



SERIES HUMANITY AND BIOSPHERE

Civil society and GMOs: what international strategies?



Proposal papers for the 21th century

The proposal papers are a collection of short books on each decisive area of our future, which assemble those proposals that appear the most capable of bringing about the changes and transformations needed for the construction of a more just and sustainable 20th century. They aim to inspire debate over these issues at both local and global levels.

The term 'globalisation' corresponds to major transformations that represent both opportunities for progress and risks of aggravating social disparities and ecological imbalances. It is important that those with political and economic power do not alone have control over these transformations as, trapped within their own short-term logic, they can only lead us to a permanent global crisis, all too apparent since the September 11th attacks on the United States.

This is why the Alliance for a Responsible, Plural and United World (see appendix) initiated, in 2000-2001, a process of assembling and pinpointing proposals from different movements and organisations, different actors in society and regions around the world. This process began with electronic forums, followed by a series of international workshops and meetings, and resulted in some sixty proposal texts, presented at the World Citizen Assembly held in Lille (France) in December 2001.

These texts, some of which have been completed and updated, are now in the process of being published by a network of associative and institutional publishers in 6 languages (English, Spanish, Portuguese, French, Arabic and Chinese) in 7 countries (Peru, Brazil, Zimbabwe, France, Lebanon, India, China). These publishers work together in order to adapt the texts to their different cultural and geopolitical contexts. The aim is that the proposal papers stimulate the largest possible debate in each of these regions of the world and that they reach their target publics whether they be decision-makers, journalists, young people or social movements.

Presentation of the Paper « Civil society and GMOs: what international strategies? »

Whereas the first defend that this biotechnical revolution will permit to save the humanity of the malnutrition and some illnesses while protecting the planet of the environmental deteriorations; according to the objectors, the OGM expose the planet and the humanity on the contrary to uncontrolled food risks, the loss of the autonomy of the peasants, loss of biodiversity... This document provides a synthesis of the present terms of the debate. Facing this world stake of long term, it exposes a certain number of propositions of the civil society, analyze the conditions of their application and the strategies to arrive there.

Japanese version : <http://www2.odn.ne.jp/~cdu37690/> (lightly-edited machine translation)



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Paper coordinated by Frédéric Prat, Geysler



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1. Contradictory issues for the different actors

The arrival of the first genetically modified plants on the market¹ (1996) provoked strong and contradictory reactions among all those who feel concerned over this topic. There are many such people - consumers (all of us), farmers, scientists, doctors, ecologists, politicians, seed companies, supermarkets and agri-food business, religious personages, humanitarian NGOs... at all levels - local, national, regional and international.

Save humanity or destroy the planet?

The **issues** are proportionate to the reactions which occurred. According to the proponents of GMOs, this biotechnological revolution will enable us to save humanity from malnutrition and from certain diseases, as well as to protect the planet from environmental degradation. According to opponents, GMOs expose the planet and humanity to the direst of dangers; uncontrolled food safety risks (particularly allergies, and resistance to antibiotics...), the sterilisation of seeds, the loss of autonomy for smallholder farmers, loss of biodiversity... and in time the inevitable and irreversible spread of GMO crops, doubtless to the detriment of other more sustainable systems of production such as organic agriculture.

This proposals paper sets out to bring together the terms of this debate, and to explain the polemic; above all it sets out certain civil society propositions, analyses the conditions of their viability, and proposes strategies to bring them to fruition.

¹ For a definition and brief history of GMOs, see Annex 1

2. Where to go? A world without GMO agriculture!

The world of which we dream, and above all the agricultural world, is one in the closest possible harmony with the great equilibria of nature. Such a dream is justified not on the basis of nostalgia for an idealised Nature, but by the certainty that maximum harmony with nature has a crucial bearing upon the sustainability of models of production. This certainty is founded first of all upon empirical bases (intuition of natural balances, the co-evolution of species over millenia), and is verified scientifically day by day. For example, it has been shown that production 'mishaps' - mad cow disease, foot-and-mouth disease, insect resistance, as well as various forms of pollution - are principally due to the introduction of imbalances in ecological relations, particularly with regard to pesticide use and animal feedstuffs... Agricultural production in harmony with nature means, concretely, working with the complex interactions of the trophic chains, rather than attempting to dominate them by use of pesticides or genetic engineering. This point is developed further in another proposals paper - on sustainable agriculture.

Our proposals on GMOs do not therefore tend toward seeking to promote the social acceptability of GMOs in agriculture, but on the contrary toward defining the transition to an agriculture free of GMOs, while leaving the door open possibly to certain GMOs in certain growing conditions (closed environment, bio-fermentation) and usages (supervised and regulated medical applications) and for certain limited objectives (transgenesis as a laboratory tool, for example, is not in question).

It is true that the potential of GMOs appears limitless. And the promises held out by their proponents are not a mere bagatelle: GMOs will save the environment and feed the world (see potential applications, Annex 20).

But the risks incurred are equally great: genetic pollution, uncontrolled food safety risks (particularly allergies, and resistance to antibiotics...), the sterilisation of seeds, the loss of autonomy for smallholder farmers, loss of biodiversity (see Annex 3 for a scientific account of the risks incurred by GMOs).

However, the major risk resides in the irreversibility of a transgenic world: while it was relatively simple to ban meat meal in cattle feed (of course at astronomic cost and too late), the same is not true of GMO contamination. In September 2000 the example of the contamination of the human food chain by Starlink maize (banned for human consumption purposes on account of the risk of allergies) bears witness to this: in June 2001, South Korea was still finding Starlink in its imports from America, which were nonetheless guaranteed to be GMO-free...

Moreover, European legislation in preparation in 2001 recognises the inevitability of the contamination of non-transgenic foods by GMOs, even banned from marketing, and simply proposes to authorise a legal threshold of "adventitious contamination".

The total separation of the food chain today being recognised as impossible, the authorisation of widespread use of transgenic crops will ineluctably lead to the spread of these crops.

This inevitability is today used as a justification for the race to biotechnology; as there are already GMO crops, and as they will spread in the short or medium term, we might as well authorise them everywhere without delay. Thus “*We cannot allow ourselves to lose more time without facilitating the biotechnology industry*” recently said Margot Wallström, European Commissioner for the environment.

It is high time to stop this dash to “technological progress” which reposes upon a deterministic conceptualisation of science (Morin, 2001); the alternative is to recognise the complexity of life which, applied to the agricultural world, cannot engender simple and unique models of production. These new forms of sustainable production carry the generic name of “ecological agriculture”; they are predicated upon the understanding of the man-plant-animal-soil-climate ecosystem, and often rest upon ancestral peasant knowledge and a respect between Man and Nature (Pacha Mama, of the Andes).

Making the apparatus of public sector research available to this type of development will enable great steps to be made toward concrete applications of this new paradigm - in particular a form of agricultural production which sustainably satisfies food security in terms of quantity, quality and accessibility.

On the contrary, staking all on transgenic plants, as is the trend nowadays, may promise us solutions in the short term but in no way sustainable development (see annex 1 on the dangers). Worse, such a choice bears upon the future of generations to come, barring the exploration of other paths of development. In fact, the allocation of human and material/financial resources to this form of research amounts to less for the exploration of alternative paths. On the other hand, transgenic solutions as we have seen already give rise to irreversible and self-multiplying genetic pollution. And what of tomorrow when the first transgenic animals are authorised?

3/ Strategy

The majority of people in the world are today against GMOs. The main reason - why accept the risks associated with GMOs when they offer no advantage? The major suppliers and manufacturers in the agri-business industry (Carrefour, Sainsbury, Coca Cola, MacDonald, Nestlé...) have grasped this, and are putting out more and more information about the “GMO-free” status of their produce. Politicians as well, who decree moratoria (see list in Annex 4). But politicians act, *inter alia*, in response to pressure from the general public. But before they adopt a stance, the general public need to be informed!. And this information must be independent from financial interests.

The organisations and citizens who met in Porto Alegre, Brazil (World Social Forum [FSM], January 2001) sketched out in one of their workshops² the first steps of a strategy of transition towards a world without GMOs.

In their final declaration on January 29th 2001³, the participants called for the rapid establishment of a five-point programme, including: the non-patentability of life-forms; independent public sector research for sustainable agriculture without GMOs; the ratification of the Cartagena Biosecurity Protocol; an immediate moratorium on the trade and cultivation of GMOs; and the right of all citizens to full information.

This declaration serves as the basis for the proposals contained in this paper. However, other papers deal in greater detail with some of these proposals: the reader is invited to refer to;

* non-patentability of life-forms (see “Refusing Privatisation of Life and Proposing Alternatives”, and “The place of agriculture in the WTO”).

* the imperative for public sector research into alternatives, sustainable agriculture (see “Sustainable agriculture and food security”, and “Agrarian reform”).

In this paper, then it remains to deal with three other proposals from the FSM:

* a moratorium on the trade and cultivation of GMOs

* strict regulation of production and trade, particularly the ratification of the Cartagena Biosecurity Protocol

² More than one hundred people actively participated in this workshop. The presence of Via campesina, Mouvement des Sans Terre (MST, landless people’s movement), and the Confédération paysanne brought major political weight to the meeting.

³ In this declaration, the participants vigorously stress that GMOs represent no solution to the environmental crisis, nor to world hunger: “In fact, hunger is a political and social problem. We only have to recall that in Brazil 1% of farms control 45% of the land, while 95% of farms possess less than 20% of the land”.

Equal emphasis is placed upon the patenting of life-forms: “The multinationals are patenting all transgenic seeds. In so doing, they are denying the farmer the right to resow his own seed each year. The control of seeds by the multinationals implies the control of our food, of our lives”.

The full text of this declaration, as well as the workshop report, are available on www.infogm.org.

* transparency and information for citizens

Other regional legislative proposals (European Union...) will also be referred to.

3.1. The urgent need for an international moratorium

Given the scale of the alleged or potential risks of GMOs (see Annex 3) , and the self-multiplying nature of transgenic varieties and species, it is a matter of urgency to obtain an international moratorium on the cultivation of GMOs (as well as on the spread of transgenic animal species). The case of transgenic micro-organisms, which are often used in fermentors in food processing, is also to be considered on a case by case basis⁴.

This moratorium must apply both to commercial crops and to open-air trials. In fact, in a number of experimental cases, it has been demonstrated that the biosecurity measures put in place (pollen barriers, for example) were inadequate to prevent the spread of transgenic plants... or that these measures were quite simply not adhered to (e.g. the case of the absence of refuge zones in the United States, or unregulated regrowth of transgenic crops after trials, as occurred in Tasmania or in France⁵ in 2001...

Despite the small number of authorisations of GMOs in Europe, most food products containing ingredients of which one (or several) transgenic versions exist are already contaminated: half of the maize-based products in Switzerland (and more than 40% in France⁶) contain transgenic maize (including 36% of organic products!⁷). That is to say, in the current context of international trade, it is not enough to limit the moratorium to a geographical zone: border controls will never be able to be applied to food cargoes as a whole, and as in Mexico with transgenic maize (which is nonetheless banned) or in Japan with Starlink maize, massive contamination will continue.

We need an international moratorium, then; but with what objective? Needless to say, opinions vary widely. In its classical sense, 'moratorium' implies a more or less long period of banning pending the satisfaction of certain conditions. That is the official position of the 6 European governments⁸ at the origin of the *de facto* moratorium since June 1999. The conditions for the lifting of the moratorium depend upon a requirement of increased regulation in terms of security for the environment and for the consumer: authorisations to be re-evaluated periodically, with bio-vigilance oversight, reinforced health tests, the banning of antibiotic resistant genes, traceability and labelling, adventitious threshold of presence of GMOs, legal responsibility upon the producers of GMOs... The demands are numerous. And once they are satisfied, they should logically lead to the lifting of the moratorium: that is why the European

⁴ In Canada and the United States, nearly 200 cases of problems arising from insulin made from transgenics have been recorded (Reuters, June 13 2001).

⁵ The French authorities have moreover had a trial plot destroyed on account of uncontrolled regrowth

⁶ AFSSA Report, July 23 2001

⁷ source: <http://bioweb.ch/fr/news/2913>

⁸ Italy, France, Luxembourg, Denmark and Greece, later followed by Austria

Commission is working on all of these themes and proposed a new directive in July 2001 which will be debated at the European Parliament this autumn.

For other organisations, the moratorium represents a strategic stage to gradually but definitively move toward a world without GMOs in agriculture. The main criticism levelled against this radical demand - that to ban GMOs, including in research, would be to deprive ourselves of a formidable tool for varietal improvement. That is why a consensus seems to be emerging on an intermediate position: the banning today of all commercial crops, but authorisation for research in secure conditions and by independent researchers, on condition that other research into sustainable agriculture is carried out in parallel, with at least as many resources at its disposal. This is the position, for example, of the French farmers' union the '*Confédération Paysanne*' who, as we know, have been at the forefront of the anti-GMO struggle in the world.

How may we obtain this international moratorium?

Only an international organisation with the job of regulating the global environmental and health aspects could decree such a moratorium. In the absence today of a World Environmental Organisation, we have to content ourselves with the international Conventions ratified by a maximum number of States. In the case of GMOs, it is the Biosecurity Protocol of the World Convention on Biodiversity (Rio 1992) which plays this role⁹. This Protocol must serve as the cornerstone at the juridical level to establish the international moratorium.

But to put it in place, while strengthening its content (see part 3.2), we must convince governments of the urgent need for its ratification. And only immense public pressure in each State will attain this goal. However, we should not overlook the targeted lobbying of decision-makers (regional parliaments, governments and national parliaments...).

In the meantime, geographically limited legislation must be put in place. This is happening now in a number of countries (Algeria, Bolivia, India, Thailand, Great-Britain, Tasmania...) and of regions (two States in Brazil, three regions in Spain, four regions in Italy, some States in Australia...) or of local authorities (in the USA, Italy, France, Australia, New Zealand...) who have declared themselves GMO-free and have banned all commercial crops (and in some cases, all imports) of transgenic plants (see Annex 4).

⁹ It is true to say that the Codex Alimentarius, under the combined *aegis* of the FAO and the WHO, promulgates health safety rules, but these are only indicative.

3.2. Strengthening national, regional and international legislation

3.2.1. The Cartagena Biosecurity Protocol

Adopted at Montreal on January 29 2000, this protocol recognises the precautionary principle as the basis for decisions regarding the transboundary movement of all GMOs. Thus article 10 (6) recognises the right of countries to refuse imports of GMOs even in the absence of scientific certainty about potential damage to biodiversity and to human health.

