IOFGA Submission to the Co-existence working group

This submission is presented by the Irish Organic Farmers and Growers Association (IOFGA) in response to Dr. Barry O'Reilly's request for final submissions following what he describes as the "completion of stakeholder consultations."

IOFGA has taken part in consultations with an interdepartmental / interagency working group whose remit is described as

> 1), to identify and evaluate issues and implications for crop production in Ireland that will arise from the cultivation of GM crops,

and

> 2) to develop proposals for a national strategy and best practices to ensure the coexistence of GM crops with conventional and organic farming.

The working group will be referred to as the Coexistence Working Group in the remainder of this submission. Its remit arises from an EU Commission recommendation, C(2003) 2624, issued in July 2003.

IOFGA is fundamentally opposed to the introduction of GM crop material to Ireland and will continue to support a total ban on its introduction. IOFGA's position matches the anti-GM crops position of other groups on this island and of organic farming groups throughout the world including the EU.

Considering that actions arising from outputs of the Coexistence Working Group may have serious consequences, far beyond its current sensibilities, for the future of all life forms on this island, IOFGA strongly recommends that the consultation process be broadened according to Ireland's obligations to international conventions and in line with internationally-accepted best consultation practice and in line with the EU's own recommendations on consultations. Such broadening of the current consultation must be appropriate to getting it right the first time as there will be no opportunity to remedy any errors created by 'coexistence' of GM crops with conventional and organic crops, given the nature of genetic material.

Essentially, there are 6 elements to IOFGA's response to the Coexistence Working Group:

1. Proper consultation is required
2. The EU 'coexistence' position requires application of the Precautionary Principle
3. The stated perspective of EU Recommendation C(2003) 2624 appears deeply flawed.
4. Some relevant analyses
5. An appropriate position for Ireland on GM crops
6. Response to C(2003) 2624

1. Proper consultation is required

(a) The Coexistence Working Group's process, in its inadequate consultation alone, contravenes Ireland's position vis a vis the Aarhus Convention' and other EU commitments supporting the public's right to participate in environmental decision-making.

(b) EU product legislation defines as safe any product that does not present 'unacceptable risks' under normal or foreseeable conditions of use.

> "Public acceptability of risks requires public participation in the decisions that create and manage such risks, including the consideration of values, attitudes and overall benefits. Sound public policy-making on issues involving science therefore requires more than good science: ethical as well as economic choices are at stake. Such matters concern not only the experts and the politicians but all of us."

This extract from an European Environment Agency report[2] supports IOFGA's view that proper consultation is required at both EU-level and national-level decisions on the 'coexistence' issue.

(c) IOFGA's view regarding proper consultation being necessary is further supported by Article 23 of the Cartegena Protocol on Biosafety (2000) which provides that the parties shall

> "promote and facilitate public awareness, education and participation concerning the safe handling and use of living modified organisms in relation to the conservation and sustainable use of biodiversity, taking also into account risks to human health... The parties shall.. .consult the public in the decision making process regarding living modified organisms and shall make the results of such decisions available to the public."

(d) EU citizens are now viewed as having an active role to play, ie, as stakeholders, in the administrative processes within the EU. The rationale for the stakeholder role is outlined in one of the preparatory documents[3] for the EU White Paper on European Governance[4] and is described in terms of a recently-recognised institutional direct accountability towards "citizens or society as a whole" whereby citizens have an active role: they are stakeholders. This view highlights the limitations of the list contacted by the

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[1] Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, adopted in 1998, ratified in 2001, signed by EU in 2003.

[2] Late lessons from early warnings: the precautionary principle 1896-2000. European Environment Agency Environmental issue report No 22. 2001.

[3] Report of working group 2a: Consultation and Participation of Civil Society. June 2001. European Commission.

[4] European Governance: A White Paper. COM(2001) 428 final, 25 July 2001.

Coexistence Working Group, a list which is far from comprehensive in terms of "stakeholders" regarding GM crops.

(e) Principle 10 of the 1992 Rio Convention on Sustainable Development provides guidance to satisfactory stakeholder consultation, for which the Aarhus Convention, referred to in detail later, provides an implementation framework

(a) Best practice in effective policy-making, according to the OECD, takes appropriate account of trusted and shared information and stakeholder participation in decision-making, especially in the context of complexity, ignorance, high stakes and the need for 'collective learning'[5].

(b) The EU's own Communication[6] on minimum standards and general principles for consultation that "apply from 1 January 2003" states the principles in question are openness and accountability, effectiveness, and coherence. The minimum standards outlined in the document include

- ensuring adequate coverage of "those affected by the policy" in the consultation process
- taking account of "the wider impact of the policy on other policy areas, e.g., environmental interests or consumer policy" when determining what parties are relevant to the consultation
- the need to involve non-organised interests, where appropriate

(c) The COM(2002) 704 document notes the legal underpinning, via Article 6 of the Treaty establishing the European Community, of taking environmental interests into account.

(d) Given the fundamental issues involved in GM crops and implications of their EU "coexistence" context, it is reasonable to believe that it is appropriate to include "non-organised interests" in the consultation whose concerns may materialise as a consultation output.

(e) While the principles and minimum standards referred to above apply to EU-level consultation, it is reasonable to expect such principles and minimum standards to be at least a model for EU member state-level consultation, particularly when the consultation in question is taking place in the context of a recommendation by the Commission, ie, C(2003) 2624.

[5] Late lessons from early warnings: the precautionary principle 1896-2000. European Environment Agency Environmental issue report No 22. 2001. Preface.

[6] Communication from the Commission: Towards a reinforced culture of consultation and dialogue - General principles and minimum standards for consultation of interested parties by the Commission. COM(2002) 704 final.

(f) One of the national agencies with responsibility for safe food in Ireland, the Food Safety Authority of Ireland (FSAI) has a consultations page on its website[7]. It states that the page was created

> "to facilitate a formal public consultation process which will allow for the contribution of the views of those affected by proposed changes to food safety legislation"

and continues, stating:

> "The majority of food safety legislation in Ireland originates from the European Union. We aim to consult on proposals from the EU that are relevant to food safety and the purpose of this site is to afford all interested parties an opportunity to submit their views on the possible impact of the proposal."

However of the 11 closed consultations FSAI hosted on this page in 2004, none of them involved GM crops or GM food.

(g) Regarding the advisory process in policy making, the EU Commission describes an "interested party" as:

> "An individual or group that is concerned or stands to be affected - directly or indirectly - by the outcome of a policy process; or represents the general interest of groups concerned by such an outcome, within and outside the EU"

(h) The following OECD statement[9] is relevant to the Coexistence Working Group's consideration of a suitable consultation process, considering the divisive nature of the GM debate to-date:

> "since conclusive scientific evidence may not be available for many of the decisions to be made, it is crucial to ensure that sufficient debate occurs to confront values, perceptions and views, in order to make decisions that are as universally acceptable as possible."

(i) In late 1999, a policy statement[10] was issued by the Minister for the Environment & Local Government following a national consultation on GMOs and the environment in which he stated:

> "I have concluded that national environmental policy on the deliberate release of GMOs must be balanced in terms of environmental protection and socio-economic considerations. I place primary emphasis on precaution well grounded on scientific risk assessment and management."

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[7] www.fsai.ie/consultations/index.asp

[8] Page 3, COM(2002) 713 final. Communication from the Commission on the collection and use of expertise by the Commission: Principles and Guidelines. "Improving the knowledge base for better policies"

[9] Improving Policy Coherence and Integration for Sustainable Development: A Checklist. OECD Policy Brief. 2002.

[10] DoE. Policy Statement, National Consultation on Genetically Modified Organisms & the Environment. 1999.

