GM Food & Feed – Comments from the Public

Comments received on Maize 1507xNK603

1. private person, UK
2. private person, FR
3. private person, SE
4. A SEED Europe, NL
5. University of Pisa, IT
6. Consiglio Nazionale delle Ricerche - Istituto di Genetica Vegetale, IT
7. Comitati antielettrosmog di Bologna, IT
8. Consiglio dei Diritti Genetici, IT

1. Organisation: none
Country: United Kingdom

Comments on the following points:

a. Assessment:
- Molecular characterisation
Whatever the assessment of molecular characterisation is we do not want gmo in the UK

- Comparative analysis (for compositional analysis and agronomic traits and GM phenotype)
Whatever the comparative analysis is we do not want gmo in the UK

b. Food Safety Assessment:
- Toxicology
Whatever the toxicology report says we do not want gmo in the UK

- Allergenicity
However allergic it may prove to be we do not want gmo in the UK

- Nutritional assessment
Whatever the nutritional assesment shows we do not want gmo in the UK

- Others
We do not want gmo in the UK

3. Environmental risk assessment
We do not want gmo in the UK

4. Conclusions and recommendations
We do not want gmo in the UK

5. Others
We do not want gmo in the UK

6. Labelling proposals
Oh, so you are going to permit it whatever people want! We do not want gmo in the UK. Any labels must be large stating that the product contains gmo or traces of gmo or has eaten food containing gmo

2. Organisation: individual
Country: France

Comments on the following points:

4. Conclusions and recommendations
I don't want this new product could be on the market because we don't enough know the toxicity and problems with allergy in food.

3. Organisation: private
Country: Sweden

Comments on the following points:

b. Food Safety Assessment:
- Toxicology
can possibly cause cancer as well as new, yet unknown diseases toxic chemicals in unnormal high kvantitys will be used by growing the plants and it is not possible to wash it all of= much dangerous cemicals in the food

- Allergenicity
Might cause allergic reaction also by people that has never before suffered allergys

- Nutritional assessment
the body will not be able to "use" the vitamins in the corn and the general nutrition level will be low

3. Environmental risk assessment
Very much toxic chemicals will be spread by growing the plants. The GMO might (mutate and) spread even thought should not be possibel.

4. Conclusions and recommendations
The riscs for human health as well as for the enviroment is high and before we know more about how it realli affects us Monsanto schould be denyed to grow or sell GMO's in the EU

4. Organisation: A SEED Europe
Country: The Netherlands

Comments on the following points:

a. Assessment:
- Others

Economic consequences for farmers

Companies often claim that gmo's will boost crops and increase yields, but this claim has never been substantiated. In practice, gm crops do not seem to produce better harvests. There are, however, several problems for farmers growing gm crops. Farmers can only buy seeds from the supplier who also manufactures the seeds. Because these seeds are patented, farmers are not allowed to gather seeds to use the next year. To ensure they can only be used once, the seeds are often sterilised using so-called terminator technology. This forces the farmer to spend more money every year.

Farmers can be fined if they reuse gm seeds or if traces of these seeds are detected. There are known cases of fields being accidentally contaminated by gmo's spread by the wind. Percy Schmeiser, a Canadian farmer, spent years entangled in court battles because Monsanto demanded hundreds of thousands of dollars from him after THEIR Round Up Ready seeds contaminated his canola crop. Farmers growing gm crops are also forced to buy pesticides and herbicides that have only been developed for one crop in particular and which destroy everything except for that specific gm crop. Other pesticides cannot be used because they would kill the plant. Currently about 70% of gm crops are herbicide resistant, and farmers growing them are dependent on the accompanying herbicide.

Contrary to the claims made by gm corporations, the use of resistant gmo's has not led to a decrease in pesticide use. Intensive pesticide use damages the soil. Not only does it pollute both soil and ground water, but it is causing pests to become resistant to these new methods, initiating a vicious circle wherein increased resistance necessitates more intense pesticide spraying which in turn leads to increased resistance... Advocates of gm crops often promise that farmers in developing countries stand to benefit from gm technology even going so far as to accuse critics of gm of propagating hunger in the global South. However, debacles like the introduction of bt cotton in India expose the fallacy of this argument. Recent research suggests that gm crops perform worse in drought conditions than conventional crops and it is unreasonable to think that the additional expenses which are part and parcel of growing gm crops can be born by small farmers in developing countries. Let's also not forget Argentina, a country where hunger made its entrance after vast areas of gm soya destined for export ousted varied farming which produced food for local consumption.

