joining in a bid to create a GM-free region dedicated to growing organic crops.[7]

In Australia sound commercial reasoning lies behind the desire to remain GM free: major importers of Australian grain, such as Saudi Arabia, have made it clear that they don't want GM-contaminated produce. A recent report from one state government recommended a state ban and noted that "the commercialisation of a single GM grain crop may tarnish Western Australia's overall reputation of being a clean and green non-GM producer and thus have implications for the marketability of other Western Australian agricultural products".[8]

Growing GM crops could do more harm than good, whereas staying GM free has already produced economic benefits. In 1995 the EU imported around 3.3 million tonnes of maize from the United States but, because of GM crops, by 2002 this had fallen to just under 26,000 tonnes. EU imports of soya from the US have fallen steadily since 1995 while imports from Brazil (which does not allow GM soya) have risen from 3 million to 9 million tonnes.[9] It has been estimated that GM soya, maize and oilseed rape could have cost the US economy US$12 billion since 1999 in farm subsidies, lower crop prices, loss of major export orders and product recalls.[10]

"As we understand it the law allows us to outlaw GM crops if there is a specific threat to an area. That is why we are drawing up a map and data showing where organic farmers and beekeepers are. We think we will have an argument to say there is no need for GM crops because there's an existing business in the area which will be adversely affected"

Councillor Peter Tyzack, South Gloucestershire County Council, *Bristol Evening News*, 5 September 2003

7 Green Groups applaud the initiative for creation of Europe's first GMO-free bioregion for growing organic food Umanotera, Slovenia; Global2000, Austria; FoEE, Belgium, Press Release, June 10, 2003

8 Western Australia Environment and Public Affairs Committee, report No 811 July 2003. *Gene Technology Bill 2001 and Gene Technology Amendment Bill 2001*

9 EuropaWorld bulletin, 16 May 2003

10 Meziani G & H Warwick (2002). *Seeds of doubt: Experiences of North American farmers of genetically modified crops*, Soil Association

Section 4
How the decision-making process works

Until now most GM crop releases in the UK have been covered by experimental approvals, such as the GM oilseed rape used in the Government's farm-scale evaluations. In those cases, decisions about whether to allow the crops to be grown are handled by the Department of the Environment, Food and Rural Affairs (DEFRA). The applications being considered in this report, and to which Article 19 requests are relevant, are for consent to market a GM crop commercially. Applications must be considered and agreed on by a qualified majority of all EU member states; for example if a company wanted to grow GM oilseed rape commercially in the UK it would have to make an EU-wide application. Decisions on these applications are made at the European level but will be directly relevant to your local area.

The applications being considered in this report, and to which Article 19 requests are relevant, are for consent to market a GM crop commercially. Decisions are made at the European level but will be directly relevant to your local area. See Section 5 for more details.

What GM crops are being considered?

So far, applications to grow GM crops commercially in the EU have been dominated by two companies – Monsanto and Bayer Cropscience (formerly Aventis). Their GM crops are insect resistant and/or tolerant to herbicides manufactured by these companies – glyphosate (Roundup) in the case of Monsanto and glufosinate ammonium (Liberty) in the case of Bayer. Applications in 2003 for approval to grow GM crops are summarised in Table 1 (page 6). Monsanto, Bayer and other companies have also put in applications for approval to import (but not to grow) GM crops for food and animal feed uses. Applications for import include herbicide-tolerant soya, maize, cotton, rice and oilseed rape, as well as several types of insect-resistant maize.

Getting information about GM applications

The website of the European Commission's Joint Research Centre http://gmoinfo.jrc.it contains information about all the crop applications and what stage of the decision-making process they are at. Article 19 exemption requests can be submitted via this website during the consultation stage for each application. On this site you can sign up to an email list to receive announcements of new consultations.

Friends of the Earth will publicise consultations on GM crops of particular interest to the UK.

DEFRA has agreed to make available the full dossiers on each GM crop when it receives them from the European Commission. These can be posted out or they can be viewed at DEFRA's offices in Ashdown House, Victoria Street, London SW1E 6DE. For more information visit www.defra.gov.uk/environment/gm/partc/index.htm, email gm.dossiers@defra.gsi.gov.uk or phone the DEFRA helpline on 08459 335577.

