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Can GM crops co-exist with non-GM crops?

How would an increase in the number of genetically modified (GM) crops grown in the EU affect the production of non-GM crops? A recently published study offers the following conclusions.

In May 2002, the Joint Research Centre, European Commission and Institute for Prospective Technological Studies published a report entitled, *Scenarios for Co-existence of Genetically Modified, Conventional and Organic Crops in European Agriculture*. The study investigates the consequences that three GM crops would have on conventional and organic farms in different EU countries. In each representative production area the study considered the average farm context for one crop. The crops and regions were:

- Winter oilseed rape/canola (OSR) for seed production (certified and farm-saved seed) in France and Germany.
- Grain maize for feed production in Italy and France.
- Potatoes for direct consumption and food processing in the UK and Germany.

Two hypothetical crop shares of GM crops, of 10% and 50%, were considered. The 10% figure repre-

sents a scenario of slow adoption of GM crops in the EU and the 50% figure mimics countries where GM crops are readily adopted, such as in Canada where GM oilseed rape quickly established a 54% share of the national crop.

Threshold levels of 1% for maize and potato crops, 0.3% for OSR seed production and 0.1% for all three model crops, were studied. Estimations of expected levels of adventitious presence of GM crops were carried out with a combination of computer modelling and expert opinion.

Conclusions

Four main origins of adventitious presence of GM crops at farm level are identified. These were seed impurities, cross-pollination, volunteers (overwintering of plants and plants growing from spread seeds) and harvesting/storage practices (mixing of crops after harvest).

Their contribution to the final level of adventitious presence varies depending on the crop and farm type.

Four main origins of adventitious presence of GM crops at farm level were identified. These were seed impurities, cross-pollination, volunteers and harvesting/storage practices.

■ According to the study, coexistence with thresholds of 0.1% seems virtually impossible in any of the scenarios considered.

Volunteers, for example, are key contributors in rape seed crops (especially organic), whilst seed impurities and cross-pollination play the major role where maize is grown.

What are the predicted levels of adventitious presence of GM crops in organic or conventional crops, with current farming practices if the share of GM crops grown in the area increases to 10% or 50%?

Reportedly estimated levels of adventitious presence of GM crops do not change dramatically between the two GM crop share scenarios (10% or 50%). However, they vary significantly depending on the crop and farm type, e.g. as much as 2.2% for a conventional intensive farm growing maize or as low as 0.1% for an organic potato crop. Lower levels, in general, can be expected on organic farms because of segregation systems in place. Organic farms, however, face higher probability of adventitious presence in seed production of rape due to problems in controlling volunteers with organic practices.

Can this adventitious presence of GM crops in organic or conventional crops be reduced below certain policy-relevant thresholds by changing farming practices?

The relevant thresholds (integrated in European legislation or currently being discussed) are 0.3% for seed production of allogamous species, e.g. rape, and 1% for maize and potato crops (for food-feed uses).

Significant changes are reportedly needed for all farm types producing

oilseed rape seed or conventional farms growing maize. In some cases changes at the individual farm level would be insufficient and co-operation between neighbouring farms would be necessary, e.g. the introduction of different sowing dates for GM and non-GM varieties, or region-wide border management. In contrast, the report noted with reservation, that all farm types growing potatoes and some organic farm types growing maize could meet these thresholds under current farming practices.

Can adventitious presence of GM crops in organic or conventional crops be avoided?

The report concluded that even with significant changes in farming practices a 0.1% limit will be extremely difficult to meet for any farm-crop combination in the scenarios considered. The use of GM varieties is not permitted in organic farming. However, the quantification limit of 0.1% reflects current analytical methods.

What is the cost of these changes?

To comply with the 1% and 0.3% thresholds, additional costs of 1% to 10% of current product price would be likely for all the farm-crop combinations studied, with the exception of seed production of oilseed rape. In the case of oilseed rape the costs could go up to 41% higher for some farm

types. Monitoring levels of contamination accounts for a large part of the additional costs in all cases. Other cost factors are changes in farming practices and in likely insurance needs. Organic farms are likely to face higher costs (especially in regard to insurance costs) per hectare and per tonne than conventional farms. Cost reductions might be possible if segregation becomes an integrated part of agricultural practices and costs of GMO tests decreases.

Can the different types of production co-exist in a region?

According to the study, coexistence with thresholds as low as 0.1% seems virtually impossible in any of the scenarios considered. For the 0.3% (production of seed) and 1% (food and animal feed production) thresholds, co-existence may technically be possible, but it would be economically difficult for seed production of rape. For potatoes, where no significant change of practices is needed, co-existence could be possible. Maize falls in between the above.

Can the different types of production co-exist on the same farm?

Due to the difficulties involved, cultivation of GM and conventional or organic crops on the same farm is projected to be an unrealistic scenario, even for larger farms. ■

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For the full report: www.jrc.cec.eu.int/download/GMCrops_coexistence.pdf

■ Due to the difficulties involved, cultivation of GM and conventional or organic crops on the same farm is projected to be an unrealistic scenario.

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BUNDESRAT APPROVED ORGANIC LAW

At the end of June the German Federal Government agreed to pass the new organic law (see *The Organic Standard*, issue 11, March 2002), The law focuses on the structural issues of the implementation of the Organic EU Regulation. For example, it delegates the approval system for inspection bodies and for import authorizations from the 16 Länder authorities to the BLE (the Federal Institution for Agriculture and Nutrition). ■

GERMAN CONSUMERS STILL CONFIDENT IN ORGANIC PRODUCTS

German consumers may not have been put off buying organic produce because of the Nitrofen scandal. A poll carried out by Polis-Institut showed that buying patterns for organic products had not been greatly affected.

Less than 10% of the consumers polled considered that they would buy less organic produce because of the Nitrofen issue and only 4% were considering completely giving up purchasing organic buying habits. ■

Source: *Organic Newsline*

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Organic agriculture in Sweden

14% organic

Although Sweden is one of the biggest countries in Europe, its arable land amounts for only 2.8 million hectares (1998), about 7% of the total land area. The rest of the land is mountainous or covered by forest, marshland or lakes. Agricultural conditions differ a great deal from north to south. For instance, the average temperature in Lund in the South is +8.5°C, compared to -1.2°C in Karesuando in the North; while the growing season in the south is almost a hundred days longer than in the north. Structural development in Sweden in the past few decades has led to intensification and specialisation of agriculture and to fewer and larger farms. In 1961 Sweden had 233,000 agricultural holdings. By

1998 this number had decreased to 85,600. Of these approximately 18,000 had at least some organic production. As well as agriculture, Sweden is also a source of wild products, mainly blueberries and lingonberries (cowberries). A substantial proportion of the wild berries are certified organic.

Development of the organic movement

The first biodynamic farms were established by the 1930s. However, the more general concept of organic farming started at the beginning of the 1980s, and by 1983 the first organic farmers' co-operative was established. This was followed by a number of regional and national marketing organi-

Financial support from the Swedish government

The Swedish government has been supportive of the organic sector, especially since the entry into the European Union, which opened the possibilities for EU to co-finance support. In 2001 the government support to the organic sector was distributed as follows:

	Swedish SEK	Euros
	(millions)	
Production support	207.0	22.77
Research 2001-2003	11.7	1.29
Field trials and development	12.2	1.34
Competence development	34.2	3.76
Marketing development	1.8	0.20
Total	266.9	29.36

The EU matches the support to producers within the agri-environmental programmes with 228 million SEK. A further 33 million SEK has been allocated for 2002 to support market development, organic associations, increased use of organic produce in public kitchens and research.

■ The organic area has developed to a stage where 14% of the agricultural land is now organically managed.

sations. These co-operative organisations all had the aim of making the mainstream food market – the processing industry, wholesalers and retail food chains – take responsibility for organic products so that they reach the normal consumers. In the same year the supermarkets owned by the Consumer Co-operatives started to market organic products on a larger scale. In 1985 the need to work with farmers' interests led the organic farmers to create the Ecological Farmers Association (EFA), which then took the initiative of establishing the certification organisation KRAV. The aim of KRAV was to unite the different organic philosophies and practices under a common system of standards and certification.