The protocol establishes the procedure of Advance Informed Agreement for the transboundary movement of LMOs (Living Modified Organisms, the term used in the protocol¹⁰); these procedures, based upon the precautionary principle, require the explicit consent of the importer before imports of LMOs may occur. However, as a result of pressure from the Miami Group (United States, Canada, Argentina, Australia, Chile and Uruguay) these procedures differ according to whether it is a question of LMOs intended for dissemination in the environment (mainly seeds), LMOs destined for human or animal consumption, or for processing. Nevertheless, the Parties have the possibility of applying their domestic regulation for these LMOs on condition that their objectives do not run counter to those of the protocol.

For LMOs destined for human or animal consumption, they will only have to be labelled as “*may contain LMOs*” and “*not intended for intentional introduction into the environment*”. This concession made to the Miami Group is intended to allow them to avoid the separation of the food chain.

Another crucial point: the relationship of subordination between the protocol and the World Trade Organisation (WTO). While it is mentioned in the Preamble that the protocol is not subordinate to the rules of the WTO or to other international agreements, the wording of this preamble is somewhat woolly. Thus line one states simply that agreements on trade and the environment should “be mutually supportive”: therefore we need to reinforce the protocol on this point, by clearly establishing the supremacy of the Biodiversity Convention (CBD) over the WTO¹¹.

This protocol, which was signed by 130 countries in January 2000, will come into force when 50 of these countries have ratified it. But that is a far distant prospect: in fact by October 2001, only 5 countries have ratified it! Getting it applied by the tenth anniversary of the World Convention on Biodiversity (that is to say, by 2002) would be a more than symbolic victory. NGOs will have to

¹⁰ A ‘living organism’ is defined in article 3 of the Protocol as: “capable of transferring or replicating genetic material”. What this means in practice is that products which are already processed escape the provisions of the Protocol

¹¹ However this means pursuing a lengthy legal route, specifying certain articles of the Protocol and defining, for example, who in the CBD arbitration tribunal, or in the WTO dispute settlement body, will have the final say in the event of disagreement

play their part in pressure group activity, launching strong campaigns in the direction of their parliaments

3.2.2. Transcribing the Cartagena Biosecurity Protocol in regional and national legislation

Even before its ratification, several States have begun to integrate all or part of the protocol in their legislation. While the precautionary principle remains a controversial issue between the United States and the European Union, it is beginning nevertheless to be applied in public decision-making (see, for example, in Europe the management of the Mad Cow crisis, with the withdrawal of material posing a danger to the food chain, or the European refusal to import meat products from animals treated with hormones from the United States).

Total traceability is another key issue in the management of the agri-food industry. It implies strict labelling rules - from farmer's field to the dinner plate - which are also beginning to be put in place (see Annex 4). There are several points which still need agreement:

* the field of application of labelling: after processing, certain foods in fact contain no traces of DNA or proteins from transgenesis (as in the case, for example, of oils, lecithins, starch or meat from an animal which has eaten transgenic feed). The position to defend must be crystal clear here: with or without traces, it is the whole of the processing process which must be considered, from the raw material and animal feed to the finished product, *via* the use of any enzymes or micro-organisms used during processing. This position has been only partially retained in the last European Union directive proposal on labelling (July 2001) which agrees to label all products containing GMOs or of GMO origin, but not those which have solely used enzymes or micro-organisms in their processing. Moreover, the directive proposal does not envisage the labelling of meats from animals which have eaten GMO material.

* the notorious thresholds of GMO presence which dictate when labelling becomes obligatory. In recent legislation (April 2001), Japan has defined zero tolerance for GMOs which have not been authorised for marketing on Japanese soil. By contrast, experts from the European Union are proposing acceptable adventitious thresholds, even for unauthorised GMOs - thresholds beneath which labelling will not be obligatory! We must resist this and insist upon zero tolerance, as in Japan.

* furthermore, the methods of detection must be perfected and harmonised at the international level. Europe, through its European Committee for Normalisation (ECN), expects the first fruits of its work on future international standards (ISO) for detection... by 2005! And at present less than 10 laboratories in Europe as a whole are equipped to measure GMOs quantitatively! The elaboration and harmonisation of standards of detection of GMOs at the international level, as well as an adequate number of laboratories, are essential preconditions for the lifting of a moratorium. We would add that the costs of such analyses must be borne by the proponents of GMOs.

Finally, the last condition to ensure effective traceability: we must know, at the international level, the different genetic make-up of GMOs - authorised or at the experimental stage - in order to be able to know how to detect them. There

too, the protocol will be useful, as it envisages the development of an international GMO data base which lists all novel genetic constructions.

The protocol also envisages a strengthening of the capacity of developing countries to exercise their own expertise in this area. The *Codex alimentarius* (a body jointly under the auspices of the FAO and the WHO) has also voted (July 2001) a special fund to enable those in the South to participate more fully in the definition of food standards, of which GMOs are one aspect. The agreement and cooperation of all States in the elaboration of this data base and the strengthening of the capacities of the countries of the South also constitute a precondition for the lifting of the moratorium.

The different legislation put in place, authorising GMOs or not, will also be able to refer to the Advance Informed Agreement of the protocol for transboundary movements of GMOs before agreeing to imports. That is what the Organisation of African Unity model law, adopted by the Heads of State in July 1998, proposes for all African countries. Of course this clause is often insufficient, as we have seen again recently with the Japanese imports of American maize, which were guaranteed free of Starlink but which nonetheless contained it. But responsibility clauses¹² may then come into play and, little consolation as this may be to them, the countries having suffered from imports of GMOs against their will be able to be compensated¹³¹⁴.

Europe is set to propose a directive in 2001 on the responsibility of producers of GMOs. Switzerland has already taken the initiative, the 'Council of States' having even stipulated in June 2001 a 30 year duration of civil liability. And this law will be applied equally to effects upon the environment, and thus to goods which are not in the private domain. This is without doubt a model to keep a close eye upon at the time of introducing legislation in the other States (see Annex 7). No broad clause of responsibility (with regard to consumer health and the environment) applicable world-wide, no lifting of the moratorium!

¹² article 25 of the Protocol: "In the event of unlawful transboundary movement, the Party affected may ask of the Party of origin to eliminate at his/her own cost the modified living organisms concerned"

¹³ Article 27 of the Protocol stipulates that these international rules and procedures on liability and reparations must be finalised if possible within 4 years of ratification of the protocol - about 2006 (?)

¹⁴ On July 25 2001 the American authorities came to an agreement with Aventis which is set to broaden its programme of compensating farmers on whose land Starlink maize has been found when they had planted no such crop!

3.3. How to achieve change? Through information and pressure

3.3.1. Information

Information is the first condition to enable the general public to grasp such a polemical theme, to understand the issues, and to act with prior knowledge. Following the various demonstrations, destruction of trial plots, blockading of ships in ports etc., seed companies and researchers alike have understood the importance of better communication (the seed companies) and of better information (the researchers). That is why companies such as Aventis Crop-Science, BASF, Dow Chemical, DuPont, Novartis, Zeneca AG Products and Monsanto have formed on the other side of the Atlantic an 'advisory panel on biotech information'. The first initiative of this Panel took the form, from April 3 in the United States and Canada, of an information campaign in the Press and on TV. The cost: 50 million dollars per year¹⁵. Of course this information takes the form of spreading pro-GMO propaganda even into the school system. But one year later Monsanto also announced the creation of its own 'consultative committee on biotechnology', bringing in among others the 'responsible NGOs', in order to open up the debate. The question remains as to whether these different internal corporate ethics committees are simply a trap, or whether they might nonetheless introduce some shift in policy...: we do not consider that they constitute a particularly attractive forum for discussion. No more than taking up share options in these multinationals so that one can make one's voice heard at AGMs: the majority of shareholders always seek to maximise return on investment, and it is highly unlikely that this will change rapidly! But a 'militant shareholder' may still be useful in accessing certain types of internal information (this remains to be seen!).

Researchers in the public sector, scalded by the hostile reaction to their research (numerous destructions of trial plots in France, Great Britain and Belgium, as well as in the USA...) are steering a course between two positions: on the one hand a retrenchment, as they feel that the citizen is not educated enough to understand the issues and the mechanisms in question, and on the other hand an opening up to civil society in order to debate more widely the objectives of public sector research. This second position is above all embraced by hierarchies (like the new President of INRA - the national institute for agronomic research - in France). It deserves support but must be monitored, with constant questioning of public sector research about the direction of its work...

But between diabolisation and propaganda there is a place for quality information, bringing together all of the dimensions of the GMO problem from the purely scientific aspects to the economic issues, including regulation, ethics and social aspects... Such information systems, independent of both the multinationals and public authorities, are beginning to gradually take shape throughout the world, particularly through the dissemination of information on

¹⁵ source: Monsanto: <http://www.monsanto.fr/actualite/2000/avril2000/strategies14apr.html>

the Internet¹⁶ (see Annex 6, the Inf'OGM package), as well as through the organisation of public debates, the writing of articles etc.

Standing by our rights, and winning further rights

These information systems will be all the more effective if they are founded upon established rights to access to and dissemination of information. At the global level, we may refer once more in part to the Biosecurity Protocol to access data on the areas planted country by country, the types of GMOs authorised etc. For the European Economic Commission of the United Nations (EEC-UN), it is the Aarhus Convention which comes into force in October 2001¹⁷ which will give citizens the right to access all types of information on the environment, particularly on GMOs. Understanding this convention, putting pressure on other governments to ratify it, and demanding access to information on the basis of these established rights must also be a priority task for citizens, *via* their associations, particularly environmental and consumer groups.

For the European Union, we must turn to the new directive on labelling and traceability, proposed in July by the Commission, and put pressure on the European Parliament to tighten it up before approving it. But each State also has its own legislation: that is why environmental organisations in France were able to successfully take the French government to court for not disclosing the exact locations of trial sites¹⁸.

3.3.2. Broad alliances

Many actors are involved in the process of production of an agricultural GMO: researchers in the private and public sectors (conceptualisation), seed companies (sales to farmers), politicians (legislation, permits, labelling...), farmers (production), agri-food processing companies, distributors and finally consumers. Some of these actors, - consumers, farmers and public sector researchers - represent a potential (in fact some are already taking action) for leverage to obtain a widespread moratorium. If environmental associations succeed in convincing these three categories of actors, the agri-food industry and the distributors will follow the market trends; politicians will take action and will pass stricter laws; and finally the 'life-sciences' multinationals - who are already restructuring by selling off their agrochemicals branches - will have to be patient before flooding the market with their transgenic varieties.

¹⁶ by geographical and/or linguistic area: Genet (English): <http://www.gene.ch/genet.html>; GMO list (French): ogm@yahooogroups.com; red latinoamericana (Spanish): RED.POR.UNA.AMERICA.LATINA.LIBRE.DE.TRANSGENICOS@ns.espace2001.com; geneurope (countries of the East, in English): geneurope@yahooogroups.com

¹⁷ Countries which have ratified: Albania, Armenia, Azerbaijan, Belarus, Denmark, Estonia, Georgia, Hungary, Italy, Kazakhstan, Kyrgyzstan, Moldavian Republic, Yugoslav Republic, Rumania, Tajikistan, Turkmenistan and Ukraine. Lithuania, Poland and Spain are about to ratify.

¹⁸ A French law stipulates in fact that each trial is public and must be accompanied by a descriptive leaflet displayed at the Town Hall which states among other things the exact location

3.3.2.1. The consumers: in the forefront

The interests of the various actors are often divergent. But the economic actors upstream are all seeking to satisfy the end consumer. And as we have witnessed, massive rejection by consumers (essentially in Europe and Japan) has led to a decrease in the growth of area planted with GMOs in the world (from 153% growth between 1997 and 1998, to 44% between 1998 and 1999, and only 11% from 1999 to 2000). Consumers, through their associations, are therefore perforce a prime target group for information campaigns. By making a stand, they mobilise to force politicians to legislate in favour of greater prudence and more information on the labelling. However, with a few exceptions (see box) their position tends toward 'freedom of choice' thanks to labelling: but is this not an illusion, in the context of widespread contamination which will inevitably engender the dissemination of GMOs? That is why one of the priorities is to provide better information to these associations, so that they clearly endorse the demand for a widespread moratorium on GMOs in agriculture. Environmental associations in the vanguard of the struggle against GMOs¹⁹ should more systematically seek to develop alliances with consumers' associations²⁰.

Consumers mobilised

Consumers International comprises 245 consumers' associations world-wide. This association took a firm stand in June 2001: "*We are against the sale of these products (GMOs) until there are clear conclusions on the long-term effects which they could have*"²¹. It had already decided to make GMOs the theme of the world consumers' day on March 15 2000. This action was relayed throughout the world. In France, for example, the CLCV (confederation for consumption, housing and lifestyle) had asked both the Town Halls if there were trials of GMOs or not on their territory, and if they had informed their citizens about this, as well as the heads of major supermarkets and food outlets to ask what information they were giving to their customers.

From the North to the South, other consumers' associations are mobilising (see Annex 5); the Brazilian institute for consumer protection (IDEC) went as far as taking the federal government to a tribunal, arguing that legislation on environmental impact studies had not been adhered to. In Canada and the USA, associations are demanding obligatory labelling (United States Consumers Union). In Europe, it is the Association of European Consumers (AEC, socially and environmentally aware) who are making a stand and oppose the use of hunger as an argument to promote GMOs... In Japan, highly dependent on food imports, and in the space of just a few years the leading world importer of transgenic products, the Union of Japanese Consumers, with the support of 15 other associations, collected 2c million signatures in October 1999 to demand that the USA grow non-GMO crops. They are also insisting upon a reinforcement of the legislation of April 2001 on labelling.

¹⁹ Greenpeace, Amis de la Terre (Friends of the Earth), FNE, Ecoropa, OGM-Dangers...

²⁰ Among those already in existence, let us mention: "l'Alliance paysans écologistes et consommateurs" (alliance of ecological farmers and consumers) in France, the "Plataforma rural" in Spain... and many experiences of organisation of local trading where consumers participate: Ferias de consumo in Venezuela, Japan, United States...

²¹ Karla Irigoyen, Chile-based representative of the Consumers International consumer's watch group

3.3.2.2. The farmers: how and why to convince them?

Without wishing to characterise too heavily the emergence of opposition to GMOs, it is fair to say that the *Confédération paysanne* in France has militated since the outset alongside Greenpeace - pioneer GMO opponent - with a number of actions of destroying stocks of seed or experimental plots... But these syndicalists are, it must be said, somewhat atypical in the professional world.

In France the FNSEA (equivalent to the National Farmers' Union in the UK), the main farmers' union, is not opposed to the use of GMOs while remaining vigilant about the confiscation of seeds by companies. The maize producers in this union (the AGPM) are the most in favour of GMOs, and speak of 'paranoia' among anti-GMO activists. In Canada, the USA and Argentina there are also numerous farmers' organisations who support GMO crops. The main reason for this is the lowering of the costs of production and the facilitation of fieldwork. Argentinean growers of soya explain, for example, that faced with the fall in international prices for soya only transgenic soya remains profitable.