Corporate influence

A SEED believes that farmers must be given the opportunity to produce healthy food in a sustainable way. Unfortunately, it is almost impossible for farmers to work in this way any more. GM technology is contributing to this loss of sovereignty. In many cases, the large seed suppliers also develop the varieties that they sell. This places them in an extremely strong position from which they can introduce and keep gm crops on the market. It allows them to dictate which crops will be grown, no matter whether or not consumers and farmers want to grow or consume them. It is often difficult for farmers to switch to another supplier because the big companies can supply for the lowest prices. In these difficult times for the agricultural sector,

price is often the decisive factor.

Genetically modified seed are patented by the companies that developed them. A SEED is totally opposed to this phenomenon because we do not think that living organisms can or should be owned by corporations or individuals. Such patenting allows companies to obtain a monopoly on crops that already exist. Farmers must have the freedom to grow crops as they see best. Seed must be exchanged freely between farmers so that sufficient amounts of healthy food can be grown for the populace. Corporations can use patenting rights to challenge each non-registered use of gm seeds in court and inflict hefty fines on farmers. This applies to every case wherein the presence of the commercial gene can be proved, even if this is due to contamination from neighbouring fields.

A SEED thinks that it is the companies that should be held liable for cases of involuntary contamination. The farmers are the victims, not the perpetrators - after all their fields are being contaminated with something that no one really wants to eat. We also do not believe in the coexistence of gmo's next to conventional crops because it is impossible to ensure optimal security. Pollen does not listen to legislation when it is being carried on the wind. Human error during transport cannot be ruled out. Companies should take responsibility for the results of their actions. We have already mentioned terminator seeds which are immediately sterile after the first year and cannot germinate the following year. This is done to prevent the unauthorized use of patented seed . A SEED is vehemently opposed to this sort of customer binding because it forces farmers to make huge afinancial costs for something that used to be free. In addition to this, the way in which companies make their crops resistant only to the accompanying pesticides and herbicides is an unfair way of bringing products on the market.

The unknown dangers

The European and national institutions that judge the applications for the introduction of gm crops only test them for their possible impact on public health. Any possible effects they could have on the environment or economic damage are not included in these tests. This can in part be blamed on the composition of the commissions like the Dutch Commission on Genetic manipulation (COGEM) and the European Food Safety Authority (EFSA). They are mainly composed of scientists and civil servants. Social and environmental organisations are not consulted about this tests. This makes it practically impossible for the government to make an accurate assessment of the risks. The assessment of health risks are made largely on the basis of existing research, most of which has been done by the companies producing the crops. There is no independent research as such. A SEED wants to see the use of impartial test results in these application procedures. Safety and possible dangers should be researched by independent scientists. The institutes conducting this research should have no significant interest in the outcomes and therefore corporate funding of such research should be forbidden. A SEED also thinks that opponents of gmo's should not have to prove the dangers. This is not our task. The companies and governments releasing these crops should prove and vouch for their safety. Agriculture and food production should be about social responsibility, not about serving corporate interests.

Gene technology as alternative

Groups speaking out against gm often search for alternatives to this technology. A SEED refuses to adopt this position because we think that gm has become an alternative to existing agriculture. We prefer to focus on the advantages of sustainable agriculture. Small-scale, diverse organic agriculture whose produce is sold within the region is our solution to much of the unbalanced economic and political relations in the world. The introduction of gm technology will

do nothing to even out these inequalities; instead it will increase them. A SEED doesn't see why opponents of gm technology have to come up with alternatives before we can critise it. Our rejection of this technology is based on facts about the wide-reaching, irrevocable consequences that it could have on human health, food sovereignty for farmers and the environment. The cultivation and production of gm crops should simply be banned. The risks weigh heavier than the advantages. The search for alternatives only distracts us from the real issue. A SEED wants to draw attention back to the root causes of the problem: intensive agriculture and unfair global trade.

N.B. Throughout this article, gm is referred to exclusively in relation to agricultural crops.