Table 1: Applications for EU approval for commercial growing, by company and crop type as at September 2003 (EU references for applications in brackets)

Company	GM sugar beet	GM fodder beet	GM oilseed rape	GM maize	GM cotton	Other
Monsanto (manufactures herbicide glyphosate)	2 x glyphosate tolerant (BE/99/01; DE/00/8)	1 x glyphosate tolerant (DK/97/01)		1 x glyphosate tolerant (ES/03/01)	1 x glyphosate tolerant (ES/97/01) 1 x insect resistant (ES/96/02)	
Bayer (manufactures herbicide glufosinate ammonium)			3 x glufosinate tolerant (DE/98/6; DE/96/5; BE/96/01)			
Syngenta				1 x insect resistant (FR/96/05/01)		
Dow Agrosciences/ Pioneer				1 x insect resistant (ES/01/01)		
Amylogene						1 x altered starch potatoes (SE/96/3501)

How decisions on commercial approval are made

The European Commission and member states decide together whether to give approvals for the marketing of GM crops; the marketing consents last for 10 years. Once a consent has been granted the company can sell its GM crop or food anywhere in the EU without having to get further permission from national or local authorities.

When a company, for example Monsanto, wants permission to market a GM crop in the European Union, it must start by applying to any individual member state for initial processing of the application.

For example, Monsanto submits an application to the Spanish government, including information on how the crop was genetically modified, what novel genes have been inserted into it and what its intended end use is (for example, for human food or animal feed). Monsanto must submit a risk assessment showing evidence about the risk to human health and the environment posed by the GM crop or food; a monitoring plan; labelling proposals; and a summary of the application, referred to as the summary notification information format (SNIF).

Spain must immediately send the summary to the European Commission and all other member states. The summary is published on the Commission's website and there is a 30-day public consultation period. Public comments are submitted to the Commission, which forwards them to Spain.

After receiving the application Spain has just 90 days to prepare an assessment report, in which it must set out what level of risk it considers the GM crop poses to human health and the environment. However, if the Spanish authorities request additional information from Monsanto the "clock is stopped"; in other words, time spent waiting for answers does not count towards the 90 days allowance. (Other member states cannot stop the clock at this stage.)

If Spain decides that the GMO isn't safe, then Monsanto's application is rejected.

If the opinion of the Spanish authorities is that the GM crop is of low risk to human health and the environment it forwards its assessment report, along with Monsanto's entire application dossier, to the Commission. The Commission then sends copies of Monsanto's entire notification and the Spanish assessment report to all the other member states (see diagram, page 8).

It is vital to get involved at an early stage, because these decisions will have effect for a long time and it will be much more difficult to raise concerns or change policy on a GM crop once approval has been granted. This is an opportunity to engage with, and influence, all European countries and the European Commission on decisions about GM crops.

At present Spain is the favoured country to apply to for marketing consent, perhaps because of its history of allowing GM maize to be commercially grown. Spain has received eight applications whilst the remainder are spread between the other member states.

Stage 1 Marketing application

Biotech company

eg Monsanto

Application

Individual member state

eg Spain

Summary of application SNIF

European Commission

All other member states

30 days consultation period

Key opportunity for Local Authorities and National Parks

REJECTED Application

Assessment report

Negative assessment

Application assessed by individual member state for human and environment risk

Stage 2 Article 19 requests

Positive assessment

Article 19

30 days consultation period

Key opportunity for Local Authorities and National Parks

Requests from Local Authorities and National Parks around the UK and European Union

European Commission

All other member states

Requests for further information and objections to marketing applications

Stage 3 All EU countries consider

Application + Assessment report + Article 19 + Opinion from European Food Safety Authority + Public comments

Decision

Consensus decision or qualified majority of all countries

REJECTED Application

APPROVED Application

APPROVED WITH CONDITIONS Application

The Commission publishes the Spanish assessment report on its website (http://gmoinfo.jrc.it) and there is another 30-day public consultation period. Any comments submitted at this point must be sent immediately to all the member states, so this is a very good route for Local Authorities and National Park Authorities to submit Article 19 exemption requests; not only will the Commission receive them, but it will have to send copies to all governments in the EU. This will ensure that your case, and the arguments for exemption of your area, are known to all EU governments.

After this second 30-day public consultation, member states and the Commission have an additional 30 days to consider Monsanto's application, the Spanish assessment report and all the Article 19 requests that have been made by Local Authorities and National Park Authorities in the UK and across Europe. At the end of this period, member states can make comments, ask for further information from Monsanto or state their "reasoned objections" to the marketing of the GM crop. If no objections or information requests are made by member states, and no Article 19 exemption requests submitted, then the GM crop could be approved at that point.

There is an additional 45 day period for countries to discuss the application further and come to an agreement, either by consensus or by qualified majority voting. It is likely that Article 19 exemption requests will be discussed then as well. If there is still no agreement on whether to grant approval a further 120 days are allowed to try to reach agreement.

