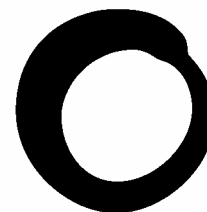


# Consultation response:

## Defra consultation on proposals for managing the coexistence of GM, conventional and organic crops in England



**Friends of the Earth**

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## 1 Summary

Friends of the Earth considers that Defra's proposals for a coexistence regime for England are deeply flawed, and based on incorrect assumptions and misinterpretation of EU law. An outline of the primary flaws and areas of concern is given below:

- i) Defra has misinterpreted European legislation in linking coexistence measures to the GM labelling thresholds and aiming to do no more than keep GM contamination below 0.9%. Coexistence measures must be designed to completely avoid GM contamination, not merely minimise it to an arbitrary level. Contamination levels below 0.1% would indicate that such a regime was operating correctly, as this is the reliable limit of detection for GM.
- ii) Defra has excluded environmental and health issues from the scope of the proposed coexistence regime. Yet there is a legal obligation to take into account human health and environmental issues when implementing EC law, and a continuing need to protect health and the environment is recognised in the GM legislation. Both the cultivation of GM crops and associated coexistence measures may have environmental impacts, which may not be considered during the GM approval process, and human health impacts cannot be ruled out.
- iii) Defra attempts to exclude crops that are not intended to be placed on the market, such as allotment and garden produce, from the coexistence regime because they are not subject to the GM labelling requirements. But the labelling requirements do not have any legal relevance to coexistence measures, coexistence should avoid the unintended presence of GMOs "in other products", ie not just those that are marketed, and indeed the definition of 'placing on the market' in EU legislation is not actually limited to those products that are bought and sold.
- iv) Defra is proposing to give statutory backing only to separation distances – other measures such as volunteer control will be left to a voluntary approach. Any measures that assist in preventing the unintended presence of GMOs in other products should be given full statutory backing, and difficulties in framing or enforcing such legislation is not an acceptable justification for failing to achieve the goals of coexistence. Voluntary codes of practice do not have a good record, and such an approach will do little to provide public reassurance.
- v) Defra's proposals for separation distances are completely inadequate, and are calculated using the flawed assumption that a certain level of GM contamination is 'allowed' up to 0.9%. Separation times (between growing a GM crop and a non-GM crop of the same species) are not proposed, and gene flow to wild relatives is not considered. The proposals do not take account of 'landscape scale' contamination that could result if GM cropping becomes more widespread, and intend to tackle this issue in a review 2-3 years after GM cultivation begins, by which time contamination could be out of control.
- vi) Defra's proposals for a notification requirement for neighbouring farmers are inadequate because they are based on the flawed separation distances, and give farmers far too little time to respond to notifications as they do not allow for any communications failures. There are no suggestions for resolving disputes, allowing public objections or notifying local authorities.
- vii) Defra does not propose to offer any protection for farm saved seed, despite recognising that farmers will not be able to save seed for more than one generation without risking a build up of GM contamination.
- viii) Defra offers no protection for beekeepers despite the risk to the reputation of honey as a pure, natural food, and the fact that bee pollination provides a considerable economic value.
- ix) Defra suggests a series of different thresholds for organic production, despite the fact that since the aim of coexistence is to avoid the unwanted presence of GMOs in other products, the coexistence measures for organic and conventional farming need to be identical – designed to prevent GM contamination.

x) Defra proposes that redress should only be available to farmer suffering GM contamination above 0.9% because this is the 'legal standard'. But 0.9% is not a 'legal standard' – it is completely inappropriate to use this threshold because the labelling requirements are legally irrelevant to the scope of coexistence measures. Compensation for any losses incurred by non-GM farmers at any level must be covered, and the GM industry must fund any compensation. A statutory redress scheme, not an industry-led voluntary scheme, must be implemented.

xi) Defra argues strongly against setting up a GM public register of crop locations, despite the fact that it is a legal requirement to do so. Defra also proposes limiting access to the register to those with 'genuine interest', despite the logistical problems that this would entail, and the fact that any secrecy around GM crop locations would simply add to the already significant public distrust of the GM industry and the Government.

xii) Defra has responded to the clear desire from more than 60 local authorities in the UK to prevent GM crops being grown in their local areas by suggesting that voluntary GM-free zones could be set up. But these would be fraught with difficulties. Instead, local areas which have followed a democratic process and wish to prevent GM cultivation should be offered genuine support, and Defra should back a change in EU law to allow local decision making on GM crops.

## 2 Introduction

Friends of the Earth considers that the Defra proposals for a coexistence regime for England are deeply flawed. The proposals are based on a number of incorrect and premature assumptions and a fundamental misinterpretation of EU law. Throughout the document, Defra regards any measures that would protect the non-GM and organic sector as unnecessary burdens. The proposals add up to a package of measures that could have been designed by the GM industry to facilitate the introduction of GM crops into the UK.

Friends of the Earth wishes to remind Defra that Article 26a of Directive 2001/18/EC<sup>1</sup>, which provides for member states to put in place coexistence regimes, states “Member States may take appropriate measures to avoid the unintended presence of GMOs in other products”.

Public opinion in England, the UK and indeed Europe is strongly against the commercialisation of GM crops at this stage. The Government’s own public debate ‘GM Nation?’<sup>2</sup> found that people were generally uneasy about GM, had little support for early commercialisation and had widespread mistrust of Government and multinational companies. Interviews held with groups of people representative of the general population, in order to ensure there was not a ‘silent majority’ not taking part in the debate, discovered that the more people got engaged with the issues, the harder their attitudes became, frequently including more concern or greater unease about the risks associated with GM.

The latest Eurobarometer poll reported that “Europeans think that GM food should not be encouraged. GM food is widely seen as not being useful, as morally unacceptable and as a risk for society”<sup>3</sup>. And a Defra study found that few respondents had trust in the government or firms on GM issues, but generally trusted universities and environmental groups<sup>4</sup>. Defra needs to urgently consider how they can regain this public trust on GM – taking into account public attitudes and the desire for a precautionary approach when developing GM coexistence measures would be a good place to start.

## 3 Overall concepts and scope

Friends of the Earth is very concerned that Defra appears to have misinterpreted European legislation in setting out its suggestions for a future coexistence regime for England. Throughout the consultation document it takes the flawed approach of linking coexistence measures and the GM labelling thresholds. This is incorrect for two reasons, backed up by legal opinion (see Annex).

Firstly, the labelling thresholds are legally irrelevant to the scope of coexistence measures. Appropriate measures to avoid GM presence in non-GM products are not constrained by, reliant on, or necessarily allied to the labelling threshold, and there is nothing in the wording of Directive 2001/18/EC or Regulation 1829/2003 to support this limitation. The legislation states that “operators should avoid the unintended presence of GMOs in other products” – clearly measures that permit a certain level of GM content do not “avoid the unintended presence of GMOs”.

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1 As inserted by Article 43(2) of Regulation (EC) 1829/2003

2 [http://www.gmnation.org.uk/ut\\_09/ut\\_9\\_6.htm](http://www.gmnation.org.uk/ut_09/ut_9_6.htm)

3 <http://www.ec.europa.eu/research/press/2006/pr1906en.cfm>

4 Rigby D, Young T & Burton M (2004). Consumer willingness to pay to reduce GMOs in food and increase the robustness of GM labelling. Report to Defra. The University of Manchester.

Secondly, the exclusion from labelling for GM content below 0.9% is dependent on this content being adventitious or technically unavoidable. Coexistence measures that establish a regime that aims to do no more than limit GM content to a 0.9% threshold would be meaningless in terms of the labelling requirements – the labelling exemption only applies to products with a GM content that is essentially accidental, or that cannot technically be avoided. Indeed, non-GM operators would be economically disadvantaged by a coexistence regime that works to a baseline norm of 0.9%, since it will render it more difficult in practice for such operators to ensure that they benefit from the labelling exemption. A regime that sets out to prevent GM contamination as far as technically possible will render it much easier for non-GM producers to comply with all elements of the labelling exemption.

Since Defra's approach to developing coexistence measures is based on this concept of linking coexistence to the labelling thresholds, the whole consultation is seriously flawed.

Coexistence regimes should not be based around the achievement of contamination thresholds, but rather the complete avoidance of contamination. A value of less than 0.1% GM contamination would indicate that such a coexistence regime was operating correctly, as 0.1% is the current reliable limit of detection for GM. The consultation should have included options for measures needed to aim to avoid GM contamination in conventional and organic crops.

**Defra needs to completely rethink its suggestions for a coexistence regime, and create measures that will prevent avoidable contamination of non-GM produce; not merely minimise such contamination to an arbitrarily fixed tolerance level.**

Defra appears to have based its suggestions for the concept behind a coexistence regime for England on European Commission Recommendation 2003/556/EC on 'guidelines for the development of national strategies and best practices to ensure the coexistence of genetically modified crops with conventional and organic farming'. But independent legal advice commissioned by Friends of the Earth and other NGOs concluded that this Recommendation is "fundamentally flawed" for those reasons outlined above<sup>5</sup>. The European Commission's Recommendation is non-binding, and so national coexistence measures do not have to be based on this Recommendation. Indeed, Friends of the Earth wrote to Defra in April 2005 to highlight the findings of the legal opinion and the fundamental flaws in the Recommendation that it exposed.

Defra's defence of 'proportionality', for example its argument that "it would be unrealistic for producers to strive to avoid GM presence completely" does not provide justification for reliance on baseline norms founded upon the labelling requirements. Proportionality is concerned with ensuring that, of the different means capable of achieving the legislation, the one that is least burdensome (or most efficient) is adopted. Since the legislative objective is to avoid (as opposed to minimise) the unintended presence of GM in other products, opting for a baseline norm of 0.9% does not achieve the legislative objective at all. Proportionality does not provide an excuse for failing to achieve the legislative objective.

Defra should be starting from the most precautionary position possible. Instead it suggests that separation distances may need to be increased in the future, for example "when and if

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<sup>5</sup> Lasok KPE QC & Haynes R (2005). Advice - In the matter of Co-existence, traceability and labelling of GMOs., 21 January 2005. [http://www.foe.co.uk/resource/briefings/legal\\_opinion\\_in\\_the\\_matte.pdf](http://www.foe.co.uk/resource/briefings/legal_opinion_in_the_matte.pdf)

GM cropping becomes more widespread”, and does not intend to review this until two to three years after GM cropping starts. This ignores advice from the AEBC which suggested an initial introductory period with intensive monitoring and auditing of coexistence arrangements<sup>6</sup>.

Defra also considers coexistence to be a purely economic issue. Yet Article 26a was introduced into the Directive by Regulation (EC) 1829/2003, which is concerned with environmental and health aspects of GM, implying that Article 26a was not intended to be limited in scope to the economic aspects of coexistence. Member States are also required by Articles 6 and 152 of the EC Treaty and Articles 1 and 4 of the Directive to take into account the aims of protection of human health and the environment when implementing Community law. Directive 2001/18 and Regulation 1829/2003 also recognise a continuing need to protect health and the environment, including a safeguard clause to suspend and withdraw GM products. The principal aim of the labelling requirements, apart from being to inform consumer choice, is to enable the proper monitoring of GM and to take appropriate safeguard measures. The protection of human health and the environment is therefore not discharged entirely by the authorisation process, and so coexistence should not be seen as a purely economic issue.

There are significant environmental impacts that could arise from the cultivation of GM crops. The Government’s own Farm Scale Evaluations found that growing herbicide tolerant oilseed rape and beet caused a negative impact on farmland wildlife. Gene flow into weedy or wild plants may create issues such as gene stacking (if more than one form of herbicide tolerance is available), or increased fitness through gaining novel genes, as demonstrated by a study that found wild sunflowers became hardier and produced more seeds when crossed with a GM sunflower<sup>7</sup>. This could disturb the balance of ecosystems, or require increased use, or use of more hazardous types, of herbicides. The measures required for coexistence may in themselves create environmental problems. The use of barrier rows could lead to the loss of biodiversity-rich field margins, and volunteer control could lead to increased use of herbicides.

These impacts could be taken into account during the approval process for Part C consents for cultivation of GM crops, but this would require a consideration of the environmental impacts of growing a particular GMO under the coexistence regime in place for each individual member state. Since risk assessments for Part C consents are carried out at the European level, and so cannot, for example, take into account the varying populations and locations of wild relatives of GM crops throughout Europe on a local and regional scale, a more logical approach would be for Defra’s coexistence regime to consider these environmental impacts

Health impacts could arise where a GM food was found to be allergenic, for example. The current allergenicity testing guidelines for GM foods have been criticised as inadequate by Friends of the Earth<sup>8</sup>, and it would be possible for an allergenic food to slip through the net. A strict coexistence regime that avoids contamination would be very important should a GM

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6 AEBC (2003). GM Crops? Coexistence and liability: A report by the Agriculture and Environment Biotechnology Commission, November 2003.

7 New Scientist, 15 Aug 2002. 'Weeds get boost from GM crops'.

8 Friends of the Earth (2006). Could GM foods cause allergies?

[http://www.foe.co.uk/resource/briefings/gm\\_allergies.pdf](http://www.foe.co.uk/resource/briefings/gm_allergies.pdf)

food need to be withdrawn from the market – it would aid removal of the GM crop from the environment, and ensure that uncontaminated food was still available for susceptible individuals.

**Defra must reassess its suggestions for a coexistence regime to consider human health and environmental issues.**

Finally, Defra seeks to exclude from the scope of coexistence measures crops that are not intended to be placed on the market on the basis that they are not subject to the labelling requirements, such as allotment crops for private consumption, on-farm feed etc. But since the labelling requirements do not have any legal relevance to coexistence measures, as outlined above, this approach is fundamentally flawed. Furthermore, coexistence measures are designed to “avoid the unintended presence of GMOs **in other products**” – this is not confined to products intended to be marketed.

Furthermore, Regulation (EC) 1829/2003 contains a very wide definition of the market, stating that “ ‘placing on the market’ means the holding of food or feed for the purpose of sale, including offering for sale, or any other form of transfer, whether free of charge or not, and the sale, distribution and other forms of transfer themselves.” Placing on the market is not therefore limited to those products that are bought and sold.