However, several factors are shaking the confidence of these producers: growing problems of finding market outlets, particularly on the international Japanese and European markets, as well as a growing awareness of certain technical problems related to GMOs (contamination of other crops, weed resistance, the increasing power of the multinationals over producers' independence, human health problems...). That explains why the National Farmers' Union, in the USA as well as in Canada, and the National Family Farm Coalition in the United States have demanded a moratorium on the growing, the trade and the distribution of GMOs. 55% of Australian farmers are also in favour of a moratorium...

This demand is endorsed equally by Via Campesina, which represents smallholder farmers' unions world-wide.

Informing farmers is also a priority task. The IATP in the United States has launched a direct farmer-to-farmer information campaign, so that the message may be better diffused and heard, particularly among farmers using GMOs. Via Campesina has a leading role to play in this area, in seeking a dialogue with IFAP.

But we cannot remain deaf to the economic argument of the Argentinean producers; that is why the battle against price dumping practised by developed countries on international markets must be intensified, as proposed by Via Campesina on International Day on April 17th 2001. Moreover, we must form alliances with the small seed producers, contract seed graders' syndicates (like the SNDSF²² in France), and all other development initiatives for farm-saved seed. As well as contesting the obstacles to alternatives proposed for imported crops: in Europe for example, lupins could well replace imported soya.

Finally, we must demystify the notion of GMOs holding the key to solving hunger in the world. Here, the main argument is that policy problems (absence

²² Coordination Nationale pour la Défense des Semences de Ferme (national coordinating body for the defence of farm-saved seed) ZI Nord BP37, 16700 Ruffec, France

of agrarian reform, dumping, external debt, etc) may not be resolved by technical solutions. We must also speak out in opposition to the growing volume of food aid from the United States which is mainly composed of transgenic foodstuffs (see Annex 8). A professional code of ethics to regulate this aid could be set up (is there one already?).

3.3.2.3. Opening up public sector research to the concerns of society

Research in the private sector has a huge budget, of the order of 50 to 100 times the budget available to public sector research. And the objective of private sector research is clear: to produce profitable applications as rapidly as possible. In what circumstances could public sector research provide an effective counterweight? Certainly not by occupying the same turf as private sector research. On the contrary, in the field of GMOs it must assume responsibility for risk assessment, but with budgets taken automatically from the biotech industry. Unfortunately, more and more public sector research - the poor relation of national budgets - is guided by the interests of private capital. To attract private investment then, it is tending toward research themes imposed more or less directly by the multinationals.

Moreover the researcher, with an eye to the number of published papers, will tend to gravitate toward fashionable technological innovation rather than toward risk assessments or the optimisation of agro-ecological systems (long-term interdisciplinary research, more difficult to conduct and to publish). Finally, the research-civil society dialogue is not often a criterion for the valorisation of the researcher. Some researchers are fearful of direct confrontation with the public, often hostile.

Society has need of a strong public research sector. Rather than alienate public sector researchers, those in favour of a moratorium must make allies of them, campaigning for an increase in these research budgets, for its reorientation toward the objectives of sustainable development, and for a valorisation of the dialogue with civil society. *Fora* for exchange must be set up with a view to stimulating dialogue²³, thus breaking the dialogue of the deaf between “those who know” and a supposedly ignorant public. To this end, orders must come from the highest levels of national research institutes. This will take time, and we should not overlook the potential for forming fruitful contacts with researchers themselves, particularly with union members in these institutes. A French association, the CRII-GEN²⁴, is proposing the drafting of a Hippocratic Oath adapted for biologists and geneticists (see Annex 5). In this oath, which begins with the words “*I swear to remain faithful to the ethic of the respect for persons and for human lives...*” the researcher must commit him/herself among other things to respect biodiversity, preserve his/her independence, to reflect upon the direction of the research in order to avoid compromising future generations, and to defend these rules as a whole... But let us not be naive: this oath will have more symbolic than interdicting value, particularly for researchers in the private sector.

²³ In July 2001 the French government announced that: “twice a year, public seminars on the subject (GMOs) will be organised, which will bring together consumers’ and environmental defence associations, research institutes and representatives from professional organisations”

²⁴ Comité de recherches et d’informations indépendantes sur le génie génétique (committee for independent research and information on genetic engineering) criigen@ibba.unicaen.fr

3.3.3. Pressure

From the local to the international levels, pressure must focus upon a minimum consensus to be achieved (objectives defined during the Porto Alegre meeting, see paragraph 3). The World Forum on Food Sovereignty (Havana, September 2001) added two further objectives: the condemnation of transgenic food aid, and the banning of Terminator (see Annex 9). It is up to each of us to imagine ways of exerting pressure, which may draw inspiration from actions already undertaken elsewhere.

3.3.3.1. Local

A number of actions have been taken at Town Halls. In France, a vigorous campaign to demand that Town Halls declare “GMO-free” local authority areas is beginning to bear fruit (see Annex 6). Still at Town Hall and local authority level, campaigns to ban GMO supplies to public food outlets are also ongoing: these supplies account for a large volume of food, and constitute an efficient vehicle for disseminating information on possible alternatives to replace them (local trading, local and/or organic produce). Here again a number of successes have been recorded in France and elsewhere.

The dissemination of information is also taking place at the level of the supermarkets, a key area for household consumption: information campaigns through the distribution of leaflets, filling supermarket trolleys with GMO produce, blocking check-out points, “wildcat” labelling... (nonetheless often lawful)...

Finally, it is indispensable to identify sites where commercial GMO crops are being grown, as well as trial plots, if only to warn farmers in the locality of the risks of contamination. In the highest-risk scenarios (the growing of oilseed rape in Europe, for example), we must denounce the presence of these trials in the media and if necessary destroy the trial plots. In cases where the risks are less severe, awareness-raising in the locality is perhaps sufficient.

3.3.3.2. National and regional

First of all, we must know our rights with regard to access to information, and question public authorities about the nature of commercial crops and trials. But often national or regional legislation is incomplete or not applied. We must then bring pressure to bear - through letter-writing and petitions - to legitimise our demands, and strictly monitor decision-makers²⁵ (lobbying) to ensure that these demands are reflected at the legislative level. Thus in Europe the ratification of the Aarhus convention on access to environmental information, or the proposal to revise Directive 90/313/EEC - also on environmental information - are key issues.

But we must not wait for this regional and international legislation to be ratified: it is often useful to draw upon these texts to demand their transcription into national law, even before ratification.

²⁵ With 12,000 members, the French association Agir ici, by acting in this way, has already achieved much success... The last campaign against the patenting of life-forms, for example, gathered more than 70,000 signatures.

3.3.3.3. International

Let us remind ourselves of the issues: the application of the precautionary principle in all international legislative texts, before the defence of commercial interests. Pressure must therefore be brought to bear upon public authorities to ensure that they create or ratify certain international agreements. In the case of GMOs, as we have seen it is the ratification of the Cartagena Biosecurity Protocol which is most pressing.

But the political world is not the only target. Processors and distributors, nowadays more and more internationalised, may also be targeted. The example in France of the Greenpeace campaigns, with its 'black list', has been most instructive in the power of consumer lobbying (see Annex 6). And the denunciation of double standards (GMO-free products in the North and the same products containing GMOs in the South) is also highly effective: the consumer in the South, in fact, is asking him/herself why the consumer in the North should be better protected. Finally, the analysis of products conducted either by public services or by environmental associations often reveals the presence of harmful GMOs, and thus enables pressure to be brought to bear upon their manufacturers: this is what has recently happened to Novartis, in Switzerland, which despite its promises continues to market GMOs in baby-food products (the Gerber subsidiary) in the Philippines²⁶.

²⁶ AFP, August 21 2001

In conclusion: how to proceed with this paper?

1. Rereading phase for comments

a. by email

Environmental NGOs
Consumers
Researchers
Politicians
Farmers
Lawyers

b. forum

Lille (December), then Porto Alegre (January 2002), and Benin (March 2002)

2. Gradual redrafting of this paper, developing more precise strategies, international action .

NB. This paper should never be seen as a guide to action, but only as a framework for thinking through the issues. Above all, we should not await the conclusion of this text before taking action!

International contacts, and contacts to continue this paper:
the heads of geographical networks + the networks signed up to the approach
(environment + consumers, farmers, etc).

Annex 1: GMOs - definition and history

GMOs: what are we talking about?

The legal definition of GMOs is given in Europe by the European Directive 90/220 which regulates the dissemination of GMOs: “*a genetically modified organism (GMO) is an organism whose genetic material has been modified in a way which does not occur naturally through multiplication and/or natural recombination*”. OK

We are therefore talking about all micro-organisms, plant or animal, in which the genome has been manipulated through the introduction, subtraction or inhibition of a gene in such a way as to modify the production of proteins.

Brief history:

The application of genetic engineering in agriculture became operational in the 1980s with the first authorisations of trial plots of a transgenic tomato resistant to a herbicide. In 1994 the first foodstuffs from GMOs were marketed (slow maturing tomato), and from 1996 the United States and Canada cultivated nearly 2.5 million hectares of transgenic maize and soya (see Table 1).

In animal transgenics, it was in 1981 that Wagner at the University of Ohio and his team succeeded in grafting a β -globine gene from a rabbit into a mouse embryo (Simonneaux, 1999). The following year, Brinster and Palmiter succeeded in injecting a rat gene into mouse eggs which controlled the synthesis of the growth hormone. Some of the little mice became giant mice. Later, it was the human gene which was used. And from then on, the USDA encouraged such work in the hope of producing giant commercial livestock species: “*cows as big as elephants producing 15,000 litres of milk a year*”. But in 1985, results were disappointing: the foreign genes were well integrated, but they did not function.

Since then, animal transgenics has continued, and even though no transgenic animal has been marketed up to now, authorisation requests are numerous, particularly in 2001 with regard to transgenic salmon into which a gene synthesising a growth hormone has been inserted (example, A/F Protéin, Greenpeace paper).

Table. 1 : AREAS OF TRANSGENIC CROPS PLANTED BY COUNTRY

Three countries account for virtually 100% of GMOs cultivated in the world: the United States (69%), Argentina (23%), and Canada (7%). However, the number of countries gradually adopting the cultivation of transgenics is increasing: from 6 in 1996, to 13 in 2000 (United States, Argentina, Canada, China, Mexico, Ukraine, Bulgaria, Romania, Russia, Australia, South Africa, Spain, France).

Country	Area 1997		Area 1998		Area 1999		Area 2000	
	Millions ha	% of world GMO area	Millions ha	% of world GMO area (excluding China)	Millions ha	% of world GMO area	Millions ha	% of world GMO area
United States	8,1 of which 3,6 soya RR and 2,8 Bt maize	64%	20,5 of which 10,2 soya RR (=36% total area US soya) and 6,5 Bt maize (=22% total area US maize)	74	28,7 (+40%)	72	30,3	69%
China	1,8	14%	<0,1 mostly Bt cotton	<0,1	0,3 mostly cotton	1	0,5	
Argentina	1,4 (soya RR)	11%	4,3 >60% of all soya in Argentina	15	6,7 (+60%)	17	10	23%
Canada	1,3 of which 1,2 herbicide tolerant OSR [canola]	10%	2,8 of which 2,4 herbicide tolerant OSR (= 50% total OSR area in Canada)	10	4 (+40%)	10	3	7%
Australia	<0,05	<1%	0,1	1	0,1			
South Africa			<0,1		0,1			
Mexico	0,03	<1%	<0,1	<1				
France	0		2000 ha of Bt maize		0,001		0,00004 (= 40 ha)	
Spain	0		20000 ha of Bt maize		0,03	0,02	0,0005 (=500 ha)	
total	2,5 China (including China)	100	27,8 (excluding +153%/97	100	39,9 +44%/98		44,2 /99 which 85% Monsanto)	100

Sources : Compilation by F. Prat from different sources, mainly ISAAA, 1997, 98, 99 et 2000

Tab. 2 : AREA GROWN BY TRANSGENIC SPECIES

Four crops dominate the GMO market: soya (58% of all GMO plants), maize (23%), OSR [canola] (12%) and cotton (6%).

species	% of total of GMO		
	1998	1999	2000
Soya	52	54	58
Maize	30	28	23,3
OSR	9	9	11,9
Cotton	9	9	6,33

Sources : Compilation by F. Prat from different sources, mainly ISAAA, 1998, 99 et 2000

Tab. 3 : AREAS CULTIVATED BY GENETIC CHARACTER INTRODUCED

By conferred character, herbicide tolerance is in the lead (74% of all GMO plants), followed by insect resistance (19%), and the dual character Insect resistance + Herbicide tolerance (7%)

GENETIC CHARACTER INTRODUCED	% of total of GMO		
	1998	1999	2000
Herbicide tolerance	71	71	74
Resistance to insects	28	22	19
Resistance to insects + Herbicide tolerance	1		7

Sources : Compilation by F. Prat from different sources, mainly ISAAA, 98, 99 et 2000

Annex 2:

The many applications of transgenics

There are two main arguments in support of the promotion of GMOs in agriculture: environmental protection, and solving hunger in the world.

1. Environmental protection is one of the main arguments deployed by proponents of GMOs: creating plants resistant to predators, particularly to insects, as well as to viruses, would in fact enable us to limit pesticide use... That is why a whole gamut of insecticide (Bt) plants have been created. They account for 19% of GMOs in agriculture. These are in fact plants which produce their own Bt insecticide, thanks to the insertion of genes from the soil bacterium *Bacillus thuringiensis* which codes for toxins (used in spraying in organic agriculture).

A further argument: by increasing yields from areas already under cultivation, the biotech industry and the researchers claim that it will be possible to preserve uncropped land and natural spaces...

2. Feeding the world is the second element of the argument put forward by the biotech companies. Six billion souls today, and doubtless 8 to 9 billion in 2020... The proponents of GMOs argue that the necessary increase in agricultural production implies intensification of cropping through GMOs. By creating, for example, crops which can grow on soils and in climates hitherto unsuited to agriculture (drought resistant plants, salt tolerant plants, plants tolerant of excess or deficient trace elements...). And all this while at the same time making fieldwork easier, thanks to plants resistant to non-selective herbicides (74% of GMOs): one or two passes with this herbicide control all weeds throughout the growing cycle. Thus producers in Argentina, who already practice direct drilling, have in the space of four growing seasons moved from 0% to 84% uptake of transgenic soya.

3. Other potential applications

But that is not all! In certain cases GMOs permit the adaptation of agricultural produce to agri-food processes. This is the case, for example, of the late ripening tomato. It is also possible to produce interesting compounds which were hitherto produced only in tropical crops. For example, a copra oil substitute (palm oil, coconut oil) can today be produced from OSR. To put this into perspective, exports of copra oil today account for 7% of total exports from the Philippines - who could eventually lose this market! It is also possible to adapt products to suit consumer taste, as in the sweeter, later ripening melon which INRA at Avignon is working on at the moment.