3. Environmental risk assessment

Damage to biodiversity

A SEED is worried about the damage gm technology is doing to biodiversity. The commercial distribution of gmo's is limiting the number of varieties grown. Whereas previously a wide variety of crops were brought on the market by traditional seed suppliers, this number is being steadily reduced. Many food types that have been grown for centuries are being lost this way. Specific regional crops will soon belong to the past and the future will consist of monocultures. The vast amounts of pesticide used in monocultural agriculture do not just kill weeds. Any insects present in the fields are also killed by these chemicals. This is a direct threat to biodiversity. Not only do insects and wild plants disappear, but the animals that feed on them.

4. Conclusions and recommendations

A SEED rejects the genetic modification of our food in any way whatsoever. For several years now, we have been concerned about developments in this field, for a variety of reasons: economic consequences for farmers, corporate influence, damage to biodiversity and 'the unknown dangers'. A SEED recommends the EC to take the same position.

5. Organisation: University of Pisa
Country: Italy

Comments on the following points:

a. Assessment:
- Molecular characterisation

you should compile this paragraph

- Comparative analysis (for compositional analysis and agronomic traits and GM phenotype)

you should compile this paragraph

b. Food Safety Assessment:
- Toxicology

You shoud compile thisparagraph

- Allergenicity

You sould compile this paragraph

3. Environmental risk assessment

You should compile this paragraph

4. Conclusions and recommendations

I believe it is higly dangerous to place on the market the insect-protected, glufosinate and glyphosate-tolerant genetically modified maize 1507xNK603, for food and feed uses under Regulation (EC) No 1829/2003 from the Company Monsanto for several different reasones: 1) It will foster an increased use of pesticides, as the modified plants will be more resitent to them; it will lead to an increased pollution of ground ad waters; 2) the effects on other organisms living in the same area are unknown; 3) the long-term environmental and genetic effects are unknown; 4) the long-term immunological responses of humans are unknown;

5. Others

You should clarify on line all the assessment points

6. Organisation: Consiglio Nazionale delle Ricerche - Istituto di Genetica Vegetale
Country: Italy

Comments on the following points:

a. Assessment:
- Others

It is often argued that transgenic DNA, once incorporated into the transgenic organism, will be just as stable as the organism's own DNA. But direct and indirect evidence contradict this supposition. Transgenic lines are notoriously unstable and often do not breed true. There are no molecular data documenting the structural stability of the transgenic DNA in either GM crops or GM animals in successive generations, both in terms of its site of insertion in the host genome and its arrangement of genes (genetic map). Instead, secondary mobility and rearrangements often occur, along with silencing of the transgenes, so that they are no longer expressed. There are several evidences showing that transgenic DNA is different from natural DNA and that it may be more likely to undergo horizontal gene transfer, a process that's responsible for potentially the greatest hazards from genetic engineering. Why transgenic DNA may be more prone to horizontal gene transfer: transgenic DNA has been designed to jump into genomes; the unnatural gene constructs tend to be structurally unstable and hence prone to break and join up or recombine with other genes; the mechanism that enables foreign gene constructs to jump into the genome enable them to jump out again and reinsert at another site or in another genome, for examples, the enzyme integrase, which catalyzes the insertion of viral DNA into the host genome, also functions as a disintegrase, catalyzing the reverse reaction, these intergrases belong to a superfamily of similar enzymes that are present in all genomes, from viruses and bacteria to higher plants and animals (recombinases of trasposons are similar); the border of the most commonly used vector for transgenic plants, the T-DNA of Agrobacterium, are recombination hotspots and a recombination hotspot is also associated with the cauliflower mosaic virus (CaMV) promoter and many terminators, which means that the whole or parts of the integrated DNA will have an increased propensity for secondary horizontal gene transfere and recombination; recent evidence indicates that foreign gene constructs tend to integrate at recombination hotspots in the genome, which again, would tend to increase the chances of transgenic DNA disintegrating and transferring horizontally; transgenic DNA often has other genetic signals, such as origins of replication left over from the plasmid vector. These are also recombination hotspots, and in addition, can enable the transgenic DNA to be replicated independently as a plasmid that's readily transferred horizontally among bacteria; the metabolic stress on the host organism due to the continuos over-expression of the foreign genes linked to aggressive promoters such as the CaMV 35S promoter will also increase the instability of the transgenic DNA, thereby facilitating horizontal gene transfer; the transgenic DNA is tipically of DNA sequences from many different species and their genetic parasites; these homologies mean that it will be more prone to recombine with, and successively transfer to, the genome of many species as well as their genetic parasites (homologous recombination typically occurs at one thousand to one million times the frequency of non homologous recombination). Evidence that transgenic DNA is different from natural DNA and that it can indeed transfer horizontally. A mutant of Arabidopsis was obtained for herbicide-tolerance by conventional mutagenesis in a laboratory at the Department of Ecology and Evolution, University of Chicago, United States. What changed in the mutant line was just the base sequence of DNA. This mutant line was used to create transgenic lines by introducing the mutant gene, spliced in a vector, into host plant cells. Both mutant and transgenic plants spread herbicide-tolerance trait to normal, wild-type grown nearby, at a different rate: the transgenes from the tramsgenic plants were up to 30 times more likely to escape and spread, presumed to be via pollination – to the wild-type plants than