The next milestone in the history of Sweden's organic development came in 1989, with the start of governmental support for conversion to organic farming. In 1993 the movement launched the '10% in the year 2000' campaign, which soon gained widespread support and in 1994 the 10% target was adopted unanimously by Parliament. The 10% action plan was successful, and by 2000 10% of the arable land was indeed organically managed. Another important consequence of the 10% campaign was the change in attitude it inspired towards organic agriculture, which nowadays is fully accepted as a serious market alternative as well as being of interest to the whole of Swedish society in line with other national goals. In 1999, EFA adopted a new goal: 30% organic production by the year 2010. Meanwhile, the government commissioned the Board of Agriculture to work out a new five-year goal. After

careful market analysis the new overall target of '20% in the year 2005' was launched by the government at the end of 1999.

Success factors

An influential factor in the growth of organic farming in Sweden has been the favourable agricultural policy with strategically elaborated support programmes. Other factors that have also significantly contributed to the positive development of the organic production include:

- A well-organised sector. From the start the sector agreed on the analysis of the problems and had a clear division of roles and functions, making it a strong lobbying force on all levels. There has been little fighting within the organic movement, which has enabled the movement to speak with one voice.
- Consumers' trust and awareness. About 40% of consumers are frequent buyers of organic products. The KRAV label is known by 93% of the consumers.
- One organic mark: Having a single certification system and just one organic label (KRAV) that is supported by everyone involved in organic production and marketing has been an important factor in the successful marketing of the organic concept to consumers.
- Engagement by the big food chains. The main market strategy of the producers' was to get their produce into the supermarkets of the multiple retailers in order to make organic products available to ordinary consumers at fair prices. The multiple retailers have responded positively.

- Good relationship between the organic and conventional organisations. It has always been the aim of the organic movement in Sweden to maintain good relationships between farming organisations. The Farmers Federation, which represents most of the farmers in Sweden, was one of KRAV's first members, and for several years has had a continuous dialogue with the Ecological Farmers Association.

Development of organic production

The organic area has developed to a stage where 14% of the agricultural land is now organically managed. Of this, 7% is certified by KRAV and the rest is land that gets subsidies for organic farming without being certified. Sweden is the only country in the EU where organic farmers can get subsidies without being certified as organic. These farmers cannot sell their

Area of land certified by KRAV and receiving subsidies

Year	Hectares	
	KRAV	Subsidies
1985	1,500	
1986	2,500	
1987	4,870	
1989	8,598	
1990	23,600	
1991	28,500	
1992	31,968	
1993	33,267	
1994	36,675	
1995	48,039	
1996	83,490	160,000
1997	113,995	225,000
1998	118,175	277,000
1999	127,330	310,000
2000	155,674	343,000
2001	171,682	370,000
2002	192,375	

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THE SOIL ASSOCIATION CO-OPERATES WITH A FARM ASSURANCE SCHEME

The Soil Association Certification Ltd (SA Cert), the UK's largest organic certification body, has just launched a new farm assurance scheme. SA Cert's development of the scheme means that farm assurance audits can now take place at the same time as the organic inspection, potentially saving duplicated scheme fees and farm inspection visits. The parts of the scheme covering beef, sheep and pig production have received formal approval from UK's Assured Food Standards (AFS), which means that any surpluses of organic beef, lamb and pork not being sold into the organic supply chain can now carry AFS's Red Tractor logo.

To deliver the scheme to UKAS-accredited standards, SA Cert will be working in partnership with Product Authentication International (PAI), one of the most respected non-organic certification bodies in Europe. ■

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products as organic and they are controlled in the same way as for other EU support programmes, *i.e.* random inspections by the authorities.

Standards, Certification, and State Regulations

There are two private sector bodies that set their own standards and carry out inspection and certifications, KRAV and Demeterförbundet. Demeterförbundet certify biodynamic farming and has existed since the 1970s, however KRAV completely dominates and most farmers certified by Demeterförbundet are also certified by KRAV as this gives them better market access. Dual certification is simplified through close co-operation between Demeterförbundet and KRAV.

Swedish producers and retailers have shown little interest in the EU logo. Imported products are sometimes sold with only the Danish mark, the EU logo, a few other symbols or just the word 'organic', however it is still more or less a *de facto* requirement to be certified by KRAV. This can be seen in the number of products that KRAV re-certify, *i.e.* KRAV takes over the certification of a product that was initially certified by some other certification body, allowing the producer or importer to use the KRAV mark. For example, in 2001 KRAV certified 3,664 products, of which 1,234 had already been certified.

Implementation of the EU Regulation 2092/91

Before 1995 Sweden had no marketing regulation on organic agriculture since neither the government nor the sector itself felt it was necessary or desirable. From 1995, when Sweden became a member of the EU, the regulation 2092/91 came in force. The competent authorities are Jord-

bruksverket (The Swedish Board of Agriculture) and Livsmedelsverket (The National Food Administration). The two private control bodies are approved to carry out certifications and inspections. In reality the standards used are those of the private bodies, as although they have to certify producers according to the EU regulation if requested, virtually no producers apply for that kind of certification. In fact, KRAV has just one farmer and three processors that are certified only to the EU regulation.

There is currently no requirement for accreditation of the certification organisations according to the EN 45011. The matter has been discussed for years but is still not resolved. The National accreditation body, SWEDAC, has made a strong case for it but the sector has expressed that it sees no extra value in such an accreditation. Currently, the competent authorities are responsible for supervising the compliance of the certification bodies with the EN 45011. KRAV has been accredited by the IFOAM Ac-

Contact details of relevant Swedish organisations

Board of Agriculture
jordbruksverket@sjv.se
www.sjv.se

Ecological Farmers Association
kansliet@ekolantbruk.se,
www.ekolantbruk.se

Farmers Federation
lrf@lrf.se, www.lrf.se

KRAV
info@krav.se, www.krav.se

Svenska Demeterförbundet
www.demeter.nu

Ministry of Agriculture
www.jordbruk.regeringen.se

creditation Programme since 1994, making it the first organisation to pass the accreditation.

The Swedish organic movement is quite critical of the EU Regulation. Its concerns relate to the loss of influence, the lack of transparency in the EU processes and the deficit of objectives for the development of the organic sector in the EU Regulation. The opinion is that the control system must provide possibilities for development with a focus on the goals and in close interplay with the market. EU rules are often considered to be rigid, allowing few opportunities for any variation.

Markets

The Swedish organic market value on the retail level was estimated to be €250-320 Million in 2001. With KRAV's dominant position it is possible to collect reliable statistics about the Swedish market development on the wholesale level (see box below).

The Consumers' Co-operative movement, whose supermarkets, Coop, have a 20% market share in the food sector, has pushed the development of the organic market following the decision at its General Assembly in the early 1980s to provide their consumers with certified organic products. All other major retailers have followed suit. For example, the smaller chain Hemköp has made major efforts to sell organic products, e.g. for more than a year they sold organic milk for the same prices as conventional.

Recently the market growth has slowed down somewhat, and the commitment of some of those involved in marketing organic produce has come into question. The largest supermarket chain, ICA, is re-launching its organic line this autumn expecting to boost sales. There has been a renewed interest in direct, local and regional marketing of various kinds, and this kind of marketing is expected to grow rapidly, but from a very low level compared to many other countries. Unless fundamental changes occur in consumer behaviour or patterns the market dominance of the supermarkets is unlikely to be threatened.

Future trends in organic in Sweden

Organic agriculture has established itself as a serious alternative to existing conventional agricultural systems. With the positive interest of consumers, farmers and policy makers, and with national goals for the five-year period, there is no doubt that organic agriculture will continue to grow. Surveys carried out by the media and various organisations all point in the same direction: at present between 40 – 45% of the conventional farmers are interested in conversion – which does not mean they will all start the conversion process this year! A slow down has been noted making it doubtful that the ambitious targets set by the government and the sector will be achieved. ■

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KRAV

Organisation

KRAV is made up of member organisations that have an interest in the development of organic standards and certification. At its foundation in 1985 the first members were three organisations in the organic sector. Quite soon after that, the Consumers Cooperative and the Farmers Federation became member organisations. By 2001 KRAV membership had increased to 28 organisations. These basically represent the whole of Sweden's food chain, including the major retailers, environmental organisations and animal welfare groups. A majority of the member organisations are not dedicated organic organisations. The General Assembly of KRAV appoints a Board that is composed of representatives of various interests, but not of the members *per se*. A Standards Committee and a Certification Committee is appointed by the Board.

KRAV has 66 employees, of which half are inspectors. It is financed through the fees paid by the certified operators, and last year it had a turnover of €4 million.