Finally, there is also the argument based upon the **protection of human health**. The example which has gained the most media attention is Golden Rice, a rice enriched with beta carotene - a precursor of Vitamin A - through genetic engineering. Other research is also underway to enrich plants with other trace elements (iron, magnesium...), particularly enabling them to more efficiently tap into trace elements deficient in the soil (research by CNRS/INRA, Montpellier).

The many applications of transgenics: some examples

	already marketed	done in the laboratory but not marketed	potential
In agriculture	<ul style="list-style-type: none"> - plants resistant to non-selective herbicides - Bt pesticide plants - late ripening tomato 	<ul style="list-style-type: none"> - plants resistant to certain diseases - plants for cultivation in extreme conditions (salinity, drought, deficiency of trace elements such as iron...) - livestock with more rapid growth rates - nicotine-free tobacco 	<ul style="list-style-type: none"> - plants with different scents - take up of atmospheric nitrogen by plants - animals with greater disease resistance
In agri-food applications	enzymes, yeasts	- "humanised" cows' milk	- production of scents in plants by micro-organisms (for example, vanilla)
In medicine	- bacteria which produce therapeutic compounds (insulin, for 20 years)	<ul style="list-style-type: none"> - plants and animals which produce 'alicaments' [food-medicines] or therapeutic compounds (Golden Rice, tobacco or pork with haemoglobin, goats with immuno-globulins, human antibody production by plants, Japanese rice with human lactoferin...) - transgenic bananas and tomatoes with vaccine against Hepatitis B 	<ul style="list-style-type: none"> - plants with other vaccines - reduction of allergies with allergen-free foods (rice) - combating malaria by modifying anopheles mosquitoes - genetic therapy, xenografting
In industry		<ul style="list-style-type: none"> - reduction of lignin content of trees for paper manufacturing - micro-organisms, plants or animals (milk) with polymers for the manufacture of plastics and fibres (example, spiders' silk thread by goats, fibres Sorona de Dupont for 2003...) - mineral extraction by bacteria - production of useful compounds by animals and plants 	- decontamination of polluted sites

Prat F., 2001

As we can see, the applications of transgenics are many and promising, and seem limitless. So why is there so much reticence about transgenic plants?

Annex 3 : The risks associated with GMOs in agriculture

1. Genetic pollution :

A transgenic plant possesses the introduced transgenes in all of its cells, including in the pollen,. For some plants, known as cross-pollinators, the pollen is carried in the wind, and/or by insects, and spreads to the neighbouring area sometimes over long distances (in the case of OSR, pollen has been discovered more than 4 km from its site of origin!). Cross-fertilisation is therefore possible, either with non-transgenic plants of the same variety, or in the case of OSR, for example, with related plants such as wild radish.

In France during 2000 numerous cases of contamination of non-transgenic plots (maize, OSR, soya) reminded us that pollen knows no boundaries. For soya, an autogamous [self-fertilising] plant, it is quite possibly a mixture of varieties (during storage and/or transport) which is the cause of this contamination.

In the United States, nearly 4% of agricultural land sown to maize in 2000 was contaminated by the transgenic maize Starlink, which is unfit for human consumption. And such cases multiplied when for example in March 2000 a batch of soya given as organic animal feed in Switzerland turned out to contain 17% of transgenic soya!

Who is going to pay, the producers then asked themselves? At present, the law does not cover such an eventuality!

This lack of monitoring, this impossibility of separating the food-chain²⁷ implies that today the consumer can no longer choose, and that tomorrow all production will perhaps be transgenic, in spite of us, and despite regulation (a *fait accompli* strategy)... The association of seed producers and sellers (Apassul) in the State of Rio Grande, in Brazil, estimate that almost 50% of the area sown to soya in 2001 was sown with transgenic seed, in spite of an official ban!

IFOAM²⁸, in a *communiqué* released on March 9 2000, sounded the global alarm on this question. In fact the development of transgenic plants is synonymous with the end of organic agriculture, which bans the use of transgenics in their specifications.

2. Insect resistance:

But genetic pollution is not the only danger. The pressure of selection among insects confronted relentlessly with the same type of insecticide engenders the development of mutant resistant species. *Bt* plants, already grown on several million hectares (nearly 7 million hectares of maize, 3 million hectares of cotton) will not escape this reality.

²⁷ See for example the study by E. Valeschini, INRA, to be published in 2001: for more information: valesch@inapg.inra.fr

²⁸ International Federation of Organic Agriculture Movement

Moreover, the secretions from the roots of *Bt* plants propagate the *Bt* toxin in the soil. An article in *Nature* magazine on December 2000 showed that “*the insecticide toxin that genetically modified maize secretes seeps into the surrounding soil, fixes there for months and, in the laboratory, remains lethal to insects for 25 days, with the danger of destroying other insects*”. In the end, non-targeted species will also be affected.

3. Herbicide applications: on the increase

Resistance is also appearing in weeds; in Argentina, farmers have increased from one to three applications of Roundup, and the first cases of resistance to Roundup have occurred in Australia and Canada. Still in Argentina, the quantities of Roundup used have tripled in two years. Moreover, studies are beginning to show the noxiousness of Roundup - particularly its carcinogenic effects²⁹. Not only are weeds developing resistance to Roundup, but some plants such as canola³⁰ in Canada have acquired a tripling of resistance to herbicides following the propagation of resistant genes. Furthermore, North American farmers are complaining more and more that they can longer control regrowth of certain resistant plants in their rotations...

4. GMOs will not feed the planet!

Genetic pollution, pest resistance, herbicide use on the increase... environmental protection cannot therefore be advanced as an argument in favour of GMOs. But there is worse news: GMOS will not feed the planet either! In fact feeding the planet is above all a political issue, and one of purchasing power. Countries such as Brazil and Argentina are major exporters of agricultural produce. However, one third of the population of Argentina, and 40% of people in Brazil, are undernourished... The problem of hunger is a problem of poverty rather than a problem of quantities of food produced.

Moreover, Tewolde Berhan Gebre Egziabher, Director of the Environment Protection Authority in Ethiopia, and head of the OAU (Organisation of African Unity) delegation at the Biosecurity Protocol, underlines the technological dependence of developing countries *vis-à-vis* GMOs. For him, this dependency leads to food insecurity, particularly in countries which are currently politically unstable. These countries are rarely in a position to refuse food aid, most of which is now transgenic.

According to the Institute for Food and Development Policy, more than two million tonnes of GMOs are directly sent by the United States as food aid each year to the developing countries, while the World Food Programme for its part distributes 1.5 million tonnes of GMO crops, also donated by the United States. The food thus sent is never labelled (see Annex 8).

²⁹ see for example Hardelle, I., and Eriksson, M., journal of the American Society against Cancer, March 15 1999.

³⁰ the name canola was created from Canadian Oil Low in erucic Acid

5. The health argument.

But the insertion of genes can have undesired effects. A gene from the Brazil nut inserted into soya was thus liable to cause allergic reactions among consumers allergic to Brazil nuts. Fortunately this possibility was detected before this plant was put on the market. But many inserted genes come from plants, micro-organism or animals which Man is not accustomed to ingesting: scorpion genes in maize, or petunia... So how can we cope with the allergies, particularly when no chronic toxicological study is carried out...?

The danger of antibiotic resistance is also often mentioned. Some experts deny this, arguing that the probability is very remote, and that there are already many resistant bacteria. But other scientists advance different arguments: certain antibiotics used in the development of GMOs are still used in human medicine, such as kanamycin - used in the United States in colon endoscopy or to treat eye infections. The gene resistant to kanamycin is used in Calgene's tomato and in other GMOs. Furthermore, sometimes it needs only a slight mutation for the resistance to a group of antibiotics to transform itself into resistance to other antibiotics currently in use in medicine. Nosocomial diseases (diseases contracted during a stay in hospital) cause 10,000 deaths per year in France, because more and more pathogenic germs are multi-resistant: even if the probability is remote, why create additional risk factors which increase resistance?

And the enrichment of a plant in trace elements: is this really a solution to deficiencies? Wouldn't it be better to change diets, for example by growing other crops which are naturally richer in beta carotene?

The FAO, for its part, is promoting the distribution of seeds for market-garden crops to diversify diets, with some success it would seem. Vitamin supplements are also distributed.

The dependence of farmers, and also of researchers in the public sector, upon patents on life-forms is also an integral part of the negative consequences of private GMOs on the future of the agricultural world (see the paper "patenting life-forms").

Annex 4: Some legislative initiatives on GMOs (labelling, moratoria...): the world situation in 2001

updated 21/08/2001

INTERNATIONAL

The Cartagena Biosecurity Protocol: adopted on January 29 2000, in the process of ratification (by July 25 2001, only 5 countries had ratified it: Bulgaria, Fiji, Norway, St Kitts & Nevis, Trinidad & Tobago). It requires 50 ratifications for this protocol to enter into force. The AIA (Advance Informed Agreement) stipulates, *inter alia*, the necessity for advance information and consent from the importer about the potentially transgenic nature of the shipment. But at present obligatory labelling is limited to: "*may contain GMOs*". It also envisages the setting up of an international system of information exchange with regard to the environmental and health safety aspects of biotechnology. It will also serve as a reference for future work by the international community on the use of GMOs in the environment.

Codex Alimentarius:

- failure of the meeting from April 23 to 27 2001 to define the application of the precautionary principle regarding risk management and human health and food, for the USA do not wish to contemplate this principle
 - meeting from July 6-7 2001: reaffirms the necessity for each government to test the harmlessness of GMO products before placing them on the market, particularly with regard to allergies.
- The rules established in the Codex are only recommendations, but are recognised by the WTO in the event of dispute

FAO International Undertaking on Plant Genetic Resources for Food and Agriculture, July 1 2001: protects farmers' access to certain food crops, but leaves the door open to patents by leaving this agreement subordinate to the WTO TRIPS agreement...

OECD recommendation on GMOs:

The 6 conclusions of the Bangkok Conference of July 12 2001:

- in future, the preparation of dossiers by public authorities and the industry should aim not only to meet the regulatory dispositions but also to satisfy in part the duty of accountability to society
- intergovernmental organisations and national bodies expert in modern biotechnology must commit themselves to be present in the appropriate framework dialogues bringing together all interested parties
- each structure should re-examine its own approach to transparency and that of the structures with which it is in relation
- research should be conducted to develop methods of monitoring GMOs in the environment, and intergovernmental organisations should take measures with a view to the harmonisation of the guiding principles in this domain
- an accelerated programme co-ordinated at the international level envisaging the strengthening of capacities should be launched

- governments should maintain an acceptable balance in the financing of research in the public and private sectors for the purposes of application in the domain of the prevention of risks associated with biotechnology
Source: www.oecd.org/bangkok/

AFRICA

Development of a model law on biosecurity by the Organisation of African Unity (OAU) which requires that all GMOs for whatever usage must be approved before importation, and labelled, and that the producers of GMOs are accountable to the law

Algeria: December 2001: decree banning the import, distribution, and marketing of GMOs on Algerian territory

Saudi Arabia: obligatory labelling (December 2001). Moratorium on transgenic animal products. Will not import transgenic wheat (whose marketing is envisaged in 2003 in the United States)

Egypt: banning of transgenic wheat

AMERICA

NORTH AMERICA

Canada: July 2001: plan for labelling under discussion. The Canadian government at the moment is applying a policy of voluntary labelling of these products, for all that transgenic foods are considered as equivalent to their traditional versions by Canada Health.

July 31 2001: The National Farmers Union, the Manitoban association Keystone Agricultural Producers (KAP), the Saskatchewan Association of Rural Municipalities (SARM), the Saskatchewan Organic Directorate (SOD), the CCB (Canadian wheat commission), Greenpeace Canada, the *Conseil des Canadiens* and the Canadian health coalition are demanding that the federal government suspend authorisation of genetically modified wheat unless the concerns of producers, consumers and traders in Canadian wheat are taken into account.

United States³¹:

Maryland: ban on the release of transgenic fish (not yet marketed) except in confined ponds.

Vermont: decree demanding a moratorium on GMO food

North Dakota and Montana; ban on transgenic wheat until 2003

Ban on transgenic food in some towns: Burlington, Vermont as well as the City and County of San Francisco (California)

Ban on transgenic crops : Boulder (Colorado)

Indiana: in March 2001 the Chamber of Representatives passed a law on the right of farmers to save their own seed

³¹ The True Food Network provides regular updates on the legislative decisions of the different States in the USA on GMOs:

http://www.truefoodnow.org/gmo_facts/product_list/usgovernment.html

SOUTH AMERICA:

Bolivia: ban on the import and use of transgenic crops (January 2001) for one year

Brazil: ban on GMO crops by the tribunal. The States of *Rio Grande do Sul* and *Para* have declared themselves 'transgenics-free' zones: 18 States have asked the central government for a moratorium on commercial GMO crops. May be about to approve GMO soya (August 2001).

Mexico: obligatory labelling (March 2000, in the Senate)

Paraguay: GMO crops banned for 2000/2001

ASIA

China: the government has banned the cultivation of genetically modified rice, wheat, maize and soya for economic reasons. However, China continues to encourage research in genetic engineering and to authorise the growing of transgenic tomatoes and cotton (South China Morning Post. www.checkbiotech.org/root/index.cfm April 18 2001)

South Korea: obligatory labelling (September 2001)

Hong Kong: obligatory labelling

India: Currently, no GMO authorised at the commercial level. Moratorium on transgenic cotton (June 2001: one year of supplementary trials requested)

Israel: obligatory labelling (above 1%, Cf Europe)

Japan: Authorisation of 35 GMO agricultural products, of which certain maizes, soya and potatoes. Obligatory labelling (April 2001), ban on certain GMOs (including transgenic wheat) with zero tolerance for unauthorised GMOs.

Philippines: The President has declared that he did not support trials on GMOs... August 2001: obligatory labelling of products containing GMOs, on penalty of 6 to 12 years in prison

Sri Lanka: the import of food products of GMO origin will be banned with effect from September 1 2001

Taiwan: obligatory labelling

Thailand: obligatory labelling of GMOs in food envisaged before the end of 2001. Thailand has also banned the spread of GMOs in the environment as well as field trials, and all commercial cultivation of GMOs on Thai territory

EUROPE

European Union:

- Proposed directive by the Commission in July 2001 (must be passed in Parliament in autumn 2001, possible application not before 2003): labelling of all food products from GMOs (including animal feedstuffs, even if there remains no trace of DNA or of a corresponding protein. Obligatory labelling over 1% presence, even for GMOs not authorised in Europe, on condition of scientific approval.