the same gene obtained by mutagenesis. The results are very intriguing and very difficult to explain in terms of ordinary cross-pollination. Was it because of introducing the transgene by means of a vector led to all kinds of unexpected effects? Did the transgenic plants produce more pollen or more viable pollen? Was the pollen from the transgenic plants more attractive to bees? Another possibility for increased spread of transgenes is horizontally gene transfer, via insects visiting the plants for pollen and nectar or simply feeding on the sap or other parts of successive transgenic and wild type plants. All these possibilities, that cannot be ruled out, were not investigated. Regardless of the manner in which the transgenes had spread, the experiment demonstrated that transgenic DNA did not behave in the same way as non-transgenic DNA. Horizontal transfer of transgenes and antibiotic resistant marker genes from genetically engineered crop plants into soil bacteria and fungi had been documented in the laboratory by the mid 1990s. Transfer of transgenes to fungi was achieved simply by growing the fungi with the GM plant and transfer to bacteria achieved by applying total DNA from the GM plant to cultures of bacteria. By the late 1990s, successful transfer of kanamycin-resistance marker gene to the soil bacterium Acinetobacter were obtained with total DNA extracted from homogenized leaves in a range of transgenic plants: Solanum tuberosum, Nicotiana tabacum, Beta vulgaris, Brassica napus and Lycopersicon esculentum. It was estimated that about 2500 copies of the kanamycin-resistance genes (from the same number of plant cells) were sufficient to successfully transform one bacterium, despite the fact that there was a 6 x 1012 – fold excess of plant DNA present. A single plant with, say, 2.5 x 1012 cells would be sufficient to transform 109 bacteria. In 1999, researchers in Germany reported the first field-monitoring experiment that provided prima facies evidence that transgenic DNA had transfered from the GM sugar beet plant debris to bacteria in the soil. DNA not only persists in the external environment, both in the soil and in water, it is not broken down sufficiently quickly in the digestive system to prevent transgenic DNA trasferring to micro-organisms resident in the gut of animals, though these kind of experiments are avoided for fear of finding positive results that would be more difficult to dismiss. In any case, the existing scientific literature shows clearly that horizontal gene transfer does happens and underlines the hazards of all kinds of naked DNA, including viral genomes, created by the genetic engineering industry. This has called the attention of several scientists in the world, though government's science advisors dismiss systematically all the evidences and, worse, cite them as evidence that horizontal gene transfer does not occur. It is a fact that definitive experiments that would inform on the safety of GM food and crops have been an still are intentionally avoided.

3. Environmental risk assessments

For the above mentioned reasons the transgenic DNA of maize will be horizontally transfered to non GM maize and even to many other microrganisms and plant species

4. Conclusions and recommendations

GM maize must not be cultivated not only because its transgenic DNA would be transfered to not GM maize but also beacuse it is not needed and dangerous to human beings, crop diversity and the environment.