This report, probably by virtue of its public consultation process, was widely publicised. Essentially, the public was informed that the Government would move with caution regarding GMOs and would take environmental protection and socio-economic considerations into account in its actions.

(j) Meanwhile an interdepartmental group, chaired by the Dept of Enterprise Trade & Employment were preparing a report for the Government "on developments and issues generally in relation to genetic engineering and issued its report [11]in October 2000. The report recommended that "Ireland's general stance at EU level and in international forums should be positive but precautionary" and that GM trials should continue in Ireland. In effect, it recommended that Ireland officially support GMOs. Public awareness of this shift in policy direction from Minister Dempsey's policy statement the previous year appears to have been quite low. It is notable that another of the report's recommendations - "that Forfas should examine the use of (discussion groups on the Internet, debates involving different forms of lay and expert jury, and formal participative technology assessment exercises) in other countries with a view to developing and piloting proposals for implementation in this country[12]" - was not implemented. Its non-implementation undoubtedly contributed to the appallingly low standard of consultation in Ireland regarding GM matters since that time and the low awareness of the shift in government policy. Essentially Ireland appears to have acquired a pro-GMO, GM food and GM crops stance by stealth. Certainly it was acquired without any meaningful consultation of "interested parties" linked to NGOs, environmental groups, civil society, or the general public.

(k) The EU recommendation[13] from which this very Coexistence Working Group's remit emanates states, under "a list of general principles and factors that Member States are advised to take into account in developing national strategies and best practices for co-existence" as follows[14]:

> "Transparency and stakeholder involvement:
> National strategies and best practices for co-existence should be developed in cooperation with all relevant stakeholders and in a transparent manner."

IOFGA's experience to-date of the Coexistence Working Group's actions has shown that transparency has been lacking and all relevant stakeholders have not been involved.

(I) Obligations under UN and EU conventions to include the citizen in environmental governance, ie, in policy and other decision-making affecting their environment. It is without doubt, because of the very nature of genetic material, the risks created by GM crops in the field for the biosphere -

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11 Inter-Departmental Group on Modem Biotechnology Report. 2000. Government Publications.

12 Ibid, p 34

13 C(2003) 2624/F

14 Ibid. 2.1.1

including for human health - requires that citizens be adequately consulted. EU's own recent policy on governance embraces the entire policy sphere and recognises citizens as stakeholders.

2. The EU 'coexistence' position requires application of the Precautionary Principle

2A. Rationale regarding application of the Precautionary Principle

(a) EU Recommendation C(2003) 2624 contradicts the Precautionary Principle whereby uncertainty about possible damaging effects demands that the policy, practice or product in question be banned. Essentially, the action to be used in situations of potentially serious or irreversible threats to health or the environment, requires action to reduce the potential hazard before there is strong proof of harm, taking into account the likely costs and benefits of action and inaction[15]

(b) The Precautionary Principal as EU policy is specified in the Maastricht Treaty and is inherent in the Aarhuus Convention.

(c) The Maastricht Treaty [16] states:

> "Community policy on the environment. .. shall be based on the precautionary principle and on the principles that preventive actions should be taken. . .".

(d) OECD guidelines[17] state

> "Governments must ensure that their policies are consistent with the sustainable development goal and not undermined by other policies."

(e) Environmental Issue Report No 22 of the European Environment Agency (2001) states:

> "The growing innovative powers of science seem to be outstripping the ability to predict the consequences of its applications, whilst the scale of human interventions in nature increases the chances that any hazardous impacts may be serious and global."

(f) This European Environment Agency report collated information about the hazards of human economic activities, and explores the use of such information in taking action to better protect both the environment and the

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[15] Late lessons from early warnings: the precautionary principle 1896-2000. European Environment Agency Environmental issue report No 22. 2001.

[16] Treaty on European Union, 1992.

[17] OECD Policy Brief. Improving Policy Coherence and Integration for Sustainable Development. A Checklist. 2002

health of the species and ecosystems that are dependent on it, and the consequences of the hazards and action/inaction. Its title - Late lessons from early warnings: the precautionary principle 1896-2000 - captures the fact that our reactions to damage, disease or injury in many areas (asbestos, DDT, Mad cow disease) didn't happen for many years - decades in some cases - because the bad effects weren't known about "until it was too late to stop irreversible impacts".

(g) The Cartegena Protocol on Biosafety (2000) states:

> "In accordance with the precautionary approach the objective of this Protocol is to contribute to ensuring an adequate level of protection in the field of the safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on transboundary movements."

As it stands, the 'coexistence' issue needs to comply with the Cartegena Protocol on Biosafety. The Protocal extract just quoted indicates that both EU Recommendation C(2003) 2624 and the resulting 'coexistence' discussion now underway in Ireland fails absolutely to comply with that Protocol.

(h) The EU's own Communication on the Precautionary Principle[18] states

> "The decision-making procedure. .(involving) . . cases where scientific evidence is insufficient, inconclusive or uncertain and preliminary scientific evaluation indicates that there are reasonable grounds for concern that the potentially dangerous effects on the environment, human, animal or plant health may be inconsistent with the high level of protection chosen by the EU . . should be transparent and should involve as early as possible and to the extent reasonably possible all interested parties"

This has not been the case regarding some significant stakeholders, both at EU-level and national-level.

(i) The rationale presented in Environmental Issue Report No 22 of the European Environment Agency[19] indicates that, given we don't know enough about GM crops and their effects on plant, animal, human and biosphere safety and given the nature of genetic material, we should avoid the potential hazards: GM crops should be banned until knowledge of their potential hazardous effects is sufficiently robust. As things are, there are too many uncertainties worldwide regarding the current body of knowledge on GM crops.

[18] Presented by Commissioners for Enterprise & Information Society, Health & Consumer Protection, Environment on 2/2/2000.
[19] Environmental Assessment Report No 22. 2001.

(j) The following description of the state of uncertainty regarding GMOs is from a document dated 11 /12/2002:

> "Recent history - from BSE to GMOs - has shown that difficult policy decisions must sometimes be made on contentious issues in the face of significant uncertainty."

An admission of such "significant uncertainty" regarding GMOs must surely oblige its authors - the Commission of the European Communities in COM(2002) 713 final[20] - to invoke the Precautionary Principle regarding GM crops in the EU.

(k) Meanwhile, a newspaper[21] has just reported a European Commission official, in a briefing of a Macra na Feirme delegation, as saying that "the only set of circumstances in which the Irish Government could block the growing of GM products is where it uncovered new scientific evidence questioning the product's safety" when he informed Macra that no EU country could ban the growing of ..GM crops within its boundaries". However, this interpretation of the banning of GM crops within a member state on the grounds specified is contrary to the Precautionary Principle (which requires action to reduce the potential hazard **before** there is strong proof of harm[22]) within which the Commission is obliged to operate on such matters.

2B Contamination is uncontrollable

(a) The EU Recommendation C(2003) 2624 refers to adventitious contamination by GM crops of non-GM crops variously as "the admixture of GM and non-GM crops", "adventitious mixture", "the adventitious presence", "the unavoidable presence of GMOs". These terms are euphemistic descriptions of what is essentially **technically unavoidable contamination with transgenic material.** The unavoidability of such contamination has been confirmed, as reviewed (as in literature, recent and current research) in Environmental issue report No 26[23] of the European Environment Agency and in a European Commission Joint Research Centre report on Scenarios for co-existence of genetically modified, conventional and organic crops in European agriculture (2002).