- New directive on dissemination passed April 17 2001 (2001/18/CE) (comes into force in October 2002): tightening of conditions of authorisation (keeping of public registers, risk evaluation, eventual elimination of antibiotic resistant genes, limit of the duration of authorisations...). In future, requests for the use of GMOs in food products or animal feedstuffs will be examined by the European Food Authority a body which must be set up by January 1 2002.

- Obligatory labelling of all GMOs above 1% per ingredient (regulations 49/2000 and 50/2000 in force with effect from April 2000)

- *de facto* moratorium since June 1999 on all new authorisations of GMOs (countries exercise a blocking minority to prolong this moratorium so long as new more restrictive measures are not taken: Italy, France, Luxembourg, Denmark, Greece and Austria).

- Ten “genetic transformation events” are officially authorised in Europe for cultivation: three of maize (Novartis Bt176, Monsanto Mon810 and AgrEvo TR25), three of OSR, one of seed tobacco, and three of poppies for the production of cut flowers.

Steve Emmott, European Green parliamentary assistant, has prepared a text which could be used by a political authority to ban GMOs on its territory and thus declare a GMO-free zone. This text, which may be downloaded from www.infogm.org has the advantage of being valid for all European countries.

Austria: banning of Bt maize (Novartis, Monsanto and AgrEvo)

Belgium: proposed motion for Brussels, “GMO-free town” - intercage@voila.fr

Bulgaria: obligatory labelling (June 2001)

Germany: banning of Bt Novartis. Many towns have declared themselves GMO-free zones.

Finland: no commercial GMO (but a score of laboratories are conducting trials on GMO birch, potatoes, OSR and turnip)

France:

Since the beginning of 2001, nearly one hundred communes have passed a motion banning all GMO crops and declared their territories “GMO-free”

Banning of GMO OSR (PGS and AgrEvo)

Great Britain: moratorium on all commercial cultivation, authorised trials (total moratorium on GMOs in Jersey)

Greece: Banning of AgrEvo GMO OSR as a commercial crop, and banning of all GMO trials (April 1999).

Hungary: obligatory labelling (2000?)

Italy: In 2000, the Minister of Agriculture decided to no longer finance research on GMOs. He also decided that school canteens would be supplied with food from organic agriculture

4 regions: Tuscany, Molise, Lazio and Marche - and 25 provinces, towns and communes (including Rome, Milan, Turin and Genoa) have banned the cultivation of GMOs. The newly elected government has not yet made its position known.

Lithuania; obligatory labelling

Luxembourg: banning of Novartis Bt maize

Norway: obligatory labelling, refusal of all GMOs with antibiotic resistant gene. Has ratified the biosecurity protocol.

Poland: obligatory labelling (April 2000), but no defined threshold. With effect from July 2001, 1% threshold to harmonise legislation with the EU

Portugal: banning of Novartis Bt maize

Russia: obligatory labelling (July 2000) for GMOs above 5%

Spanish State: with effect from June 2001, the Ministry of Agriculture states that it will approve no new authorisation for the 23 GMO varieties pending, which have nonetheless passed all other controls

Andalusia; 5 year moratorium on GMO trials and foods

Aragon: the regional government is supporting the demand for a moratorium

Castilla-La Mancha and Baleares: banning of GMO foods

Basque country: 5 year moratorium on cultivation

Switzerland: obligatory labelling (January 2000). Moratorium on GMO plants rejected June 14 2001. But liability law very strict: the 'Council of States' has extended the prescription of civil liability from 10 to 30 years. This means that all recourse for damage caused by a pathogenic organism will be considered until 30 years after its release. Another innovation, the law on civil liability will equally apply to effects on the environment, thus to goods which are not in the private domain. In this case, right of recourse is at the level of the communes.

Ten year moratorium on transgenic animals.

June 27: the 'Federal Council' proposed the ratification of the Biosecurity Protocol to the parliament.

Czech Republic: obligatory labelling with effect from January 2002.

Yugoslavia: The Minister of Agriculture has banned the free import of GMOs without official authorisation.

OCEANIA

13 States of the South Pacific - Samoa, Cook Islands, Fiji, Kiribati, Federated States of Micronesia, Marshall Islands, Nauru, Niue, Papua-New Guinea, Solomon Islands, Tonga, Tuvalu and Vanuatu - have recommended a moratorium on the import of GMOs.

Australia: obligatory labelling (July 2001) - certain local authorities and States have declared GMO-free status - (Bondi/Sydney, West Wimmera Shire).

New Zealand: obligatory labelling (July 2001)

The State has stopped trials of transgenic salmon.

The town of Nelson has declared GMO-free status 9 April 5 2001 (contact: susie@tasman.net)

Auckland and Wellington have declared GMO-free status

Tasmania: moratorium on the cultivation of GMOs.

Sources: various, including Inf'ogm (www.infogm.org), and translation and synthesis by the RED POR UNA AMERICA LATINA LIBRE DE TRANSGENICOS in *Boletin No.60 Quito*, June 30 2001 of two documents:

"Global GMO Food Legislation", Greenpeace, April 3 2001, and Document TWN/Biosafety/2001/F produced by the Third World Network Information Service On Biosafety, May 16 2001.

Annex 5: Positions of the different actors

Some policy positions on GMOs

1/ International:

Declaration of the G8 (Genoa July 22 2001): *“The introduction of new proven/trialled and tested technologies, including biotechnology, in a safe manner adapted to local conditions, offers a certain potential to increase crop yields through reduced use of pesticides and water in comparison with the use of conventional methods. We commit ourselves to study, share and facilitate the responsible use of biotechnology in the interests of meeting the needs of development”.*

OAU (Tewolde Berhan gebre Egziabher, Director of the Environment Protection Authority in Ethiopia, and head of the OAU biosecurity protocol delegation).

Has pushed the protocol, but underlines the need to detail labelling (which for the moment requires only the notorious ‘*may contain GMOs!*’).

Against Africa’s technological dependence which leads to food insecurity, above all in cases of conflict or political instability. Furthermore, he stresses the weakness of the monitoring resources in the LDCs, which are areas of high biodiversity and centres of origin of many species.

He also notes the submission of the LDCs to food aid (“food as a weapon”), which is overwhelmingly transgenic when it comes from the United States. He concludes on two points:

Multinationals often influence certain governments

The United States are observers and seem to follow the negotiations solely to be able to engage in trading their GMOs

(see interview Sierra magazine, No July/August, <http://www.sierraclub.org/biotech/>)

The UN backs GMOs

The UNDP (United Nations Development Programme) is urging the rich countries to forget their fears over genetically modified organisms (GMOs) to help developing countries to exploit the potential of biotechnology *“Biotechnology offers the only and the best tool available to ecological zones which remain untouched by the Green Revolution, but which harbour half of the world’s poorest populations”* according to the UNDP annual report published in July 2001.

New seeds, genetically modified to resist drought, diseases and pests, could contribute to reducing malnutrition which affects 800 million people in the world. The first priority, to create *“new varieties of sorghum, cassava and maize, as well as other staple foods for sub-Saharan Africa”*

The text recalls that advances in the domain of cropping, fertilisers and pesticides have already enabled a doubling of the world yield of cereals over the last forty years. The UNDP acknowledges that fears over risks to health and the environment have fed mistrust with regard to biotechnology, particularly in Europe. But *“There has not been a single fatality whose cause may be attributed to genetically modified food”* stresses UNDP administrator Mark Malloch Brown.

AFP, July 9 2001

2/ North America

Canada:

Quebec:

June 29 2000: opposition Deputies in the Canadian Parliament have forced the Permanent Committee for agriculture and the agro-industrial sector to study the GMO dossier. The motion was tabled by a Deputy from the Québécois *bloc*, Hélène Alarie, an agronomist by profession, who has been campaigning for a year alongside consumers' groups: tabling a draft private bill on obligatory labelling of GMOs, information campaign for citizens, petitions.

United States:

The Secretary of State for Agriculture in Oklahoma, Dennis Howard, commented in 2001: *"having examined the 2001 Monsanto technology agreement (the contract that farmers who use Monsanto GMOs must sign), I would discourage all farmers from signing this document. This contract is not satisfied with severely limiting the options of producers, it also limits Monsanto's liability..."*

3/ Europe

EU:

Philippe Busquin, European Commissioner for Research has promised that the Commission will make public before the end of the year its strategic vision with regard to the life-sciences to 2010. This vision will reflect the objectives developed at the Lisbon Summit and will focus upon the necessity to encourage European research and to give it an international dimension. It will also discuss the measures necessary for the launching of a pluralist debate on biotechnology (bioweb, July 10 2001)

The former Belgian Agriculture Minister, Jaak Gabriels, has announced his wish to reopen the debate on biotechnology as of resumption of business in September 2001, during the upcoming meeting of Ministers of Agriculture: *"as a first step toward lifting the European moratorium on GMOs, announced in June 1999, and to give these techniques the opportunity to be developed in Europe as well"*. This declaration was made on June 7 during the setting up of a new world federation of the agro-food industry "CropLife International"³², in the presence of the CEOs of Syngenta and Monsanto International...

Margot Wallstrom, European Environment Commissioner, seems to be close to the American position when she declared: *"the European position lacks scientific basis and, in view of this, it is difficult to maintain the moratorium, even taking into consideration the precautionary principle (...) we cannot allow ourselves to lose more time in facilitating the biotechnology industry"*.

(source: Prat F., *OGM en Europe: à la croisée des chemins*, [GMOs in Europe: at the crossroads] Biofutur, September 2001)

Declaration by Jim Currie, Environment DG (July 2001): *"The biotechnology industry is a major employer and has a big role to play in the future of the European economy. (...) The current European moratorium on new GMOs must*

³² This new federation brings together, *inter alia*, Aventis, BASF, Bayer, Monsanto, Syngenta...

be lifted, we cannot allow ourselves not to do this, otherwise the biotechnology companies will leave”.

European Greens (Jill Evans, MEP, EFA-Wales): “Food shortages are not normally caused by lack of agricultural capacity or of productivity. It is a problem of bad land use, bad distribution of infrastructure, often made worse by economic instability”.

The **European Socialist Deputy, David Bowe**, who had led discussions on the revision of the previous directive on the authorisation of new GMOs adopted in February 2001, stated: “*I would like to believe that these new proposals (July 2001, on labelling and traceability) will unlock the moratorium, but I am not convinced*”. And he fears that environmentalists will insist now on the labelling of meat from livestock fed on transgenic feedstuffs. “*If they do that, we are outside all science. (...). People are fighting for a cause lost in advance. They would do better to tackle the problem head-on, to have the best possible directive. The Americans have been eating GMOs for ten years now, and there has never been a problem*” (Financial Times, July 25 2001).

David Byrne, European Commissioner responsible for health and consumer protection, has made a statement on accidental contamination: “*Whether we like it or not, this accidental presence is a reality. It is the work of nature. Unless we put an end to GMO crops world-wide or close borders, there is not much that we can do to combat this phenomenon*”. (July 25 2001).

France:

- The Government will request seed companies to inform the administrative services and approved laboratories about their analytical tools. According to a government *communiqué*, Wednesday July 25, a working group composed of experts, representatives of the administration and of consumers’ associations will work on the development of a charter “of transparency for GMO trials”. A forum will be opened up on the internet (www.agriculture.gouv.fr<<http://www.agriculture.gouv.fr>>). (*Le Monde*, July 26 2001).

- **François Patriat**, Secretary of State for small and medium-sized businesses, trade, artisanat and consumer affairs: “*we can see an improvement compared to the previous growing season with regard to seeds; last year we found 40% of GMO impurities, this year only 17%. And the level of GMOs has never exceeded 0.2%. Also, I believe that we must insist on the fact that GMOs are not uncontrollable as a phenomenon or as a technique. (...). In the case of GMOs as in other cases, the government will continue to strictly apply the precautionary principle. (...) It is clear that the question of the lifting of the moratorium cannot be called into question at this stage, while a definitive, operational text has not yet been adopted or implemented*” (*Le Figaro*, July 26 2001).

- “**The Greens** stand by all past and future actions of uprooting GMO experimental fields. The Greens appeal to all Town Halls in France to join the 23 communes in la Sarthe whose mayors have taken out an order banning the growing of GMOs on their territory. The moral and political weight of such orders in convincing farmers not to get involved in such experiments is very real, even if their legality may be questionable. Finally, to more effectively combat further spreading [of GMOs], the Greens demand that all batches of

seed be analysed from now on and certified without trace of GMO before planting” (Press Release, July 25 2001).

The Minister for the Economy and Finance, Laurent Fabius, has urged the *France Biotech* association to develop proposals on regulatory, juridical and fiscal measures which could be included in the 2002 Finance Bill, examined by Parliament after the recess. It would be the first time in France that special measures for biotechnology would be written into a Finance Bill. (*Le Monde*, June 26 2001).

Great Britain:

The British Deputy Prime Minister John Prescott has defended genetically modified organisms (GMOs) at the opening of an international conference on modern biotechnology in Bangkok (July 2001), lambasting the ‘violent’ methods of certain anti-GMO protesters. *“I reject violence, intimidation and the “burn it” mentality of certain protesters”* Mr Prescott explained in his opening speech, deploring the fact that international negotiations had been derailed because of ‘violent demonstration’. *“Biotechnology has the potential to bring great benefits, and I believe that everyone is in agreement about that”* said the British leader.

The positions of the agro-industrial sector and seed companies

Several companies have withdrawn GMOs from their brands. Among them - Danone, Nestlé, Unilever, Marks & Spencer, Brossard, Belin, Pain Jacquet, Delacre, Gayelord Hauser, Astra-calmé, Mars food, Mead and Johnson, Bledina, Royco, Charal, Socopa...
(source Greenpeace, March 2001)

Public food outlets have also made commitments not to serve GMOs: Avenance, Sodhexo...

Europe: The British poultry producer Sun Valley no longer wishes to use GMO soya in its poultry feed. Sun Valley was the main user of transgenic soya from Monsanto in Europe, and its main customers are McDonalds, Marks & Spencers, Sainsburys and Iceland.
(*Agrionline, September 1999*).

United States: Genuardi’s Family Markets, a conventional agro-food chain composed of 33 retail outlets, and the second biggest supermarket in the Philadelphia region, has decided *“to try to eliminate GMOs when that is possible in the manufacture of its branded products”* and to support in a practical and active manner the campaign to make the labelling of GMOs obligatory.
(Press Release, April 18 2000).

France:

The seed companies continue to view pollination as the main vector for the spread [of GMOs]: *“The problem of adventitious presence is inherent in the fact that there are GMO crops today just about everywhere in the world”* says Philippe Gracien, DG of GNIS (national interprofessional seeds group). *“The realities of biology mean that it is impossible to guarantee zero levels. For*

three years the profession has been asking that a realistic threshold of adventitious presence be determined". (*Le Monde*, July 25 2001).