7. Organisation: Comitati antielettrosmog di Bologna
Country: Italy

Comments on the following points:

a. Assessment:
- Molecular characterisation

08-06-06 Notifica EFSA-GMO-UK-2004-05:aperta partecipazione pubblica

Esprimo l'opinione del gruppo dei comitati antielettrosmog a cui appartengo "Alberi non antenne" e dei consumatori di Bologna collegati ad altre forme organizzative. L'insicurezza tecnica del ricorso alle biotecnologie con un intervento non valutabile a priori sul DNA determina un'incertezza scientifica non superata dalle condizioni della ricerca attuale. La coesistenza in campo delle colture omg diventa una vera e propria sperimentazione sull'uomo e sull'ambiente, implicando il non conseguimento e la non applicazione del principio di precauzione, quindi una forte preoccupazione generale. Come consumatori ci poniamo alcuni quesiti: - la dichiarazione di <> è riconosciuta dall'Unione Europea e permette la non coltivazione assoluta degli ogm ? - come consumatori chiediamo l'etichettatura dei prodotti contenenti ogm senza i limiti dell'attuale soglia dello 0,9%. Quindi che in etichetta venga sempre e comunque indicata la presenza di ogm.

Angela Donati – comitati antielettrosmog "Alberi non antenne" – portavoce al Tavolo di pianificazione programmata e partecipata sulla telefonia cellulare di Bologna

Translation

I am writing to express the opinion of the group of anti-electropollution committees, called "Alberi non antenne" to which I belong and of different consumers from Bologna, belonging to other organisations.
The technical uncertainty of the use of biotechnologies with an unpredictable intervention on the DNA determines a scientific uncertainty not resolved by the status of current researches.
The co-existence of GM crop becomes a real experimentation on the humankind and on the environment, implying the non respect and non application of
the precaution principle. This is therefore a strong source of worry.
As consumers we raise some questions: - is the declaration of *** recognized by the European Union and does it allow the absolute non-cultivation of GMOs.
As consumers we ask the labelling of the products containing GMO without the application of the current threshold of 0.9%. And that the labels should always and anyway indicate the presence of GMO.

Angela Donati – anti-electropollution committees "Alberi non antenne" – porteparole of the "Tavolo di pianificazione programmata e partecipata sulla telefonia cellulare di Bologna"

8. Organisation: Consiglio dei Diritti Genetici
Country: Italy

Comments on the following points:

a. Assessment:
- Molecular characterisation

Molecular characterization of the single events, showed the presence of unexpected sequences at the insertion locus, including sequences not present in the vectors used for the transformations. We retain, that these data don't allow concluding that the genotypic alterations, observed or potential, don't produce any phenotypic effect in the transformed maize line. In order to better investigate this hypothesis, we consider that should be necessary to apply profiling technologies (transcriptomics, proteomics, metabolomics). Without these analysis, the food/feed safety assessment should be performed very accurately in order to consider the unpredictable effects on human and animal health. However, we retain that selection of commercial events should be performed more stringently to prevent the presence of unexpected sequences with unknown functions.

- Comparative analysis (for compositional analysis and agronomic traits and GM phenotype)

Compositional analysis show us statistically significative differences between GM maize 1507*NK603 and control maize. In particular, in seems to us that metabolic pathway could be changed because of the great number of modification: there are compositional differences that seem related to the herbicide. Further studies are necessary to prove the GM maize is equivalent to control maize.

b. Food Safety Assessment:
- Toxicology

GMO Panel couldn't conclude GM maize is safe for human and animal use, so we think further analysis are necessary. It seems necessary the 90-days analysis on mice that EFSA recommend.

3. Environmental risk assessment

More consequences could derivate from an accumulation of Cry toxins in the soil, from the genetic horizontal transfer from plant to microorganisms. This has been demonstrated in studies like this one(1). (1) Duggan et al. (2000) FEMS Microbiol. Lett. 191, 71-77

There aren't lab studies or field experiments about effects of Cry1F on non-target phytophagoos or soil organisms(2) But a lot of studies are in literature on effects of Cry protein that have commune mechanisms with Cry1F. It seems to us that there aren't adequate studies to assicure that Cry1F is safe for environment. (2) Dolezel et al ECOLOGICAL EFFECTS OF GENETICALLY MODIFIED MAIZE WITH INSECT RESISTANCE AND/OR HERBICIDE TOLERANCE Wien 2005 Internet: http://www.bmgf.gv.at