Decisions on an Article 19 exemption are made at the same time as decisions on whether to give marketing approval to the GM crop. Such requests must be considered by the Commission and member states.

The number of Article 19 applications could even influence the final decision on a marketing consent. DEFRA has stated that "the close environmental/ecological proximity of different parts of the UK and Northern Europe makes it likely that a risk posed in one territory would be a risk posed to the other areas too – and this would make it very unlikely that EU members would agree to a Part C consent being granted at all".

It is therefore very important that large numbers of Article 19 requests are made for each application because this will demonstrate that there are many common concerns right across the EU and UK as well as significant local ones. Requests from Local Authorities and National Parks are likely to carry most weight in this respect. They might even lead to the European Union deciding not to approve a GM crop at all.

The number and scope of Article 19 exemption requests is likely to be very influential in European decision-making on each GM application because:

- **other countries may wish to protect areas of their own**
- **they will show to European decision-makers the full range of concerns in the UK**
- **the arguments used could influence how countries vote.**

Section 5
Article 19: making your case

Article 19 of the EU GMO Deliberate Release Directive (2001/18/EC) is a completely new opportunity for Local Authorities and National Park Authorities to influence European decision making on GM crops. It allows for conditions to be placed on the approval (consent) for marketing of a GM crop. Paragraph 3(c) of this article makes provision for "conditions for the protection of particular ecosystems/environments and/or geographical areas". Friends of the Earth considers that Local Authorities and National Park Authorities can use Article 19(3)(c) to ask that the Commission and member states give protection to the area for which the Local Authority is responsible. Such requests must be made for each GM crop application. Whilst economic and ethical arguments for the request are valid, the primary considerations of EU GM legislation are protection of human health and the environment, so Article 19 exemption requests are likely to be even stronger and more successful on these grounds.

Once completed, email your Article 19 request to the European Commission's Joint Research Centre via the website: gmoinfo.jrc.it, and copy it to the secretary of State for DEFRA (Margaret Beckett) requesting that she supports your request to the European Commission.

How to make a request for Article 19 exemption

Requests for Article 19 exemptions must be made for each GM crop that could be grown in your area, and should be submitted during the 30-day consultation of the EU decision-making process. (See "How decisions on commercial approval are made", page 7.)

The first step is to look at what applications are being made and decide which of the GM crops are likely to be grown in your area. In general it is herbicide-tolerant maize, oilseed rape and beet crops that are likely to be grown in the UK. (See "What GM crops are being considered", page 5 for outlines on which crops are most likely to be relevant to areas in the UK.)

The person responsible for making Article 19 requests should sign up to the email information service provided by the European website on GM crop applications, http://gmoinfo.jrc.it. The site has information about the GM crops, and the information service will notify you when new applications are made, and when consultation periods begin. (See "Getting information on GM crop applications", page 5.)

For each GM crop application there are two 30-day consultations and Article 19 exemption requests can be put in at either stage, although it may be most influential to do so during the second consultation.

The consultation periods are very short, so it is important to start preparing your arguments now and do as much work as possible now towards preparing Article 19 exemption requests. Local information in support of your request should be gathered in advance.

Friends of the Earth can provide support and information to officers making Article 19 exemption requests. See inside front cover for contact details.

Setting out an Article 19 request

Article 19 is so new that there is no experience on which to base this advice, nor is there guidance from the EU or the UK Government. In this briefing we offer suggestions but these should be considered only as a guide. Officers should also trust their own judgment when making an Article 19 request.

Article 19 requests have to be made for each crop. Each request must be relevant to the GM crop for which an application for marketing approval has been made. This means that each time you make a request there will be new work, but the good news is that many of the issues of concern relate to the type of genetic modification involved (herbicide tolerance, for example) as much as the individual GM crop and are therefore useful to more than one application. In addition, information about the local environment can be collected for the first application and inserted as appropriate in subsequent ones.

For detailed objections to marketing applications, visit: www.foe.co.uk/campaigns/real_food/resource/local.html

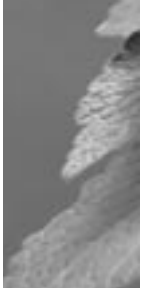
1. Making a formal request

The title of your submission should make clear that this is an Article 19 request; for example:

> Formal request by [your Local Authority/National Park Authority] to the European Commission and Member States for a condition to be placed on the marketing consent of [GM crop, EU reference XX/XX] that [your local area] be protected from the growing of [the GM crop] under the provisions of Article 19(3)(c) of the Deliberate Release Directive 2001/18/EC

2. Establishing authority

It is important that the application start by establishing that, as a Local Authority or National Park Authority, you are responsible for your local environment and responsible to local citizens. This could also include a general introduction to the local area and environment, and a description of local agriculture and its importance to the local and regional economy. It is important at this stage to set out any agreements by your Authority with respect to GMOs, such as banning them from food supplies for which your Authority is responsible, restrictions on tenants using GM crops, a statement opposing commercialisation, and details of any debates and votes made by the full Council or committees.