More than half of the income is from fees from farms, less than one third comes from processing companies, including producers of agricultural inputs. Shops and restaurants contribute one tenth of the fees. KRAV Kontroll AB, the subsidiary responsible for international inspections, has two employees and a turnover of €150,000. The Chief Executive Officer of KRAV is Lena Söderberg.

KRAV standards

The first KRAV standards were published 1985 and were only one page. Today the KRAV standards are 140 pages long, and as well as the normal

Value of sale
(in million Swedish SEK)

Year	1995	1996	1997	1998	1999
Domestic production	276	317	466	517	673
Import	42	84	114	150	170

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SCIENCE PUBLISHES ITS FIRST EUROPEAN PAPER ON ORGANIC AGRICULTURE

The May, 2002 issue of *Science*, a highly respected, international journal, contained a paper comparing three systems of agricultural production – biodynamic, organic and conventional farming. This is the first time the journal has published a European paper on organic farming research. The results of the experiment will have highly significant political, scientific and economic implications for conservation of the agricultural production base and natural biodiversity.

The trial, known as the DOK trial (an acronym derived from its German name), has been running for over two decades. It now has data that clearly demonstrates the efficiency of organic crop production compared to other systems.

The DOK trial is being conducted in Switzerland by the Research Institute of Organic Agriculture (FiBL) in Frick and the Swiss Federal Research Station for Agroecology and Agriculture (FAL) in Zürich-Reckenholz. It will be continued for at least the next four years and probably longer still. ■

For technical questions concerning the trial: Paul Maeder, Trial Manager, Research Institute of Organic Agriculture (FiBL), Postfach, CH-5070 Frick, Tel. 0041 (0)62 865 72 72, paul.maeder@fibl.ch

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standards for crops, livestock and food processing, contains sections on bee keeping; wild production; Aquaculture; pet feed; production inputs; textiles; hides, leather and skin; shops; restaurants; and re-certification. The KRAV standards are developed through a wide consultative process.

Fees

Based on the results of the survey conducted by *The Organic Standard* (issue 7, November 2001) it is clear that KRAV's charges for inspecting farmers are relatively low compared to other certification bodies. An organic farm certified by KRAV pays a basic fee of SEK 1,300 (€143) if it is partly converted and SEK 600 (€66) for a fully converted farm. In addition, it pays an addition sum per unit item, e.g. grain SEK 60/ha; potatoes SEK 250/ha; dairy cow SEK 105/cow (6.6/ha; 27.5/ha; 11.55/cow respectively).

A processing company pays quite a different sum: the basic annual fee is SEK 5,000 (€550) or SEK 2,500 (€275) if the processing is fully converted. In addition, each production unit pays a further SEK 2,500. A sales fee of 0.9% is charged and there are various additional fees for export certificates etc. (1 SEK = €0.11 = US\$0.1)

Will KRAV get competition?

Over the years KRAV has been criticised by various sources. Importers resent the need to have organic products re-certified by KRAV if they are to gain market access in any practical sense. This increases costs considerably, and KRAV's approval has often taken a long time, which means loss of business. Food processing companies have complained about the time KRAV takes to process applications

and also about inconsistencies of the decisions. This year the Ecological Farmers Association voiced complaints against KRAV, and it was decided at their General Assembly that its Board should investigate the consequences of establishing another certification body. The critique is expressed against the following:

- Influence from the organic producers. The EFA feels that organic farmers are not represented well enough in KRAV and in the Standard Committee. They criticised a recent decision to drop compulsory labelling of the 'country of origin' for KRAV certified products.
- Fees. While the fee level itself is probably acceptable, the feeling is that KRAV could explain what value is created better than it currently does. Some feel that KRAV is less concerned about benefiting the organic sector's development, than about building its own organisation.

KRAV has initiated an organisational review that will look at how the interests of consumers and organic producers can be safeguarded in the future.

It may be the case that the bold statements from the EFA about KRAV should be seen more as a negotiation position to re-establish some of the (formal or informal) influence it feels it has lost over the years. The strength of the KRAV mark in the market place would make it very difficult to establish a competing service. As most of the important organisations involved in the food sector are members of KRAV it is unlikely that they would look positively on competitors to KRAV. ■

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Strategies for minimising and managing risk of contamination from transgenetic pollen

A note on how the German law deals with the contamination of organic crops

At present there are only a few trial plots of transgenetic crops in Germany, so most organic crops are not under any serious risk of being contaminated by the pollen. GMO-crops are not approved for general agricultural production due to a *de facto* moratorium in the European Union. However, when the EU Commission presented several drafts for EU GM food laws in Summer 2001 it suggested that this moratorium should be ended. Discussions are pending.

Organic farmers would suffer a significant loss of the market value of their crops if they became contaminated by transgenetic pollen. The German Environmental Protection Agency commissioned a study to answer some of the questions arising from this scenario. In particular it considered two questions. Could organic farmers prevent conventional neighbours from planting transgenetic crops under present German law? Should compensation be paid for the loss of market value of organic crop products caused by the presence of genetic modification introduced by drift of transgenetic pollen?

Prevention required where reasonably to be expected

In Germany § 903 Civil Code (CC)¹ and the following provisions regulate the relationships between the users of neighbouring pieces of land. § 903 CC states that the owner may not only do what he wishes with his land, but

¹ German Civil Codes are normally written with the prefix §

he may also 'exclude others from any interference'.

Thus it would appear that under § 903 CC neighbours of organic farmers can plant transgenetic crops as they wish. However, organic farmers can then force them to prevent the intrusion of transgenetic pollen into their cultures. This would effectively result in the prohibition of the use of transgenetic plants. However, it is a different provision, § 906 CC, that is the central mitigating norm in neighbourhood conflicts. This provision re-

quires an organic farmer to tolerate the intrusion of transgenetic pollen, but only under rather narrowly defined conditions, and with adequate compensation to be paid. Thus § 906 CC puts organic farmers in a strong position to require neighbours to abstain from growing transgenetic crops. See box on page 9.

Termination of the intrusion

The intrusion of transgenetic pollen into organic cultures must be prevented by the owner of a transgenetic

The German Civil Codes that affect GMO contamination policy

§ 903 CC [Powers of the owner]

The owner of an object may, to the extent that this not in violation of the law or the rights of third parties, deal with the object as he pleases and exclude others from any interference...

§ 906 CC [Intrusion]

(1) The owner of a piece of land is not entitled to prohibit the intrusion of gases, vapours, odours, smoke, soot, heat, noise, vibrations or similar interference emanating from another piece of land, in so far as the interference will not impede or only insignificantly impede the use of his piece of land. An insignificant impediment is as a rule present, when trigger or target levels fixed in parliamentary statutes or executive norms measured and evaluated in accordance to these rules are not exceeded. The same

applies for levels in general administrative rules, which have been enacted in accordance to § 48 of the Federal Emission Protection Law and which document best technical practice.

(2) The same applies in so far, as a significant impediment has been caused by a use of the other piece of land in conformity with local usage and in so far as it cannot be avoided by measures, which are reasonably to be expected from users of this kind from an economic point of view. If accordingly the owner has to endure the interference, he may demand an appropriate compensation in money from the user of the other piece of land, if the interference impedes the use of his piece of land in line with local usage or its earnings beyond a proportionate degree.

culture, if such prevention is possible by measures that 'can be reasonably expected to be taken from an economic point of view'. For an evaluation of what can reasonably and economically be expected, the amount of compensation to be paid in case of an intrusion of transgenetic pollen into the organic culture is taken into account.