**Defra must include non-commercial crops in any suggested coexistence measures.**

Friends of the Earth believes that Defra must re-frame its suggested coexistence measures to take into account these points, and must consider measures that would aim for zero contamination, not 0.9%. The acceptance of routine GM contamination would not be in line with existing legislation, would not achieve the aims of coexistence, and would indeed favour GM cultivation over existing agricultural practice, as this would experience significant negative impacts should a 0.9% baseline threshold be implemented.

#### 4 The consultation process

Friends of the Earth is also concerned about some of the practicalities of this consultation process. We have anecdotal evidence that a member of the public encountered great difficulty in obtaining a paper copy of the consultation documentation, having phoned on numerous occasions to request a copy over a seven-week period. It is unacceptable that Defra may have failed to give those without internet access or printing facilities the same access to consultation documentation as those who are able to print off documents from the Defra website. This does not encourage public involvement in the consultation process.

Friends of the Earth is also concerned that key stakeholders were omitted from the list of consultees for this consultation. Local authorities were not individually contacted, despite Defra having received various communications from local authorities over the last few years regarding their concern about GM issues and requesting guidance and clarification regarding options for GM-free area status. Other omissions included organisations such as the Food Commission, the Food Ethics Council, the Bee Farmers Association, the Small & Family Farms Alliance, the Federation of City Farms & Community Gardens and the Royal Horticultural Society, all of whom work in areas that would be affected by the consultation proposals. Furthermore, while a whole range of GM industry representatives are included, including GM producers, seed companies, trade associations, and even PR bodies, Defra has failed to include individual non-GM or organic producers, and instead only lists trade

associations as official consultees.

Friends of the Earth requests that Defra publishes all consultation responses in full on its website as soon as possible after the deadline in order to foster openness and transparency.

## 5 Further comments

With the above crucial points regarding the concept and the scope of the consultation and suggested measures made, Friends of the Earth also has the following points to make regarding the detail of the measures suggested in the consultation.

### 5.1 Overall scope

As explained above, the overall scope must be expanded to include non-commercial crops, as there is no justification for the exclusion of crops that will not be placed on the market, and 'placing on the market' is not limited to products that are bought and sold.

In addition Defra's suggested regime excludes crops producing certified seed, on the basis that specific labelling thresholds for GM presence in non-GM seed stocks have not yet been set. Since coexistence measures should not be based upon thresholds set in labelling laws, Defra should be considering now how to increase the scope of the coexistence regime to include certified seed and ensure that it is completely protected from GM contamination.

Defra does not intend to legislate or even provide guidance beyond the farm gate, on the assumption that beyond this point "industry will implement its own arrangements" which will be "in line with the EU rules on the tracing and labelling of GM products". But Defra must ensure that there are measures to control the physical movement of GM seeds via spillage at any point between field and factory, or via, for example, farm equipment, vehicle tyres, animals, clothing and footwear. Such movements could fall beyond the scope of Defra's proposed coexistence regime, and according to Defra would be covered by commercial arrangements to facilitate traceability and labelling. But this is not an adequate safeguard against the negative environmental impacts that may result from gene transfer to feral crop plants or wild relatives, and it is essential that these considerations are brought under a statutory coexistence regime. A Université de Lille study<sup>9</sup> demonstrated that long distance seed dispersal does occur in a manner consistent with human-mediated long distance dispersal - weedy hybrids containing maternal genes, therefore derived from seed, of commercial and wild sugar beet commonly found in fields were found to have migrated 1500 metres. This indicates the ease with which GM sugar beet genes could potentially be spread beyond the field.

Defra is also not planning to legislate on within-farm contamination, where a farmer is growing both a GM crop and a non-GM crop of the same species. It would seem very unwise to grow GM and non-GM crops of the same species within the same farm, as even if statutory separation distances and other measures could be met, there is much greater scope for mix ups, seed spillages etc. which could quickly cause GM contamination levels to build up in the non-GM crop, particularly if they were grown over several years. Since this could have an impact on the availability of non-GM crops entering the market, it would seem wise to avoid the cultivation of GM and non-GM crops of the same species within the same

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<sup>9</sup> Arnaud J-F, et al (2003). Evidence for gene flow via seed dispersal from crop to wild relatives in *Beta vulgaris* (Chenopodiaceae). *Proc. R. Soc. Lond. B* **270**:1565-1571.

farm. Should Defra decide to allow within-farm coexistence, farmers should be subject to the same requirements as between-farm coexistence.

## 5.2 Allowing for different sources of GM presence within a 0.9% threshold

Defra takes the approach of identifying all the likely sources of contamination, estimating the likely levels of contamination (using figures that are, as Defra admits, “based on general assessment rather than direct empirical evidence”), and then working out how much cross pollination is ‘allowed’ in order to achieve a 0.9% threshold.

This approach is utterly flawed – it is planning to allow a certain amount of contamination, which could technically be avoided. As explained above, this is in contravention with the principle of coexistence that the presence of GMOs should be avoided, and using such an approach will not allow operators following such a coexistence regime to use the defence that contamination is ‘adventitious or technically unavoidable’; and therefore they will not be able to benefit from the GM labelling exemption – ie crops would have to be labelled GM even if the presence was below 0.9%.

Defra must reconsider this approach, and when looking at all the potential sources of contamination develop measures that would prevent GM contamination as far as is technically possible. Defra claims that “it would be disproportionate to apply measures to try and rule out GM transfer completely”. But, as explained above, proportionality is not a defence for failing to achieve legislative objectives.

The sources of information used by Defra in its calculations are also rather opaque. Table 1 is referenced as being from a Scientific Committee on Plants (SCP) Opinion, yet within this document it is explained that the table is based ‘largely’ on unpublished data, and partially, presumably, upon the opinions of members of the SCP. This means that the detailed data on which the table is based are not available for public scrutiny – and it is unclear whether Defra has obtained this data, or simply taken the SCP table at face value. Either way, for these figures to then be ‘adjusted’ to account for the fact that they refer to within-farm contamination, using “general assessment rather than direct empirical evidence” is very unscientific. Defra claims that this generalisation has been accepted by “independent experts”, but fails to name them or provide any indication of their credentials.

In asking stakeholders to “consider a hypothetical scenario where the EU has adopted the thresholds of 0.3-0.5% previously canvassed by the European Commission”, Defra fails to consider a situation where the seed thresholds are set at a lower level than 0.3%. Defra cannot simply assume that the thresholds will be set at these levels; and has failed to even consider the implications of different thresholds.

## 5.3 Proposed coexistence measures

Defra is proposing to give statutory backing only to separation distances, on the basis that they are “essential for effective coexistence”. Other measures are deemed to be “generally desirable but not essential”. As explained above, ‘effective coexistence’ should aim to avoid (not minimise) unintended presence of GMOs in other products. Therefore any measures that assist in preventing the unintended presence of GMOs in other products are “essential for effective coexistence”, and should therefore be given statutory backing. It is

unacceptable that Defra proposes no statutory measures at all to control contamination from GM beet and potatoes.

As explained above, there is significant distrust of the Government and multinational companies regarding GM issues, and an entirely statutory regime covering all aspects of coexistence, based on a precautionary approach to GM crops, could help to restore confidence in the Government's handling of this issue.

Defra also seeks to justify non-statutory backing for other measures because measures such as 'good volunteer control' or processes for cleaning equipment "would be very difficult to specify unambiguously in legislation". But this difficulty is not a suitable justification for failing to provide adequate backing for measures that are essential for an effective coexistence regime. This ambiguity would surely also apply should these measures be left to a voluntary approach, creating either a difficulty in providing advice for voluntary measures, or making such measures completely meaningless due to their ambiguity. Difficulties in framing or enforcing legislation are not acceptable justifications for failing to take action, especially as the aim of any coexistence regime should be to "avoid the unintended presence of GMOs in other products".

Furthermore, Defra's calculations of expected levels of GM presence from sources other than seed impurity and cross pollination are based on an assumption that "good practice" is followed. For these, already questionable, figures to stand up, 'good practice' will have to be both clearly spelt out, and strictly enforced.

A voluntary approach is not appropriate for a national coexistence regime. The existing SCIMAC measures used in the comparably smaller scale of the Farm Scale Evaluations were inadequate, so if these were scaled up to a national level it is hard to see how they would cope. For example, it was left to Friends of the Earth to seek action to be taken over volunteer GM oilseed rape plants that were found following a GM farm scale trial in Lincolnshire. It took a week for Defra to order the destruction of the volunteers, which by then had started flowering<sup>10</sup>.

And Defra's suggested approach to have no separation distances for GM beet and potato would mean that coexistence measures for these crops would be left to an entirely voluntary basis. It is not acceptable for certain GM crops to have absolutely no statutory basis for their control. Any GM crops proposed for commercial cultivation must be subject to statutory measures including a formal notification system to alert neighbouring farmers, separation distances large enough to aim to keep contamination below the detection limit of 0.1%, further measures such as volunteer control subject to statutory backing, and a public register of sites grown.

Voluntary codes of practice in agriculture do not have a good record. The Pesticides Safety Precautions Scheme, used prior to 1985 as a voluntary scheme for the regulation of pesticides, suffered serious breaches such as the sale of DDT in the Vale of Evesham after its voluntary withdrawal. It was replaced by statutory measures. The Straw Burning Code, introduced by the NFU in the early 1980s in response to public opposition to straw burning, came under sustained criticism after its failure to reduce fire damage or public concerns.

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<sup>10</sup> [http://www.foe.co.uk/resource/press\\_releases/20011130115941.html](http://www.foe.co.uk/resource/press_releases/20011130115941.html)  
[http://www.foe.co.uk/resource/press\\_releases/20011205162907.html](http://www.foe.co.uk/resource/press_releases/20011205162907.html)  
[http://www.foe.co.uk/resource/press\\_releases/20011207152037.html](http://www.foe.co.uk/resource/press_releases/20011207152037.html)

Straw and stubble burning was eventually banned in most circumstances by statutory instrument in 1993, with no apparent harm to the industry, despite vociferous opposition.

Defra accepts that primary responsibility should fall to farmers growing GM crops, but “non-GM farmers will also have a role to play” including provision of relevant cropping information to GM growers in response to notifications, and routine control of volunteers and bolters to help minimise the potential for GM transfer. While it is reasonable to expect non-GM farmers to respond to notification requirements, the serious flaws in the proposed system, discussed later in this response, must be addressed. These include the practical point that non-GM farmers may not even be aware that a neighbouring farmer is growing a GM crop (as notification only applies to farms within the proposed separation distances for maize and oilseed rape). How then can farmers growing non-GM beet or potatoes next to a GM field take any additional measures to control potato groundkeepers or beet bolters? And while non-GM farmers could be expected to follow general good agricultural practice for volunteer/bolter control, any measures that are required that go beyond this requirement must be adequately compensated by the GM industry (such as labour, time costs etc).

#### 5.4 Regulatory Impact Assessment

The option of a coexistence regime where all measures have statutory backing should have been considered as part of the Regulatory Impact Assessment (RIA).

The RIA also needs to take into account the points raised above regarding the use of the 0.9% threshold, and the fact that coexistence should not be seen as a purely economic issue. All the benefits that are outlined are based on the coexistence regime guaranteeing non-GM production – but it will fail to do that, as the majority of food companies and consumers would not agree with Defra’s definition that anything contaminated up to 0.9% is non-GM.

Costs to the non-GM/organic industry of putting in place a coexistence regime based on 0.9% are not covered in the RIA, for example the costs of non-GM growers who still have to keep contamination below 0.1% to fulfil their contracts with food companies specifying this level of purity.

‘Other possible impacts’ are dismissed out of hand without any justification. There could be significant economic impacts on, for example, the food industry working to a 0.1% threshold due to contamination up to 0.9%. Negative environmental impacts could result from gene flow into wild relatives of GM crops.

It is interesting that Defra has proposed the Rural Payments Agency as the body for inspection and enforcement of coexistence regulations. The RPA’s recent handling of the Single Payment Scheme may do little to reassure both farmers and the wider public of its ability to efficiently and effectively deliver on these responsibilities. Since Defra recognises the importance of securing public confidence, they may wish to consider whether the RPA is the best body for this role.

Defra also states that it would not seek to recover the cost of inspections from GM farmers or the industry, because this would require primary legislation, and it considers that a charging scheme would be more expensive to administer than the cost of inspections. It is unclear if this calculation is based on Defra’s assumption that “after the initial period, if monitoring shows that the scheme is working well, the percentage of farms being inspected would be

reduced". A 'standard' rate of 5% of farms per annum is suggested. Defra's optimism may be misplaced – contamination incidents are likely to become more common over time if the area of GM cultivation increases, so reducing inspections to this very low level is unlikely to be adequate.

Even in the initial stages Defra assume that a yearly 30 minute inspection will be sufficient to demonstrate that a farmer is following all the required coexistence measures. This seems optimistic, particularly when it is considered that different coexistence measures will be required throughout the year, from separation distances during cultivation through to control of volunteers post-harvest and in following crops. As the AEBC point out, "the quality and extent of the intensive monitoring and auditing of coexistence arrangements would be critical" during the initial introductory period for GM crops. The GM industry must bear the cost of these inspections as the party which is introducing a new technology, so Defra must find a way of recovering these costs – one possibility could be to incorporate these requirements into the primary legislation that will be required for liability legislation. It is certainly not acceptable for the taxpayer to bear the burden of these costs – there is strong consumer opposition to GM in England, and indeed the whole of the UK, as outlined in the introduction, and it would be wrong to expect people opposed to a new technology to pay for its introduction into the market.

Friends of the Earth agrees with Defra that a statutory coexistence regime is the best way forward, but would like to see it going much further than envisaged by Defra, with statutory backing for all relevant coexistence measures, covering all GM crops, and a statutory redress mechanism for farmers affected by GM contamination.