3. Local sensitivity

Establish in what ways your local area is sensitive to the use of GM crops. Information to provide could include:

- designated local environments, such as Sites of Special Scientific Interest, Areas of Outstanding Natural Beauty, Environmentally Sensitive Areas etc, particularly any that are linked, or sensitive, to agricultural activities
- a description of local agriculture, particularly the amount of organic agriculture and any local agricultural practices of relevance to conservation
- local activities linked to agriculture, such as tourism and beekeeping
- commitment to, and investment in, local food initiatives.

4. Concerns about the GM crop itself

Each request must include information on the specific GM crop; it cannot be a request for a blanket ban. "Getting information on GM crops" (page 5) tells you how to get the dossiers on each application, including the environmental risk assessment. Friends of the Earth will be making available detailed risk assessments on each application for a GM crop that could be grown in the UK.

There will always be specific concerns about each GM crop application and these will have to be considered by officers. Friends of the Earth will make its analyses available for GM crops of particular relevance to the UK.

Many of the concerns relate to the type of GM crop, such as herbicide-tolerant crops, and so it may be useful for officers preparing the Article 19 request to set these out in advance. Section 6 ("Concerns about GM crops") details these arguments from a national perspective, but your case will also need to explain the effects locally.

5. Raising local issues

It will be useful to establish, to begin with, what type of farming is in your area, and so whether or not the GM crop is likely to be grown. For example, sugar beet tends to be grown in eastern areas, oilseed rape and fodder beet are grown widely, whilst maize is predominantly grown in the southern and western lowlands. Local farming organisations or agricultural advisers should be able to provide detail of the make-up of local farming. Using the information provided by Friends of the Earth, and other local information, it should be possible to set out how each GM crop would particularly affect your local environment.

eg

Oilseed rape, sugar beet and fodder beet have **wild plant relatives** that grow in the UK, so there is a concern that novel genes from GM crops could escape into these plant populations. If your local area contains large numbers of these wild relatives then genetic contamination in your local environment would be more likely. (See enclosed map of oilseed rape and beet relatives.)

eg

Concerns have been expressed that the use of herbicide-tolerant crops could further threaten **protected plants** that grow in arable areas. If such threatened plants are found in your area they could be at risk. Similarly, if the enhancement of arable field margins is included in your local Biodiversity Action Plan, then the biodiversity objectives of the plan could be threatened by the introduction of GM herbicide-tolerant crops. (See enclosed map and species list for rare arable plants in your area.)

eg

English Nature has raised concerns that **declining bird species**, such as the skylark, could be threatened by the introduction of GM herbicide-tolerant crops. If your area is of particular importance for such birds, or enhancement of threatened arable bird populations is included in your local Biodiversity Action Plan, then your local biodiversity could be particularly sensitive to the introduction of GM herbicide-tolerant crops.

eg

GM contamination of **organic produce** could threaten the livelihoods of local organic farmers. This could affect both the local environment and the local economy. (See enclosed map of organic farms in your area.) There could be similar issues for non-organic farmers who use techniques that promote conservation or protect the environment. If your area has dairy farmers who grow fodder maize, then the introduction of GM maize could threaten their survival.

eg

Bees kept by local **beekeepers** are important pollinators both for wild plants and cultivated crops, especially fruit. Local beekeepers depend on sales of their honey, which could be threatened by GM contamination. If your local area contains wildlife sites or species dependent on bee pollination they could be threatened by impacts on beekeepers. Similarly, if your area contains a lot of farming dependent on bee pollination, such as **fruit production**, there could be further knock-on effects.

Gathering information in advance

The public comment periods during the decision-making process are only 30 days. So it will help to do as much in advance as possible, such as setting out the format of the request and gathering local information. Friends of the Earth can provide some local information, and will also provide specific information on the GM crops. The type of information you will need to gather in advance could include:

General

- Location and area of designated land in the locality, such as SSSIs, AONBs, ESAs etc
- Distribution and density of organic farms. See enclosed map.
- Distribution and density of local farming practices of conservation interest
- Number of beekeepers (most counties have an association and there are national organisations for amateur and professional honey producers), and agricultural activities dependent on bee pollination (fruit, oilseed rape and clover seed crops; DEFRA's annual census of farm holdings gives data on the crops cultivated by area in each county).