Causality liability

§ 906 CC prescribes a liability not based on prior misconduct, but on mere causality. Compensation for

damage caused by transgenetic pollen is to be paid when these emanate from one piece of land and when they cause damage on another piece of land such as in an organic crop culture. An organic farmer needs to prove the causal link between the transgenetic cultures in his neighbourhood and genetic modifications in the harvested crop as well as a loss of market value in order to gain compensation. In order to prove causality organic farmers have to reasonably exclude all other possible causes of genetic modification. This requires them to document all

interfaces and the genetic free status of their seeds, equipment and crops in all steps of their production:

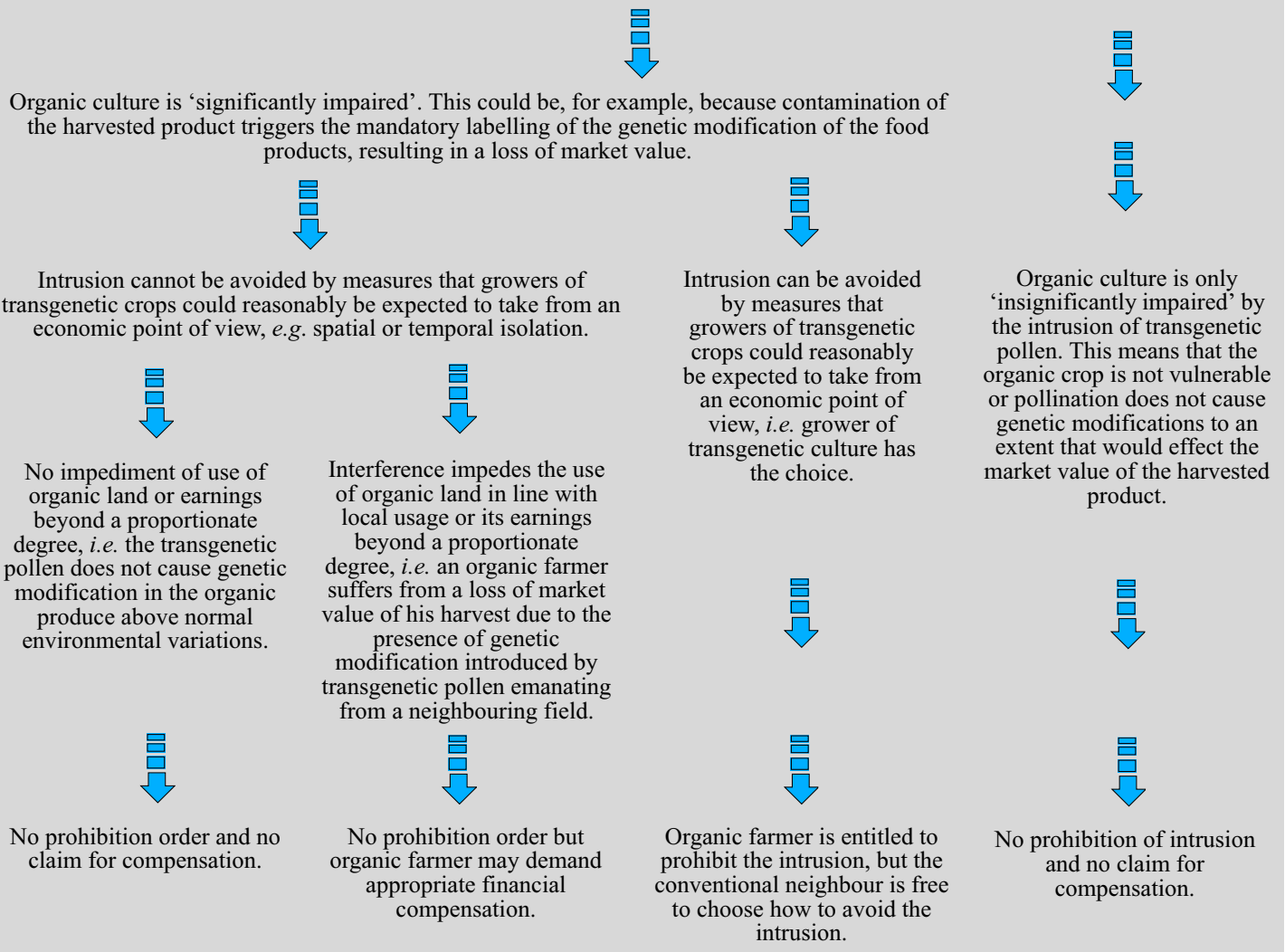
- Absence of genetic modification in the sown seeds.
- Absence of GMO modification in crops prior to harvest.
- Absence of GMO in the harvest equipment used.
- Absence of GMO sources in after harvest handling and storage.

Link between obligation to abstain and possible compensation claim

Thus, owners of transgenetic cultures

The mechanism that puts organic farmers in a strong position in regard to transgenetic crops.

Pollen emanating from a transgenetic culture, drifting onto organically-farmed land.



might attempt to prevent contamination of organic crops by transgenic pollen if the compensation payment this triggers is equal or more to the cost of the preventing the contamination. Or, put another way, if any procedure – such as an isolation distance or the growing of non-GM crops instead of transgenic culture – results in financial losses on the conventional farm that are lower than the compensation paid to the organic grower after contamination, then avoidance of the contamination is to their advantage. See the example given in the box below. Clearly this example simplifies the reality of neighbourhood conflicts, since usually many more factors will interplay. However it does show that the mutual legal positions can only be assessed knowing the cost and benefit structure of the neighbouring culture. This is true in both directions.

Results of the legislation

The causality liability forces German organic farmers into a situation where proof is required to link neighbouring transgenic cultures and genetic modifications with contamination in

Both farmers can work towards ensuring no transgenic crop is close in time or space to an organic crop vulnerable to transgenic pollen.

the organic crop. This entails information collection, analysis and documentation, and threatens the users of transgenic plants with compensation claims. At the same time the amount of possible compensation is influenced by whether the conventional farmer, who intends to grow a transgenic crop, must abandon the plan or at least relocate the crop away from the fields of organic neighbours.

Neighbourhood law community relationships

The German Federal Court explains the system established by § 906 CC as one of mutual trust and responsibility, which requires neighbours to protect their legitimate interests mutually at any time. Consequently, organic farmers are expected to provide *ex ante* information to neighbours on the presence of organic crops, and to request them to provide *ex ante* information on transgenic crops (prior to

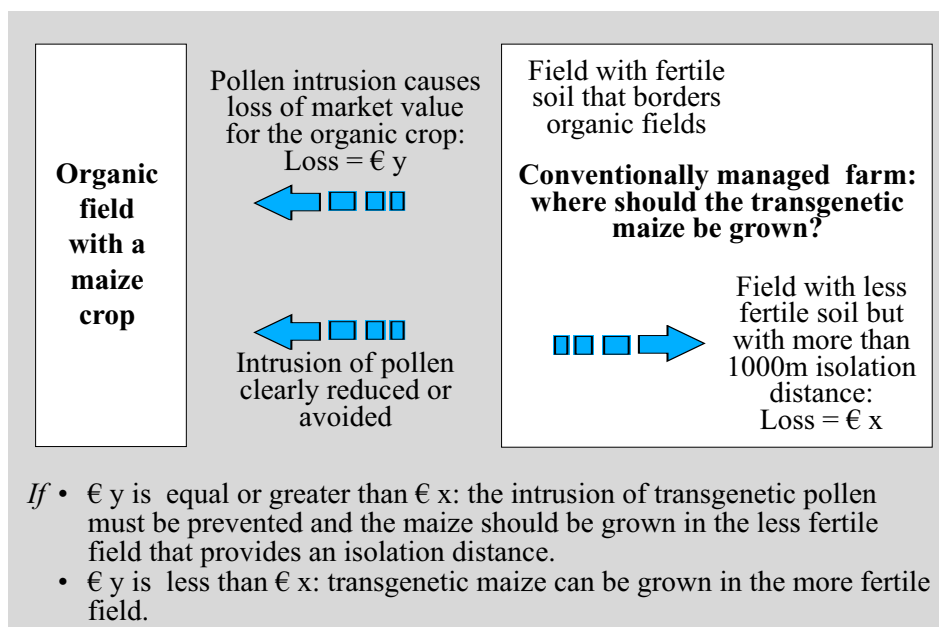
planting of organic crops). They will need to inform those who wish to grow transgenic crops what market losses and other damages would be expected from contamination with transgenic pollen. Only with this data can growers of transgenic cultures evaluate the expected size of the compensation claim and determine whether they could be forced by their organic neighbour to abandon the planting of transgenic plants. German courts will expect both sides to show *bona fide* efforts. On the side of organic farmers this would include efforts to distance their organic crops in space and time from transgenic competitors, *i.e.*

- Choose defensive planting dates.
- Develop defensive crop rotations.

By negotiating a system of mutual avoidance ('negative zipper crop rotation') both farmers can work towards ensuring no transgenic crop is close in time or space to an organic crop vulnerable to transgenic pollen.