Yves Montécot, President of Snia (national syndicate of industry and food) has stated that it would be desirable to make labelling obligatory for compound animal feedstuffs containing in excess of 2.5% GMOs. "Above this level, we intend to state "contains GMOs". (*Agra Presse*, April 24 2001, <http://www.syndicat-snia.fr>)

- Rather than labelling products containing 1% GMO, as envisaged by European legislation, the industry prefers to change the recipes for its products in order to eliminate the incriminated products. The Info Conso GMO campaign by Greenpeace has in fact been well received, and the industry has adjudged it commercially more advisable to take this option in response to receiving thousands of letters from worried consumers. The list of products with or without GMOs is available from the following address:

<http://greenpeace.fr/campagnes/ogm/liste.html>. (*Libération*, April 26 2000).

- On September 10, SYNCOPAC (national federation of producer co-operatives and animal feeds), which has 100 co-operatives and accounts for half of French production of animal feeds, declared itself "favourable to clear, informative and monitorable labelling". It requested suppliers of imported raw materials "to apply adequate labelling (...) so that this may be reflected in the labelling of animal feedstuffs" and has asked the authorities to put in place specific and clearly identified import facilities for soya from across the Atlantic. (*SYNCOPAC Press Release*, September 1999).

Japan:

Meiji Seika Kaisha Ltd., the largest Japanese manufacturer of corn snacks, has decided to no longer use transgenic maize [corn]. The company was convinced by pressure from consumers. Meiji Seika uses about 10,000 tonnes of maize meal each year. The management anticipate a 10% to 20% increase in the costs of production. (*The Nikkei Industrial Daily*, April 28 2000).

The position of farmers

Australia: About 40% of **Australian farmers** say that they are sceptical about the financial benefits of GMOs, and 72% consider that the introduction of biotechnology will lead to domination by the agro-chemical companies. Finally, 90% of farmers questioned are in favour of labelling, and 55% believe that Australia should impose a 5 year moratorium on the growing of GMOs. Moreover, the Western Australian Federation of Farmers has expressed clear opposition to genetic manipulation (*AGRA Press Hebdo*, October 4 1999, and *Rural Press Report*, September 15 1999. <http://www.waff.org.au>)

Belgium:

July 2001; **Belgian agricultural organisations** are not opposed to genetically modified organisms (GMOs) provided that the products carry a clear label so that consumers can choose.

Canada:

Québécois farmers tend to the obligatory labelling of GMOs
<http://lebulletin.com/actualite/0105/0105211.cfm>

The **National Farmers Union** of Canada is asking for a moratorium on the production, importation and distribution of GMOs

Spain:

The unions CCOO, UGT, UPA and COAG and environmental and consumers' organisations are demanding a moratorium on the authorisation, importation and production of GMOs, as well as the setting up of a Consultative Council on Food Security (www.cmlag.fgov.be/dg2/agriforum/milieu.htm)

United States:

The reaction of Alex Jackson, director of regulatory affairs at the American Farm Bureau Federation, on the proposed new European Directive: *"I do not think that it is applicable. Labelling is not necessary. The United States has approved these products as safe for human and animal consumption"*. The Farm Bureau and other farmers' groups are pressing the USDA [United States Department for Agriculture] to ask for clarifications from the European Union on this directive which might be considered a barrier to trade. (Reuters, July 26 2001).

- The **National Farmers Union**, in March 2001, has decided to support the moratorium on the introduction and marketing of transgenic wheat until the subjects of cross-pollination, liability, separation of the food chain and market acceptability have been dealt with in a satisfactory manner

- The National Family Farm Coalition, which is active in 33 States and which is fighting to preserve 'family farming', has drawn up a petition entitled "farmers' declaration on GMOs in agriculture" which demands, among other things, "a suspension of sales, release into the environment and government authorization of GMOs until an independent and complete evaluation of these products on their social, environmental, economic and public health impacts has been carried out" and "a ban on property rights over all life-forms". (nffc@nffc.net)

France:

The **Confédération paysanne** wants the total destruction of GMOs.

On July 25 the **Confédération paysanne** threatened to totally destroy field trials of genetically modified organisms (GMOs) if the Ministry of Agriculture did not do so itself before August 12. The farmers' union "demands" from the public authorities that the acceptable GMO threshold for conventional seed "*be 0%*". It is also demanding "*a ban on the import of seed from countries using GMO techniques*". According to the **Confédération paysanne**, the significant number of samples of conventional seeds containing GMOs acknowledged by the AFSSA (French agency for food safety) is the consequence of some 341 permits accorded by the authorities for trials of transgenic crops. For José Bové's union, "*no physical barrier, no 'safe distance' can stop the transport of pollen by the wind or by insects*". There are "*major and uncontrollable risks*" of this pollen crossing with non-genetically-modified plants, the union stresses. (AFP, 26/07/2001).

- The **FNAB** (national federation for organic agriculture) recalls the necessity to define a wide protection perimeter around plots farmed on organic principles (including future organic plots); the recognition of GMOs as pollution ("genetic pollution"), enabling damages to be claimed in the event of contamination; the setting up of "GMO-free" food chains at the expense of GMO chains; it would

be unthinkable for these costs to fall upon those who simply retain practices which predate GMOs; priority for the development of alternative techniques, real perennial solutions to the issues of sustainable agricultural development for the planet and of pollution control: organic agriculture, subsistence crops adapted to local techniques and social structures, disease prevention and mechanical weeding, etc (Press Release, July 2001).

- In its latest strategic report, **the FNSEA outlines its position on GMOs**. In so far as it is a question of increasing the yields of agricultural produce, reducing risks to the environment, it is not opposed to genetic engineering, but alongside these issues *“other strategies are at work among those behind this technology [...]: selling more weed killers to farmers, and above all selling them seeds which they cannot multiply. (...) There is a great danger of multinational industrial companies gaining control over life-forms”*. Moreover, the FNSEA sounds a note of caution about *“the possibility of the spread of genes resistant to herbicides or which spread in an uncontrolled way from one species to another animal or plant kingdom, indeed from one to the other”*. Thus the FNSEA proposes the creation of non-GMO food chains, support for public sector research, facilitation of the diffusion of innovations, and further development of legislation (Extract from the FNSEA Congress 2000).

During their 50th annual congress in 1999, Christopher Terrain, President of AGPM (general association of maize producers), declared that: *“The fear of GMOs corresponds to a form of collective paranoia which nothing can justify. (...) Our feeling is that from this side of the Atlantic, we hear the anti-GMO lobby from afar. On the other side, it is exactly the opposite”*. The president of the AGPM demanded that a *“threshold of adventitious presence”* of GMOs be fixed, feeling that this was *“urgent”*. *“without the fixing of this threshold, we cannot announce the launch of a non-GMO food chain”*. (AFP September 1999).

The position of consumers

Consumers International (245 consumers' associations world-wide):

- organisation of a world day of mobilisation against GMOs March 15 2000.
- *“We are against the sale of these products [GMOs] until there are clear conclusions about the long-term effects which they could have”* (Karla Irigoyen, Consumers International representative, June 2001).

Brazil:

Following a joint complaint by Greenpeace and IDEC (Brazilian institute for consumer protection), the 6th jurisdiction of the Federal Court of Brazil banned the cultivation and the marketing of GMOs. The federal government has appealed to the regional Federal Court (*Gazeta Mercantil, June 29 2000*).

Canada:

July 2001: More than 80 non-governmental organisations ask Ottawa to adopt a law on the obligatory labelling of GMOs

<http://ww.lebulletin.com/actualite/0106/010618zc.cfm>

United States:

28 consumer and environmental protection organisations co-signed an article which appeared in the New York Times to demand a moratorium on GMOs (October 1999)

- under pressure from the European market, during an official meeting the government agencies USDA (US Department of Agriculture), FDA (Food and Drug Administration) and the EPA (Environment Protection Agency) agreed to develop a plan for the labelling of GMO foods, according to Charles Benbrook, consultant for the consumers' protection association, the **Consumers Union**. On October 18, the FDA announced that it was going to re-examine the harmlessness of GMOs and look at the possibility of labelling them (*Reuters, September 24 1999, and October 19 1999*).

Europe:

The **Association of European Consumers** (AEC), socially and environmentally aware, declared its surprise at the pro-GMO stance of the UNDP in its 2001 Human Development Report. It is opposed to the use of the hunger argument to promote GMOs.

Moreover, the AEC congratulated the European Commission on its new proposed directive on traceability and labelling (July 26). "*We hope that these new rules will become global rules. We cannot accept that the United States deems these new rules to be barriers to trade*" (Bengt Ingerstam, president of the AEC, July 26 2001).

The BEUC, another European consumers' association, has declared that the new EU rules will enable consumer confidence in GMOs to be restored (July 2001).

France:

The CLCV is against all contamination of conventional food by banned GMOs. The CLCV demands: zero tolerance (i.e. above the threshold of detection) of contamination by non-authorized GMOs in the EU, in seeds or in food; a reduction in the levels of authorized adventitious presence (currently 1%) in seeds or food, to inform [consumers] of the 'GMO' nature of a product; 'contains GMOs' labelling for all commodities which have been produced through the use of GMOs, whether or not traces of genetic transformation are found in the commodity; an indication for all meat of the presence of GMOs in animal feedstuffs. So few food items are labelled GMO on the French market, we should not forget that most of the GMO soya introduced into France is used as animal feed in commercial livestock production. An obligation to inform consumers would certainly enable us to make viable a system of impermeability between GMO and non-GMO, for it would relate to clearly bigger quantities (Press Release, July 26 2001).

- on world consumers day, the 430 local unions of the CLCV questioned their local mayors to find out if they had transgenic crop trials on their territory, and what information they are giving out to the electorate for the year 2000. It also questioned public food outlets about the use of GMOs. In December 1998, it had already launched a campaign at supermarkets and managers of public food outlets (CLCV Press Release March 2000 <cdp_clcv-mars2000.htm>.)

- Marie José Nicoli, president of the UFC "**Que Choisir**" [What to Choose? Which?] said in January 1999: "*The consumer does not see the advantages of these products because they are not reflected at present in an improvement in product taste or dietary quality, nor in lower prices*". However, the UFC "**Que Choisir**" did not wish to support citizens' debates organised in 2000 by the Secretary of State for Consumer Affairs, as it considered that the population

had already shown its opposition and that these debates had no other goal than to accustom people to GMOs.

- the APEC (farmers' ecologists' and consumers' alliance) in Isère has written to 200 communes with more than 1000 inhabitants in Isère to ask them "*if in the public food outlets for which they are responsible they had questioned their suppliers to obtain a guarantee of the absence of GMOs in the products on sale*". Currently more than a dozen towns have already replied that they have specified the banning of GMOs: another dozen replied that they had asked their suppliers to provide a certificate guaranteeing the absence of GMOs; and finally a further dozen made a verbal agreement to exclude GMOs from commodities in the next round of tendering for contracts with suppliers (Alliance Isère, C/o Frapna, tel +33 (0)4 76 42 98 46).

- The INDECOSA-CGT consumers' association is not opposed to GMOs. It declares itself in favour of the precautionary principle linked to the necessary development of research even if it does not directly concern health. Thus for example the INDECOSA-CGT is not systematically opposed to research in the natural environment when it is surrounded by maximum precautions (risk assessment for environment and health...), run by a body independent of the major industrial groups, and when its subject bears upon well-being in terms of health, food safety (wholesomeness, quantity...) and environment. Thus INDECOSA-CGT rejects all research aimed solely at productivist and mercantilist ends. (the position of the Secretary general, pers. comm. August 30 2001).

Japan:

- the **Hokkaido Seikatsu Consumers Club** in association with the Satsuraku co-operative has announced that it intends to market milk from cows fed without GMOs from its major outlets with effect from October. The price will be 5% to 10% higher than for non-labelled milk. (*Nikkei, August 10 2000*).

- Consumers have indicated their disagreement with regard to the **GMO labelling plan** which began in April 2001. They are demanding in particular that all GMO products be labelled when the law does not cover animal feedstuffs or products such as soya oil.

- consumer protection associations are demanding a moratorium on new authorisations of imports of GMOs (*AgBio news, November 15 1999*).

- Japan has become the biggest importer of genetically modified agricultural products, but obligatory labelling and consumer mobilisation are beginning to put a brake on this market. In an Open Letter, the Union of Japanese Consumers and fifteen other associations wrote: "*Farmers in North America must plant enough maize, soya, cotton and potatoes which are not genetically modified to meet demand from their export markets*". This request has been endorsed by two million signatures, and has been sent across the Atlantic. Furthermore, Japanese associations are demanding a stop to ambitious GMO experimental programmes (*AFP, October 7 1999*).

The position of some NGOs

Great Britain:

In a report published (1) in 1999, **Christian Aid** wrote that GMOs have no impact upon hunger in the world, that the new technologies gave too much power over food to too small a number of people, and that too little real investment is made to help smallholder farmers to produce food sustainably or organically. [1] "Selling Suicide - farming, false promises and genetic engineering in developing countries",
<http://www.christian-aid.org.uk/reports/suicide>.

- During the World Seeds Conference at Cambridge (September 6-8 1999) **Action Aid**, one of the largest British humanitarian agencies, cautioned against the misinformation put out by biotech companies about their ability to feed the world with GMOs. For Action Aid, GMOs and patents are a danger to food security for millions of people.
- (<http://www.actionaid.org/campaigns/food1.html>)

Following the UNDP Human Development Report of July 2001, numerous NGOs across the world sent messages of protest to the UNDP.

The position of some scientists

- Canada:

The report³³ of a group of experts on the future of food biotechnology prepared by the Royal Society of Canada at the request of Canada Health, the Canadian food inspection agency, and Environment Canada: www.rsc.ca

In this report, the committee of experts consider that recourse to the concept of substantial equivalence as the decision threshold for subjecting genetically modified food products to a rigorous scientific evaluation is scientifically untenable and does not conform to the principles of prudent regulation of the technology.

It also raises factors which contribute to the emergence of serious concerns about the weakening of the scientific bases of risk regulation in Canada:

* the conflict of interests which derives from the granting to regulatory bodies of mandates for 1/ the promotion of the development of agricultural biotechnology, and 2/ its regulation;

* the obstacle of confidentiality which compromises the transparency and openness to peer review of the scientific results upon which regulatory decisions are founded;

* significant and growing conflicts of interest at the heart of the scientific community engendered by the entrepreneurial climate in which the emergence of new technologies basks, and by the growing preponderance of the interests of private enterprise in the determination of the orientation of research.