For herbicide-tolerant oilseed rape:

- Distribution of wild relatives of oilseed rape: lists of species by county and regional distribution maps are available from Friends of the Earth. See enclosed map
- Distribution of rare arable plants. See enclosed map
- Biodiversity Action Plans, or other local conservation schemes, that relate to farmland birds, plants or the wider farmland biodiversity and landscape.

For herbicide-tolerant beet crops:

- Distribution of wild relatives of beet: national distribution map available from Friends of the Earth
- Distribution of rare arable plants. See enclosed map
- Biodiversity Action Plans, or other local conservation schemes, that relate to farmland birds, plants or wider farmland biodiversity and landscape.

DEFRA's annual farm census is available at www.defra.gov.uk/esg/work_htm/publications/cs/farmstats_web/default.htm

For herbicide-tolerant fodder maize:

- Distribution of rare arable plants: lists of species by county and regional distribution maps are available from Friends of the Earth
- Importance of dairy industry (from DEFRA annual farm census)
- Distribution and value of organic dairy farms: maps of organic farm locations are available from Friends of the Earth.

Legal questions on the use of Article 19

What is a geographical area?

Friends of the Earth considers that Article 19(3)(c) clearly allows a condition to be imposed on any marketing approval that the particular crop in question must not be grown in a specific "geographical area". It has been argued that "geographical area" means the same as "ecosystem/environments" and that a condition of this type can only relate to a specific ecosystem/environment and not to a geographic area such as Cornwall or Bury. But this is not correct, ignoring as it does the fact that the drafters of the Directive would not have set out the two terms separately if they meant exactly the same thing.

Can economic arguments be used?

It has been suggested that a condition under Article 19(3)(c) can only be imposed where it is needed to protect against a specific local threat to the environment or human health. However, this conflicts with other provisions of the Directive. For example, recital (9) states that

> respect for ethical principles recognised in a Member State is particularly important. Member States may take into consideration ethical aspects when GMOs are deliberately released or placed on the market as or in products.

Recital (62) refers to the need to report on the "socioeconomic advantages and disadvantages of each category of GMOs …which will take due account of the interest of farmers and consumers". Both of these issues are separate from issues concerning human "health and the environment".

Even so, the arguments for an Article 19 exemption are likely to be even stronger – and so more persuasive to European decision-makers – where the reasons for seeking the exemption are related to the environment and/or human health. Strong economic and social arguments will add weight to these.

Hasn't the European Commission already rejected Upper Austria's bid to be GM-free?

There has been much publicity of the case taken by Upper Austria to be declared a GM-free zone, which was rejected by the European Commission on 2 September 2003. This decision does not affect the viability of local authorities using Article 19 of the Deliberate Release Directive 2001/18/EC as described above.

Upper Austria's failed bid was for a blanket ban of GMOs, and sought to use completely different regulations – Article 95(5) of the EU Treaty. Under this Article, Upper Austria applied to be exempted from all European GMO legislation.

Article 19 cannot be used to obtain a blanket exemption from the growth or marketing of all GM crops. To be legally correct, use of Article 19(3) of 2001/18/EC should be used to make requests for "exemption" on a crop-by-crop basis.

Section 6
Concerns about GM crops

This section outlines some of the environmental concerns that have been raised about GM crops. These are the kinds of issues to consider when making a case for Article 19 exemption – focusing on how such impacts would affect your local area.

Herbicide-tolerant crops

These are the crops most likely to be considered for growing in the UK. GM herbicide-tolerant oilseed rape, sugar beet, fodder beet and fodder maize have already been grown in experimental trials in the UK, and in the future herbicide-tolerant sweetcorn may be proposed. Herbicide-tolerant crops have been genetically modified to make them tolerant to either Monsanto's glyphosate (Roundup) or Bayer's glufosinate ammonium (Liberty) herbicides. Both of these are broad spectrum – that is, they kill every plant except the GM crop.

There are three major concerns about GM herbicide-tolerant crops: first, that the crops could cross-breed with wild plant relatives; second, that the use of the GM herbicide-tolerant crops could adversely affect wildlife. Lastly, a concern is the creation of GM herbicide-tolerant weeds in arable fields, which will need to be controlled to prevent GM traits spreading.