An uneasy coexistence

This system of claims to prohibit the use of transgenic cultures in the neighbourhood of organic farms and compensation for respect of losses, will generate obstacles to the use of transgenic plants. Conventional farmers will not be able to reasonably assess their responsibilities. Many organic farmers, will experience the requirements of legal precision in order to safeguard their proofs as an almost bearable burden. Both parties will find themselves in a rather uneasy coexistence. In a period of transition, when both competing forms of agri-



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REGIONAL CENTRES OF ORGANIC FARMING IN INDIA

To promote organic farming on a more organised basis the Indian government has decided to set up six regional centres as part of the National Institute for Organic Farming. In a recent speech at the Central Institute of Agricultural Engineering at Bhopal, the Union agriculture minister Ajit Singh stressed India's need to increase organic production. Singh also reported that in the state of Madhya Pradesh the number of organic farming villages has trebled to 939. This dramatic increase started with an initiative to spread the use of organic farming techniques in one village in each of the state's 313 blocks. The villages recorded almost the same production levels compared to conventional farming techniques. ■

Source: IFOAM Asia e-group

NEW ZEALAND ON EU THIRD COUNTRY LIST

On 1 July, 2002, New Zealand was placed on the EU third country list. After a two year process the EU Commission approved that organic imports from New Zealand can be sold in the EU as organic, without any further approvals required. The two inspection bodies, Bio-Gro and Certenz, are accepted but the export certificates will be issued by the Ministry of Agriculture in New Zealand. ■

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culture try to find their place in society, the system of § 906 CC gives German organic farmers a strong position. In the long-term, the permanent use of § 906 CC measures will lead to a rather unhappy relationship with neighbours.

Pre-planting planning systems

Regional pre-planting planning systems run by an objective third party might offer solutions for some crops. These could ensure that organic and transgenic cultures are mutually kept at spatial and temporal distances.

This could help to prevent the presence to genetic modifications in some organic food products. Where this fails, full compensation is to be paid. The costs of both planning and compensating, should be the burden of those companies that introduce transgenic plants into agriculture, and not the responsibility of organic farmers, who safeguard consumers' right to choose. ■

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Useful reading

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Werner Müller. *GVO freie Bewirtschaftungsgebiete: Konzeption und Analyse von Szenarien und Umsetzungsschritten*. 28 April, 2002.

www.gentechnik.gv.at/gentechnik/B1_orientierung/B1_einfuehr_10436_set.html (English summary; German print version may be ordered for free from Bundesministerium für soziale Sicherheit und Generationen – Sektion IX by fax +43-1-713 79 52)

Mycotoxins and pathogens in organic food

Are organic foods more vulnerable to contamination from mycotoxins than conventionally grown and processed foods? It is a controversial suggestion, but does it have any truth?

Mycotoxins are chemical substances produced by microorganisms that exist in foods. They can be very harmful to humans, often having carcinogenic, immunosuppressive or other undesirable properties. There have been cases where mycotoxins have led to widespread poisoning, and their contamination in food and feed is considered to be one of the most serious problems in food security worldwide. Recently, mycotoxins have been reported in organic produce. In fact, one theory is that organically-grown products are likely to contain higher concentrations of mycotoxins than conventionally-grown products. This hypothesis is based on the fact that most mycotoxins are produced by fungi. Therefore, plants that have been regularly treated with modern fungicides are likely to contain less fungal growth and thus have lower mycotoxin contents than organic plants that have never received fungicidal treatments. However, there is little evidence to support this theory.

Occurrence of mycotoxin-producing microorganisms

Other than the fact that they can all be found on plant or animal tissue, the microorganisms that produce mycotoxins often have little in common. Some, such as *Fusarium* sp. or *Claviceps* sp. are true plant pathogens; others may be parasitic, such as *Aspergillus* sp. However, there are

other microorganisms that in sharp contrast do not naturally occur on plants and are therefore mere contaminants. *E. coli*, which is a bacterium harmful to humans but does not produce mycotoxins, is a good example of this type. As a consequence of their differing natures, strategies to avoid contamination by mycotoxins or harmful pathogens vary greatly, depending on the crop and the microorganism. For instance, food can be contaminated by *E. coli* whenever inappropriate handling occurs. In contrast, many mycotoxin-producing fungi only occur in particular habitats can only be controlled by managing the environment.

Risk assessment of contamination of organic food by mycotoxins

The levels of mycotoxin found in organic food may differ to those in conventional food because of:

- Systematic differences in the production systems, e.g. use of agrochemicals.
- Differences in post-harvest handling, e.g. storage.
- Differences during the transformation of raw products into processed foods such as fruit juice, dry meat, cheese etc.

Where consistent differences in mycotoxin levels occur between organic and conventional food it is likely that systematic factors, such as the use of agrochemicals, alternate crop rotation,

soil cultivation strategy, or food processing techniques, are the cause. In contrast, improper handling procedures during harvest or post-harvest are just as likely to occur in both organic and conventional foods, and differences in mycotoxin levels will be inconsistent.

An assessment of the current situation has to be done for individual commodities using the following criteria:

- Reported differences between organic and conventional food stuffs.
- Identification of key factors that influence the mycotoxin production.
- Assessment of the impact of systematic differences between production systems, e.g. use of pesticides, on mycotoxin production.
- Identification of critical points that may lead to reported or anticipated differences between organic and conventional foods.

Fruit: Patulin (caused by *Penicillium* sp.) and alternariol (caused by *Alternaria* sp.) are likely to occur in apple juice, and some reports indicate that organic apple juice is more likely to be contaminated than non-organic juice. Are the higher mycotoxin levels in organic juice a result of the production system or post-harvest treatment? Several studies indicate that the production system influences how much fungal colonisation occurs on fruit. For instance, spray programmes in conventional agriculture reduce fungal growth on cherries, but just because there are fewer species present or less fungal growth on the fruit it does not mean there is less mycotoxin. There is no evidence to show that conventional and organic fresh fruit have differing mycotoxin levels. What of the post-harvest treatment? An important source of patulin contamination in juice is from spoiled

fruit, and there are reports that organic fruit collected for juice production may not be checked for rotten material as carefully as necessary. In addition to mycotoxin contaminations another indication of quality problems in organic fruit juices due to post-harvest handling has been reported in the US in regard to contamination of unpasteurised apple juice by *E. coli* 0157.

Lettuce and other salad, leafy vegetables: Fresh vegetables are prone to contamination by microorganisms such as *E. coli* 0157 which is pathogenic but does not produce mycotoxins. In contrast, the risk of contamination by mycotoxins is relatively low since these commodities are not stored for lengthy periods that allow undetected fungal growth. There are no reports of differences between organic and conventional vegetables.

Cereals: Contamination by mycotoxins such as desoxinivalenol (DON), aflatoxin, ochratoxin and zearalenon represent a major problem in agriculture. Apart from direct intake, these mycotoxins may also contaminate products such as milk. The most common toxins (DON) are produced by *Fusarium graminearum* and *F. culmorum*, which are true pathogens of wheat and rye. Comparisons of mycotoxin contamination of conventionally and organically produced cereals have been conducted by several research groups. Five of these studies have not showed any differences. However, one group found consistently higher toxin concentrations in organic wheat and rye. In contrast, another study showed that samples from organically-grown wheat were less contaminated than conventionally-grown wheat. There is consistent evidence that agronomic techniques such as no-tillage

systems and the use of synthetic strobilurine fungicides promote mycotoxin formation. Neither of these techniques are used by organic farmers since ploughing is an indispensable weed control technique and the use of synthetic fungicides is prohibited. Therefore, organically-grown cereals may be less prone to toxin contamination prior to harvest than conventionally-grown grains. However, high humidity contents after harvest facilitates the toxin production during storage. Therefore, inadequate storage of organically-grown grains may lead to increased contamination levels.

Maize/corn and soy beans: Mycotoxins such as DON, aflatoxins or ochratoxin occur in animal feed and are the cause of substantial losses in animal husbandry world-wide. There are no reports of these toxins being found in organic produce. Factors that lead to increased toxin levels include water irrigation management encouraging the growth of *Fusarium moniliformes* in maize, damage due to feeding insects, or inadequate crop rotations. Apparently, fungicide treatments do not reduce contamination levels in conventional production systems.

The risk of contamination by toxins of organically-grown corn or soybean is difficult to assess due to lack of information. Risk factors for organic products may include wounds by feeding insects. However, inadequate handling during storage may represent the most important risk factor.

Conclusions

Agricultural products are prone to

contamination by mycotoxins. The presence of such compounds reduces the quality of any product, regardless of the farming system used. There are several reports of occurrence of mycotoxins in organic products. Such reports have to be taken seriously and weak points of the production system have to be identified and eliminated.

The available data do not suggest that the organic farming system does, as a general rule, facilitate higher contamination levels than conventional farming systems. The hypothesis that the prohibition of efficient agrochemicals leads to higher contamination risk is highly speculative, and there is, at least in cereals, evidence that the opposite is likely.