Defra states that widespread testing of non-GM crops will not take place, because it would only "identify potential problem cases at an expected rate of around 1 in a 100." It is unclear how Defra has arrived at this figure, and it would seem impossible to be so certain at such an early stage in the consultation process. This should not therefore be used as a basis to assume that 1) widespread testing will not be necessary and 2) the likely number of claims for redress will be low, meaning it will be disproportionate to introduce a statutory redress scheme.

## 5.5 Statutory separation distances

The proposed separation distances are clearly inadequate. Indeed, they are weaker than those used in the SCIMAC code of practice during the Farm Scale Evaluations, which stipulated separation distances of 50m for oilseed rape, 50m for forage maize (increased to 80m in 2001), 200m for sweetcorn and 6m for beet. Yet Defra has reduced the distance for oilseed rape to 35m, does not yet have any suggestions for sweetcorn, and does not propose any separation distance for beet (or potato). The SCIMAC separation distances were criticised at the time of the FSE as being inadequate for preventing cross-pollination, so it is astonishing that Defra has weakened them further. Defra has even ignored the advice in the NIAB report on which it based these proposals, where a separation distance of at least 5m for beet was recommended<sup>11</sup>.

As explained above, Defra has used a flawed approach to devising these separation

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<sup>11</sup> NIAB (2006). Report on the separation distances required to ensure GM content of harvested material from neighbouring fields is below specified limits in non-seed crops of oilseed rape, maize and sugar beet. January 2006 update following a report by NIAB, commissioned by Defra in 2000.

distances, based on identifying likely sources of contamination, estimating likely levels of contamination and working out how much cross pollination is 'allowed'. Since coexistence measures should seek to avoid contamination, not allow a certain arbitrary amount, the basis for setting these distances is flawed and needs to be revisited.

Separation distances must be set at distances that aim to completely avoid and eliminate contamination. Separate thresholds for forage and grain maize on the basis that the contamination is 'diluted' where the whole crop is consumed would therefore seem illogical.

Separation distances must be accompanied by other statutory measures that will help to avoid contamination, such as separation times, requirements for volunteer control and an investigation of the use of barrier rows/strips *in addition* to separation distances, not to replace them.

In all cases where coexistence measures require a departure from normal farm management procedures, the environmental impacts of such changes must be considered. For example, the use of barrier rows could lead to the loss of biodiversity-rich field margins, and volunteer control could lead to increased use of herbicides. The likely environmental impacts of such changes must be taken into account. This could be taken into account during the approval process for Part C consents for cultivation of GM crops, but this would require a consideration of the environmental impacts of growing a particular GMO under the coexistence regime in place for each individual member state. Since risk assessments for Part C consents are carried out at the European level, and so cannot, for example, take into account the varying populations and locations of wild relatives of GM crops throughout Europe on a local and regional scale, a more logical approach would be for Defra's coexistence regime to consider these environmental impacts. If the coexistence measures required to avoid GM contamination are such that the environmental impact is judged too damaging, then the crop must not be grown.

Some suggestions for areas to focus on and estimates of separation distances required for different GM crops are outlined below:

#### 5.5.1 Beet

Current seed production separation distances help to give an idea of the distances over which cross pollination can occur, and should form the starting point of any calculation of necessary separation distances between GM and non-GM crops, whether for seed production or not.

For beet, current separation distances for seed production are up to 1000m. But beet pollen can travel beyond this distance – at least three kilometres<sup>12</sup>. Although beet is biennial, so does not usually flower within the harvesting regime, bolters can still arise and so there is potential for gene flow from GM bolters to non-GM bolters (producing seed resulting in GM weed beet in following crops), existing weed beet or wild sea beet.

A working document from the European Commission regarding adventitious GM presence in

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12 Defra (1994). Genetically modified crops and their wild relatives – a UK perspective. Research Report No 1. DOE, London, 1994

seeds<sup>13</sup> states that the Scientific Committee of Plants advised that beet seed production would need a separation distance of 2000m in order to minimise contamination to 0.5%. Friends of the Earth considers that a suitable separation distance to reduce contamination to the lowest practicable level would therefore have to be greater than 2000m – further research may be required to identify a suitable distance.

It will also be important to control GM beet bolters in order to reduce the potential for GM weed beet production, and cross pollination with wild sea beet. Statutory measures will be required to ensure that GM beet bolters are not allowed to pollinate non-GM beet bolters, weed beet or wild sea beet, and following crops will need to be monitored and GM weed beet destroyed. Where weed beet populations are large and not adequately controlled, GM beet should not be grown. Separation times may be required between GM beet and future non-GM beet crops – the AEBC suggest a cropping interval of four years, with 6 to 7 years where weed beet is causing problems<sup>14</sup>. Further research may be required to identify the most effective separation time between growing GM and non-GM beet.

Where wild sea beet populations are present, Friends of the Earth considers that it may not be advisable to grow GM beet crops at all. Gene flow into wild relatives is not just an issue in terms of potential subsequent gene flow to other crops, but it also raises environmental issues such as gene stacking (if more than one form of herbicide tolerance is available), or increased fitness through gaining novel genes, as demonstrated by a study that found wild sunflowers became hardier and produced more seeds when crossed with a GM sunflower<sup>15</sup>. This could disturb the balance of ecosystems, or require increased use, or use of more hazardous types, of herbicides.

These environmental issues cannot be considered to have been taken account during the EU approvals process for GMOs, as these risk assessments are carried out at the European level, and so cannot take into account the varying populations and locations of wild relatives of GM crops throughout Europe on a local and regional scale. Defra must therefore incorporate this issue into its coexistence regime. The map below indicates the presence or absence of sea beet in 10km squares throughout the UK<sup>16</sup>, highlighting areas where GM beet cultivation should not be allowed.

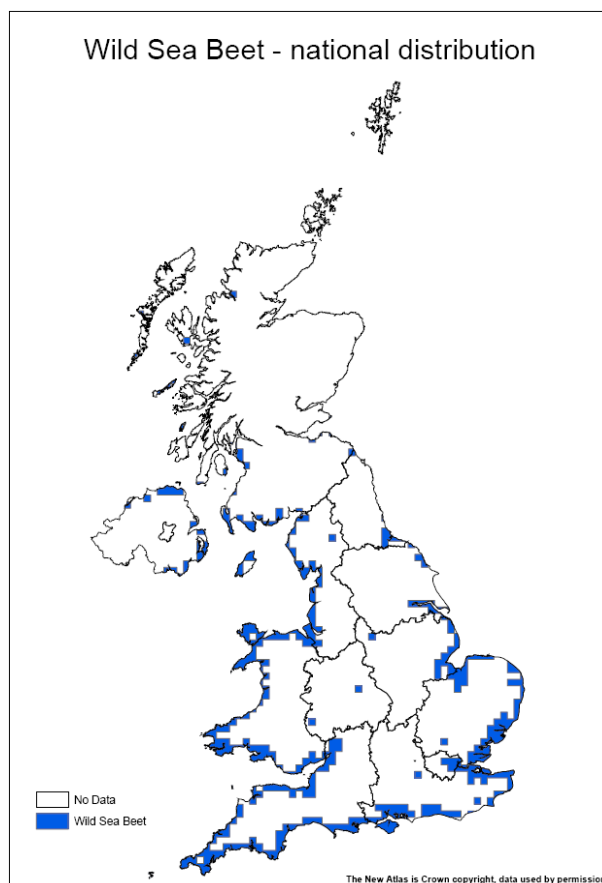
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13 Memorandum to the European Commission by the Scientific Commission on Plants on the growing conditions and other requirements for seed purity circulated by the Plant Variety Rights Office and Seeds Division of Defra 9<sup>th</sup> July 2001

14 AEBC (2003). GM Crops? Coexistence and liability: A report by the Agriculture and Environment Biotechnology Commission, November 2003.

15 New Scientist, 15 Aug 2002. 'Weeds get boost from GM crops'.

16 Data taken from the New Atlas of the British and Irish Flora, Oxford University Press, 2002



### 5.5.2 Oilseed rape

Separation distances used for oilseed rape seed production range from 100-500m, with greater distances needed for hybrid varieties. Purity using these distances can however be as low as 90%. Oilseed rape can cross pollinate over considerable distances – being insect pollinated the range is determined by the foraging distances of the pollinating insects. Honey bees can travel up to 5km when foraging<sup>17</sup>, and a Defra study revealed that the pollen beetle is thought to be responsible for cross pollination over 26km<sup>18</sup>. In the Canadian oilseed rape contamination incident in 2000, where non-GM spring oilseed rape grown in Canada and exported to Europe for cultivation was found to contain GM contamination of up to 2.8 per cent<sup>19</sup>, a representative of Advanta Seeds informed the House of Commons Agriculture Committee that it was grown using a four kilometre separation distance<sup>20</sup>.

The Scientific Committee on Plants<sup>21</sup> recommended that the seed production distance for GM hybrid oilseed rape should be up to 5000m for basic seed production, and 3000m for

17 Ramsay, G, Thompson CE, Neilson S, Mackay GR (1999). Honeybees as vectors of GM oilseed rape pollen in Gene Flow and agriculture: relevance for transgenic crops BCPC Symposium Proceedings No 72 pp 209-214

18 DEFRA (2003). Quantifying landscape-scale gene flow in oilseed rape.

<http://www.defra.gov.uk/environment/gm/research/epg-rg0216.htm>

19 Canadian Food Inspection Agency (2002). Trace amounts of genetically modified material in Canola seed exported to Europe.

20 <http://www.parliament.the-stationery-office.co.uk/pa/cm199900/cmselect/cmagric/812/0071803.htm>

21 Memorandum to the European Commission by the Scientific Commission on Plants on the growing conditions and other requirements for seed purity circulated by the Plant Variety Rights Office and Seeds Division of Defra 9<sup>th</sup> July 2001

certified seed production in order to meet a threshold of 0.3%. Friends of the Earth considers that a suitable separation distance to reduce contamination to the lowest practicable level will therefore have to be greater than 5000m – further research may be required to identify a suitable distance.

Defra points out that Varietal Associations of oilseed rape have “fallen out of favour” in England and are not currently grown. It is important that if they come back into use in the future that Defra has the ability to respond quickly and impose the much greater separation distances that will be required for Varietal Associations, which are much more susceptible to cross pollination. Such distances would need to be based on strong scientific evidence, and agreed via public consultation, and until they were agreed and in force, cultivation of GM oilseed rape would need to be suspended.

Volunteer control is also crucial – significant seed losses occur in oilseed rape via natural shedding and crop disturbance during harvesting – a report by the JRC/IPTS on coexistence scenarios cited evidence of losses up to 50% in bad conditions, with 20-25% “not uncommon”, and 2-5% reported even in ideal conditions<sup>22</sup>. The Scientific Committee on Plants recommended that for seed production five years should elapse between GM oilseed rape crops and non-GM oilseed seed production, and noted that some Member States currently used a seven year separation time before planting seed crops after a previous oilseed rape crop<sup>23</sup>.

Defra sponsored research suggests that some oilseed rape seed could survive for up to 16 years, and predicts that non-GM oilseed rape could be contaminated at levels above 0.9% for up to 16 years if volunteers are not controlled<sup>24</sup>. The study predicted that even with very rigorous management of volunteers, eg 100% effective herbicide treatment and complete control of harvest losses, a threshold of 1% would be hard to achieve within five years. Separation times must therefore be specified, giving sufficient time between growing GM oilseed rape and following non-GM oilseed rape crops to prevent gene flow from GM volunteers. Volunteer control measures must have statutory backing.

But this does not take into account the issues of cross pollination with wild relatives – a genuine risk for oilseed rape which can hybridise with six different wild plant species found in the UK<sup>25</sup>. One study<sup>26</sup> estimated the likely annual hybridisation rate for *Brassica rapa* (wild turnip) and oilseed rape creates around 32,000 hybrids per year in wild riverside populations in the UK, and 17,000 in weed populations in fields. As explained for beet, gene flow into

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22 Bock A-K, Lheureux K, Libeau-Dulos M, Nilsagard H, Rodriguez-Cerezo E (2002). Scenarios for co-existence of genetically modified, conventional and organic crops in European agriculture. IPTS/JRC

23 EC Scientific Committee on Plants (2001) Opinion of the Scientific Committee on Plants concerning the adventitious presence of GM seeds in conventional seeds SCP/GMO-SEED-CONT/002-FINAL.

24 DEFRA (2003). The potential for oilseed rape feral (volunteer) weeds to cause impurities in later oilseed rape crops. [http://www.defra.gov.uk/environment/gm/research/pdf/epg\\_rg0114.pdf](http://www.defra.gov.uk/environment/gm/research/pdf/epg_rg0114.pdf)

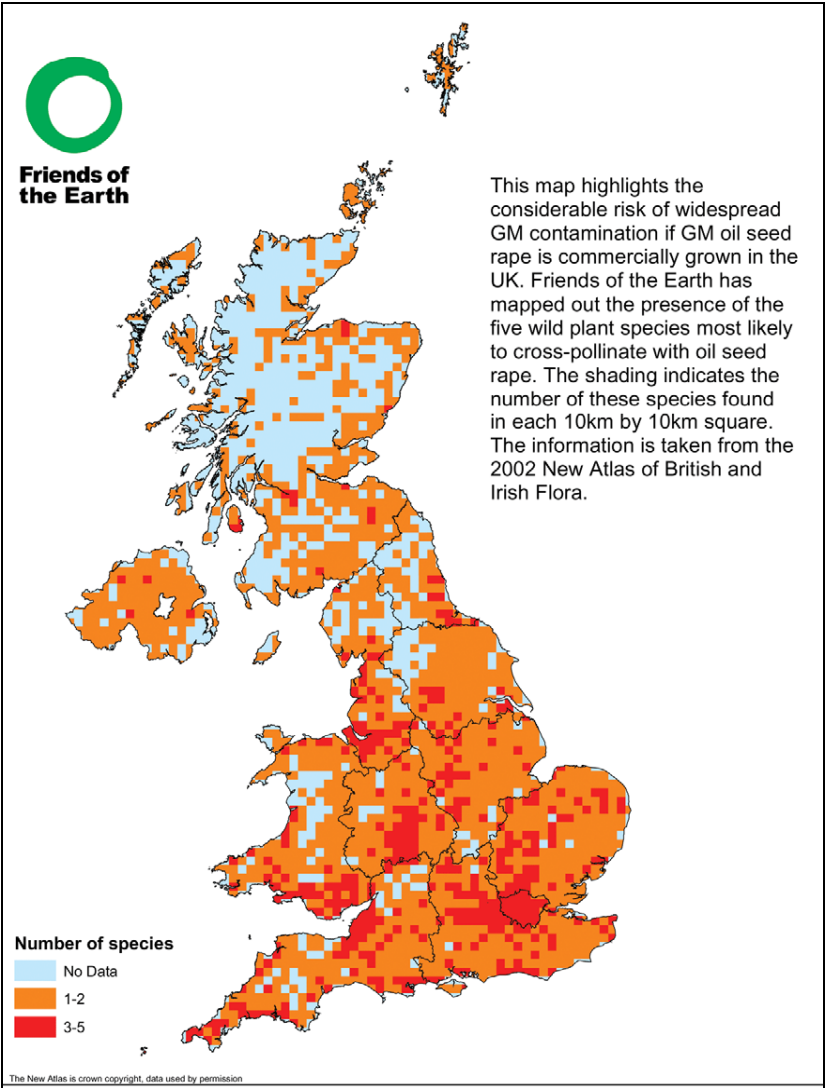
25 *Brassica rapa*, *Brassica juncea*, *Brassica oleracea*, *Hirschfeldia incana*, *Raphanus raphanistrum* and *Sinapis arvensis*.