Cross-breeding with wild relatives

Both oilseed rape and sugar beet have wild plant relatives commonly found in the UK. A recent EU-funded study[11] concluded that oilseed rape can form hybrids under field conditions with wild turnip (*Brassica rapa*), hoary mustard (*Hirschfeldia incana*), wild radish (*Raphanus raphanistrum*), white mustard (*Sinapsis arvensis*) and wild cabbage (*Brassica oleracea*). All of these plants grow in the UK. Gene flow via pollen to these species is inevitable[12] although it is not clear to what extent this will occur, and the possible effects are difficult to predict. Cross-breeding is most likely to occur with wild turnip (*Brassica rapa*), which often grows in agricultural fields. In fact, a Government-funded monitoring project for experimental releases of GM oilseed rape found that at one field site 48 per cent of the seeds on a wild turnip plant were GM hybrids.[13]

Oilseed rape can already produce weedy populations in other crops, called volunteers, as well as surviving adjacent to farmland as wild, or feral, populations for up to 10 years after the crop is planted.[14] In North America, where GM oilseed rape has been grown for less than a decade, gene flow to feral oilseed rape populations has already occurred and examples have been found of plants that have acquired genes from different GM crops, a process known as gene stacking, making them

11 Eastham K & J Sweet (2002). *Genetically modified organisms (GMOs): the significance of gene flow through pollen transfer*, European Environment Agency issue report No 28.

12 English Nature, Biotechnology Advisory Unit (2003). *A review of scientific evidence on the environmental impacts of growing genetically modified herbicide tolerant crops relevant to the UK*, submission to the Science Review Panel

13 Norris C & J Sweet (2002). "Monitoring large scale releases of genetically modified crops (EPG 1/5/84) incorporating report on project EPG 1/5/30: Monitoring releases of genetically modified crop plants", National Institute for Agricultural Botany

14 Pessel FD, Lecomte J, Emeriau V, Kruiti M, Messean A & Gouyon PH (2001). "Persistence of oilseed rape (Brassica napus L) outside of cultivated fields", *Theoretical and applied genetics* 102: 84-846

resistant to a number of different herbicides.[15] Although this might be seen as a problem confined to farmers, if weedy GM oilseed rape develops that is resistant to different herbicides, farmers may be forced to use older, more toxic chemicals to control them, and this could have impacts on the environment and human health. Organic oilseed growing in Canada has effectively been abandoned as GM genes have spread around the prairies.[16] Seed production has also been affected and the UK has already suffered twice from accidental contamination of seed stocks that were grown in Canada.[17,18]

In the case of sugar beet (*Beta vulgaris ssp. vulgaris*), it can form hybrids with weed beet and wild sea beet (*Beta vulgaris ssp. maritima*) as well as other cultivated beet crops, such as spinach beet. In fact this will happen easily because all the plants are members of the same species.[19] Sugar beet crops are harvested before they flower, but there are often early flowering plants (bolters) in the crop and, unless these are rigorously controlled, gene flow through pollen can be substantial.[20] One possible effect of cross-breeding with the wild relatives of GM crops is that the wild species could become more difficult to control because they can survive the herbicide applications when other plants cannot. The GM hybrid plants could themselves become sources of GM contamination into non-GM crops, and if a problem is found it will be very costly to identify and control them.

Effects on biodiversity

Herbicide-tolerant crops have been designed to produce a simple and effective system of weed control for farmers, one that could allow farmers to remove virtually all the weeds from a field. The Government's wildlife advisor, English Nature, has raised concerns that such effective weed control could have impacts on the wildlife that depends on weeds to survive. Farmland birds, some of which already have dangerously low populations in the UK, could be further threatened by GM crops: many declining farmland bird species depend in the summer on insects that live on weeds as a food source for their chicks. But equally important are the weeds and their seeds that are left to mature in the crop – a recent study found that in winter a narrow range of weed seeds made up the entire diet of birds such as the skylark, dunnock, greenfinch, linnet and reed bunting.[21] A study in Denmark found that in GM herbicide-tolerant fodder beet fields few, if any, weeds survived to produce seeds, leaving little for over wintering birds.[22] So herbicide-tolerant crops could make things worse not just for breeding birds, but for adult birds over the winter.

Many local Biodiversity Action Plans include species of amphibian, birds, mammals, moths, beetles, mosses and plants that are associated with arable habitats. The BAP can be used as one means of establishing what threatened species are found in your area and how they might be affected by the commercial growing of GM herbicide-tolerant crops. Indirect effects through losses of food supply and habitat could be felt by birds, mammals, amphibians and insects. Mosses and plants could be directly affected by the broad spectrum herbicides.