(b) Examination of the proposed management of transgenic contamination within the EU reveals that labelling is now considered to be part of the solution, one that has apparently been modelled on the food labelling regulation system. However, by the time the (GM and non-GM) food gets to be labelled, it is too late - gene flow will already have taken place (via pollen of GM and non-GM plants, cultivated and wild) and what is being labelled is likely to already contain transgenic contamination (of non-GM food by GM pollen). The unpredictability of how the genetically engineered genes will be expressed in a

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[20] See page 3.

[21] The Farmers Journal, Vol 57, No 46
[22] Environmental Assessment Report No 22. 2001.
[23] Genetically modified organisms (GMOs): The significance of gene flow through pollen transfer.

related wild species, for example, creates a risk to biosphere, human, animal and plant which means that the long-term impact of transgenic contamination is actually unknown. Meanwhile, many scientists and public servants make categoric claims regarding the safety of "adventitious mixture" when the actual situation is that the risk is unknown.

(c) Deciding on GM contamination thresholds for labels and implementing a robust labelling regime is another part of the proposed management of transgenic contamination within the EU. The current EU debate regarding the threshold for contamination by GM-food material below which the contamination is considered unavoidable (0.5%), or the threshold (0.9%) above which the contamination level requires labelling as GM, further confirms the unavoidability - and the tacit acknowledgement of that unavoidability - of contamination by GM-crops. However, it appears that when "contamination" and "acceptable" or "safe" "thresholds" are being discussed by most biotechnology platforms and within administrative or political institutions, people appear to forget that it is genetic material that is being discussed, not a toxic liquid or gas that can be diluted to homeopathic innocuousness, and that genetic material reproduces under certain conditions and consequently, a threshold at a particular time is not necessarily a static quantity at a later date: any presence of genetic material (unacknowledged, labelled or otherwise acknowledged) has the potential to reproduce if conducive conditions exist. The lack of data and certainty regarding thresholds, their manageability and effects, adds to the sum of uncertainties regarding GM crops. To consider instituting a system to accommodate such uncertainty at the very start of the human food chain, ie, the seed, could surely be equated with political and administrative negligence.

(d) Regarding "management of transgenic contamination", an often-stated rationale of "separation distances" is to ensure that most GM farms are going to remain free of GM contamination **above** the threshold. However, contamination below the threshold is undeniably contamination, and given the reproductive capacity of genetic material, it is likely to be an expanding presence in future generations of the species.

(e) The documentation of EU policy making and administration on GM crops show irrefutably that transgenic contamination of non-GM crops by GM crops is unavoidable. Acceptance of transgenic contamination by GM crops as the basis for action to continue to develop a framework in which GM crops can be cultivated in the EU is contrary to the Precautionary Principle.

2C "uncertainty about possible damaging effects of GM crops"

(a) The myth that GM crops / foods are safe (in human, animal, plant or biosphere context) is based on false assumptions, distorted research and research reporting, misinformation campaigns, misunderstandings, influence

of vested interests, bias and ignorance. The extent of the false assumptions, misinformation and other misleading input can be gauged by the contents of this section.

(b) The US National Academy of Sciences (NAS) released a report in February 2002 criticising the USDA (US Dept Agriculture) for inadequately protecting the environment from the risks of GM plants[24]. The mindset, procedures and, by implication, their results, which were criticised so roundly by the National Academy of Sciences in 2002 in terms of their failure to protect the environment, led to saving-the-world-type claims regarding early GM crops acquiring credibility. There is no doubt that those flawed USDA assessments formed the basis on which GM-crop safety was considered within the EU. This means that early and ongoing judgements within EU institutions regarding GM-crop safety have been based on erroneous data.

(c) GM crops are overwhelmingly unstable, a problem that GM companies have been less than forthright in reporting. The transgenic instability of GM crops is a source of uncertainty regarding human, animal, plant or biosphere safety and as such requires implementation of the Precautionary Principle as an appropriate response.

(d) It is notable that the very nature of genetic material, both at gene level and as pollen and seed, means that the behaviour of genetic material cannot be considered to be similar to the behaviour of inorganic material, for example, water, iron or sand. Any and all assumptions based on supposed similarities are false. This situation regarding the nature of genetic material has not been made explicit in most if not all of the documentation on GM food or crops.

(e) As part of their campaign to secure support for GM crops, GM companies highlight beneficial GM products, mainly in healthcare and medicine, that are produced in laboratory conditions using genetic modification, and note the absence of contamination problems related to them. The companies suggest that the benefits of GM foods will be at least as benign as GM medical applications and that no evidence exists to support contamination concerns. It is as if these companies assume that the laboratory conditions under which most medical GM applications are produced are equivalent to the field conditions (literally) under which GM crops will be grown by farmers. Such an assumption is preposterous, given the nature of pollen, a feature of all crops; all conclusions arising from this assumption are also preposterous.

(f) The Biotechnology and GMOs website[25] is part of the EU's programme to inform its citizens regarding GM-crops, ie, it is an official EU institutional site. The second sentence of the overview section of the site reads as follows:

[24] The Case for a GM-free Sustainable World. Independent Science Panel. Institute Of Science in Society. 2003.
[25] http://biotech.jrc.it

> "Scientists and technologists are increasingly exploiting the potential of biotechnology to deliver new medicines, improved food quality, environmental benefits, disease prevention and reduce health risks."

The underlined terms in this quotation indicate the existence of an on-line link. The existence of links at "improved food quality" and "environmental benefits" suggests that the evidence for each is presented at the designated link.

The "improved food quality" link leads to a re-positioned page on the http://europa.eu.int website which describes the EU framework relevant to food safety and GMOs. It does **not** give any data regarding the increased ability of scientists or technologists to improve food quality using biotechnology in general or GMOs in particular.

The "environmental benefits" link leads to a document describing regulation of GMOs in the EU and written in a FAQs format. The document's date - 24/7/2001 - confirms that all post-July 2001 developments are excluded from the reference, indicating the partial nature of its information, particularly given the extent and contents of recent findings regarding GM crops, many of which contradict earlier claims of safety, yield increase, transgenic stability and minimal contamination. The web document does **not** give even outline data on the increased ability of scientists or technologists to improve environmental benefits using biotechnology, GMO or otherwise.

A reasonable person with little or no background biotechnical knowledge, on reading the first paragraph of that Overview section, is likely to assume, that scientists and technologists are increasingly exploiting the potential of biotechnology such as GMOs to deliver improved food quality and environmental benefits[26]. However, the contents of the links themselves indicate the extent of how misleading the statement is and provide a case study of how such an assumption would be grossly erroneous. Such cases abound even in the institutional documentation of GMOs, GM crops and GM foods and contribute greatly to the confusion and concern among EU citizens as consumers, politicians, farmers, environmentalists, and active citizens.

(g) The uncontrollable nature of GM crops, by virtue of adventitious contamination of GM pollen to other crops, is incontrovertible,[27] and is confirmed by the existence of adventitious contamination as a constituent part of any comprehensive discussion of the GM crop issue. That significant uncertainty exists about the possible damaging effects of GMOs is actually

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[26] Even those persons who open and read the links are likely to assume the above, as the links' contents are not tailor-made and are therefore likely to be confusing to an non-expert reader - a classic case of information overload.

[27] European Commission Joint Research Centre. Scenarios for co-existence of genetically modified, conventional and organic crops in European agriculture: a synthesis report. May 2002.

stated in the Introduction section of a 2002 Commission Communication. [28] It therefore follows that significant uncertainty exists regarding uncontrollable biological material, a situation that demands application of the Precautionary Principle to it.

3 Flawed perspective of EU Recommendation C(2003) 2624

3A Consumer Choice

Analysis of EU Recommendation C(2003) 2624 reveals "providing a high degree of consumer choice" as a major rationale for the EU stated coexistence position.

(a) The following points regarding consumers indicate the fragility of that rationale.