Identified in Gray AJ & AF Raybould, 1999. Environmental Risks of Herbicide-tolerant oilseed rape. A review of the PGS hybrid oilseed rape DEFRA; Eastham K & J Sweet, 2002. Genetically modified organisms (GMOs): the significance of gene flow through pollen transfer European Environment Agency issue report No 28; and Daniels R, Boffey C, Mogg R, Bond J, Clarke R (2005). The potential for dispersal of herbicide tolerance genes from genetically modified, herbicide tolerant oilseed rape crops to wild relatives. Final report to Defra.

26 Wilkinson M et al (2003). Hybridisation between *Brassica napa* and *Brassica rapa* on a national scale in the United Kingdom. *Science*, 9 October 2003.

wild relatives can provide further sources of contamination, or cause environmental impacts. The map below illustrates the widespread distribution of five of these wild relatives in 10km squares throughout the UK<sup>27</sup>. In many locations where oilseed rape is currently grown, there is at least one species of plant that could cross breed with it. This demonstrates that there is no 'safe area' to grow GM oilseed rape – cross pollination with wild relatives is inevitable, with unknown consequences. If it is not possible to control the gene flow of GM oilseed rape into wild plant populations, it must be questioned whether it is appropriate for GM oilseed rape to be cultivated in the UK.

Again, this issue cannot be considered to have been taken account during the EU approvals process for GMOs, as these risk assessments are carried out at the European level, and so cannot take into account the varying populations and locations of wild relatives of GM crops throughout Europe on a local and regional scale. Defra must therefore incorporate this issue into its coexistence regime.



<sup>27</sup> Data taken from the New Atlas of the British and Irish Flora, Oxford University Press, 2002

### 5.5.3 Maize

The separation distance currently used for maize seed production is 200m, giving purity of between 99 and 99.9%, with lower purity for open pollinated varieties. But there is evidence to suggest maize pollen can cross pollinate over much greater distances than 200m. A three year study indicated that average cross pollination rates at 200m were 1.19%, with up to 2.47% cross pollination recorded in a year that was favourable for cross pollination<sup>28</sup>. Data appear to be only available up to 800m, where levels of 0.21% cross pollination have been found<sup>29</sup>. Further research is vital to identify a suitable separation distance for maize, which could be in the region of several kilometres to take account of long distance pollen dispersal via wind.

Coexistence measures for maize, a wind pollinated crop, could be very complicated. A JRC/IPTS report on coexistence<sup>30</sup> considered GM maize cultivation in France, and demonstrated the serious difficulties in developing a coexistence system that can take account of the major variables involved in cross pollination, such as prevailing wind direction, flowering times of various varieties, sizes and locations of fields etc. They suggested a 'flexible decision-support system' would be needed to deal with the great variability, and concluded that the only way to reduce contamination to below 0.1% would be to cluster maize fields together, and in each cluster farmers would have to decide whether to cultivate GM or non-GM maize. While not specific to England, the difficulties in accounting for the various factors involved would still be very relevant here.

Defra states that insufficient data is currently available to specify a separation distance for sweetcorn. Logically, this would rule out the cultivation of any form of GM maize, which could cross pollinate with sweetcorn, until this research has been completed, the level of protection required for sweetcorn identified, and relevant separation distances determined via consultation.

### 5.5.4 Potatoes

Although commercial potatoes are propagated via tubers, true potato seed production can also occur, and while not affecting the current tubers, it can create GM volunteers in future crops. Rates of outcrossing recorded under field conditions for potatoes range from 0 to 20%, with both wind and insect pollination likely to be involved<sup>31</sup>. Some studies have detected pollen up to 20m from the source<sup>32</sup>, but one study recorded cross pollination levels

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28 Emberlin J (2000). An assessment of outcrossing in maize, relevant to the proposed decision to add GM maize variety Chardon LL to the National List. Proof of Evidence, Chardon LL hearing.

[http://www.foe.co.uk/resource/evidence/assessment\\_outcrossing\\_maize.pdf](http://www.foe.co.uk/resource/evidence/assessment_outcrossing_maize.pdf)

29 Treu R & Emberlin J (2000). Pollen dispersal in the crops maize (*Zea mays*), oilseed rape (*Brassica napus* ssp *oleifera*), potatoes (*Solanum tuberosum*), sugar beet (*Beta vulgaris* ssp. *Vulgaris*) and wheat (*Triticum aestivum*). Evidence from publications. A report for the Soil Association from the National Pollen Research Unit.

30 Messean A, Angevin F, Gomez-Barbero M, Menrad K, Rodriguez-Cerezo (2006). New case studies on the coexistence of GM and non-GM crops in European agriculture. JRC/IPTS

31 Treu R & Emberlin J (2000). Pollen dispersal in the crops maize (*Zea mays*), oilseed rape (*Brassica napus* ssp *oleifera*), potatoes (*Solanum tuberosum*), sugar beet (*Beta vulgaris* ssp. *Vulgaris*) and wheat (*Triticum aestivum*). Evidence from publications. A report for the Soil Association from the National Pollen Research Unit.

32 Eastham K & Sweet J (2002). Genetically Modified Organisms (GMOs): The significance of gene flow through pollen transfer. European Environment Agency

of 31% at 1000m, thought to be due to pollen beetles<sup>33</sup>.

Volunteer (groundkeeper) control will be crucial in controlling contamination, so it is vital that these measures are not left to a voluntary approach. True seed, unharvested tubers and damaged tuber pieces can all sprout in the following year to produce weed plants in subsequent crops, which will in turn produce small tubers which can persist to contaminate crops in future years. They can be hard to control with herbicides in broad leaved crops - long rotations and destruction of all tubers remaining in the field after harvest are required<sup>34</sup>. According to a 2002 European Environment Agency report<sup>35</sup>, "in recent years, the combination of reduced herbicide rates throughout the rotation due to declining arable margins, a succession of mild winters and the use of vigorous potato varieties has increased the numbers of volunteer potatoes."

A separation distance is clearly required for potatoes, as pollen can travel at least to 20m, and cross pollination has been recorded at 1km. Furthermore, a separation time before non-GM potatoes can be grown in the same field is vital – at least seven years according to the JRC/IPTS report. Further research may be required to identify optimum separation distances and times for potatoes. Since volunteer control is crucial, and can be difficult, statutory measures must be put into place to ensure necessary measures are adequately carried out.

#### 5.5.5 Other considerations

Defra's proposals do not take account of landscape scale cross pollination – they are based on estimates for a single pollen source. Defra accepts that "when and if GM cropping becomes widespread, there will be a stronger possibility of non-GM crops being cross-pollinated by more than one GM crop in the vicinity", so "longer separation distances are likely to be needed".

But Defra proposes to "take stock of this situation as part of the proposed review after the introductory phase", which will be in two or three years' time. This seems to be a very short-sighted approach – if GM cultivation is taken up more widely and more quickly than Defra expects, they will be completely unprepared for it. By the time Defra has "taken stock" and reviewed the separation distances, contamination could be out of control. It is also likely to take too long to increase separation distances, as this would require a change in legislation. Separation distances must be based on a precautionary approach, taking into account landscape-scale cross pollination, and aiming to reduce GM contamination as much as possible. The AEBC recommended an initial introductory period, should GM crops be commercialised, where there would be intensive monitoring and auditing of coexistence arrangements to determine whether and how far coexistence was actually being achieved<sup>36</sup>.

Defra suggests that GM farmers may be able to use barrier rows/strips instead of separation distances, but are unable to offer specific details at this time. Any use of a barrier row/strip

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33 Skogsmyr, I. (1994) Gene dispersal from transgenic potatoes to conspecifics: A field trial. *Theoretical and Applied Genetics* 88: 770– 774.

34 Bock A-K, Lheureux K, Libeau-Dulos M, Nilsagard H, Rodriguez-Cerezo E (2002). Scenarios for co-existence of genetically modified, conventional and organic crops in European agriculture. IPTS/JRC

35 Eastham K & Sweet J (2002). *Genetically Modified Organisms (GMOs): The significance of gene flow through pollen transfer*. European Environment Agency

36 AEBC (2003). *GM Crops? Coexistence and liability: A report by the Agriculture and Environment Biotechnology Commission*, November 2003.

instead of the separation distance would have to be supported by sound scientific evidence that it is as effective as, or more effective than, the separation distance. Since this evidence is not available at the time of this consultation, further public consultation on any future evidence to justify the use of barrier rows/strips instead of separation distances will be essential.

Defra also suggests that farmers could come up with their own “novel coexistence solutions”, or ignore coexistence rules entirely if they both agree. But any decisions to do this could have wider impacts than just those two farmers. Therefore Friends of the Earth considers that local discretion is only acceptable if it is to take a more precautionary approach than that specified by Defra, not less.

Friends of the Earth agrees that where GM crops contain different numbers of ‘events’ per genome the precautionary approach of using the highest ‘GM Index’ applicable for that crop should be followed. We would also suggest that this approach should be used for the consideration of varying separation distances by field depth. In this case, Defra has proposed adopting NIAB recommended distances based on 4 hectares for oilseed rape and 1 hectare for maize, stating that “this should ensure that the specified distance is more than adequate in the vast majority of cases”. Yet there are still significant numbers of oilseed rape and maize fields in England below this size – Defra’s own figures show that 28% of oilseed rape fields are below 4 hectares, and 13% of maize fields are below 1 hectare. Defra should be using the most precautionary figures available, not just ignoring the need for protection for a sizeable minority of crops.

## 5.6 Statutory notification and liaison requirement

Friends of the Earth is concerned about the notification requirement in conjunction with the inadequate separation distances proposed. Because the proposed separation distances are only designed to limit GM contamination to 0.9%, and it is unlikely that they would be sufficient to even achieve this, farmers with fields beyond the separation distances may still suffer GM contamination from cross pollination yet have no right of notification from the GM farmer, and have no idea that a GM crop is being grown nearby.

Defra needs to reconsider the notification requirement in the light of the necessary separation distances that will be required to deliver a genuine coexistence regime that seeks to avoid GM contamination. Because many more farmers will be involved, a much more sophisticated system than that proposed is likely to be required to make the notification system workable.

In terms of Defra’s current proposal for a notification requirement based on inadequate separation distances, the following comments apply:

Non-GM farmers must have some kind of right of challenge of the GM farmer’s decision to grow the GM crop, for example if a contamination level of below 0.9% is required eg to meet standards required by food companies (most supermarkets currently operate to a 0.1% threshold, such as Sainsbury’s, Marks & Spencer, Tesco, Waitrose and Iceland). Similarly there is no consideration for organic farmers who also operate to below 0.1%.

It is completely unacceptable for a failure to reply within 14 calendar days to a GM crop notification to be sufficient to discharge all legal coexistence obligations for GM farmers. It does not allow for any communications failures (post, email, fax – all liable to fail to deliver),

or non-availability of neighbouring farmers to deal with the notification, eg due to holiday, sickness etc. The notification period must be extended to allow more time for consideration and reply, and a non-reply cannot be sufficient to discharge all responsibilities – there needs to be a follow up process to ensure that communications have been received.

Defra suggests that should barrier rows/strips be permitted instead of separation distances, no notification process will be required. But Defra admits that there is no evidence currently available to support the effectiveness of barrier rows or strips in minimising contamination. Barrier rows/strips should only be permitted if they are found to be as effective as, or more so, than separation distances, and it seems unlikely that they would be sufficient to replace separation distances entirely. They should not be used as an excuse for non-notification – it is essential that there is transparency in this process in order to promote trust between neighbouring farmers.

The suggestion of single notification deadlines for spring and autumn sown crops, while “a pragmatic way forward”, means that farmers growing spring oilseed rape would have far less time to respond to notifications regarding neighbouring GM crops than those growing maize. Crop-specific deadlines would be a much fairer system.

It is also unacceptable that, because Defra does not consider that separation distances are required for beet and potatoes, there is no requirement for farmers wanting to grow GM beet and potatoes, to notify their neighbours.

Notifications should be made available to the public and work together with a public register (see below for detailed comments on the public register) along the lines of planning permission procedures, allowing for public objections and allowing local authorities to be notified about any GM crops being grown in their areas. Notification should apply beyond the separation distances suggested by Defra.

There also needs to be a system of resolving disputes, for example if a number of neighbouring farmers object to a GM crop being grown, and they are not convinced that the statutory separation distance will prevent detectable contamination. The approach of ‘last in first out’ should apply.