It is possible that there is an increased risk that organic products may become contaminated during storage or food processing. This may be due to inappropriate quality control systems, or unsuitable storage facilities. Furthermore, risks may also occur since the use of preservatives is restricted in organic agriculture. As a consequence, the hygiene requirements that have to be met by organic farmers and processors are more stringent. Any omission or carelessness in the production process may lead to increased mycotoxin levels. ■

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There are no reports of differences between organic and conventional vegetables. ■

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NEW DRAFT ON THE LABELLING AND INSPECTION REQUIREMENTS OF ANIMAL FEED UNDER THE EU REGULATION

The commission of the European Union has drafted a new document (AGRI/4827/2000-EN-rev. 5 b) that is intended to amend Council Regulation (EEC) No 2092/91 by a Commission Regulation on animal feed. The draft was circulated at the end of May to professional organisations in the organic sector. It is intended that responses to the draft should be submitted before it is discussed further by the Standing Committee on organic farming at the beginning of June.

The proposed Regulation applies only to feeding stuffs for organically reared livestock. It does not apply to pet food, feed for animals bred for fur, or feed for aquatic species. It provides, in six articles and a two-page annex, detailed provisions for the labelling and inspection of organic animal feed and its production.

Not least because of the Nitrofen scandal in Germany, the Commission is pushing the adoption of those provisions forward, and intends to have the final round of consultations taking place at the Standing Committee meeting in mid-July. ■

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Organic production in Hong Kong

It may come as a surprise to many that a small place like Hong Kong has a history of organic agriculture. In fact, there have been organic farms in the region for over 10 years, pioneered by non-government organisations and local farmers. According to the 'Hong Kong Organic Directory' published by Produce Green Foundation in October 2001, Hong Kong had twelve organic farms, covering 2.36 hectare of lands. All are located in the New Territories District, and they all produce organic vegetables as their main product.

In October, 2000, the Agriculture, Fisheries and Conservation Department (AFDC) released the 'Protocol for Organic Crop Production' and shortly afterwards launched the 'organic conversion programme'. The AFDC's organic conversion programme provides free organic inputs and technical support to participating farmers. There are currently 19 vegetable producers participating in the AFDC organic conversion programme.

Organic produce is sold to various private traders via the Vegetable Marketing Organization (VMO), a semi-

governmental organization. In April 2002, the AFDC-supported farms completed their conversion and organic vegetables have begun to appear on supermarket shelves with a VMO seal. Despite a large increase in organic vegetable production, demand continues to outstrip supply. The price premium, according to Angus Lam, the chairperson of Hong Kong Organic Farming Association (HOFA), is estimated at between 300-500% for organic vegetables and 15-20% for processed foods.

The Protocol for Organic Crop Production is a guide for organic standards, to be used by local certification organizations. It is a voluntary guide and only applicable to local production. Imported products are not subject to the protocol. No local certification organization has been established yet, although the Hong Kong Organic Farming Association (HOFA) is currently drafting organic crop standards and organising inspection and certification training. ■

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Organic Materials review Institute seek an Executive Director

The Organic Materials Review Institute (OMRI) is a non-profit organization created to benefit the US organic community and the general public. Its primary mission is to publish and disseminate generic and specific lists of materials allowed and prohibited for use in the production, processing and handling of organic food and fibre. At the end of June its current Executive Director stepped down and OMRI now needs to find

the right person to fill this position.

Candidates should have 3-5 years experience in non-profit management, staff supervision and fundraising. In addition, they should have strong communication and writing skills, and preferably have a good knowledge of the organic industry. Deadline for applications is 15 August, 2002 or until the position is filled. ■

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The Nitrofen diary

January 2002: Babyfood producer rejects 83 tons of organic turkey due to residues of Nitrofen

Mid/end March 2002: Involved companies find the possible source of contamination in a sample of wheat related to a lot bought from Norddeutsche Saat-und Pflanzgut AG (NSP). NSP contacted but denied any responsibility – and continued to deny any responsibility until the source of contamination was detected on 1 June.

27 March, 2002: Analysis by BAFF (Federal Institute for Meat Research) commissioned by GS agri reveals high residues of Nitrofen in organic turkey. No further action taken by the Federal Institute.

2 April, 2002: Three of the inspection bodies involved, Agro Öko Consult, Grünstempel and GfRS, have a telephone conference on the issue. The fourth inspection body involved, IMO, which inspected poultry production and fodder processing, was informed immediately after the teleconference.

4 April, 2002: Agro Öko Consult informs the competent authority of Brandenburg about the Nitrofen contamination. No further action taken.

2 May, 2002: Another inspection body (GfRS) informs the competent authority of Niedersachsen (Lower Saxony). No further action taken.

21 May, 2002: BMVEL (Federal Ministry of Consumer Protection, Nutrition and Agriculture) receives information on the contamination for the first time.

23 May, 2002: Naturland and Bioland produce press releases on the Nitrofen contamination.

24 May, 2002: BMVEL informs the EU.

Enormous uproar on the Nitrofen contamination by the media. With no hint of the source of the contamination, and with the high level of residues and the large number of companies affected, many rumours circulate including one that it must be sabotage.

28 May 2002: More residues are found in turkeys, layers and eggs. About 73 farms/companies have now been closed by the authorities in four Länder. The Ministry in Niedersachsen confiscates 230 tones of organic poultry.

30 May, 2002: The Federal Ministry sets up a task force to clarify the product flow of the contaminated grain and fodder and to analyse the weak spots of the inspection system and the role of the involved authorities and inspection bodies.

1 June, 2002: Investigations by the authorities in Mecklenburg-Vorpommern reveal the source of the Nitrofen contamination: a former cen-

tral pesticide storage warehouse of the German Democratic Republic where pesticides had been stored up to 1995. Since August 1995 NSP kept organic grain in the storeroom. The storeroom had no legal restraints for storing food.

11 June, 2002: The EU Commission decides that there will be no ban on German organic food exports. The Commission had announced a few days earlier that they intended to prohibit the export of German organic grain, fodder, meat and meat products due to the Nitrofen contamination.

12 June, 2002: The Ministry of Mecklenburg-Vorpommern announces that a further sample of wheat had been contaminated with Nitrofen. The sample came from 72 tons of wheat that had been delivered to FUGEMA on the 20 December, 2001. The contaminated wheat was included in a lot that was processed into 50,000 tons of conventional fodder. Ministries in Mecklenburg Vorpommern and Brandenburg close about 440 farms that had received deliveries from FUGEMA. About ten days later most farms were re-opened when the samples taken revealed no contamination. ■

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Sources: BMVEL, Naturland, GfRS and own investigations.

Nitrofen is a contact herbicide that has been prohibited in Western Germany since 1981 and in Eastern Germany since 1990 as it is considered to be a human carcinogen. Nitrofen may neither be distributed nor applied within the EU. Most other non-EU countries in Europe also prohibit Nitrofen. The level of analysed residues in organic wheat reached up to 6 mg/kg and in organic poultry up to 0.8 mg/kg. The legally accepted level is up to 0.01 mg/kg. The dust in the NSP storeroom revealed 2 g/kg residues. According to the Federal Institute for Health Protection of Consumers and Veterinary Medicine (BgVV) even very low levels of Nitrofen can harm embryos and should therefore be avoided by pregnant women.

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NEW ALLIANCE OF ORGANIC FARMERS PROCESSORS AND TRADERS FOUNDED IN GERMANY

On 26 June, 2002, representatives of German organic farmers associations and the organic processing and trade founded the German 'Bund Ökologische Lebensmittelwirtschaft' (BÖLW: Alliance Organic Food-business). The organisation will be based in Berlin. 'I am very happy about the formation of BÖLW. It meets an urgent need of the organic movement – to have a joint voice for the organic industry' said Felix Prinz zu Löwenstein, one of the main initiators of BÖLW. Some of the main issues that BÖLW will address are the cooperation in the further development of quality assurance systems, methods to avoid contamination of organic products with GMOs, food regulations on national and European levels, the Organic EU-Regulation and the reform of the EU agriculture policy.

Founding members include the farmers associations Bioland, Demeter, Gäa, Naturland, Biopark, three associations from processing and trade and the companies Alnatura and Frosta. Members of the board of directors are Thomas Dosch (Bioland), Wolfgang Gutberlet (AOEL,

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Naturland describes the events of the Nitrofen scandal

When news that some organic products in Germany had been contaminated with Nitrofen became public several people were quick to lay blame. Naturland, the organisation that certified some of the key players, got caught in the fire. The Organic Standard went to Naturland to find out the true story.