(b) A UK public debate and numerous other surveys of EU consumers - many of which were transnational - show the persistence of consumers' concerns and fears, despite information campaigns to allay them.

(c) Consumers are assumed to be well-informed on GM-related matters and on the holistic context of food. The second assumption contradicts exhibited consumer behaviour in food and health spheres generally, culminating in the global situation where obesity is the new leading disease in developed countries and allergenic disease (many of which are dietary-related) is a priority issue with WHO. The assumption also indicates an overly -simplistic attitude to consumers and an overly-simplistic interpretation of consumer behaviour.

A more complex perspective of consumers vis a vis GM foods and consultation regarding GM policy includes the following:

(d) People's 'optimistic biasi[29] as identified in psychology research partially explains why some health promotion messages are ignored. Regarding the same optimistic bias however, researchers[3] at the Institute of Food Research (UK) have shown that bias to be absent from people in respect of GM foods: people think that they are ***as likely*** to suffer any adverse health effects from consuming genetically modified foods as anyone else. This is the opposite to

[28] Communication from the EU Commission on the collection and use of expertise by the Commission: Principles and guidelines. COM(2002) 713 final.

[29] People believe that they are less at risk from a hazard than other people. Optimistic bias is found with some hazards, e.g., people think they are less *likely* to suffer food poisoning, or any adverse health effects from consuming BSE infected

beef than other people. Optimist bias wasn't found for hazards relating to GM foods. (Comparative risk perception and foods. Miles & Frewer.

[30] Institute of Food Research. Information Sheet: Assessing food risk - what it means to me and you. 2002. Dr Susan Miles.

people's reaction to information about driving behaviour or nutrition links to health.

(e) Consumers want to be able to make their own choices. Recent history has shown[31] that when the economic imperative is given a free rein, ill-judged choices can be made for which it is the consumer individually or, collectively as the entire population, who pays the price in terms of compromised health, safety, quality of life, or even life itself.

With reference to the first stated assumption regarding consumers, ie, that they are well-informed on GM-related matters, relevant perspectives include:

(f) The quality of consumers' information regarding GM foods is likely to suffer from the same inadequacies as other parties, ie, be diminished by a range of factors from false assumptions, distorted research and research reporting to bias and ignorance.

(g) The "consumer organisation" is a construct of an earlier era, set up to dull the sharpness of the free market within a regulatory framework. Some of its original roles have been superseded by the active citizenship role in participative democracy and citizen consultation exercises. Some consumer organisations have no real legitimate claim to be representative of consumers in the geographic area in which they operate, whether at member state-level or EU-level. While consumer organisations have traditionally been on the list of "those consulted", the new form of EU-governance describes "stakeholders" in a more inclusive manner, one that covers "interested parties", NGOs, active citizens and those affected by the policy in question.

(h) Seeking information regarding the actual input from Irish consumers to the EU coexistence discussions and attempting to chart the links whereby the Consumer Association of Ireland developed or channelled the views or policy position of the Irish consumer within Ireland or the EU has proved impossible.

(i) However some consumer organisations internationally have been operating at a strategic level and have made well-considered and useful contributions to the food safety debate in particular. "Winning the Risk Game", a recent publication (November 2003) of the National Consumer Council in UK set out a 3-point action plan for managing risks that affect consumers. Its notable first point advocated emotional literacy among regulators and governments so they could better tune in to how consumers deal with risk. The second point involved a number of recommendations on governance[32], one of which involved use of the precautionary principle. Another point specified an issue

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31 1896-2000, the period covered by 12 case studies. Late lessons from early warnings: the precautionary principle 1896-2000. European Environment Agency. Environmental Issue Report No 22. 2001.

32 In the context of decision-making processes and bodies

that has emerged repeatedly in recent international studies and reports33 - recognising the need to take account of other factors besides scientific expertise. These "other factors" - elsewhere referred to variously as socio-economic, ethical, socio-political and environmental factors - appear to have been categorically excluded in the EU coexistence framework document. One EU-level report[34] identified "as a priority the need for a broad based cultural change in policy thinking about public perceptions of science, technology, and risks.

3B Second rationale for EU stated position

(a) A second stated rationale for the EU's stated coexistence position in C(2003) 2624 is that "coexistence refers to the ability of farmers to make a practical choice between conventional, organic and GM-crop production in compliance with the legal obligations for labelling and/or purity standards".

(b) This stated position is surprising considering that the EU has never had a laissez faire attitude and/or policy to crop production. Furthermore, aside from the machinations of market control mechanisms, it is highly unlikely that EU farmers would have the "choice" to grow any crop they wished, for example, it is highly unlikely that EU farmers would be allowed grow poppies for opium (if variants suitable to EU climatic conditions were available): There is a case for banning crops - for a variety of policy reasons - that EU farmers may want to grow. These reasons include ethical and long-term biosphere safety ones, reasons which are accommodated by the Precautionary Principle.

3C 'Labelling makes it safe' response

(a) That GM foods are risky is a reasonable and defensible statement, given the current state of GM knowledge. The rationale presented in the EU coexistence document[35] that the anti-risk strategy of good labelling will protect the consumer vis a vis GM foods is ridiculous, unreasonable and indefensible.

(b) Labelling does not redress adventitious contamination of non-GM crops in the field. The adventitious contamination by GM crops of non-GM crops, and the unavoidability of contamination in a coexistence situation with non-GM crops in the field, is now acknowledged[36] and therefore cannot be ignored by decision-makers.

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33 Biotechnology and Development: Threats and Promises for the 21st Century. SUPRA Paper No 25. Public Perceptions of Agricultural Biotechnologies in Europe. Final Report of the PABE research project. 2002. Online at http://www.pabe.net

34 Ibid.

31 C(2003) 2624

36 European Commission Joint Research Centre. Scenarios for co-existence of genetically modified, conventional and organic crops in European agriculture. 2002 & European Environment Agency Environment Assessment Report No 26. Genetically modified organisms (GMOs): The significance of gene flow through pollen transfer.

(c) Labelling does not address the human or animal health or bio-safety aspects of GM food. The human health aspect of GM food actually remains unstudied so any conclusions to the effect that GM food is safe in terms of human health is erroneous. There is a difference between there being no effect and no effects being found. Mutagenic effects are slower to become obvious in long-lived species such as humans. Short-lived bacteria and insects meanwhile have been shown to be affected by GM foods. The equivalent expressions of affect on humans are unlikely to be obvious in the short-term and may take some generations to become evident to those who are not looking. Again, a situation that calls for application of the Precautionary Principle.

(d) Meanwhile, when uncontrollable contamination by GM crops - such as will happen in a coexistence scenario - is taken into account, labelling is likely to be doubly irrelevant regarding food safety: any labelled food grown in a coexistence situation or containing ingredients grown in a coexistence situation is likely to be adventitiously contaminated with GM food for which there is no definitive data to confirm it is safe for human health.

(e) Furthermore, it is not reasonable to institute a coexistence framework in order to protect consumer choice and farmer choice on the basis of labelling in order that non-GM food seekers can avoid food labelled as below the threshold is already adventitiously contaminated and their buying actions (ie, consumer expressions) are taking place in a biosphere whose safety is compromised by GM crops.

(f) The current conventional wisdom that labelling and contamination thresholds protect food safety regarding GM crops does not have any basis in fact: it is an inappropriate conceptual and administrative adaptation of a food safety system whose underpinnings do not apply to genetic or transgenic material.

4 Some Relevant Analyses

This section refers to a number of aspects of the worldwide, EU-level and Ireland-level GM discussion to date which IOFGA believes have been handled inappropriately, thereby reducing the quality of current EU thinking and the thinking among decision-makers in Ireland.

