

Legal Responses to the Risks of GM Farming as a Challenge to Coexistence

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Abstract

Apart from setting standards for GM farming and requiring safety checks for GM products, legislators also provide for the case that risks that should have been prevented by such measures materialise. These are not necessarily novel approaches – classic tort law already offers remedies for such losses. Sometimes these traditional solutions are enhanced or replaced by alternative redress schemes. Either way, potential risks of GM farming have a significant impact upon its coexistence with conventional or organic agriculture. This paper will present an introductory overview of how the legal systems in Europe have addressed these hazards.

1 Introduction

The heated debate about genetically modified organisms in Europe is fuelled by the fear of the general public about potential risks of GM farming, whether substantiated or not, without differentiating between approved and unapproved GMOs. Transgenic food is suspected to trigger allergies or cause other bodily harm to humans, have a negative impact upon the health of animals, weaken the productivity of farmland, reduce biodiversity or otherwise deteriorate the environment, to name but a few dangers popping up in the public debate. Conventional farmers are afraid not to generate bonus payments on the market if it turns out that their crops contain GMOs beyond the labelling threshold due to admixture at any given stage of production or distribution. Organic farmers fear to lose their certification.

These concerns by non-GM farmers have to be distinguished from the aforementioned more general fears for several reasons. To begin with, if other growers are afraid to lose profits they would otherwise make by opting for traditional crop production, this concerns coexistence directly, in particular because such problems may result from inadequate segregation measures. Furthermore, such losses are purely economic and as such not universally compensable in all legal systems, or only subject to more restrictive requirements. On the other hand, fear of such losses may stimulate legislators who are generally sympathetic to biotechnology to intervene and to provide for specific measures in order to achieve coexistence between all forms of agriculture.

Damage to humans or property as well as harm to the environment, on the other hand, are potential dangers of GMOs which only indirectly – but still – affect coexistence. They primarily concern the fundamental trust (or distrust) of consumers and producers in this variety of farming, and therefore its viability on the market in general. It is therefore not so much a question of conventional or organic on the one hand and GM farming on the other, but rather whether the latter can proceed at all (or whether it has any chance to survive on the market). Fear of such “classic” losses is at least indirectly one of the prime drivers for the potential economic losses mentioned before, however.

The following considerations are based upon two comparative studies analysing what solutions European legal systems offer should any of these risks materialise.¹ The prime focus is therefore on redress schemes rather than *ex ante* prevention measures. These shall nevertheless briefly be put into perspective before proceeding to some findings of the two research projects.

2 Prevention of future harm

A growing body of law in Europe, both on the national (EC Commission, 2009, pp. 5 et seq.) as well as on the EU level², proactively tries to prevent damage caused by GMOs. This includes statutes and regulations that set the legal framework for research into GMOs as well as for farming, processing, and distributing GM products. By setting (mostly minimum) standards with the goal to prevent admixture or harm to individuals or to the environment, they try to reduce the practical need for redress schemes.

This is not only happening on the legislative level, however – the industry tries to protect itself by developing its own standards (e.g. good agricultural practices), either as voluntary standards, which may ultimately find their way into legislation, or as binding *inter partes* by incorporating them into contracts with their business partners. The latter are being enforced bilaterally, either by way of injunctions, or – more likely – by way of sanctions for breaching contractual duties, the fear of which may effectively serve as a disincentive to disregard such obligations.

Binding regulations can be put into effect both *ex ante* and *ex post*, by making permits dependant upon compliance with such rules, or by withdrawing authorisations or otherwise providing for sanctions such as fines.

Apart from rules prescribing or prohibiting certain conduct that may be harmful, *ex ante* protection may also be based upon the safeguard of legally recognised interests as such – the concept of property, for example, has a protective shield inherent which at least in continental European legal systems includes the possibility to enjoin attacks upon it, irrespective of the type of conduct. The same holds true for life and bodily integrity, whose protection is embedded in a wide range of legal norms.

Despite common belief, tort law cannot perform such functions properly – “in respect of the damaging event, tort law always comes too late” (Widmer, 2001, p. 92). It may have a preventive effect inasmuch as people will consider the possibility to be held liable for the loss of another and act accordingly. However, this effect should not be overestimated – it is way too diffuse to allow for the steering of a specific behaviour *ex ante*. Also, it has no influence on damage that is caused purely accidentally and without the impact of any controlled human conduct which could take such considerations into account.