The committee of experts recommend, among other things;

* that the analysis of all the tests conducted on new transgenic organisms be reviewed by an appropriate and independent committee of experts drawn from

³³ Precautionary elements: recommendations for the regulation of food biotechnology in Canada (January 2001)

all disciplines; this committee would be obliged to publish and to justify its decisions to the general public

* that the main burden of proof falls on those who propose to offer food products developed through biotechnology and that the former are obliged to carry out the full range of tests necessary to reliably demonstrate that these products present no unacceptable risks;

* that, as a precautionary measure, the possibility of serious risk to human health, of significant and irreversible disruption to natural ecosystems and of serious reduction in biodiversity, implies recourse to better scientific methods to reduce the uncertainty associated with these risks. The approval of products presenting such risks should be delayed until scientific uncertainty is brought to a minimum level.

France:

On May 30 2000, **CRII-GEN** invited its membership and the Press to an information meeting. The CRII-GEN presented 10 proposals so that "Europe and democracy do not remain blocked, with inextricable worries, and make progress on agricultural GMOs". The ten proposals are classified under two themes: transparency and democracy (the initiation of a Hippocratic oath adapted to biologists and geneticists, opening up to the public and the Press the debates in governmental commissions, posting on the internet experimental dossiers and requests for the marketing of GMOs, etc) and technical measures (the putting in place of approved measures to ensure dosages and the labelling of GMOs, the request for a GMO logo, the setting up of harmlessness tests as an obligatory complement to the principle of substantial equivalence, etc...). The CRII-GEN, which presents itself as a committee of experts rather than a militant organisation, is proposing a petition addressed to European parliamentarians so that they vote a general moratorium on the marketing of agricultural GMOs pending greater transparency on the part of the authorities.

www.crii-gen.org , 40 rue de Monceau, 75 008 Paris ou *criigen@ibba.unicaen.fr*

The ethical Oath for researchers in the life-sciences (approved by Jack Lang, Minister for Education in France, February 2001).

The ethical Oath for researchers in the life-sciences, adapted from and inspired by the medical Hippocratic Oath, was taken for the first time by a student, Emmanuel LEMAZURIER, on December 22 2000, as part of his thesis in the laboratory of Pr. Gilles-Eric SERALINI (Caen University), who had proposed this oath in the conclusion to "OGM, Le Vrai Débat" (Coll. Dominos, Ed. Flammarion), and 1997 "Génie Génétique, des Chercheurs Citoyens s'expriment" (Ed. Sang de la Terre). In 1999, the *prix Nobel* Joseph Rotblat published the idea with a shorter text in English (Science Vol. 286, 19 Nov. 1999, p.1475).

The oath in French was submitted for the approval of the Ministry of Education by CRII-GEN and the European Institute of Ecology on November 16 at a meeting entitled "Les 4ème États Généraux de l'Éthique de Metz".

"I swear to be faithful to the ethic of the respect for persons and human lives and to contribute to the development of understanding and to the wider dissemination of knowledge.

I will respect all species in their biodiversity: this respect will inspire my acts and my work, particularly in the course of my experimentation on animals and human tissue.

I will do my utmost to assuage the suffering of all living beings.

Having access to intimate tissue or genetic material from persons, I will not reveal their identity and will observe medical secrecy/confidentiality.

Even under constraint, I will not make use of my knowledge against the laws of humanity.

I will retain the independence necessary to the accomplishment of my mission. I will inform myself about and reflect upon the meaning of my experimentation and its consequences.

I will see to it that my work and research are not used for destructive or manipulative ends.

I will respect the knowledge of traditional ethnic groups and societies.

I will not forget my responsibilities with regard to present and future generations.

I will not allow considerations of nationality, culture, politics or material advantage to deflect me from my duty.

If the occasion arises I will intervene to defend these rules in their integrality.

May mankind and my colleagues accord me their esteem if I remain faithful to my promises.

May I be dishonoured and scorned if I fail to do so."

(Translator's note: this is not an official English language version, merely a working rendition for the purposes of this Paper. MW)

Annex 6: Some examples of action

1. Action: GMO-free communes

Following a letter-writing campaign to the mayors of communes in early 2001, more than one hundred communes in France have deliberated to ban the growing of GMOs on their territory. Here is the example of la Sarthe *département*:

The crusade of the 23 communes of la Sarthe
LE MONDE | 25.07.01 | 13h13
http://www.lemonde.fr/rech_art/0,5987,210825,00.html
ORLÉANS from our regional correspondent

An unexpected Town Hall revolt has occurred over the last few weeks in the *département* of la Sarthe. Twenty-three communes have either debated or brought out municipal decrees to ban the trialling of transgenic crops or the consumption of food containing GMOs in school canteens. Spay, in the Mans urban area, has 2300 inhabitants and a dozen farmers. Annie Quinot, an environmental assistant, who is also an activist with *Terre des hommes*, is clear “*GMOs bring nothing except risk*”. A spirit of insurrection is winning over the electorate on all sides. “*GMO crops, I want nothing to do with them. In a few years they’ll tell us that it’s dangerous!*” says Patrick Reboussin, mayor DL of Arçonnais.

There is a local collective, Stop-OGM, with sixteen member associations, unions and political parties, where one finds the Greens, the MEI (independent ecological movement) of Antoine Waechter, FNE (France Nature Environment) and the Confédération paysanne, which is at the origin of this change in public attitudes. “*From the health point of view, we don’t know whether there is a risk or not. The studies are inadequate. It is tinkering around with biology. 80% to 90% of DNA genes are called ‘dustbin genes’; that’s what the scientists call them; they don’t yet know what they’re for*” says Thierry Pradier of the Greens, a member of the collective. Stop-OGM has written to mayors in the *département*, sending them an outline debating paper and decree. The objective was to stir up debate. The collective has been largely successful.

Disagreement at the prefectorial level

Officially there have been no more trials in la Sarthe for the last two years. “*It is therefore a preventative decree that we have taken out. We wanted to make a point*” says Annie Quinot. “*In the communes where the decrees have been taken out, it is clear that the agro-chemicals industry are no longer going to be one step ahead of the farmers*” adds Thierry Pradier. Local agriculture is trying to develop local quality produce such as the “poulet de Loué” or the “porc sarthois”. “*Many farmers see the advantage of not having anything to do with GMOs, when they see these labels. Our action is well received by the agricultural world, even among some at the FDSEA*” adds Thierry Pradier.

Reaction was not long in coming from the prefecture, who advised the president of the mayors’ association of the “illegal nature” of this tide of decrees. It is the Ministry of Agriculture which approves authorisations for GMO crops. “*A mayor cannot take out a decree of general and absolute scope*” said Gérard Clerissi, *directeur du cabinet* at the prefecture. A mayor can only

intervene through his police powers “if public safety or health are at risk” according to the prefecture.

Régis Guyotat

2. Supermarket actions

The group **ATTAC-OGM d’Ile-de-France** is continuing to pursue its actions along the same lines: it sets up a table laden with GMO products in front of a supermarket and asks customers if they wish to sign a petition addressed to the management which demands the withdrawal of GMO products. The group has collected some 700 signatures in four such actions.

3. The Black List of Greenpeace

See the start of the Greenpeace web page (<http://www.greenpeace.fr/campagnes/ogm/liste.htm>) for lists of products with or without GMOs.

The Info Conso network

Lists (non-exhaustive) of products without GMOs or those which may contain GMOs.

These lists are set out in terms of the position of the manufacturers.

Currently, GMOs (Genetically Modified Organisms) may be found in products derived from maize or soya (meal, proteins, starch, oils, lecithin, maltodextrine, glucose syrup, dextrose, etc). Sweet corn in grain form from Europe is not transgenic. **BIO (organic) ingredients bearing the label “AB” are GMO-free.** European regulations stipulate the labelling of products containing transgenic maize or soya.

With effect from April 10 2000, manufacturers are obliged to mention on their product packaging “made from genetically modified maize/soya” when the **ingredients** in these products contain more than 1% of genetically modified maize or soya, or when **additives or aromas** in these products are made from genetically modified maize or soya. A certain number of products in which the modified DNA or protein has disappeared as a result of processing (such as oils) are exempt from obligatory labelling.

This list of products with or without GMOs has been in existence now for two years: at the time, most of the products on the market were not guaranteed. Today it is different: few products intended for human consumption are labelled in the supermarkets and most of those are guaranteed GMO-free. We have therefore simplified the list by just including the names of the manufactures in the White List: **each manufacturer mentioned has given us a guarantee of the GMO-free status of all of their products.** On the other hand, so as to maintain pressure on those who do not guarantee the non-use of GMOs, we continue to feature the names of the products as well as the names of those who manufacture them.

List of products with and without GMOs (drawn up 26/07/2001)

ANIMAL FEEDSTUFFS

60% to 80% of GMOs penetrate our food chain without our knowledge through commercial livestock feedstuffs. The animal feeds sector currently accounts for most of the GMO market. To ensure that food is not contaminated by GMOs, we must insist that the genetic engineering industry does not use animals feeds to market its GMOs on the sly in the teeth of massive opposition from consumers.

Currently there is no European regulation covering the use or labelling of GMOs in animal feeds. It is not obligatory to mention the presence of GMOs on the labelling of products intended for livestock production enterprises, nor on the labelling of products from animals fed on GMOs.

Below is an indicative list of producers of turkeys, poultry and trout/salmon guaranteeing or not the absence of GMOs in the feeds of their livestock. In a few months there will also be a list of pork producers. These lists set out to inform the consumer of the nature of the products that he/she purchases, and should help us to push the actors in this sector to change their policy on GMOs. Only a shift in the market of GMOs intended for animal feeds holds out any real prospect of getting rid of GMOs from the food chain.

WHITE LIST

Poultry producers guaranteeing the absence of genetically modified soya and maize in their livestock feeds.

BLACK LIST

Poultry producers who have not guaranteed the absence of genetically modified soya and/or maize in their livestock feeds.

4. Information diffusion: the example of the Inf'OGM package

Inf'OGM is an association officially formed in July 1999 under the provisions of *loi 1901*.

The main goal of Inf'OGM is to set up a **public information service** on genetically modified organisms.

Inf'OGM is above all a **French-language information service** (although closely linked to the English- and Spanish-speaking world) which diffuses verified, concise and referenced information on a regular basis on all GMO issues, and in a language accessible to all.

Inf'OGM is not a substitute for the initiatives and programmes of existing organisations. Its role is clearly located upstream through the identification of good sources of information, setting out data, layout/presentation (translation, summaries...) and diffusion. The principle is also to bring together the different sources of information produced by a number of active citizen's organisations.

Inf'OGM also sets out to **question "official information sources"** and to **analyse** the way in which they present and disseminate information on GMOs. (infogm@infogm.org <mailto:infogm@infogm.org>)

5. Numerous actions of destruction of trial plots

Hidden, or more often with faces exposed in front of the cameras, activists are destroying GMO trial plots. The goal is as much to attract attention as to protect the environment and nearby crops from uncontrolled spread of pollen. There have been many guilty verdicts against these activists, generally resulting in light fines. In August, the French Minister of Agriculture declared that it was necessary in fact to review the conditions of trials, particularly those conducted by private enterprises whose goal is to make us buy more herbicides.

Annex 7: Federal Swiss law on the application of genetic engineering to the non-human domain (Law on genetic engineering, LGG).

Debated in June 2001, here are some extracts;

(Translator's note: the following translation is an attempt at a layman's appreciation of arcane and recondite legal-speak in Swiss French: I remain solely responsible for any errors of omission, commission or misrepresentation. Please do not use this translation as a legal basis for any action. MW)

Chapter 5: Civil liability

Art 27. Proposition by the commission

Principles

A1. 1

The owner/proprietor of an enterprise or facility which uses genetically modified organisms is answerable for all damages resulting from a particular danger presented by these organisms

A1. 2

As a general rule, particularly those enterprises and facilities which the Federal Council has subjected to an authorisation regime for the use of genetically modified organisms or for which it has decreed particular prescriptions are held to present a particular danger (art. 8-10, 16)

A1. 3

If damage is caused by genetically modified organisms put in circulation and used as auxiliary matter in agriculture or sylviculture, the following measures are applicable:

- a. the producer in the sense of article 2 of the law of June 18 1993 on product liability who was first to put these organisms into circulation is solely answerable for the damage;
- b. when such organisms have been imported, the producer who first put them into circulation overseas and the importer are jointly and severally answerable for the damage;
- c. the owner/proprietor of an enterprise or a facility which imports genetically modified organisms for his own needs is jointly and severally answerable for the damage with the producer, and
- d. right of recourse against persons having used these genetically modified organisms in an inadequate manner or having contributed in any other way to the occurrence or aggravation of the damage is reserved.

A1. 4

He/she who brings proof that the damage is due to *force majeure* or to a serious offence committed by the injured party or a third party is discharged of liability.

A1. 6 The Confederation, the cantons and the communes are equally liable under the terms of lines 1-5.

Clause. 27

Beerli proposition

He/she who manipulates in accordance with their purpose a food commodity or a therapeutic product which has been put in circulation in a way in keeping,

and which are not used as auxiliary matter in agriculture or silviculture, is not answerable for damage under the terms of article 27

Wicki proposition

He/she who manipulates in accordance with his purpose a therapeutic product which has been put in circulation in a way in keeping, and which is not used as auxiliary matter in agriculture or silviculture, is not answerable for damage under the terms of article 27

Clause 27 has been referred back to the commission

Art. 28. Proposition by the commission

Damage caused to the environment

A1. 1

He/she who is answerable for the use of genetically modified organisms must equally reimburse the costs of measures taken in good faith to restore the components of the environment which have been destroyed or damaged, or to replace them with an equivalent

A1. 2

The competent public collectivity may assert its right to reparations if the destroyed or damaged components of the environment are not the subject of property rights, or if the assignee does not take the measures compelled by the circumstances

Art. 29

Proposition of the commission

Prescription

A1. 1

The right to reparations for damage are forfeited unless suit is brought within three years from the day when the injured party had knowledge of the damage and of the identity of the person legally liable, and at the latest within thirty years from the day when;

a. the damage event occurred or ceased to occur in the enterprise or installation; or

b. the genetically modified organisms have been put in circulation for the first time

A1. 2

The right to recourse is forfeited unless suit is brought according to the first line. The delay of three years runs with effect from the day when reparations have been completely executed or the identity of the co-responsible is known

Art. 30

Proposition of the commission

Guarantee

Text

To protect injured parties, the Federal Council may:

a. prescribe that the owners/proprietors of certain enterprises or facilities provide guarantees, in the form of insurance or in another way, to cover their civil liability;

b. fix the scope and duration of this guarantee or delegate this task to an authority who will give a ruling on a case by case basis

c. oblige the guarantor to notify the executing authority of the existence, suspension or cessation of the guarantee;

d. stipulate that the guarantee will not be suspended or cease until 60 days after receipt of notification;

Chapter 6. Penal provisions

Proposition of the commission

Art. 31

Proposition of the commission

A1. 1

He/she who intentionally:

- a. uses genetically modified organisms in a manner contravening the principles outlined in articles 6 and 7;
- b. uses genetically modified organisms without taking all of the necessary confinement measures or carries out an activity in a confined area without having given notification or without authorisation (art. 8):
- c. spreads, without authorisation, on an experimental basis genetically modified organisms into the environment or puts such organisms into circulation (art. 9 et al and art. 10 al first line);
- d. circulates genetically modified organisms without providing the buyer with the necessary information and instructions (art. 13 al and first line)
- e. uses genetically modified organisms in a manner contravening the instructions (art. 13 al 2);
- f. puts genetically modified organisms into circulation without designating them as such to the buyer (art. 14 al. first line);
- g. puts genetically modified organisms into circulation while designating them as not genetically modified (art. 14 al. 4):
- h. contravenes the specific prescriptions concerning the use of genetically modified organisms (art. 16)

will be punished by imprisonment or a fine; the punishment will be imprisonment if man or the environment have been placed in grave danger.