(a) Inappropriate Scope of GM discussion to date

Much of the discussion on GM crops has been poorly-informed (even at "expert" levels), has used inappropriate scope and frames of reference, has treated data inappropriately and/or has failed to acknowledge the inherent role of values and ethics in any definitive GM crop discussion. The quality of that discussion has also been greatly compromised by the relative absence of new knowledge regarding complexity as a reference frame throughout. The inadequate scope of much of the GM discussion to-date worldwide has resulted in some analyses that are extremely limited in terms of breadth and

depth [37]. These statements apply internationally as much as they do to the situation in Ireland.

(b) Use of obfuscating jargon and misleading language

Much of the complained-about confusion in the worldwide GM controversy has been created and maintained by inaccuracies in the language used by the parties to the controversy. Some of the inaccuracies arise from cultural-based use of language, ie, in the sense of 'the way we do things around here' as linked with values of sectors, organisations or countries, and while not necessarily always deliberate, the inaccuracies add to the confusion. The inaccuracies, however, must be taken into account when later judgements are being made on the veracity or otherwise of statements or claims uttered by the parties to the controversy.

(c) The formal language of science

The doublespeak of the formal language of science is demonstrated in the following quotation from the Foreword section of the Synthesis report on Scenarios for co-existence of genetically modified, conventional and organic crops in European agriculture, published by the European Commission Joint Research Centre in May 2002.

> "The possible increase of commercial production of genetically modified (GM) crops in European agriculture may lead to the adventitious presence of GM crops in non-GM crops. Taking into account the need to keep the two crops separated, the co-existence of GM and non-GM crops in European agriculture presents a challenge." (underlines inserted to ease locating)

In the above quotation, for "may" read "is highly likely to". For "presents a challenge" read "is likely to prove impossible". However an individual without technical report-reading skills is likely to take those sentences at face value rather than as statements of almost certain possibility (ie, is highly likely to) or of almost certain impossibility (ie, is likely to prove impossible).

Meanwhile it is useful to interpret the myth of GMOs 'feeding the world' as corporate-style hyperbolic language as widely used in company reports or brochures for investors: corporate strategic planning starts with 'visions' that have the potential to increase corporate shareholders' profits. Sometime in the mid-90s, it appears that FAO (the Food and Agriculture Organisation) and WHO (the World Health Organisation) took on the visionary corporate-

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[37] Compromising limitations of scope are indicated, for example when: A) risk assessment is dealt with mainly in terms of immediate effect when the nature of genetic material demands long-term perspectives in any meaningful consideration of consequences of hazard; B) Assumptions and test results based on the discredited "substantial equivalence" procedure are still widely accepted as creditable; C) the food safety aspect is dealt with primarily by means of 'labelling', a meaningless response were adventitious contamination by GM crops under field conditions is uncontrollable; D) Functionaries, who operate on the basis of specialist expertise and departmentalised areas of responsibility, expect nature - and natural systems - to conform to their system-ignoring frameworks and regulations.

language description of the potential of GM foods (made contentious claims regarding the benefits of the technology) and discarded its ability to separate myth from reality (claimed that genetic engineering does not differ from conventional breeding). The Joint FAO/WHO Biotechnology and Food Safety Report resulting from an Expert Consultation in Rome.[38]

Much confusion results when hyperbolic corporate language is mixed with the measured understatements of the language of formal science documentation. Add the widespread media practice of reducing complex situations to 50-second 'sound bites' and one has a recipe for absolute confusion. All of the communication scenario outlined so far assumes the presence of goodwill: introduce the desire to conceal, mislead or obfuscate, and the confusion deepens exponentially. All aspects of communication regarding GM foods listed above need to be taken into account when judgements regarding GM foods are being made.

(d) Other Paradigms

Analysis presented in a 2004 World Resource Institute white paper[39] puts some of the salient items into a perspective that IOFGA believes is more useful (despite its North American points of reference) than the one presented in the EU recommendation or the Coexistence Working Group's communications. Extracts are presented here as examples:

> "Civil opposition to current GE crops and genetic engineering in general has developed because of public concerns about the environmental and health hazards mentioned above and because of the agricultural, economic, and political system in which GE crops have been developed, marketed, and regulated. Some believe that biotechnology and conventional agriculture are both rooted in a paradigm of reductionism and property ownership that is incompatible with the ecology-based and community-centred paradigm of sustainable agriculture (Beus and Dunlap 1990; Lyson 2002). Genetic engineering is intensely identified with the large farms and input suppliers of the chemical-based production paradigm, making genetic engineering a wedge between conventional farming and alternative approaches. Most social, economic, and political issues and concerns have their origins in:
>
> - A mistrust of the government institutions that are mandated to protect society against harmful impacts of products and technology;
> - A mistrust of the corporations that develop and own most of the technology and their weak reputation for socially responsible behaviour;

[38] 30/9/1996 to 4/10/1996.

[39] White Paper: Designing genes: How can genetic engineering serve US midwestern agricultural sustainability? World Resource Institute. Don S Doering. 2004. Online at www.wri.org

- Lack of accountability, strict liability, and transparency of the public and private institutions responsible for developing, regulating, and promoting the technology;
- Economic interests in other agricultural approaches, local agricultural systems, or national trade;
- The potential of new technologies to alter the power within the agricultural value chain and views of what is a fair and desired future for agricultural communities and social equity; and
- Religious and ethical opposition to humankind's right or wisdom to alter genomes.

These six areas are deeply embedded in personal values ... Specific views may vary with a stakeholder's position in the value chain and relative standing in the competition among different social objectives and among different approaches to agricultural production.... (p15-17). There are high political barriers to developing an R&D agenda and policy environment that will increase the safety and sustainability contributions of GE crops. Powerful agricultural interests are reluctant to acknowledge the unsustainable aspects of Midwestern agriculture, particularly the impacts of subsidies, over-production, and chemical inputs. Admitting risks or the validity of public concerns regarding GE crops may be seen to undermine the US position in the high-stakes international trade disputes over GE crops. A minority of the US public is vehemently opposed to genetic engineering of crops in any form and rejects the notion that GE crops can coexist with other approaches to agricultural production. The industrial, farm, and trade interests that promote GE crops frequently take an "all biotechnology is good" approach and resist asking how it might be better, in part because they do not want to appear to be giving ground to activists. Thus, those driving the extremes of the debate are seldom interested in a moderate and middle-ground view that, like all technologies, genetic engineering and its applications entail both real benefits and real dangers" (p27)

The author also states that his analysis suggests genetic engineering should take place in a policy context that rewards agricultural sustainability and rewards innovation in genetic engineering design and in ecology-based alternatives to current agricultural methods.

(e) A case study of the recent GM Nation public forum in the UK [40] noted that, although the decision underlying GM Nation was whether to allow commercialisation of certain GM crops in the UK, profound ethical, political and philosophical issues were also in contention in the process that went well

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40 GM crops and food. Evidence, policy and practice in the UK: A case study. Dr Ruth Levitt. ESRC UK Centre for Evidence Based Policy and Practice. University of London. 22003. Online at www.evidencenetwork.org/Documents/wp20.pdf

beyond immediate UK or EU food, farming, environment or health policies. According to the case study's analysis they included:

- Rationales for the promotion and protection of different citizens' and
- stakeholders' choices - the political, economic and democratic
- consequences
- Future trends in support for conventional farming and organic farming
- Prospects for the biotechnology industry in the UK and Europe, with and without governments' support
- The ethics and scrutiny of science, farming, food manufacturing, distribution and retailing
- Proper and accountable stewardship of the biosphere

4B. New public engagement model for technological issues

(a) A recent UK publication[41], in proposing a new "upstream" model for public engagement in technology issues states that "debates over science and technology, even when they involve processes of public engagement, have been dominated by questions of risk assessment. This framework is too narrow, and fails to ask or answer the more fundamental questions at stake in any new technology: Who owns it? Who benefits from it? To what ends will it be directed?