## 5.7 Other coexistence issues

### 5.7.1 Non-GM oilseed rape produced from farm-saved seed

Defra “considers that observing the proposed statutory separation distance for oilseed rape crops combined with existing good practice for saved seed will be sufficient for effective coexistence”. Yet they also point out that if saved seed were used over more than one generation, “there might be a coexistence problem”. So they are essentially offering no protection for farmers who save seed over more than one generation, apart from telling them not to do it.

This is not a reasonable way forward on farm-saved seed, and removes a basic right from farmers and growers to save seed, with consequences for both seed diversity and farm finances. It is estimated that between 15 and 40% of oilseed rape seed in the UK is farm-saved<sup>37</sup>. It must also be recognised that if GM cultivation becomes widespread, farmers who

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<sup>37</sup> Agriculture and Environment Biotechnology Commission (2003). GM Crops? Coexistence and Liability.

save seed will have to pay to get seed tested to ensure it is not contaminated – non-GM farmers should be compensated for this cost, as it arises entirely due to GM cultivation.

### 5.7.2 Coexistence training for farmers

Since so much of Defra's current proposals for a coexistence regime depend on voluntary measures, a formal training requirement would seem to be essential. Defra itself points out the ambiguities involved in defining 'good' volunteer control or equipment cleaning processes, so if there is to be any consistency in the way that guidelines will be followed, a formal training requirement will be absolutely essential. It is certainly not acceptable to assume that GM seed suppliers and future college courses will educate farmers on best practice, thus absolving Defra of any responsibility.

Should coexistence measures be made fully statutory, as Friends of the Earth is advising, a compulsory training scheme would still be advantageous to assist farmers in staying within the law. This will be particularly important if Defra goes ahead with their plans for minimal monitoring of compliance with coexistence.

Denmark's coexistence legislation only allows 'approved growers' who have undergone training to cultivate GM crops<sup>38</sup>.

### 5.7.3 Honey production

Defra states that because any GM content in honey will always be well below 0.9%, and because any GM pollen in honey "can generally be regarded as adventitious or unavoidable", it is not necessary to offer any protection for honey producers.

But it is questionable whether the presence of GM pollen in honey can be dismissed as adventitious or unavoidable. If GM crops are not located within the vicinity of beehives, the presence of GM pollen can easily be avoided.

Beehives may need to be considered as part of the separation distances required, and certainly beekeepers have a right to be notified if a GM crop is being grown within six miles – the separation distance between GM crops and hives recommended to by the British Beekeepers' Association during the Farm Scale Evaluations. GM pollen was detected in honey during the trials on several occasions. GM contamination, no matter how small the level, will also impact upon honey's reputation as a pure and wholesome food. A 2002 survey indicated that 63% of people who regularly bought honey did not want it to contain GM pollen<sup>39</sup>.

Oilseed rape is very attractive to honey bees – beekeepers have reported bees flying up to 5km to reach an oilseed rape field<sup>40</sup>. This makes them important pollinators for oilseed rape in the UK, and indeed bee colonies are commonly introduced to help with pollination. A report on Defra's bee health programme<sup>41</sup> notes that, in oilseed rape, bees may "produce a

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38 [http://www.aebc.gov.uk/aebc/meetings/meetings\\_091204\\_minutesdocument.shtml](http://www.aebc.gov.uk/aebc/meetings/meetings_091204_minutesdocument.shtml)

39 [http://www.foe.co.uk/resource/press\\_releases/20020920000136.html](http://www.foe.co.uk/resource/press_releases/20020920000136.html)

40 Ramsey G, Thompson CE, Neilson S & Mackay GR (1999). Honeybees as vectors of GM oilseed rape pollen. In: Lutman, PJW. Gene flow and Agriculture: Relevance for Transgenic Crops. BCPC Symposium Proceedings no 72.

41 Temple ML, Emmett BJ, Scott PE, Crabb RJ (2001). An economic evaluation of Defra's Bee Health Programme: Annex 7 – Pollination of Crops. ADAS Consulting Ltd.

crop of higher quality which ripens more rapidly and is easier to harvest. More importantly from a crop management point of view, pest control treatments that must be applied **at** (but never before) the end of flowering, can be applied with greater safety to beneficial insects and efficacy against the pest when flowering terminates evenly across the field.”

The economic value of crops grown commercially in the UK that benefit from bee pollination is estimated at around £120m-£200m per year, and the value of honey production in the UK is between £10-£30m per year<sup>42</sup>. The impacts of excluding honey from a coexistence regime could therefore go beyond beekeepers.

Defra’s cursory dismissal of the issue of bees, honey and GM crops does not do justice to the complexity of the situation. It is vital that beekeepers have clear advice on the implications of GM contamination of honey, the measures required to prevent such contamination, and the exact locations and timings of GM crops.

## 5.8 Coexistence between GM and organic production

Since the aim of coexistence is to avoid the unwanted presence of GMOs in other products, the logical outcome of which should be no GM contamination above the current reliable limit of detection of 0.1%, the coexistence measures provided for organic farming should essentially be identical to those for conventional farming – simply designed to prevent GM contamination.

The only difference between conventional and organic farming systems is that currently there is no allowance for adventitious or technically unavoidable GM contamination in the labelling of organic produce. Truly adventitious, or genuinely technically unavoidable GM contamination would be expected to be rare events, provided an appropriate coexistence regime was in place that genuinely sought to avoid GM contamination. But because organic food cannot contain any GM content, this means that it is particularly important that there is a liability system that can compensate organic farmers for **all** associated losses due to **any** detectable GM contamination. Further comments on Defra’s proposals for a redress system can be found below.

With these crucial points made, Friends of the Earth has the following additional comments regarding Defra’s consideration of a lower threshold for GM contamination for organics.

Defra makes its comments “in the context of proposals made by the European Commission to amend the EU organic production Regulation 2092/91” and allow 0.9% adventitious contamination of organic produce. It must be noted that there has been strong opposition to these proposals by both member states and organic organisations across Europe, and there should be no assumption that these proposals will be passed in their current form. Defra’s proposals should be based around the current situation - that there is currently a *de facto* threshold observed in organic farming of 0.1% contamination – in essence, no tolerance for GM presence in organic produce.

Defra’s argument that it could be seen as unreasonable for GM growers to deliver thresholds below 0.9% because organic farmers get a premium due to their lack of contamination is a rather bizarre argument. While true that in general those who produce to a special standard take responsibility for meeting it, this can only apply where the measures to meet it lie within

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42 <http://www.defra.gov.uk/hort/Bees/index.htm>

their control. Since it is proposed that organic farmers will have no right to prevent, or even know about, GM cultivation in the vicinity of their crops beyond the small separation distances proposed, their ability to meet the standards that pay the premium is severely compromised. Any new technology that is introduced must be required to take account of the impacts it will have on existing agriculture, and where these impacts impinge on the right of a farmer to engage in a scheme that pays a premium for their efforts, it must be prevented from doing so.

This argument also ignores the environmental benefits that arise from organic farming systems – the benefits of organic farming are not just in an increased price premium for the farmer, but are felt much wider. Defra itself acknowledges the benefits of organic farming – the Organic Action Plan seeks to increase the English organic market share of indigenous produce to 70% by 2010. Defra “recognise that organic farming and food offer real benefits for the environment” and states that “Organic food has an important contribution to make, alongside other sustainable farming methods, to the future prosperity of our countryside and the choices available to consumers.”<sup>43</sup>

Defra states that even if no GM crops were grown in the UK, imports would still be contaminated. But this is irrelevant - just because contamination occurs outside the UK, it does not mean that we should give up and accept the same here. The organic sector is working hard to ensure that GM-free imports can continue to be sourced, and a recognition of the value of organic’s GM-free status in the UK would assist in pressing for similar standards internationally.

Defra argues that a 0.1% threshold would require separation distances “measured in kilometres” and the imposition would be “tantamount to a ban on GM crops, which is clearly inconsistent with EU law”. As stated above, proportionality is not a defence that can be used in failing to meet a legislative aim, and since meeting a 0.1% threshold would indicate that measures are seeking to avoid GM contamination, this would be entirely consistent with EU coexistence legislation.

Defra states that a 0.1% threshold “could undermine consumer confidence in the integrity of organic produce if there were repeated breaches of a specific GM threshold and/or it had subsequently to be abandoned as impractical”. Yet the imposition of a higher threshold, ie the acceptance of a routine level of contamination of organic produce, which is prized by consumers partly due to its GM-free status, would also do much to destroy the reputation of the organic sector. It is paradoxical that Defra seeks to both support organic production “because of the contribution it can make to environmentally sensitive farming”, and yet cause it irreparable damage in seeking to justify widespread GM contamination.

#### 5.8.1 A legal threshold between 0.1% and 0.9%

As explained above, coexistence should seek to avoid the unintended presence of GMOs in other products, rather than aiming to minimise to an arbitrary threshold, so the consideration of a threshold between 0.1% and 0.9% is completely irrelevant. Such a concept would also be confusing for consumers - one of the organic sector’s selling points is that it is GM-free – not that it contains ‘a bit less’ GM. The sector must be completely protected from GM

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<sup>43</sup> Defra (2004). Action Plan to develop organic food and farming in England.  
<http://www.defra.gov.uk/farm/organic/policy/actionplan/pdf/actionplan2year.pdf>

contamination – any threshold above 0.1% is meaningless.

#### 5.8.2 Coexistence measures needed for a legal threshold below 0.9%

It is stated that the NIAB data for limiting cross pollination to no more than 0.1% need to be treated with caution due to margins of error etc, and that longer distances might be required.

It is essential that the necessary scientific research needed to identify distances over which cross pollination is reduced as much as possible is carried out before any coexistence regime can be implemented.

Defra's discussion of the limitations of testing for GM presence also look at the coexistence situation the wrong way round. A coexistence regime should not be designed around the current capabilities of laboratory testing, but should simply seek to prevent GM contamination. It is generally accepted that the reliable limit of detection for GM presence is 0.1%<sup>44</sup>.

Defra states that it believes "that non-GM producers will not need to undertake routine testing to be confident that GM presence is within the required level" with a threshold of 0.9%. It is unclear what Defra is basing this belief on, but the experience in Spain shows that producers cannot take such a laissez faire approach – one farmer discovered over 12% GM contamination in an organic maize crop<sup>45</sup>.

#### 5.8.3 A process-based standard

Defra suggests a 'process-based standard' where organic farmers could take additional steps to avoid GM presence further. But this would place organic farmers at a disadvantage, in having to incur greater costs and more effort than they had to do prior to the introduction of the new technology. This is not acceptable – the onus must be on the GM farmers to prevent contamination of organic produce.

If any extra measures are needed to be taken by organic producers they should be able to claim from a fund set up by the GM industry.

Defra asks for stakeholder views on whether the Government should support the Commission's proposal to fix the legal threshold for adventitious GM presence in organic products at 0.9%. Again, Defra appears to be confusing the issue of thresholds for adventitious contamination with coexistence measures – they are separate issues, as explained above. But Friends of the Earth considers that no GM presence should be allowed in organic produce and the Defra should argue for this in EU negotiations.

### 5.9 Redress for economic losses

Defra states that redress should only be available to farmers suffering contamination above 0.9% because this is the "legal standard". To categorically state that 0.9% is the "legal standard" is completely wrong, and it is extremely misleading of Defra to say so. It is

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44 Minutes of an AEBC meeting state that "It had been agreed by the EU Scientific Committee on Plants that the detection limit of PCR testing should be considered as 0.1% because that was what could be reliably detected in practice in laboratories"

[http://www.aebc.gov.uk/aebc/subgroups/consumer\\_choice\\_meetings\\_190902\\_note.shtml](http://www.aebc.gov.uk/aebc/subgroups/consumer_choice_meetings_190902_note.shtml)

45 Assemblée Pagesa/Plataforma Transgenics Fora/Greenpeace (2006). Impossible Coexistence, Chapter 9.

<http://www.greenpeace.org/raw/content/international/press/reports/impossible-coexistence.pdf>

completely inappropriate to use 0.9% as the point at which redress is applicable because, as explained above and in the legal opinion (see Annex), the labelling thresholds are legally irrelevant to the scope of coexistence measures. The 0.9% threshold is therefore completely irrelevant for any redress mechanism. Furthermore, unless coexistence rules seek to avoid, rather than minimise, GM contamination, operators will have to label their products as GM if they contain any contamination at all, as it will not be classed as adventitious or technically unavoidable. There is far more potential for economic loss than Defra has envisaged in this consultation.

There is also a general principle to be observed here – the GM sector is introducing a new technology which is capable of contaminating existing crops and food. Defra should therefore be less concerned about placing burdens on the GM sector, and more concerned about protecting people's right to grow and consume uncontaminated food. People should have the right to grow food that is free of GM contamination, should have protection from loss of organic certification or loss of reputation due to contamination, should have the right to save seed over more than one generation, and should not incur losses of any description as a result of GM cultivation. Losses incurred as a result of any level of GM contamination must be covered.

Defra's assumption that "GM crops will only be grown in the UK if there is a market for them" and so any farmer with a contaminated crop "will have a market in which to sell it" is rather simplistic. It ignores the fact that the affected farmer may be supplying to a lower threshold and gaining a premium price for doing so, eg to food companies that operate to a 0.1% threshold. It does not account for the fact that any new technology has to have 'early adopters', and if contamination results from one of these 'early adopters' there may not be a sufficient market in which to sell a contaminated crop.

Defra's suggestions for dealing with corn on the cob contamination are rather arbitrary. Consumers are unlikely to be reassured that they are eating 'non-GM' sweetcorn based on just two tests – and at what point between the two tests is the line drawn? This is both unscientific and dishonest – it would be very easy for cobs containing more than 0.9% to be sold as non-GM, as pollen movement is unlikely to observe straight lines. GM contamination at any point in a non-GM field should lead to the whole crop being considered GM, and compensation should be made available accordingly. Furthermore, when would this test kick in? Would there be routine testing of sweetcorn at harvest? Who will pay?