A1. 2 If the offending party acted through negligence, the penalty will be imprisonment up to six months, or a fine

Chapter 7. Final dispositions

Proposition of the commission

Clause 32

Proposition of the commission

Transitional dispositions

A1. 1

Until the end of 2008, no authorisations for the putting into circulation of genetically modified organisms for use in agriculture, forestry or horticulture will be issued

A1. 2

The Federal Council regularly ascertains the respect of this ban, and reports its verifications to the Federal Assembly at the latest three years later. Through an order, the Federal Assembly may reduce the time period stated in line 1, or prorogue it by five years at the most.

Modifications of other legislative acts related to genetic engineering

Proposal of the commission

Ch. 1a Clause 230

Proposal of the commission

Danger from genetically modified organisms or pathogens

A1. 1

He/she who intentionally spreads genetically modified organisms or pathogens into the environment, disrupts the working of a facility intended for research into these organisms, their conservation and their production, or hampers their transport, will be punished by solitary confinement with hard labour for a maximum of ten years, if he/she knew or should have known by his/her acts,:

- a. he/she placed in danger the life and physical well-being of persons; or
- b. he/she placed in grave danger the natural composition of animal and plant populations or their habitats

A1. 2

The punishment will be imprisonment if the offender acted out of negligence

Ch. 3 Clause 18 al.

Proposition of the commission

Authorisations for the production, the rearing, the holding, the marketing or the use of genetically modified animals in the sense of article 7b are issued by the Confederation. It can delegate to the cantons the competence to issue certain types of authorisation concerning for example laboratory animals.

Ch. 6 art. 2 al. 3

Proposal of the commission

Pathogenic agents are considered as genetically modified when their genetic material has been subjected to modification which does not occur naturally, either through multiplication or through natural recombination.

Ch. 7 art. 146a

Proposal of the commission

A1. 2

After a period of ten years, genetically modified commercial livestock may be put in circulation if there are important reasons justifying their production and sale. The Federal Council submits the putting into circulation of these animals to the regime of authorisation.

Annex 8: Food aid, massively transgenic

Several articles have appeared in the Press denouncing the transgenic nature of food aid. Recently, the *Red por una América latina libre de transgénicos* reported on the presence of GMOs in a number of food programmes in Colombia, Ecuador, Bolivia and Peru³⁴. This is equally the case in India, as the article below describes;

Food aid: vector of transgenic cereals?

Le Monde, October 17 2000

"You don't look a gift horse in the mouth". Environmental organisations in the Third World are questioning this adage, claiming that food aid is serving to spread transgenic foods. According to the Research Foundation for Science, Technology and Ecology (RFSTE), an organisation run by Vandana Shiva in New Delhi, *"the American government is using public funds intended for aid to create profits and markets for the biotech industry"*. To back up what it says, the RFSTE took samples from soya and maize from aid distributed after the cyclone which devastated Orissa, in eastern India, at the end of 1999. The samples were sent to a renowned analytical laboratory, Genetic ID, in the United States, who confirmed the presence of GMOs in the two samples, one at a concentration level in excess of 1%.

The United States, to whom GMOs represent no public health problem, have not officially reacted. The World Food Programme (WFP), which responded effectively in Orissa, necessarily goes along with the major supplier of food aid in the world: *"we assume that the American administration ensures that GMOs do not place the American population at risk"* explains the Deputy Director of the WFP, Namanga Ngongi. *"It would be very difficult for us to say that a food approved for consumption by the citizens of the United States would be unsuitable for aid programmes. But if GMOs refused for human consumption were found in food aid, it would be unacceptable"*.

School meals

Food aid has always represented a way for the developed countries to use their agricultural surpluses, particularly to support the market. There is *"a strong correlation between the volume of food aid and the world price for wheat"* says Patrick Webb, of Tufts University in the USA, in a study brought out by the Dutch association EuronAid. If stocks of transgenic products were building up in the United States as a result of the refusal of consumers, would food aid enable some of this to be cleared out? The idea does not seem absurd: several times Monsanto has held discussions with CARE, an American NGO very active in the distribution of food aid, who finally indicated in March 1999 that *"a formal collaboration between CARE and Monsanto was not appropriate at the moment"*.

But according to the WFP, food aid accounts for only 5.8% of world imports of cereals. That seems far too little to clear any stocks of unwanted GMOs.

The question was to arise again with the School Lunch Programme. Announced by Bill Clinton during the G8 meeting in Okinawa in July of last year, it

³⁴ Boletín OMG, Amigos de la Tierra, June 2001, p.6-7

concerned the supply of school meals in developing countries. The project is based on the sound idea that schooling is the key to development, and that a full belly is a necessary condition to ensure the attention of schoolchildren. According to the White House *“the 300 million dollars committed to this programme would come from production surpluses, soya, wheat and maize, and would enable us to feed 9 million children for one year”*. Will ecologists in the South ask for non-GMO meals - at the risk of not having any fill-belly at all?

Hervé Kempf

Final Declaration of the workshop on “the privatisation of life-forms and GMOs” held at the World Forum on Food Sovereignty, Havana (September 6 2001)

The participants at the workshop on “the privatisation of life-forms and GMOs” reported upon the experiences from their different countries, including: Argentina, Brazil, Chile, Costa Rica, Cuba, United States, Ecuador, France, Israel, Mexico, Nicaragua, Panama, Paraguay, Dominican Republic, and Vietnam. They decided to endorse, to set out in detail and to amplify the final declaration of the workshop on GMOs held during the first World Social Forum at Porte Alegre (Brazil) in January 2001.

The participants require:

* the non-patentability of life-forms, of seeds, and of the natural heritage and humanity. We propose, among other possible instruments:

- the creation, in the short term, of an international tribunal on patents
- the declaration, in the medium term, of genetic resources both plant and animal as humanity’s patrimony
- the establishment of a system of protection of the genetic resources of indigenous communities

* independent public sector research which:

- fosters sustainable agriculture
- makes a thorough study of the impacts of GMOs on health and environment, while respecting the strictest of biosecurity standards
- possesses the capacity at the national level to stand up to GMOs, and to monitor the application of laws and treaties on biosecurity

* the ratification of the Cartagena Biosecurity Protocol by all governments. This protocol, which should legislate on seeds as well as transgenic foods, will create a framework for:

- establishing international mechanisms for monitoring and for sanctions on countries which do not respect biosecurity laws
- introducing the principle of liability for GMO producers
- introducing the precautionary principle in national legislation
- establishing obligatory labelling for all types of transgenic food whether for human or animal consumption
- guaranteeing the application of the law by tribunals

* an immediate moratorium on the production, marketing and open-air field trials as a first step toward the production of food free of GMOs

* the right to full information for farmers and consumers on all aspects linked to GMOs

- informing civil society (consumers, farmers, researchers, politicians...) with training material which is well argued and accessible to all, stressing the themes of health and environment to develop broad alliances

- creating committees responsible for transparency and democratic debate, integrated by all actors linked to GMOs

* refusal and condemnation of food aid containing transgenic products

* refusal and banning of ‘Terminator’ technology

Havana, Cuba September 6 2001

Bibliography:

- Apoteker, A., 1999, *Du poisson dans les fraises*, La découverte, 231 p.
- Clive, J., 1997, 1998, 1999, ISAAA, Global review of commercialized transgenic crops, ISAAA briefs, N°8 et suivants
- Greenpeace, *Global GMO Food Legislation*, 3 Avril 2001
- Morin, 2001, *L'indispensable éthique*, Québec sciences, www.cybersciences.com/Cyber/4.0/2001/03/entrevue.asp
- Prat, F., *OGM en Europe : à la croisée des chemins*, Biofutur, septembre 2001
- RED POR UNA AMERICA LATINA LIBRE DE TRANSGENICOS, *Boletin No.60 Quito*, 13 juin 2001
- Rifkin, J., 1998, *Le siècle Biotech*, La découverte, 348 p.
- Simoneaux, L., 1999, *Les biotechnologies à l'école, un enjeu éducatif pour la formation à la citoyenneté*, Educagri, 180 p.
- Third World Network Information Service On Biosafety, *Document TWN/Biosafety/2001/F*, 16 mai 2001
- Éléments de précaution : recommandations pour la réglementation de la biotechnologie alimentaire au Canada*, janvier 2001, [report of a group of experts on the future of food biotechnology prepared by the Royal Society of Canada at the request of Canada Health, Canadian agency for food inspection, and Environment Canada. Executive Summary. 11 p., www.rsc.ca
+ many other sources (journals, print media, web sites, diffusion lists...)



The Alliance for a Responsible, Plural and United World

Working together towards the challenges of the 21th century

Ever since the late eighties of the 20th century, numerous initiatives have been put forward from different regions of the world and extremely diverse contexts. Different social actors were thus put in motion with the aim of organising a vast worldwide process seeking to explore values, proposals and regulations capable of overcoming the modern challenges humanity is faced with.

A large number of thematic, collegial and continental meetings were organised in the early nineties, a process which led, in 1993, to the drafting of the *Platform for a Responsible and United World*.

Regional groups were set up, international professional networks and thematic networks on the fundamental issues of our era were developed: the Alliance was created. It is financially and technically supported by the Charles Léopold Mayer Foundation for the progress of Humankind (FPH), among others.

The Alliance is focussed on inventing new forms of collective action on both a local and global scale, with the aim of shaping together the future of an increasingly complex and interdependent world.

The challenge of the Alliance is to actively support unity in diversity by asserting our societies' capability to understand and appreciate the complexity of situations, the interdependence of problems and the diversity and legitimacy of geo-cultural, social and professional perspectives.

The Alliance, as a space of discussion, reflection and proposals, is built around three main orientations:

Local groups aiming to bring people of a community, a region, a country or a continent together by looking at the realities and issues of their own societies. This is the **geo-cultural approach**. It reflects the diversity of places and cultures.

Groups of socio-professional actors wishing to provoke dialogue and mobilisation within a given social sector or profession (youth, peasants, scientists, local representatives, etc.). This is the **collegial approach**. It reflects the diversity of social and professional milieus, their concerns and responsibilities towards society and the challenges of today's world.

Thematic workshops seeking to create reflection groups centred around the major issues of our common future (sustainable water management, regional integration and globalisation, financial markets, art and society, etc.). This is the **thematic approach**. It reflects the diverse challenges humanity is faced with in the 21st century. Thematic workshops are organised into four areas: Values and Culture, Economy and Society, Governance and Citizenship, Humanity and the Biosphere.

Seeking both to draw on the richness of materials and experiences gathered by these reflection groups whilst networking with other citizen dynamics with a similar focus, the Alliance fixed itself the objective of obtaining collectively developed, concrete proposals. The following meetings were thus organised:

- **international meetings**, for each thematic workshop and each college,
- **synchronized continental assemblies** (Africa, Americas, Asia, Europe) and a regional meeting in the Arab world (Lebanon) in June 2001.
- a **Citizen World Assembly**, held in December 2001 in Lille, France, bringing 400 participants together from around the world.

These meetings together contributed to the drafting of some sixty *Proposal Papers for the 20th century* and a *Charter of Human Responsibilities*, published in several languages in different countries.

The Alliance has been involved in a process of disseminating and developing these outcomes since the beginning of 2002. Networks are expanding, branching out and their work themes are becoming increasingly transversal. They also strengthen links with other approaches aiming to create an alternative globalisation.

For further information, please visit the **alliance website** at www.alliance21.org, where the history of the Alliance, the challenges it is engaged in and the workshops and discussion forums being held can be viewed in three languages (French, English and Spanish).

E-mail: info@alliance21.org

The proposal papers on the internet

Whether in their provisional or definitive form, all the proposal papers and their corresponding translations can be accessed on the website of the Alliance for a Responsible, Plural and United World, at:

<http://www.alliance21.org/fr/proposals>

Themes available:

Values, education, cultures, art and the sciences

Teachers and education - Education to an active and responsible citizenship - The alliance and the media - Art and cultural identity in building a united world - Women - Youth action and proposals for social change - An intercultural cultural diversity in the era of globalisation - Proposals of the inter-religious college - War, genocide, ...restoring humanity in human beings faced by extreme situations - Thinking through university reform - Social control of the scientific production system - Information society, knowledge society: benefiting from change - time and sustainable development

Economy and society

Transformations in the field of work - The trade-union movement at the dawn of the 21st century - Exclusion and Precariousness - Companies and solidarity - How can enterprises exercise their responsibility - Corporate responsibility - Production, technology and investment - Ethical consumption - Fiscal policy, tax, distribution of national income and social welfare - Social finance - Escaping the financial maze: Finance for the common good - Social money as a lever for the new economic paradigm - Debt and adjustment - Fair trade - From the WTO's setback at Seattle ... to the conditions for global governance - Food security and international trade negotiations - Completely sustainable development: an alternative to neo-liberal globalisation - Economic policies, ideologies and geo-cultural dimension - Women and economy - Economy of solidarity - Health and its challenges in the 21st century - The challenges of Artisan fishery in the 21st century - agriculture and sustainable development - People's right to feed themselves and achieve food sovereignty - Food security

Governance and citizenship

Principles of governance in the 21st century - Territories, places for creating relationships: for communities of shared relations - Thinking the city of tomorrow: the words of their inhabitants - Urban violence - Peasant farmers confronting the challenges of the 21st century - Social leaders in the 21st century: challenges and proposals - Local authorities or local co-ordination - State and development - Food, nutrition and public policies - From the conversion of arm industries to the search for security - The military and the construction of peace - Re-modelling global governance to the meet the challenges of the 21st century

Relations between humanity and the biosphere

Environmental education: 6 proposals for citizens' action - Proposals relating to the question of water supply - Save our soils to sustain our societies - Forests of the world - Energy efficiency - Industrial ecology: agenda for the long-term evolution of the industrial system - Civil society and GMO's: what international strategies? - Refusing the privatisation of life and proposing alternatives

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