(b) That same publication based its findings on a deep analysis of the GM Nation process that took place in the UK and its conclusions contain many useful pointers for those seeking to engage in consultation regarding GM crops or those organising such a consultation. For example: "The GM case demonstrates. . issues (of values visions and vested interests) force themselves on to the table, the public may discover that it is too late to alter the developmental trajectories of a technology. Political, economic and organisational commitments may already be in place narrowing the space for meaningful debate "[42]. The publication presents the view that there is now an overwhelming tendency in political and organisational life to reach for the risk management of everything, that any process of evaluating risk and designing responses to it is likely to be greatly enriched by public involvement and that to date the tendency has been to restrict the debate to a technocratic discourse of risk and ignore human needs. By means of questions posed throughout, the publication highlights a remarkable gap between the GM public debate to date and what it presents as a "deliberative process" with "a substantive approach". Some of these questions have been extracted and reproduced in Annex 1 of this submission.

5 An appropriate position for Ireland on GM crops

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41 See-through Science: Why public engagement needs to move upstream. James Wilsdon, Rebecca Willis. Demos. 2004. Available online at www.demos.co.uk

41 Ibid. p18.

(a) Being an island gives Ireland a very significant advantage vis a vis pollen and seed contamination from other countries. This is particularly advantageous when the pollen and seed involved is coming from risky crops. A significant number of early warnings[43] indicate that GM food has, and will continue to have, detrimental effects on the biosphere - and by extension, on plants, animals and humans. To be located in a region that is protectable from GM pollen contamination gives Ireland and its agricultural sector a profound advantage as it is likely that GM-free food will be greatly in demand in the future.

(b) Meanwhile, there appears to be considerable confusion regarding how or if an EU member state might opt to ban GM crops within its borders. Information on the definitive legal situation, particularly within the obligations of a number of international agreements, is not yet publicly available. However, considering that recent EU communications regarding GM crops appear to have ignored the Precautionary Principle, it is IOFGA's believe that this particular and recent stance is contrary to existing EU legal obligations to that Principle and, if that stance persists by the EU institutions, it is therefore challengeable in law.

6 IOFGA's view of Ireland's apparent interpretation of C(2003) 2624 Besides the points raised so far in this submission, IOFGA considers the following to be an appropriate national-level response to C(2003) 2624.

(a) The GM issue is transnational, a fact acknowledged in the past by the EU.[44] This obliges the EU to take a harmonised legally-enforceable approach. Within such a legal Community framework, flexibility to accommodate local conditions can be incorporated at national level.

(b) At this point nobody can foresee impact and consequences once GM seeds are introduced to this island. It is IOFGA's view that the issues of biodiversity, biosafety, human, animal and plant health, and sustainability have not been taken into consideration by the Coexistence Working Group.

(c) The livelihood not only of organic farmers and growers is at stake, the safety of the biosphere and the economical survival of conventional colleagues not embracing GM technology is also under threat. Unfortunately the majority of conventional farmers haven't realised this yet. The integrity of genetic material is being threatened by ill-judged actions whose driving force is increasing corporate shareholder wealth.

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43 Note convergence of terminology with the European Environmental Agency's publication. Late lessons from early warnings: the precautionary principle 1896-2000. Environmental Issue report No 22. 2001.
aa Text in Directive 2001/18 refers to the fact that GMOs which are released in the environment, be it in big or small quantities, can reproduce and cross national boundaries, thereby affecting other Member States

(d) So far this so called "stakeholder consultation" has not reached the general population, nor have environmental NGOs been invited to a satisfactory extent. IOFGA is very dissatisfied regarding the transparency deficit of the consultation process to date and - and with only very limited information about the process - notes in particular that there appears to be no opportunity for those consulted to consider any draft documents produced by the Coexistence Working Group in advance of its final report being published. In fact, IOFGA's experience of the consultation process so far could be interpreted as exercising the principle of *'Divide and conquer'*.

(e) The above issues of proper stakeholder consultation and participation procedure have to be addressed and satisfactorily resolved before IOFGA can contribute meaningfully to the process of developing a framework for the co-existence of organic, conventional and GM methods of agricultural production.

ANNEX I

Questions regarding technology extracted from See-through Science [45]

Policy-makers	ask: What are the risks?
Public asks:	"What might be the unanticipated effects? Who will be in charge of it and will take responsibility for the responses to unanticipated effects? Can we trust them?

Upstream questions, ie, asked at early stage in development trajectory of a technology

Why this technology? Why not another? Who needs it? Who is controlling it? Who benefits from it? Can they be trusted?
What will it mean for me and my family? Will it improve the environment?
What will it mean for people in the developing world?

What are the outcomes that this technology seeks to generate?
Could we get there in another, more sustainable and cost-effective way?

Biotechnologists ask: "is it safe"?
A more appropriate question to answer for society is: "is it necessary or desirable"?

[45] See-through Science: Why public engagement needs to move upstream. 2004. DEMOS. Online at www. demos.co. uk

IOFGA ADDITIONAL SUBMISSION TO THE C0-EXISTENCE WORKING GROUP

December 2004

This submission, additional to the Irish Organic Farmers and Growers Association's (IOFGA) submission of 12/11/2004, is presented to the Coexistence Working Group in order that IOFGA's concerns will be specifically addressed if a coexistence framework is devised for Ireland in response to the EU Commission Recommendation C(2003) 2624, despite the documented articulated concerns of a wide range of groups throughout Ireland.

IOFGA is fundamentally opposed to the introduction of GM crop material to Ireland and will continue to support a total ban on its introduction. IOFGA has strongly recommended that the consultation on coexistence be broadened according to Ireland's obligations to international conventions and in line with internationally-accepted best consultation practice and in line with the EU's own recommendations on consultations.

While acknowledging the plans for a coexistence framework in Ireland are an outcome of Directive 2001/18, IOFGA considers C2003/2624 as a development inappropriate to Directive 2001/18's implementation: the rationale presented in C2003/2624 that the anti-risk strategy of good labeling will protect the consumer vis a vis GM foods is unreasonable and indefensible. The insistence of the Coexistence Working Group that development of a coexistence framework for Ireland will proceed despite IOFGA's documented concerns, obliges it to set out its views below under 6 headings on such a framework despite IOFGA's total opposition to introduction of GM crop material to Ireland. Setting out those views from 1 to 7 clearly indicates the breadth of the Pandora's Box-type effect that would be caused by permitting cultivation of GM crop material in Ireland.

1. Legal Instrument
2. Role of Precautionary Principle
3. Biosafety Advisory Body
4. Risk Management
5. Obligation to inform competent authority of adverse effects
6. Liability and Compensation
7. Review

1. LEGAL INSTRUMENT
   1.1. IOFGA proposes that the introduction for any coexistence framework be by means of primary legislation, ie, an Act of the Oireachtas, rather than by Statutory Instrument. This approach is called for in particular to buttress new concepts regarding liability in the context of the 'Polluter Pays Principle', aspects of which may not be sufficiently underpinned by subordinate legislation, particularly if a party to a liability case or challenge is likely to be a multinational corporation.

2. ROLE OF PRECAUTIONARY PRINCIPLE

2.1. IOFGA proposes that the coexistence framework must fully incorporate the Precautionary Principle and ensure that principle is taken into account in the framework's implementation as is stated at (8) in preamble of Directive 2001/18.