TOS: *The Nitrofen scandal shook the organic movement in Germany. In what way has Naturland been affected/involved?*

Naturland: The investigations revealed that organically certified cereals contaminated with Nitrofen had been stored in a warehouse owned by 'Norddeutsche Saat-und Pflanzgut AG' (NSP). NSP has been and still is certified under the organic regulation 2092/91 of the EU but not by Naturland.

Most of the cereals in the warehouse were sold to GS agri, an animal feed processor that runs an organic line. GS agri, and most of the farmers who bought the contaminated feed from GS agri, were certified by Naturland as well as by other certifiers including the EU.

Traces of Nitrofen were first found by a leading baby food manufacturer in December 2001. The traces were in poultry meat, but it took both companies, (GS agri and the baby food manufacturer) and the producers until mid/end of March 2002 to find out that the possible source of contamination was a sample of wheat related to a lot bought from NSP.

Naturland was informed of the contamination by GS agri at the beginning of April. The contaminated wheat had all been processed in January. A newly installed and regularly

conducted system of analysis showed no feed or product contamination occurred during March and April, and Naturland was informed that contaminated products had been withdrawn from the market.

New contamination was discovered at the end of April/beginning of May. GS agri learnt of the results of the analysis about ten days later, it stopped deliveries and withdrew the contaminated feed. The affected producers known to GS agri were informed and they stopped the production of poultry meat, and some days later egg production and withdrew all eggs from the market. When Naturland was finally informed it prohibited the use of Naturland's certification and the use of the seal immediately. After receiving proof and reliable information Naturland informed the Federal Ministry, the ministries of the Bundesländer and the public.

TOS: *Particularly in the first weeks the major criticism had been that many institutions and companies had known about the Nitrofen contamination since beginning of the year or at least since March and that nobody informed the public. Naturland has been blamed by the media for holding back information. What are the facts?*

Naturland: Some sections of the organic sector, the 'alternative' farmers'

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Association Organic Food Processors), Felix Prinz zu Löwenstein (Naturland), Elke Röder (BNN, Federal Association Organic Food Organic Products Processing and Trade), Paul Söbbeke (BNN). The first general assembly will be in autumn 2002. ■

GEORGIAN PARLIAMENT TO PASS ORGANIC REGULATION

The government of Georgia has sent a proposal for an organic regulation to the Parliament of Georgia for debate and final approval.

Once the law is approved the State Department of Standardization, Metrology and Certification of Georgia and the Ministry of Agriculture and Food of Georgia will elaborate the regulation. They will also issue the following orders related with the enforcement of the law:

- a) Description of requirements and procedures for accrediting certification bodies.
- b) Major requirements on animal and plant products, conditions of production, temporarily rules on production processing and technological regulations.
- c) List of permitted and recommended components designated to the biological production, raising, processing, storing and packaging. ■

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association, politicians and several others joined the media in blaming Naturland. This was natural as the information available in mid-May pointed in GS agri's and Naturland's direction.

As the investigations later proved several institutions and companies knew about the Nitrofen contamination in January, February and March. Among those who knew there were public authorities responsible for the organic regulation, competitors of GS agri and several poultry meat and egg producers. No one informed the Ministry or the public, nor did they believe there was a health risk for the consumer. Even when a meat processor denounced himself at the prosecutor's office nothing changed.

When Naturland was informed, the fact that other inspection bodies and authorities were already involved gave reassurance. However, being the certifier of three of the companies involved, Naturland came under suspicion of having withheld information.

There are many reasons why the responsibility of the scandal was assigned to Naturland so quickly. These include the shift in the German agricultural policy, political hassle due to the federal elections in September, the fact that the companies are 'big' compared to the average organic companies or producers, and that they are legally related to the big German feed processing industry. Such mis-directed blame caused confusion and increased the overall disturbance.

TOS: What has been the dimension of the scandal?

Naturland: NSP delivered 300 tons

of wheat to GS agri at the beginning of November. About 100 tons was contaminated. This was all processed into animal feed by the beginning of January 2002. The second contamination, which occurred at the end of April/beginning of May, involved 23 tons of contaminated Triticale. This was stored in a silo with about 1200 tons of grain. About 50 to 60 tons of this grain was delivered to farmers, and a further 20 tons of barley was delivered to another feed processor. The total quantity of contaminated cereal, stored and then sold by NSP, has not yet been announced by the authorities.

TOS: In your opinion, could the scandal, or at least the disastrous effects for the affected farms and companies, have been avoided? What were the crucial mistakes? Can you draw any preliminary conclusions for Naturland?

Naturland: Naturland is convinced that if the companies involved had informed their inspection bodies and certifiers as soon as they knew about the contamination, the source of the Nitrofen would have been found much earlier. This is also true of the authorities; if they had reacted to the information rather than just ignore it at the early stages the outcome might have been very different.

Naturland has decided to commission an expert group to investigate the case. The Certification Committee for producers and processors have had their first meetings and the Standards Committee as well as the lawyers will be involved. The report will show whether changes will have to be introduced. Everything will have to be

Naturland has decided to commission an expert group to investigate the case. ■

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ANOTHER ACCREDITATION FOR ARGENCERT

On 20 June, ARGENCERT was awarded the ISO 65/EN 45.011 accreditation from the D.A.P. (Deutsche Akkreditierungssystem Prüfweise GMBH) a Germany member of the International Accreditation Federation.

By virtue of this accreditation ARGENCERT has demonstrated its ability to certify according to the European organic norms CEE 2092/91, its amendments and additions, by following the procedures specified in the Guide ISO 65/EN 45.01.

This new accreditation is in addition to the IFOAM accreditation and the Argentine authorities accreditation. ARGENCERT consider it is a source of pride since it represents a new step in the international recognition of ARGENCERT's commitment to excellency in organic certification. ■

NEW JAPANESE ORGANIC FOOD REGULATIONS DECIMATE MARKET REVENUES

The new Japanese regulations for organic food production, which have now been in force for two years, have caused a large reduction in market revenues. New research by *Organic Monitor* shows that the organic food market size has shrunk from over US \$3 billion in 2000 to US \$250 million in 2001 as a result of the new ruling. ■

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The main conclusion concerns the importance of when and how information should be provided.

looked at, including contracts, standards, co-operation between inspection bodies, the information policy of certified operators *vis- -vis* Naturland, communication with authorities and organisations and all cases where products are 'quietly' withdrawn by companies from the market. NSP and the contaminated warehouse are not under Naturland's direct certification, restricting the legal possibility of approaching NSP directly.

TOS: *What have been the reactions by the certified farmers and by the consumer? Is there a serious decrease in the sales figures?*

Naturland: Affected farmers are desperate and angry. The effect on the farms that were involved is disastrous. Contaminated stock have had to be slaughtered and farmers have found it impossible to market their products. Other farmers have also been indirectly affected by the decision of supermarket chains that stopped marketing organic eggs and poultry.

Consumers are irritated as most believed – and still believe – that organic products are by definition not contaminated by any residues. Those consumers who became interested in organic food quite recently due to conventional food scandals and the Mad Cow disease have had their belief shaken. Those who are a little more knowledgeable about organic systems and the benefits of organic agriculture realise that there is no alternative – unless they buy conventional food where pesticides are applied regularly.

It is too early to foresee whether this scandal will lead to a serious and long lasting decrease in organic sales.

Of course poultry meat and eggs have been particularly affected.

TOS: *Did the Nitrofen contamination reveal any major weak points or blind spots in the organic certification system, e.g. in regard to the IFOAM Basic Standards, IFOAM Criteria, the organic EU-Regulation? What would be your recommendations for other certification bodies*

Naturland: It is too early to draw final conclusions.

The organic inspection and quality system detected the Nitrofen contamination. As such it did function. Regarding the EU Regulation Naturland believes that the recent change of annex III is important, but it still has its deficiencies in subduing all relevant parties under the Regulation. This case as well as others (including those that might not have been detected yet or have never been made known to anybody outside the operator who found the contamination) shows that we will have to consider supplementing the 'system certification' with more regular product analysis.

The main conclusion, however, concerns the importance of when and how information should be provided. If we don't succeed in linking the public with the private system, to raise awareness of all people involved and to solve confidentiality issues (private-private, public-private, private-public) cases like the Nitrofen-scandal will happen again in the future. In general the alliance between the public and private system must be improved. ■

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Would analyses prevent contamination scandals?