Defra's attempt to avoid the issue of liability where on-farm forage crops are contaminated makes little sense. While accepting that farmers may face economic loss where supply contracts stipulate non-GM feed, they attempt to wriggle out of any responsibility by claiming that this is "a market-led rather than regulatory requirement, and as such Defra does not think it would be appropriate for the Government to provide a specific redress solution (the Government's general stance is to facilitate the coexistence arrangements that can be regarded as necessary because of the EU 0.9% labelling threshold)". This is wrong on several points. It is inappropriate to abandon farmers suffering contamination through no fault of their own that leads to economic loss regardless of whether this is due to a 'market-led' or 'regulatory' requirement. The impact is identical. And again, Defra makes the mistake of equating the 0.9% labelling threshold with coexistence – coexistence must seek to avoid GM contamination of any other products, not just those that are to be placed on the market.

And the market is defined much more broadly in EU legislation than Defra has chosen to

interpret it. Regulation (EC) 1829/2003 states that “ ‘placing on the market’ means the holding of food or feed for the purpose of sale, including offering for sale, or any other form of transfer, whether free of charge or not, and the sale, distribution and other forms of transfer themselves.”

#### 5.9.1 Additional losses

Any losses incurred by a non-GM farmer due to contamination should be covered. This will include costs of testing, crop storage, transport costs, and also loss of business, loss of organic certification etc. The claim that this will lead to an overly bureaucratic scheme should not be used as an excuse to fail to protect farmers who have through absolutely no fault of their own suffered economic losses due to GM farming. It is not appropriate to draw a line and say that anything on the other side will have to risk going through the courts and incurring significant costs during what could be protracted legal battles.

#### 5.9.2 Eligibility

While some eligibility criteria are clearly needed, such as having complied with requests for cropping information from neighbouring GM farmers, it is important that this does not become too burdensome on the affected farmer. For example, it may be difficult to prove that the seed used was not contaminated – there have been several instances of farmers being provided with contaminated seed, such as the contamination of Canadian oilseed rape seed sold by Advanta to European farmers in 2000. It should not be up to every farmer to test his seed supplies before planting.

An overly prescriptive list of eligibility requirements will serve simply to create obstacles to farmers claiming rightful compensation for contamination. Beyond providing evidence of complying with requests for information from GM farmers and demonstrating that they have previously supplied non-GM markets, it is hard to see the need for further eligibility requirements.

The onus should be on the GM farmers to prove that they have taken all the necessary steps to avoid contaminating a neighbour's crop. Defra's suggestions seem to be designed to make it very difficult for a non-GM farmer to make a claim and make numerous references to reducing burdens on GM farmers

#### 5.9.3 Who should pay any compensation?

Friends of the Earth agree that the GM sector must fund any compensation. But it may be difficult to prove where contamination has arisen from, and GM farmers who are following coexistence rules should not be punished for the Government's mistakes should these rules turn out to be inadequate. It seems most appropriate for the GM industry to shoulder the burden of compensation, and as pointed out, it can then decide how to share this burden with GM farmers, and seek recovery of costs where GM farmers have been negligent.

#### 5.9.4 Possible options for seeking redress

Defra seems to have already decided that it favours a voluntary, industry lead approach for seeking redress before even going to consultation. This appears to already be well underway with industry body SCIMAC developing a voluntary redress charter. Defra states that if this industry scheme is “deemed unacceptable”, the Government will consider establishing a

compulsory redress mechanism requiring new primary legislation. But it is unclear who will get to make judgements on SCIMAC's proposals, and so deem it acceptable or unacceptable – will there be a further public consultation to gain comments on SCIMAC's voluntary redress charter? And why is a statutory approach only considered as an option if the industry does not set up a scheme, or it is “deemed unacceptable”?

Friends of the Earth agrees that seeking compensation under existing law would not be appropriate, due to the difficulties of identifying defendants, potential for greater costs and lengthy court battles, and impact on community relations.

But a voluntary, industry-led scheme is not appropriate either. For such an important issue it is vital that there is a statutory scheme that clearly lays out the rights of an affected farmer and the redress that is available to them, that provides independent adjudication on claims, and that has the power to order payments to be made. An industry-led voluntary scheme is simply not able to meet all these criteria. It must also consider more than just contamination above the 0.9% labelling threshold, which the SCIMAC plan apparently does not intend to do. And Defra does not say how a voluntary code would be enforced.

A statutory scheme is by far the most appropriate measure. Defra attempts to argue against this by stating that there will be few claims for redress, for small amounts of money, and appears to favour a voluntary scheme because it will be cheaper to set up and easier to operate. This is not an acceptable argument against a statutory scheme, and the uncertainties around Defra's claims regarding the low numbers of claims for redress have been discussed above. The only way to ensure an independent, clear and transparent scheme is to create a statutory mechanism with an independent body to administer it. If GM cultivation is taken up on a large scale, and Defra's suggested coexistence measures are used in practice, it is likely that Defra will see rather more claims, for larger costs, than they have envisaged here. It is vital that a body that is able to cope with these claims in a timely and efficient manner is created from the outset.

#### 5.10 A public register of GM crops

Defra's position on GM registers is flawed from the outset. They state that there is no requirement under Regulation (EC) 1829/2003 for public registers of GM crop locations. But this is incorrect. Article 7(8) of Regulation (EC) 1829/2003 states that “References made in parts A and D of Directive 2001/18/EC to GMOs authorised under part C of that Directive shall be considered as applying equally to GMOs authorised under this Regulation.” Part D of Directive 2001/18/EC includes a requirement for the establishment of a public register of GM crop locations. Defra therefore has a legal obligation to set up a public register for GM crop locations, regardless of which Directive or Regulation the GM crop has been authorised under.

Defra's arguments against the establishment of a public register of GM crops are also unsound. Defra states that it is not necessary due to the notification requirement – but the flaws in this proposed system are detailed above. It also implies that a register would be instead of a notification system, not in addition to it – yet there is no reason why this should be the case. Defra should not be consulting about whether a public register is needed, but what form it should take. And Friends of the Earth considers that it is needed in addition to a robust notification system.

Defra excludes the right of gardeners and allotment holders to know if GM crops are being grown nearby on the basis that their produce is not sold – yet this position is legally flawed (and also may not be accurate - allotment holders may sell their produce on a small scale). Defra states that “rules are needed to protect the interests of non-GM farmers because they must label their crops as ‘GM’ if they have a GM presence above 0.9%, but people growing plants for their own use or consumption are not affected by this legal requirement”. As explained above, since the labelling requirements do not have any legal relevance to coexistence measures, this approach is fundamentally flawed. And because coexistence measures are designed to “avoid the unintended presence of GMOs **in other products**”, this should not be confined solely to products intended to be marketed. Furthermore, the Food and Feed Regulation 1829/2003 contains a very wide definition, stating that “ ‘placing on the market’ means the holding of food or feed for the purpose of sale, including offering for sale, or any other form of transfer, whether free of charge or not, and the sale, distribution and other forms of transfer themselves.” Defra should therefore include this wider definition in the scope of its coexistence regime.

Defra claims that prospective purchasers of land can get details of GM crop cultivation from the last 5 years from the vendor – yet oilseed rape seeds may remain viable for much longer. For example, Defra’s own research shows that oilseed rape seeds can remain viable for up to 16 years<sup>46</sup>, so it is important to know the longer-term land use history. The Royal Institute of Chartered Surveyors (RICS) has warned that land values could drop for fields where GM crops are grown, and argues that people have a right to know if their neighbours are growing GM as it may impact on their future land decisions and the value of their property. RICS advocate a web-based land register for GM crops<sup>47</sup>, which Friends of the Earth supports.

The possibility of people using the register to break the law is irrelevant – people may use all kinds of legitimate tools to break the law, but this does not justify getting rid of them – this would be akin to banning cars because some people use them to commit crimes.

Defra states that it is hard to justify using taxpayers’ money to fund a register, or pass on the costs to industry. Friends of the Earth believes there is a clear justification for passing these costs to the GM industry – it is required by law, it is essential to create an open and transparent system of cultivation, and it is vital that people have a right to know if their produce is at risk from GM contamination.

Any attempt to limit full availability of information to those demonstrating “genuine interest” is clearly open to abuse – who decides what a ‘genuine interest’ is? There are many legitimate reasons for seeking to obtain this information, from local authorities wishing to monitor GM crop cultivation in their local areas, to nature conservation organisations who may wish to be aware of areas where GM crops are being grown with the associated increase in herbicide use. Rather than seeking to draw up a list of permitted ‘genuine interests’, and a system to administer access to information to these interests likely to involve the sort of bureaucracy Defra is so keen to avoid, Defra should develop an open and transparent web-based register, fully accessible to the public, which would be much simpler to administer. Any secrecy around GM crop locations will simply add to the already significant distrust of the GM industry.

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46 DEFRA (2003). The potential for oilseed rape feral (volunteer) weeds to cause impurities in later oilseed rape crops. [http://www.defra.gov.uk/environment/gm/research/pdf/epg\\_rg0114.pdf](http://www.defra.gov.uk/environment/gm/research/pdf/epg_rg0114.pdf)

47 [http://www.rics.org/NR/rdonlyres/F441B60F-0C91-4D31-A1BA-44BC16266523/0/gmo\\_register.pdf](http://www.rics.org/NR/rdonlyres/F441B60F-0C91-4D31-A1BA-44BC16266523/0/gmo_register.pdf)

It is unclear from the consultation paper how Defra itself intends to keep track a central record of who is growing GM crops in England, where and when, for post-market monitoring purposes – it must be assumed that they intend to record this data in order to carry out effective monitoring and inspection, but clarification on this point would be helpful. A public register could make use of, or be incorporated into, Defra’s own central records on GM crop cultivation, reducing costs.

#### 5.11 Voluntary “GM-free” zones

More than sixty local authorities in the UK have passed resolutions opposing GM crops in their areas, and they are part of a growing movement for GM free areas across Europe ([www.gmofree-europe.org](http://www.gmofree-europe.org)).

Under current EU law, a blanket ban on all GM crops within a particular area is not legally possible, but local authorities can ensure that GM crops aren’t grown on any land they own, and EU legislation does allow geographical areas to be exempted from individual consents for GM crops.

Defra’s response to this clear desire for GM-free local areas has been to talk about voluntary GM free zones. But Friends of the Earth does not believe that the creation of *voluntary* GM-free zones is viable. They are subject to far too many difficulties, and rather miss the point. Defra should be seeking to protect **all** non-GM farmers from contamination from GM crops.

Defra should also be supporting the rights for local areas to declare themselves GM-free and offering genuine protection for agriculture in areas where a democratic process has been followed and it is agreed that the area does not wish to include GM cultivation. Defra should back a change in EU law to allow local decision making over GM crops.

This will be particularly important if Defra pushes ahead with these dangerously flawed proposals for a coexistence regime – it may be the only way that GM-free food and farming can continue to exist.

**IN THE MATTER OF DEFRA'S CONSULTATION  
ON PROPOSALS FOR MANAGING THE COEXISTENCE OF GM, CONVENTIONAL AND  
ORGANIC CROPS**

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**OPINION**

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**INTRODUCTION**

1. We are asked to advise Friends of the Earth, GM Freeze and the Soil Association on the current DEFRA Consultation on proposals for managing the coexistence of genetically modified ("GM"), conventional and organic crops commenced in July 2006 ("the Consultation"). We have previously advised on related issues arising from Directive 2001/18/EC (on the deliberate release into the environment of genetically modified organisms), Regulation (EC) No 1829/2003 (on genetically modified food and feed) and Regulation (EC) No 1830/2003 (concerning the traceability of food and feed products produced from genetically modified organisms) and will refer to that advice in the course of this Opinion. We are now asked to advise on whether or not the approach and assumptions of the Consultation are generally consistent with EC law and, specifically, in relation to the following:
  - (i) Whether Article 22 of Directive 2001/18 changes the conclusions of our earlier advice;
  - (ii) Whether the establishment of a 0.9% coexistence threshold for GM in non- GM crops is compatible with European law;
  - (iii) Whether the exclusion of certain types of growing or farming activities *i.e.* private gardeners and allotment holders, farmers producing their own fodder and farmers who save seed for re-sowing for their next crop ("farm saved seed"), from the scope of the proposed measures is compatible with European law?
  - (iv) Whether the position stated in the Consultation that Regulation 1829/2003 does not require the keeping of a public register of GM crop locations is compatible with Community law.
2. For the reasons set out below, the answer to each of those specific questions is "no".
3. The essential premise of the Consultation is that:

“...if authorised GM crops are grown here in due course this may result in non-GM crops having a small GM presence (e.g. through cross-pollination or the dispersal of GM seed). To facilitate choice between conventional, organic and GM crops, ‘coexistence’ measures will be needed to minimise unwanted mixing of GM and non-GM material. From a regulatory standpoint, the key benchmark for distinguishing GM and non-GM produce is the 0.9% threshold for adventitious GM presence adopted by the EU (products with a presence above this level must be labelled and sold as ‘GM’). In this paper Defra is seeking comments on a proposed coexistence regime for England that would aim to minimise any unwanted GM presence in non-GM crops so that it is below 0.9%.”

4. The Consultation further considers, *inter alia*, excluding from the scope of the co-existence measures crops that are not intended to be placed on the market, e.g. crops grown for private consumption.
5. We have considered the Consultation and have concluded, in summary, that:
  - (i) It is based on a flawed approach to the link between co-existence measures and the GM labelling thresholds provided for in EC legislation and to the labelling thresholds *per se*.
  - (ii) It would also appear to be suggesting that co-existence measures should relate to labelling thresholds as a baseline norm (which, for the reasons we have set out is a misinterpretation of the relevant legislation).
  - (iii) Further, it appears to gloss over the requirement that, in order to benefit from the labelling exemption, GM content must be “adventitious or technically unavoidable”, irrespective of the threshold and wholly fails to grapple with the meaning of that term. We have concluded that a co-existence regime which aims to establish a base-line threshold of 0.9% GM content across the board would generally preclude any reliance in practice by operators on the labelling exemption for “adventitious” presence below that threshold if an element of GM content became inherent in all products. Furthermore, reliance by the operator on any base-line threshold resulting from co-existence measures would not in our view be sufficient to discharge the burden placed upon him to demonstrate that the presence was “technically unavoidable”.
  - (iv) Its position that there is no requirement in law for a public register is fundamentally flawed and ignores the provisions of Directive 2001/18.