2.2. In assessing the validity of current 'science' knowledge and opinion regarding GM crops, the lessons learned within the EU and worldwide regarding the undue influence of the tobacco industry throughout the 1980s & 90s must be recalled. The tobacco "industry sought to prevent passage of the directive within the EC legislature, to substitute industry-authored proposals in place of the original directive, and if necessary to use litigation to prevent implementation of the directive after its passage. The tobacco industry sought to delay, and eventually defeat, the EC directive on tobacco advertising and sponsorship by seeking to enlist the aid of figures at the highest levels of European politics while at times attempting to conceal the industry's role".[1] Such lessons ought to be part of any 'precautionary' consideration of GM crops and their risk to the biosphere including human, animal and plant health and safety.

3. BIOSAFETY ADVISORY BODY

3.1. An effective coexistence framework must include clear specification of authorization bodies with a remit for biosafety at a national level. A Biosafety Council-type institution is required, its roles including Development, in an inclusive manner, of Ireland's 'opinion' on GM matters

Authorization of field trials and marketing

Such a council must include representation of environmental NGOs and other appropriate civil society groupings. Any authorization body within the state with a remit

for biosafety must include a focus on environmental conservation.

4. RISK MANAGEMENT

It is important to note that separation of GM crop material from non-GM crop material will be necessary throughout the food chain, not just at farm level. Any serious attempt to manage the risks associated with GM crop material involves compulsory record-keeping on the part of all those involved – the seed-producing company, seed-distributing company, farmer, farm contractors, all food processors dealing with the GM crop material – all companies and sole traders handling GM crop material from seed production via farm to fork. The record-keeping protocol and retention of records for a 10 year period must be specified in the legislation.

4.1. Licencing Procedure

[1] "Tobacco industry strategies for influencing European Community tobacco advertising legislation" Neuman et al in The Lancet, vol 359 pp 1323-1330, 13/4/2003. Evidence of the tobacco industry's undue influence in EU decision-making in the EU came to light as a result of its documents being made public under the US Master Settlement Agreement of 1998.

The licencing procedure as specified in Directive 2001/18 will be compulsory for all GM crops grown in Ireland.

The environmental risk assessment element of the license procedure will be specified in detail in the legislation. Acceptable sources of "Independent scientific advice", referred in in at (20) in the preamble to Directive 2001/18, will be specified in the legislation.

4.2. Site Registration

A publicly-accessible site register and map will provide farmers and all other interested parties with precise information about license applications and approved licenses. Registration of all GM crop licenses will be mandatory.

4.3. Farming practices regarding cultivation of GM crops and production of GM seed

4.3.1. Specified farming practices to prevent negative effects of GM crops will be compulsory for any licence-holder.

4.3.2. Regarding Ireland's choice of separation distances as a contamination prevention measure and the evidence available from studies of separation distances and contamination: the scale of the study is extremely significant, indicating that the evidence must be from agricultural scale studies and commercial experience, rather than from small-scale studies as much of the variability in evidence to date has been from small-scale studies.

4.3.3. In addition regarding separation distances, there must be no attempt to use average distances derived from different studies, as has been attempted in another member state: such a practice would mean that roughly half the farms are going to be routinely contaminated above the threshold from the outset.

4.4. Practices regarding transportation and storage of GM crops

4.4.1. Specified practices to prevent negative effects of GM crops will be compulsory regarding transport and storage of any GM crop material

4.5. Practices regarding processing of GM crops

4.5.1. Specified practices to prevent negative effects of GM crop material will be compulsory regarding processing of any GM crop material

4.6. Monitoring of GM Crop material during growth, transport storage and processing

4.7. Costs of implementation of the licencing, registration, specified practices in farming, transport, storing, processing and monitoring

shall be borne by the individual licenced farmers, transporters and processors in question.

4.8. Failure to comply with any of the specified practices at 4.1 to 4.7 above and 5 below will incur penalties that are effective, proportionate and dissuasive, in line with Art 33 of Directive 2001/18.

5OBLIGATION TO INFORM COMPETENT AUTHORITY OF ADVERSE EFFECTS

Specify an obligation in the legislation to inform the competent authority of any observed adverse effects on human health, animal health or the environment.

6 LIABILITY AND COMPENSATION

6.1 All issues of liability regarding GM crops shall be dealt with in accordance with the Polluter Pays Principle which implies that liability will be shared between the licensed farmer growing the crop and the company who produced the GM seed.

6.2 Existing liability legislation in the UK has been deemed inadequate in terms of GM crop liability by The Soil Association and so it is likely that the effect on Irish law of UK case law makes Irish legislation similarly inadequate. The coexistence framework legislation should address this issue, at least with respect to the following situations: organic and non-GM farmers suffering costs or reduced income due to the risk of or actual GM crop material contamination; environmental damages caused by GM crops; health damages caused by GM crops; the liability provisions must not require a farmer to prove the source of the GM crop material since if several farmers are growing GM crops in the region, it will be impossible to know the farm source of the contamination.

6.3 A government-run compensation scheme to allow organic and other non-GM farmers quick access to compensation is likely to be necessary, given the time and cost required for prosecution for individual farmers taking a case against a multi-national company. Such a scheme should be funded by the biotechnology companies.

7 REVIEW

The framework will be formally and systematically reviewed at the end of a two year period and on an ongoing basis at three year intervals.

SUBMISSION FROM THE IRISH SEED SAVER ASSOCIATION LTD, TO THE WORKING GROUP ON THE CO-EXISTENCE OF GM CROPS WITH CONVENTIONAL & ORGANIC FARMING.

The Irish Seed Saver Association (ISSA) is a member of GM Free Ireland and subscribes to and supports the submission to the working group presented by that organisation.

However we have additional and grave concerns about the introduction of GM crops to Ireland in as far it will have deleterious effects on the particular work we undertake. Our remit is to conserve and utilise native varieties of fruit, grain and vegetables and to promote the environmental benefits of organic horticulture/agriculture.

In collaboration with TCD and with financial support from Genetic Heritage Ireland and the Department of Agriculture, ISSA created a native grain collection comprising 48 varieties of wheat, barley, oats & rye. We are currently working on native linseed varieties. Prior to the completion of our work, Ireland was the only western country that did not have a native grain collection. It took almost 10 years of painstaking work to locate Irish grains in gene banks worldwide and negotiate for those gene banks to donate seed (usually as little as 5 grams.). Then over a number of years we planted, save seed & replanted until a sufficient quantity was bulked up to begin field scale trials/evaluations on the quality & characteristics of the grains. Just when this precious resource has been returned to Ireland – our living agricultural heritage – it is threatened by contamination from GM varieties. Concern for the grains is our most immediate concern, however we are well aware that once the door is opened for the first influx of GM crops other species will soon follow thus putting the 300+ rare vegetable varieties and the 250 top fruit varieties we have saved from extinction at risk as well.
The fruit, grain & vegetable varieties conserved by ISSA carry many of the traits and qualities that the biotechnology industry is attempting to engineer – without compromising the integrity or safety of any other wild or conventionally bred, related, variety and at no risk to the environment or human/animal health. They have the added great advantage of being freely available to anyone wishing to grow them (no royalties/patents etc), they are the living agricultural heritage of Ireland and her citizens.