The organic inspection system is based on production not analyses. Recent events have led some people to question this approach.

‘Organic agriculture lost its innocence’ was the main tenor of the media when commenting on the Nitrofen story that broke in Germany last month. The fact that contamination in one storage area can affect hundreds of farmers and companies opened the public’s eyes to the fact that organic farming is not the idyllic self-sufficient system with a closed production cycle that many had imagined. More and more, organic agriculture is adopting conventional business structures and within this process it is becoming vulnerable and more susceptible to scandals. It is and will increasingly be a major challenge of the organic movement not to neglect this vulnerability and to find ways to deal with weak spots and scandals without losing credibility.

It is still too early to draw final conclusions from the Nitrofen affair, but it is evident that procedures to deal with problems like contamination are inadequate and that the information management in the recent scandal was a disaster.

Information management

The Nitrofen scandal fermented for a couple of months before it ‘broke’ to the public. During that time an increasing number of companies, inspection bodies and authorities learnt about the problem, but all underestimated it and none thought the consequences would be so serious. The scandal would not have been so large if there had been an information ex-

change between the involved parties and the public to enable a fast and appropriate reaction. However, as far as it is known today most of the involved parties acted correctly. This shows that there is an urgent need to define duties of notification for companies, farmers, inspection bodies and authorities in cases of serious infringements or any other unexpected deficiencies. A good quality assurance system includes an emergency plan and such an emergency concept needs to be developed to include all stakeholders. It must also specifically clarify the information flow between stakeholders, private and public actors and the consumer. In addition, legal solutions must be found to prevent companies and authorities from being hassled with data protection and liability problems when they pass on information.

A system is needed for dealing with contamination

Organic agriculture needs a system of dealing with events like the widespread contamination of organic goods. The biggest – in regard to the tremendous reverberations in the media – scandal involving organic products in Germany and possibly worldwide was not caused by intentional fraud. It was simply due to inaction when action was necessary and problems of storage six years earlier. An earlier contamination scandal that occurred in Germany involving chlormequat in organic pears was also due to the application of a very per-

sistent substance several years before the organic management. In cases of contamination, especially contaminations that are unexpected, an inspection system based only on the inspection of the procedure and tracing back the former history is not sufficient. A general monitoring system for potential contamination, including a professional risk assessment of potential contamination, is necessary. Also a concept of how analyses could be integrated into the inspection system has to be included. It must be clearly defined to what extent inspection bodies have to integrate analyses in their system. Under the current system analyses are rare – according to an EU report German inspection bodies only conducted 34 analyses in 1998. Quality assurance systems managed by organic operators need to have detailed risk oriented requirements on sampling and analyses. These must be defined in a way that they can be sanctioned when deficiencies in the internal quality assurance system occur.

With some countries increasingly allowing the implementation of genetic engineering, a system of dealing with contamination is crucial, but any system should not be focused on just GMOs. Other substances harmful to human health or the reputation of the organic agriculture should also be included.

It is obvious that the parties responsible for existing and potential contaminations has to be called to account, but it is the organic movement that has to face the problem and to develop solutions. It needs to improve its own system and challenge the people and organisations who are causing the contamination or tolerating it through legal frameworks. ■

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news shorts...

MAFF CHANGES ITS ATTITUDE

In March, USA was recognised by JAS (Japanese Agricultural Standard) Organic Law as a country that has an equivalent system with Japan. This means that there are now seventeen countries considered equivalent. These are Ireland, USA, Italy, Australia, Austria, Netherlands, Greece, Sweden, Spain, Denmark, German, Finland, France, Belgium, Portugal, Luxembourg and Great Britain.

On 10 May the Japanese Ministry of Agriculture, Forestry and Fisheries (MAFF) announced that there are now 62 Registered Certification Organizations (RCO) and six Registered Foreign Certification Organizations (RFCO).

Recently, several cases of labelling fraud have been discovered. To resolve this problem, a section of JAS law was revised in June. In the future MAFF will be quick to announce the name of any organisation carrying out fraudulent practices. In addition, the penalties have changed; if an organisation found guilty of fraud is a corporation the penalty will be a billion yen (US\$8.33 million).

On 26 June, 2002, MAFF cancelled the JAS Organic Certification of a Tofu processor. The company used conventional soybean for organic labelled Tofu. Under JAS Organic law, it is MAFF that carries out the cancellation of a certification, not the RFCOs. This is the first time it has taken place. ■

Can you trust the claim on the menu card?

The fact that restaurants can claim to serve organic food without being certified is an issue under constant debate. Whether this is considered acceptable or not depends on who is asked. Some claim that under the EU regulation they need to be certified, others claim not. Some private certifiers have developed certification systems for restaurants to allow them to use the label, other seem pleased to find their logos printed on a menu without any further requirements.

In the UK, according to *World Organic News*, the Food Standards Authority is going to crack down on

restaurants serving organic foods without being certified. Their initial analysis is that as soon as a restaurant serves one organic dish it needs a licence (assuming that they make the organic claim). The move is welcomed by the certification industry, but less popular among some restaurants. One famous chef calls the move 'a nonsense' and claims that the people making these rules may understand farms and factories, but hardly restaurants. *The Organic Standard* plans to follow up the topic in coming issues, with more information on how this is handled in different countries. ■

Developing standards for corporate social responsibility

As related in *The Organic Standard*, issue 14, the ISO Consumer Policy Committee (COPOLCO) had initiated a process for the development of management system standards (MSSs) on corporate social responsibility (CSR). In a COPOLCO meeting held on 11-12 June, 2002 in Port-of-Spain, Trinidad, it was concluded that MSSs and CSR are both desirable and feasible. After considering a report by its working group 'Consumer Protection in the Global Market', and taking into account the outcomes of its 10 June, 2002 workshop *CSR: Concepts and Solutions*, COPOLCO recommended that ISO Council establish a multi-stakeholder body to explore the issue further.

Alice Tepper Marlin, from Social Accountability International (SAI), welcomed a widely implemented, verifiable CSR standard. However, she suggested some conditions for such a standard developed by the ISO. They are:

- Diverse stakeholder participation, including a substantial place for public & NGO environmental, community development and human rights organizations, and trade unions.
- The full cooperation and active participation of the International Labour Organization (ILO).
- Clear and prominent elements and guidance that refer to operative substantive performance standards – such as IFOAM's, FLO's and SAI's.

Yes, we have no certification

Alan Trout used to hang a banner on his farmer's market stand, advertising his produce as organic. This year, he left his organic banner at home in Goodman, Missouri. 'I'm sure not gonna pay the USDA for a piece of paper,' he said.

The US National Organic Program (NOP) requires organic farmers to be certified if they want to sell their produce as organic. When rules were first developed there was some resistance to certification and a compromise solution was agreed that allowed farmers selling less than US\$5,000 worth of produce annually to be exempt from certification, although they did have to follow the standards. The Organic Farming Research Foundation estimates that there are about 8,000 certified organic farms nationwide and between 12,000 and 15,000 growers who farm organically but are not certified. The question is which route they will take now as the NOP is implemented. Nina Rao from *The Springfield News Leader* (springfieldnews-leader.com) reported in June that there are farmers in Missouri who want to stay out of certification.

Law or no law, none of the eight southwestern members in the Missouri Organic Association will seek certification because they cannot af-

ford it, nor do they need to or entirely trust the costly and time-consuming certification process. 'It is for impersonal, interstate transactions that certification is important', said Alan Trout, whose transactions are anything but impersonal. For 25 years he has been growing vegetables and herbs organically and selling them exclusively at farmers markets. If anyone ever asks Mr Trout whether he is certified, he has a simple answer: 'I always say, "I'm farmer-certified", look 'em in the eye and say, "You'll just have to take my word for it".'

'I think for most of the local growers, certification is not going to be economically beneficial,' says Rick Hopkins, president of the Missouri Organic Association. Hopkins, who raises organic beef in Marionville, has developed another label entirely, one that focuses on the producers rather than the methods of production. He calls it American Homestead Foods, a designation he says will be reserved for family farms. With the \$30 membership fee comes listing in an Internet directory and a sign bearing the American Homestead logo for the farm. Though the site so far only lists eight farms in Missouri, Hopkins is optimistic. ■

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They should also clarify that use of such standards and the choice between particular standards is a requisite component of the management system.

She concluded that in order to balance the business interests that dominate ISO, half the participants should be representatives drawn from the environmental, community development, human rights and labour sectors. ■

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