6. Before discussing our conclusions, we consider it helpful to rehearse the legislative background applicable to the regulation of GM products.

## **LEGISLATIVE BACKGROUND**

7. Directive 2001/18 (which is a legislative instrument binding only on Member States and providing a legislative framework according to which certain results are required to be achieved) has the objective, in accordance with the precautionary principle, of approximating the laws, regulations and administrative provisions of the Member States for the purpose of protecting human health and the environment when:
  - carrying out the deliberate release into the environment of genetically modified organisms for any purposes other than placing on the market within the Community, and
  - placing on the market genetically modified organisms as or in products within the Community<sup>48</sup>.
8. There is a general obligation upon Member States to ensure that all appropriate measures are taken to avoid adverse effects on human health and the environment which might arise from the deliberate release or the placing on the market of GMOs. GMOs may not be deliberately released or placed on the market unless that is in conformity with the Directive<sup>49</sup>.
9. A clear objective of the Directive is the protection of the environment and human health. That objective is also enshrined in the EC Treaty in Articles 6 and 152.
10. The Directive establishes a system of authorisation for the release of GMOs with different but parallel provisions applying respectively to GMO release where such release is for some purpose other than marketing and to GMO release where GMOs are to be marketed as or contained in products. In either case, a release may take place only with and subject to the conditions of an authorisation from the competent authority of a Member State. An authorisation has effect throughout the Community.
11. It follows therefore that Community law does not permit of any tolerance in relation to GMO content where the relevant GMO release has not been authorised. The only circumstance in which unauthorised GMO content is tolerated is by virtue of transitional measures whereby authorisation is not required for adventitious or technically unavoidable trace elements of

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48 Article 1

49 Article 4

GMO to a threshold of 0.5%, where an application for authorisation in relation to that GMO has reached a certain stage in the process of consideration and certain stringent conditions have been met<sup>50</sup>.

## **LABELLING**

12. The Directive also provides for the continued monitoring of GMO products for their potential effects on human health or the environment. To that end, the Directive seeks to ensure traceability of GMOs at all stages of the placing onto the market of products in which they are contained. With that in mind, Article 21 therefore provides for labelling and packaging of GMO products and provides:

“1. Member States shall take all necessary measures to ensure that at all stages of the placing on the market, the labelling and packaging of GMOs placed on the market as or in products comply with the relevant requirements specified in the written consent referred to in Articles 15(3), 17(5) and (8), 18(2) and 19(3).

2. For products where adventitious or technically unavoidable traces of authorised GMOs cannot be excluded, a minimum threshold may be established below which these products shall not have to be labelled according to the provision in paragraph 1. The threshold levels shall be established according to the product concerned, under the procedure laid down in Article 30(2).

3. For products intended for direct processing, paragraph 1 shall not apply to traces of authorised GMOs in a proportion no higher than 0,9 % or lower thresholds established under the provisions of Article 30(2), provided that these traces are adventitious or technically unavoidable.”

13. Article 21 therefore imposes an obligation to label authorised GMOs and product with authorised GM content. It recognises however that there may be situations in which adventitious and technically unavoidable traces of authorised GMO cannot be excluded. In such circumstances, and only in such circumstances, there is an exception to the general obligation to label GM products where the technically unavoidable or adventitious content is lower than a specified threshold. In relation to products intended for direct processing, that threshold has been set at 0.9%. That threshold derives from Regulation 1830/2003.

14. Regulations 1829/2003 and 1830/2003 apply a special regime to food and feed containing, consisting of or produced from GMOs. Regulations differ from Directives in that they are binding in their entirety, are directly applicable in Member States and bind individuals and companies as well as Member States. Regulation 1829/2003 establishes rules for the authorisation, supervision and labelling of GM food and feed which are applicable to such

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<sup>50</sup> Article 12a (inserted by Regulation 1829/2003)

food and feed irrespective of whether they contain products which have previously received an authorisation pursuant to Directive 2001/18. The objectives of the Regulation are found in its Recitals, *inter alia*, as follows:

*“(1) The free movement of safe and wholesome food and feed is an essential aspect of the internal market and contributes significantly to the health and well-being of citizens, and to their social and economic interests.*

*(2) A high level of protection of human life and health should be ensured in the pursuit of Community policies.*

*(3) In order to protect human and animal health, food and feed consisting of, containing or produced from genetically modified organisms (hereinafter referred to as genetically modified food and feed) should undergo a safety assessment through a Community procedure before being placed on the market within the Community.”*

15. With regard to labelling, the recitals to the Regulation provide:

*“(17) In accordance with Article 153 of the Treaty, the Community is to contribute to promoting the right of consumers to information. In addition to other types of information to the public provided for in this Regulation, the labelling of products enables the consumer to make an informed choice and facilitates fairness of transactions between seller and purchaser.*

*(18) Article 2 of Directive 2000/13/EC of the European Parliament and of the Council of 20 March 2000 on the approximation of the laws of the Member States relating to the labelling, presentation and advertising of foodstuffs provides that labelling must not mislead the purchaser as to the characteristics of the foodstuff and among other things, in particular, as to its nature, identity, properties, composition, method of production and manufacturing.*

*(20) Harmonised labelling requirements should be laid down for genetically modified feed to provide final users, in particular livestock farmers, with accurate information on the composition and properties of feed, thereby enabling the user to make an informed choice.*

*(21) The labelling should include objective information to the effect that a food or feed consists of, contains or is produced from GMOs. Clear labelling, **irrespective of the detectability of DNA or protein resulting from the genetic modification in the final product**, meets the demands expressed in numerous surveys by a large majority of consumers, facilitates informed choice and precludes potential misleading of consumers as regards methods of manufacture or production.*

*(22) In addition, the labelling should give information about any characteristic or property which renders a food or feed different from its conventional counterpart with respect to composition, nutritional value or nutritional effects, intended use of the food or feed and health implications for certain sections of the population, as well as any characteristic or property which gives rise to ethical or religious concerns.*

*(23) Regulation (EC) No 1830/2003 of the European Parliament and of the Council of 22 September 2003 concerning the traceability and labelling of genetically modified organisms and traceability of food and feed products produced from genetically modified organisms and amending Directive 2001/18/EC(16) ensures that relevant information concerning any genetic modification is available at each stage of the placing on the market of GMOs and food and feed produced therefrom and should thereby facilitate accurate labelling.*

*(24) **Despite the fact that some operators avoid using genetically modified food and feed, such material may be present in minute traces in conventional food and feed as a result of adventitious or technically unavoidable presence during seed***

**production, cultivation, harvest, transport or processing. In such cases, this food or feed should not be subject to the labelling requirements of this Regulation. In order to achieve this objective, a threshold should be established for the adventitious or technically unavoidable presence of genetically modified material in foods or feed, both when the marketing of such material is authorised in the Community and when this presence is tolerated by virtue of this Regulation.**

**(25) It is appropriate to provide that, when the combined level of adventitious or technically unavoidable presence of genetically modified materials in a food or feed or in one of its components is higher than the set threshold, such presence should be indicated in accordance with this Regulation and that detailed provisions should be adopted for its implementation. The possibility of establishing lower thresholds, in particular for foods and feed containing or consisting of GMOs or in order to take into account advances in science and technology, should be provided for.**

**(26) It is indispensable that operators strive to avoid any accidental presence of genetically modified material not authorised under Community legislation in food or feed. However, in order to ensure the practicability and feasibility of this Regulation, a specific threshold, with the possibility of establishing lower levels in particular for GMOs sold directly to the final consumer, should be established as a transitional measure for minute traces in food or feed of this genetically modified material, where the presence of such material is adventitious or technically unavoidable and provided that all specific conditions set in this Regulation are met. Directive 2001/18/EC should be amended accordingly. The application of this measure should be reviewed in the context of the general review of the implementation of this Regulation.**

**(27) In order to establish that the presence of this material is adventitious or technically unavoidable, operators must be in a position to demonstrate to the competent authorities that they have taken appropriate steps to avoid the presence of the genetically modified food or feed” (emphasis added)..**

16. The Regulation itself makes, *inter alia*, the following provision for the labelling of GM food in

Article 12:

“1. This Section shall apply to foods which are to be delivered as such to the final consumer or mass caterers in the Community and which:

- (a) contain or consist of GMOs; or
- (b) are produced from or contain ingredients produced from GMOs.

2. This Section shall not apply to foods containing material which contains, consists of or is produced from GMOs in a proportion no higher than 0,9 per cent of the food ingredients considered individually or food consisting of a single ingredient, provided that this presence is adventitious or technically unavoidable.

3. In order to establish that the presence of this material is adventitious or technically unavoidable, operators must be in a position to supply evidence to satisfy the competent authorities that they have taken appropriate steps to avoid the presence of such material.

4. Appropriate lower thresholds may be established in accordance with the procedure referred to in Article 35(2) in particular in respect of foods containing or consisting of GMOs or in order to take into account advances in science and technology.”

17. Parallel provisions apply in relation to GM feed.

18. Again, therefore, the precondition for the exclusion from the general obligation to label products with GM content is that the content is adventitious or technically unavoidable. The burden of proving that GM content is “adventitious or technically unavoidable” lies firmly with operators, who are defined in the Regulation as “the natural or legal person responsible for ensuring that the requirements of this Regulation are met within the food businesses or feed businesses under its control”.

19. For the sake of completeness, it should be noted that the provisions referred to above are concerned with identifying the circumstances in which something must be labelled as a GM product. If, for example, a product has an adventitious GM content of less than 0.9%, that means that it is excluded from the obligation to be labelled as containing GMO. It does not follow that a positive representation can be made about the product (whether in the form of a label or some other statement about it) that it is GMO-free. Hence, the labelling requirements are not intended to lay down the borderline between GMO products and non-GMO products.

## **CO-EXISTENCE**

20. Article 43(2) of Regulation 1829/2003 amends the Directive by inserting Article 26a. It provides:

“Measures to avoid the unintended presence of GMOs

1. Member States may take appropriate measures to **avoid** the unintended presence of GMOs in other products.

2. The Commission shall gather and coordinate information based on studies at Community and national level, observe the developments regarding coexistence in the Member States and, on the basis of the information and observations, develop guidelines on the coexistence of genetically modified, conventional and organic crops” (emphasis added).

21. It is this provision which forms the basis of the UK government’s Consultation on co-existence, which appears to be firmly rooted in the Commission’s policy in that regard, as recorded in its Recommendation of 23 July 2003 “on guidelines for the development of national strategies and best practices to ensure the coexistence of genetically modified crops with conventional and organic farming”.

## **GENERAL CONCLUSIONS REGARDING THE CONSULTATION**

22. Just as we considered in our previous advice that the Commission Recommendation had no basis in Community legislation and was wrong in law, we are of the view that certain

assumptions and premises of DEFRA's Consultation are also flawed and inconsistent with Community law.

23. The central premise of the Consultation is that coexistence measures are designed merely to minimise unwanted GM transfer and that such measures are to be defined by reference to the thresholds applicable to GM labelling requirements. Further, the Consultation is strongly reliant on the premise that coexistence measures are concerned only with "economic choice" and not with safety and environmental concerns. As we have already advised, that is a flawed approach to the Community legislation for a number of reasons.

### **COEXISTENCE AND BASELINE NORMS**

24. The origin of Article 26a lies in Regulation No. 1829/2003. Recital 28 to the Regulation provides:

*"(28) Operators should avoid the unintended presence of GMOs in other products. The Commission should gather information and develop on this basis guidelines on the coexistence of genetically modified, conventional and organic crops. Moreover, the Commission is invited to bring forward, as soon as possible, any further necessary proposal."*

25. This, in our view, is distinct from the subject matter of recitals 24 to 27. Those recitals refer to the adventitious or technically unavoidable presence of GMOs in food or feed in a number of different situations. Recital 26, for example, refers to the accidental presence of unauthorised GMOs in food or feed. Recitals 24-25 appear to refer to the presence of authorised GMOs.
26. Recital 28 departs from the phraseology of recitals 24-27 by referring simply to the "unintended" presence of GMOs in "other products". It is obviously correct to point out that the word "adventitious" in the earlier recitals overlaps in meaning with the word "unintended", although the word "technically unavoidable" does not necessarily do so. It is also correct to point out that the phrase "other products" could be construed as referring to "products other than GMOs" or "products other than food or feed".
27. However, taking things in context, we consider that, whereas recitals 24-27 are concerned with tackling the situation that arises when there is an adventitious or technically unavoidable presence of GMOs in food or feed, recital 28 and, accordingly, Article 26a are concerned with securing coexistence, that is, the prevention of (unintentional) "contamination" of products other than GM products. Recital 28 and Article 26a therefore concern a situation that logically precedes the situation considered by recitals 24-27.

28. The labelling thresholds are therefore legally irrelevant so far as the scope of coexistence measures is concerned. Further, it cannot be said that the only objective of coexistence measures, as envisaged in Article 26a, is the economic protection of non-GM producers, as the Consultation paper asserts (see, for example, at paragraphs 22 to 25).
29. In relation to the first point made in the preceding paragraph, we are of the clear view that appropriate measures to avoid GM presence in non-GM products, taken pursuant to Article 26a, are not as a matter of law constrained by, reliant on, or necessarily allied to the labelling thresholds. There is nothing in the wording of the Directive or Regulation 1829/2003 to support such a limitation. Moreover, there is no canon of construction or legislative rationale dictating or leading to such an interpretation. Indeed it is strongly arguable that the structure of the legislation would indicate that a limitation on the scope of “appropriate” coexistence measures by reference to labelling thresholds would be illogical.
30. To begin with, Article 26a refers clearly and simply to measures to “avoid the unintended presence of GMOs”. As a matter of ordinary language and commonsense, measures that permitted a certain level of GM content would not “avoid the unintended presence of GMOs”.
31. From the policy perspective, coexistence means the ability of farmers to make a practical choice between conventional, organic and GM crop production. Measures that permitted a certain level of GM content could not be said to be directed at enabling farmers to make such a choice.
32. Further, as stated above, there are two relevant conditions for the exclusion from the general obligation to label products with GM content: (i) the content must be adventitious or technically unavoidable; and (ii) it must be below the threshold. Coexistence measures that established a regime that aimed to do no more than limit GM content in products not intended to be GM to a 0.9% threshold would therefore be meaningless, so far as the labelling requirements are concerned, unless the operator was also able to satisfy the additional requirement for the labelling exemption, namely, that the GM presence was adventitious or technically unavoidable.
33. Finally, if one aim of co-existence measures is to provide economic protection for non-GM operators, whilst accepting the legitimacy of authorised GM production, the placing upon the scope of such measures of the limitation of achieving a baseline norm of 0.9% (rather than achieving lower levels of, or the avoidance altogether of, contamination) arguably renders it

more difficult in practice for non-GM operators to ensure that they benefit from the labelling exemption.