Contrary to what the biotechnology companies claim GM technology is NEITHER precise, predictable or specific. It is based on a 40 year old hypothesis that has been proven to be inaccurate. After discovery of the ‘Double Helix’, Watson & Crick put forward the ‘Central Dogma’ stating that each gene, coded for its own, single, unique protein, dictated one characteristic/trait in the organism. Consequently it was estimated that the number of proteins in the human body was a approximately 100,000and it was therefore predicted that there would be the same number of genes. However the multi million dollar ‘Human Genome Project’ published in June 2000 reported that humans only carry 30,000 genes (a mustard weed plant has 26,000). This should have been the death knell for commercial GM technology, but the evidence was ignored and business as usual pertained. In fact PR activity escalated in the effort to achieve a fait accompli and get GM plants growing worldwide in order to recoup the vast amounts of money that had been pumped into the industry in the previous 15 years and before awareness of the inherent dangers in the technology became

widespread. The European refusal to comply with the industries demands at that time has led to the current debate.

The fact that one gene can create multiple proteins explains some of the surprises that genetic engineers are incessantly faced with. To make a protein the gene dictates that particular amino acids are assembled in a particular order but when necessary the amino acids get reassembled by a process known as alternative splicing and an entirely new protein is thus formed. In this way hundreds, or even thousands, of proteins can be created by a single gene. This is not an arbitrary phenomenon – it has become precise over aeons of evolutionary activity in each, individual organism.

Now, when a foreign gene makes its appearance in an organism, through genetic engineering it begins to assemble amino acids as though it were functioning in its natural environment. In all likelihood alternative splicing will occur and, the amino acids will be rearranged and no-one knows what protein will be created and what effect it will have on the host organism immediately or in future generations. While scientists were certain that a single gene created only one protein they could confidently insert that gene into another species and be sure that it would create that unique protein. The biotechnology industry was developed on that premise, on foot of that surety. But the scientists were wrong!!

In addition to alternative splicing there are other modifying influences on the creation of proteins. These complex processes have evolved in a harmonious relationship over a long evolutionary period and been subject to thousands of years of testing in nature. When GM technology interferes and a gene is transferred from one organism into the DNA of a totally unrelated species (bacteria to maize) the plants system is very different from that of the bacteria and the harmonious interdependence of genes in their natural environment is likely to be disrupted in unspecified, imprecise unpredictable and dangerous ways.

GM technology is complicated and intricate beyond imagination. The science is in its infancy – it needs to stay in the laboratory. Scientists need to be free from coercion and fear and at liberty to fully design their own experiments in order to make & test discoveries in this field of science. To consider releasing GM organisms into the environment at this stage of development of the science is irresponsible at best and will create an environmental and food security problems, of mammoth proportions, for future generations to deal with.

The destruction caused by man’s interference with the earth’s ecology will be as nothing compared to the damage done by the clumsy, ignorant, profit motivated interference in the delicately tuned and intricate system of genetics that has evolved over millennia. The arrogance of the commercially interested parties is breathtaking. Many scientists would agree that the study of genetics is in its infancy and that the science should remain in the laboratory until adequate research, development and safety testing has been completed and that is the stance ISSA takes and the one we would encourage the Irish Government to take.

Thank you for inviting us to contribute information for consideration by the working group. I look forward to reading the results of your deliberations and to seeing the full details and evidence to support the conclusions you arrive at.

Bridget Carlin on behalf of the 1400 members of The Irish Seed Saver Association, Capparoe, Scariff, Co. Clare. 061 921866. info@irishseedsavers.ie
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Irish Seed Trade Association

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Mr. Nicholas McGill,
Department of Agriculture,
Backweston,
Leixlip,
Co. Kildare.

16th November 2004

Dear Nicholas,

Further to a meeting between representatives of the Department of Agriculture and the Irish Seed Trade Association to discuss the co-existence of GMO, conventional and organic cropping in Ireland, I am enclosing a response from the Irish Seed Trade Association to the outlined proposals shared with us on that occasion.

If you have any queries in relation to this response, please do not hesitate to let us know.

Yours sincerely,

Patrick O'Mara
Secretary

CO-EXISTENCE OF GMO, CONVENTIONAL, AND ORGANIC CROPPING IN IRELAND

A response from the Irish Seed Trade Association (ISTA) to outline proposals from the Department of Agriculture made to ISTA's Executive Committee on November 3rd 2004.

In principle ISTA supports the move to establish rules for the co-existent cropping of GMO, conventional and organic crops in Ireland. It is our wish to cooperate in the establishment of workable guidelines that can be operated and regulated in a practical manner for the entire industry. Our members have invaluable experience in the production, storage, and transport of multiple species and varieties of seed to maintain stringent purity levels as defined by the Seed Certification Scheme. We would be pleased to bring this experience to bear on this question.

Compensation Fund.
The principle of establishing a compensation fund to compensate financial loss due to accidental contamination is founded on a sound basis. We understand that the fund is to be financed by those who benefit from the production of GMO crops. We have however the following comments.

- ISTA request that the burden of financing the compensation fund be spread over the entire beneficiaries of GMO crops. The seed industry would be a minor beneficiary as it is today in conventional cropping. The beneficiaries of new GMO crops will be all the players in the Industry. The primary beneficiaries will be: **Growers,** who should benefit from lower production costs or higher value markets; the **Biotech industry** which will benefit from licence fees; and **Consumers/Public** who stand to gain from better product. In this connection it must be stressed that whilst presently there is much publicity about herbicide resistance, which may have negligible perceived benefit for the public other than cheaper product, there is an abundance of GMO research which has the potential to deliver huge benefits to the public e.g. enhanced vitamins and nutrient values, etc). Other players such as Seed companies (who are not necessarily the technology holders), fertiliser and chemical companies, grain traders, grain storage companies, logistic suppliers, all of whom have a role in supporting conventional cropping will undoubtedly support and make a profit with GMO crops. However the benefit they might make from the introduction of GMO's is as yet not quantifiable. In any case, it is unlikely to be of significance, as new GMO crops will simply displace existing crops.

- A levy on seed as a method of collecting funds from growers is not workable and will fail to achieve its goal. It is in essence a tax on the seed industry, which is already struggling to survive in Ireland. There is no successful precedence for collecting levies from growers by putting it onto the price of inputs. Growers will go to extraordinary lengths to avoid a levy by, for example, importing or producing home saved seed etc. However there are several successful schemes funded through
  levies on farm outputs, which cannot be avoided as it is deducted at source before paying the grower.

- The fund should be available to all members of the Industry that suffer loss through accidental contamination; this would include members of the Seed Trade as well as growers.

- We wish to be consulted on how the fund will be financed in the early years to build up the fund, and on arrangements to build it up again when they are drawn down.

- Whilst we understand that details of how the fund is to be administered is not yet decided, ISTA request to be consulted and participate in the development and administration of policy in this area, particularly in view of the experience its members have built up in the Seed Certification Scheme.

Farm saved seed.

ISTA firmly believes that food chain traceability cannot be complete without the compulsory use of certified seed. Only with certified GMO seed is there assurance of the GMO event in question; uncertified seed can be contaminated with any number of events, approved or otherwise.

We strongly recommend that a permit to grow a GMO crop only be issued when certified seed is being used.

Volunteers in succession crops.

We recommend the following as being compulsory best practice to avoid volunteer GMO plants emerging in succession crops; along with the use of appropriate herbicides, growers must plough in the autumn and establish a winter cover crop if sowing the next commercial crop in the following spring.

Publication of names and locations of growers of GMO crops

Precedence from the UK and Continental Europe demonstrates that the full publication of locations or names of growers results in the destruction of the said crops and intimidation of growers. This prohibits the development of GMO crops. ISTA understands the necessity that all `relevant' parties should be aware of proposed plantings e.g. neighbouring growers. ISTA encourages the Department of Agriculture to find a protocol to ensure that the publication of locations does not indirectly prohibit the development of GMO technology in Ireland.

Submitted by: The Irish Seed Trade Association Marina House, Clarence st. Dun Laoghaire, Co. Dublin

16th November 2004