15 Hall L, Topinka K, Huffman J, Davis L & Good A (2000). "Pollen flow between herbicide resistant Brassica napus is the cause of multiple-resistant B napus volunteers", *Weed science* 48: 688-694

16 *op cit* Meziani & Warwick (2002)

17 House of Commons Agriculture Committee (2000). *Genetically modified organisms and seed segregation,* HMSO, London

18 DEFRA, 2002, press release, www.defra.gov.uk/news/2002/020815a.htm

19 Bartsch D & M Pohl-Orf (1996). "Ecological aspects of transgenic sugar beet: transfer and expression of herbicide resistance in hybrids with wild beets", *Euphytica* 91: 55-58

20 Desplanque B, Hautekeete N & H van Dijk (2002). "Transgenic weed beets: possible, probable, avoidable?" *Journal of applied ecology* 39: 561-571

21 Clarke R, Combridge P and Middleton N (2003). "Monitoring the diets of farmland winter seed-caters through raptor pellet analysis", *British birds* August 2003: 360

22 Strandberg B & MB Pedersen (2002). *Biodiversity in glyphosate tolerant fodder beet fields – timing of herbicide application*, NERI Technical Report No 401, National Environmental Research Institute, Denmark

The biotech industry has argued that herbicide-tolerant crops could be managed to enhance insects in the crop during the summer, for example by manipulating weedkiller applications[23]; but the results of preliminary studies suggest that this would still eliminate winter weed seeds[24] leaving the young birds with no food in late summer and over the winter.

The use of herbicide-tolerant crops could have a direct impact on agricultural plant biodiversity; it has been suggested that in fields containing herbicide-tolerant crops, only a few other plants will survive – either species that develop resistance to the herbicide or plants which grow very early or late in the year, when the herbicide is not being used. Of the 62 plants listed in the UK Biodiversity Action Plan, 14 are exclusive to farmland. Arable plant populations have declined dramatically over the past 50 years, with some species becoming extinct. One of the primary causes of this decline has been the widespread use of herbicides, and there is potential for the use of GM herbicide-tolerant crops to increase the pressure on threatened plants. A study by the National Institute of Agricultural Botany found that spray drift from herbicide-tolerant crops could cause damage to plant communities in field margins[25], which would directly affect the ability to meet commitments made under the Biodiversity Action Plan to enhance the biodiversity of arable margin habitats.

Insect-resistant crops

Several applications are being made for growing insect-resistant maize and cotton in the EU. These have been modified to contain genes from the bacterium *Bacillus thuringiensis* (Bt), which causes the plants to produce one of a number of insecticidal toxins acting on either butterflies and moths (*Lepidoptera*) or beetles (*Coleoptera*). Some researchers have found evidence that insects other than the target pests may also be directly or indirectly affected, for example one study in the US found that Monarch butterflies could be adversely affected in the field by Bt 176 maize but not by other varieties of Bt maize.[26] Other species were also affected by Bt 176 maize (which is currently grown in Spain).[27] Similarly, researchers have found that some beneficial insects, such as lacewings, could be adversely affected by feeding on insects in the Bt crop[28] and earthworms were adversely affected when fed Bt maize leaves.[29] It has been suggested that Bt crops could interfere with the prey-predator relationships in agricultural areas, with unknown effects.[30] Bt crops can affect other insects that feed on the crop, but are not major pests. Insects can be a vital source of food for nesting birds, and so there may be an impact from a reduction in food supplies.

Purple Ramping Fumitory (*Fumaria purpurea*) is one of the 15 endangered arable plants covered by the UK Biodiversity Action Plan and it could be further threatened by the introduction of GM herbicide-tolerant crops. It is found only in the British Isles and grows in arable fields, hedge banks and some sea cliffs. Its population is known to be in decline and this is thought to be a result of changes in agricultural practice such as the increased use of herbicides. Distributed across the country, it has been more often found in western and northern England, particularly Lancashire and Cornwall.

23 Dewar AM, May M, Woiwod I, Haylock L, Champion G, Garner BH, Sands RJN, Qi A & Pidgeon J (2003). "A novel approach to the use of genetically modified herbicide tolerant crops for environmental benefit", *Proceedings of The Royal Society* B, 270 (1513): 335-340

24 *op cit* Strandberg & Pedersen (2002)

25 Sweet JB and R Shepperton (1998). "The impact of genetically modified herbicide tolerant oilseed rape in the UK" Acta Hort Vol 459: 225-234

26 Oberhauser KS et al (2001). "Temporal and special overlap between monarch larvae and corn pollen" *Proceedings of the National Academy of Sciences*, USA, 98(21): 11913-11918

27 Zanngerl et al (2002). "Effects of exposure to event 176 Bacillus thuringiensis corn pollen on monarch and blackswallow caterpillars under field conditions", *Proceedings of the National Academy of Sciences* 98(21): 11908-11912.