34. By contrast, a regime that sets out to prevent cross-contamination, as far as is technically possible, renders it easier for non-GM producers to comply with all elements of the labelling exemption. Limiting such a regime by reference to a base-line tolerance could also preclude the ability of non-GM operators to establish a GM-free labelling regime akin to the organic labelling regime, to which we return below.
35. As indicated above, it seems to us that the concept of coexistence measures is crucially relevant: they are directed towards preventing the avoidable contamination of non-GM produce and not to merely minimising such contamination to (arbitrarily fixed) tolerance levels.
36. The Consultation also appears to indicate (see for example at paragraphs 28 and 36) that the construction of Article 26a is to be tempered by reference to the principle of proportionality and appears to suggest that, since it is unrealistic for producers to strive to avoid GM presence completely, the only appropriate response is to apply a baseline norm of 0.9%. In the same vein, the Commission has referred to Article 22 of the Directive as imposing – or at least implying - a similar constraint upon the extent of coexistence measures (Article 22 provides: “Without prejudice to Article 23, Member States may not prohibit, restrict or impede the placing on the market of GMOs, as or in products, which comply with the requirements of this Directive”).
37. We do not consider that either of those contentions has any bearing on the proper construction of the Community legislation. Nor do they provide justification for reliance on baseline norms founded upon the labelling requirements.
38. As regards the principle of proportionality, what is proportionate in the circumstances is a matter of fact and technical assessment and must have regard to the legislative aim. The analogy often used to illustrate the principle of proportionality is the wielding of a sledge hammer to crack a walnut. The objective is to crack open the walnut. By using a sledge hammer, the objective will be achieved. However, recourse to the sledge hammer involves the exercise of more force and energy than is necessary to achieve the objective. The objective could be achieved by using lesser force and energy (recourse to a nutcracker). Thus, proportionality is concerned with ensuring that, of the different means *capable of*

*achieving the legislative objective*, the one that is least burdensome (or, putting it another way, most efficient) is adopted.

39. In the present context, the legislative objective is avoiding, as opposed to minimising, the unintended presence of GM in other products. Proportionality will always be informed by what is technically possible in order to achieve the legislative objective; but there does not appear to be any evidential basis for an assertion that measures going beyond minimising contamination by reference to baseline norms founded upon the labelling provisions pose a disproportionate burden upon producers and operators having regard to the need to achieve the legislative objective. On the contrary, the problem posed by opting for a baseline norm is that it does not achieve the legislative objective at all. Reverting to the sledge hammer and walnut example, opting for a baseline norm on the ground of proportionality is like saying “we need to crack open this walnut; this rubber play-knife is lighter than this nutcracker and requires less force and energy; accordingly, proportionality requires use to apply the rubber knife to the walnut and throw the nutcracker away, even though this means that we will not be able to crack open the walnut”. It hardly needs stating that that is not a correct understanding of the principle of proportionality: that principle does not provide an excuse for failing to achieve the legislative objective.
40. Another problem about using a baseline norm derived from the labelling requirements is that it would seem to take the domestic measures outside the scope of Article 26a. Properly understood, a system based on the labelling requirements would amount to nothing more than a system designed to ensure that producers would not be obliged to label their products as containing GMOs (although we are sceptical as to the effectiveness of such a system). We do not think that coexistence can simply be assimilated to being relieved of the obligation to label one’s products as containing GMOs. It is rather more than that (whence the fact that Article 26a uses the verb “avoid”, not “minimise”).
41. Similarly, we do not consider that Article 22 of the Directive can be employed to distort the clear intention of Article 26a. Article 22 is directed toward ensuring that GMOs that benefit from a consent can be marketed without further restriction on the part of Member States, save where new safety and environmental concerns arise. Co-existence measures are directed towards avoiding cross contamination to preserve the integrity of non-GM production, whilst accepting the legitimacy of GM production. Article 22 can have any relevance to coexistence measures only if, as a matter of fact, measures which aim to avoid cross contamination have the effect of preventing or unduly restricting the marketing of GM.

There is simply no basis at all for the assertion that any particular measure designed to avoid cross contamination produces that result or, more importantly, that the only means of ensuring compliance with Article 22 is the establishment of a baseline norm for GM content.

42. In summary, therefore, we conclude that there is no legislative provision which requires a Member State to limit its coexistence measures to go no further than is necessary in order to ensure that GM content stays below the Community's labelling threshold. Nor is there any compelling practical or other reason to construe the scope of "appropriate measures" as containing or implying such a limitation. We consider therefore that the approach of the Consultation in promoting co-existence measures which seek to achieve a base-line norm by reference to the labelling requirements as fundamentally flawed. Moreover, we consider that such an approach has important consequences for operators seeking to benefit from the exemption to the labelling requirements, which is dependant on the meaning of the "adventitious or technically unavoidable" proviso in the relevant labelling provisions.
43. The evidential requirements contained, *inter alia*, in Article 12 of Regulation 1829/2003 already assume that such accidental or technically unavoidable presence is unintended since operators must show the steps taken to avoid such presence. As a matter of ordinary language and legislative interpretation, therefore, the terms "adventitious or technically unavoidable" clearly go beyond mere unintentional presence.
44. The terms "adventitious" and "technically unavoidable" are not defined in the relevant legislation. They are clearly separate concepts, either of which may be satisfied in order to exercise the labelling exemption.
45. "Adventitious" is defined in the Oxford English Dictionary as:

"Coming from without, accidental, causal."

Our examination of other language versions of the term do not suggest that that is an unreliable guide to the meaning of the word. It seems to us that adventitious in this context means accidental and arising from outside the process, or non-inherent. Some support for that proposition, if needed, is derived from Commission Regulation (EEC) No 1470/68 on the drawing and reduction of samples and the determination of the oil content, impurities and moisture in oil seeds. Article 2.3 provides:

"Special care is necessary to ensure that all sampling apparatus is clean, dry and free from foreign odours. Sampling should be carried out in such a manner as to protect the samples of oilseeds, the sampling apparatus and the containers in which the samples are placed from **adventitious contamination such as rain, dust**, etc."

46. It would seem to us to be strongly arguable that GM presence which is “built-in” or inherent by virtue of a generally applicable base-line norm or tolerance does not accord with the definition of adventitious presence.
47. As regards GM presence that is “technically unavoidable”, we consider that term to introduce an absolute requirement (since it is not tempered by any reference to “reasonable” or any further qualification) that the GM presence is a result of the objective impossibility of avoiding GM content by technical methods. In our view, “technically unavoidable” presence would also exclude presence arising systemically where GM content could in fact technically be avoided. It is not a subjective test confined to the circumstances of each case. What is in fact objectively technically unavoidable on the basis of available techniques is a matter for scientific assessment.
48. Thus, in our view, the labelling exemption applies only to products with a GM content which is essentially accidental and non-inherent (though it may be technically avoidable) or to products with a GM content which is not accidental and is inherent but cannot technically be avoided. A co-existence regime which aims to establish a base-line threshold of 0.9% GM content across the board would, we consider, generally preclude any reliance in practice by operators on the exemption for “adventitious” presence below that threshold if an element of GM content became inherent in all products.
49. It would seem to us that whether or not the labelling exemption could apply at all in such circumstances depends on whether, as a matter of fact, the GM presence is objectively technically avoidable. Reliance by the operator on any base-line threshold resulting from co-existence measures would not in our view be sufficient to discharge the burden placed upon him to demonstrate that the presence was “technically unavoidable”.
50. In conclusion, therefore, we are inclined to the view that a co-existence regime which aims to establish a base-line threshold of 0.9% GM content across the board would considerably reduce the scope, if not eliminate the possibility, of operators relying on the “adventitious” exception and would not absolve the operators from demonstrating “technically unavoidable” GM presence in order to benefit from the labelling exemption.

## **CO-EXISTENCE AND ECONOMIC CHOICE**

51. We do not consider that the sole purpose of measures taken under Article 26a is to ensure economic choice for operators. It is significant that Article 26a was introduced into the Directive by Regulation No. 1829/2003, which is concerned with environmental and health

aspects of GM. That implies that Article 26a was not intended to be limited in scope to the economic aspects of coexistence.

52. Further, in our view, the Member States are required by virtue of Articles 1 and 4 of the Directive and Articles 6 and 152 of the EC Treaty to take into account the aims of protection of human health and the environment in implementation of Community law (Articles 1 and 4 of the Directive specifically require that the precautionary principle informs implementation of the Directive's provisions).

53. We do not consider the argument that all concerns relating to human health and the environment are satisfied during the authorisation stage, such that they play no part in the context of appropriate measures under Article 26a, to be a tenable one. Although there is an environmental risk assessment undertaken during the process of authorisation, the Directive and Regulations themselves recognise a continuing need to protect health and the environment. To that end, the Directive provides for continuing monitoring requirements<sup>4</sup> and a safeguard clause to suspend and withdraw GM products<sup>5</sup>. The principal aim of the labelling requirements, apart from being to inform consumer choice, is to enable the proper monitoring of GM and to take appropriate safeguard measures. That is confirmed by the Recitals to Regulation 1830/2003:

*“(3) Traceability requirements for GMOs should facilitate both the withdrawal of products where unforeseen adverse effects on human health, animal health or the environment, including ecosystems, are established, and the targeting of monitoring to examine potential effects on, in particular, the environment. Traceability should also facilitate the implementation of risk management measures in accordance with the precautionary principle.*

*(4) Traceability requirements for food and feed produced from GMOs should be established to facilitate accurate labelling of such products, in accordance with the requirements of Regulation (EC) No 1829/2003 of the European Parliament and of the Council of 22 September 2003 on genetically modified food and feed, so as to ensure that accurate information is available to operators and consumers to enable them to exercise their freedom of choice in an effective manner as well as to enable control and verification of labelling claims. Requirements for food and feed produced from GMOs should be similar in order to avoid discontinuity of information in cases of change in end use.”*

54. The protection of human health and the environment is therefore, of necessity, a continuing aim of the Community legislation and, therefore, an aim of Article 26a, and is not discharged entirely by the authorisation process. The question arises whether Article 26a measures which have the aim of permitting a base-line norm of a 0.9% tolerance across the board would be consistent with that aim, and the precautionary principle. We think not.

## **EXCLUSION OF NON-COMMERCIAL PRODUCTION**

55. The Consultation seeks to exclude from the scope of coexistence measures crops that are not intended to be placed on the market, such as allotment crops intended for private consumption on the basis that they are not subject to the labelling requirements.
56. Again, in our view, this approach is fundamentally flawed. For the reasons we have set out above, we do not consider that the labelling requirements have any legal relevance to co-existence measures. Co-existence measures are designed to avoid the unintended presence of GM “in other products”. Article 26a of the Directive is not confined to products intended to be marketed. Even if it were however, it would not absolve Member States of the responsibility of seeking to avoid cross contamination of commercial crops via non-commercial crops. We do not therefore consider it permissible to exclude non-commercial crops from the scope of coexistence measures on the basis that they are not subject to the labelling requirements.
57. Furthermore the legislative reach of Directive 2001/18 and Regulation 1829/2003 is not confined to commercially exploited products. Both the Directive and the Regulation regulate the placing on the market of GMOs and include in the definition of “placing on the market” the making available of products to third parties free of charge.

## **A PUBLIC REGISTER**

58. The Consultation discusses the pros and cons of establishing and maintaining a public register of GM sites on the basis that DEFRA has discretion in the matter. The Consultation states expressly that Regulation 1829/2003 does not require any such register.
59. There is no question but that this premise is wholly incorrect. Article 31(3) of Directive 2001/18 which falls under Part D of the Directive provides:

“Without prejudice to paragraph 2 and point A.7 of Annex IV,  
(a) Member States shall establish public registers in which the location of the release of the GMOs under Part B is recorded.

(b) Member States shall also establish registers for recording the location of GMOs grown under Part C, *inter alia* so that the possible effects of such GMOs on the environment may be monitored in accordance with the provisions of Articles 19(3)(f) and 20(1). Without prejudice to such provisions in Articles 19 and 20, the said locations shall

- be notified to the competent authorities and

- be made known to the public

in the manner deemed appropriate by the competent authorities and in accordance with national provisions.

60. Articles 7 and 19 of Regulation 1829/2003 deal with authorisations under that Regulation. Articles 7(8) and 19(8) provide:

References made in parts A and D of Directive 2001/18/EC to GMOs authorised under part C of that Directive shall be considered as applying equally to GMOs authorised under this Regulation.

61. We consider that the reference in Article 31(3) of the Directive to GMOs “grown” under Part C necessarily refers to GMOs authorised under Part C. Articles 7(8) and 19(8) of the Regulation therefore apply the provisions of Part D of the Directive (which includes Article 31) to GM food and feed authorised under the Regulation. It is beyond serious argument therefore that there is a requirement for a public register of all GM crop locations. Since the purpose of the register is to enable monitoring of the effects of GMOs on the environment, it is clear that any obligation to be register must arise as soon as the crop is planted in that location.

KPE LASOK QC  
REBECCA HAYNES  
13<sup>th</sup> October 2006