28 Hillbeck A, Baumgartner F, Fried PM & Bigler F, (1998a). "Effects of transgenic B thuringiensis maize fed prey on mortality and development time of immature Chrysoperla carnea (Neuroptera: Chrysopidae)" *Environmental entomology* 27: 480-487

29 Zwahlen C, Hilbeck A, Howald R, Nentwig W (2003). "Effects of transgenic Bt corn litter on the earthworm Lumbricus terrestris", *Molecular ecology* 12 (4): 1077-1086

30 Hilbeck A, (2001). "Implications of transgenic, insecticidal plants for insect and plant biodiversity", *Perspectives in plant ecology evolution and systematics* 4(1): 43-61

According to the UK Science Review Panel it is unlikely that insect-resistant crops will be grown in the UK in the next five to 10 years[31], although companies are still applying for approvals that cover the UK. This is because the main Bt crop is maize, and the pests for which it has been designed are not a problem in the UK.

Organic farming

A recent European study found that it will be difficult to prevent pollen and seeds from GM crops contaminating non-GM and organic production on neighbouring farms.[32] Organic farmers will not be able to sell their produce as organic if it is contaminated with GM, and this could threaten their ability to continue farming. This could have knock-on impacts on biodiversity if the area of land given over to organic production declines. Various studies comparing organic and conventional arable fields have found a greater amount and diversity of plants and insects in the organic fields.[33,34] In one survey five times as many wild plants were found in the organic fields, with 57 per cent more species, including four species (Red Hemp nettle, Corn Gromwell, Corn Buttercup and Narrow Fruited Cornsalad) listed on the Biodiversity Action Plan.[35] This greater number and diversity of non-crop plants means better habitat and food supplies for a wide range of insects, birds and mammals that live in agricultural areas – an argument supported by evidence that the density of breeding skylarks is greater in organic fields than in comparable conventional fields.[36]

If organic farms go out of business as a result of introducing GM crops, this could have serious consequences for the local economy and the reputation of local food. But there may also be indirect impacts on local biodiversity and the quality of the local environment.

31 GM Science Review Panel (2003). *First report: An open review of the science relevant to GM crops and food based on the interests and concerns of the public*

32 Sweet J & Eastman K (2002). *Genetically modified organisms (GMOs): The significance of gene flow through pollen transfer*, European Environment Agency Environmental issue report No 28

33 Brooks D, Bater J, Jones H, & Shah PA (1995). "Invertebrate and weed seed food-sources in organic and conventional farming systems", *The effect of organic farming regimes on breeding and winter bird populations*, Part IV. BTO research report No 154. British Trust for Ornithology

34 Moreby SJ, Aebischer NJ, Southway SE, & Sotherton SE (1994). "A comparison of the flora and arthropod fauna of organically and conventionally grown winter wheat in southern England", *Annals of applied biology*, 125: 13-27

35 Kay S & Gregory S (1999). *Rare arable flora survey*. Northmoor Trust

36 Wilson JD, Evans J, Browne SJ & King JR (1997). "Territory distribution and breeding success of skylarks (*Alaunda arvensis*) on organic and intensive farmland in southern England", *Journal of applied ecology*, 34: 1462-1478

Section 7
Take action

What you should do now:

- sign up to Friends of the Earth's mailing list to receive further support and information on GM applications and making Part C applications; email: lizw@foe.co.uk
- make sure you are informed on the GM applications - visit the EU's information website http://gmoinfo.jrc.it and also DEFRA's website www.defra.gov.uk/environment/gm/partc/index.htm
- start gathering local environmental, agricultural and economic information that will be relevant to your Article 19 application
- start to familiarise yourself with the issues and establish how the proposed GM crops would affect your local environment; background briefings are available from Friends of the Earth's website at www.foe.co.uk/campaigns/real_food/resource/
- network with other GM-free Authorities and those preparing Article 19 exemption requests. For information on GM-free areas visit www.foe.co.uk/campaigns/real_food, or phone 020 7490 1555.

Section 8
Resources

Department of Trade and Industry (2003) *GM nation? The findings of the public debate*; available at www.dti.gov.uk/

http://gmoinfo.jrc
updated information on GMO marketing consents

www.bbka.org.uk/old/index.html
British Beekeepers Association county contacts

www.beefarmers.co.uk/index.htm
Beefarmers with more than 40 colonies

www.english-nature.org.uk/pubs/maps/Map_Details.asp?Id=NS
English Nature for ordering maps of SSS and Designated sites

www.english-nature.org.uk/pubs/maps/Map_Details.asp?Id=NS
Countryside Agency Site for information on designated areas

www.defra.gov.uk/erdp/schemes/default.htm
DEFRA rural development schemes including Environmentally Sensitive Areas

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L582 October 2003