3 Redress for damage

What tort law can achieve, however, is to provide for mechanisms to compensate losses, though subject to certain conditions. Before looking at some of these requirements in slightly more detail, we first have to classify the potential losses that may arise due to GM farming.

3.1 Types of losses

3.1.1 Personal injury and damage to property

When it comes to the „classic” losses for which tort law foresees remedies, i.e. harm to the human body or to property, all legal systems invariably claim to adhere to the principle of full compensation. However, this only means that they are willing to remedy all those losses in full that they recognise as compensable, so there is a first limit to the indemnification of losses in a comparative overview already at the stage of defining damage. Minor losses are typically disregarded entirely, though the threshold varies from country to country.

The most noteworthy difference for the remaining losses that surpass that level is in the field of non-pecuniary loss, i.e. damage that cannot be quantified objectively such as by reference to market prices. Not all legal systems recognise the same types of immaterial harm, which comprises pain and suffering in its core, extends to losses of amenities, and can go further beyond infringements of personality rights.

While there are several variations throughout Europe also with respect to property damage, these differences do not exclusively concern losses caused by GMOs, but apply irrespective of their origin. What is specific, however, is the question whether or not contamination with GMOs counts as „damage” to the land or to the crops of the non-GM farmer. This issue does not seem to have appeared before European courts yet and is therefore open to debate. The solution will depend upon the courts’ view of whether a mere physical change such as a GM seed taking root already counts as „damage”, or whether it is the (monetary or other) consequences of such a change instead that is crucial, such as a loss in market value or the like, but also the development of certain resistances or a measurable negative impact upon soil ecology.

3.1.2 Harm to the environment

A reduction of biodiversity or other damage to the environment as such is not a loss traditionally compensated by tort law, even though most legal systems have in the meantime caught up and provided for at least some type of recognition. To some extent, environmental liability is also governed by traditional property law rules such as those granting specific claims against immissions from neighbouring land or – in the common law world – classic torts such as nuisance (Pozzo, 2007).

3.1.3 Pure economic loss

“There is no consensus on the exact content of the phenomenon of ‘pure economic loss’” (van Boom, 2004, p. 5). Nevertheless, some jurisdictions perceive this is an additional category to be separated from the immediate consequences of bodily harm or damage to property. This difference is sometimes hard to tell, though (von Bar, 2000, nos. 25 et seq.). As far as our context is concerned, one may argue that the economic loss of a conventional farmer was a mere addition to the harm caused to her crops or land and therefore to be included in the calculation of the overall loss to that property. On the other hand, the admixture as such may not be considered to qualify as “damage” to the land or its crops, particularly if the economic performance of the transgenic variety is better than its conventional counterpart. Some jurisdictions simply check whether an object has been physically altered before the economic loss ensued, in which case the latter is considered to be a mere consequence of the former (von Bar, 2000, no. 32).

Furthermore, tort laws may award compensation only if GM crops were actually mixed with conventional ones, but not for the mere fear thereof. However, a farmer in whose GM-free label suspicious customers no longer trust will undoubtedly suffer a measurable economic loss if such distrust leads to drops in sales figures. In such a case, there was clearly no alteration of the property involved, so the loss may be real, but is certainly purely economic.

Why is this seemingly hair-splitting exercise necessary at all? Because – as indicated in the introduction – some jurisdictions treat such losses as a separate category which does not deserve equal protection in law as the other types of harm mentioned before. In these countries, victims will have to surmount more challenging hurdles already by law in order to be compensated for such economic damage, whereas others make no difference at all and even consider indemnifying losses triggered by mere fear.

3.2 Types of redress mechanisms

3.2.1 No redress at all

The starting point of tort law is „casum sentit dominus”, or, in slightly more modern wording, „the loss lies where it falls”. This often forgotten fundamental principle maintains that tort law is not an automatic route to compensation, awarded by way of reflex as sometimes suggested by the media, but requires that a set of more or less far-reaching conditions are fulfilled before the victim can recover. Therefore, if any of these requirements are not met in a single case, the loss stays with the victim, at least in tort law.

This principle is also the starting point for all losses considered here. „No law based on rational principles can impose damages on each and every act of carelessness. ... The law of delict would ruin itself ... if, say in a case of negligent damage to the environment, it not only compensated the owners of the contaminated land for their loss, but also awarded the inhabitants of the area compensation for loss of enjoyment due to the damage caused to the wildlife of the area” (von Bar, 2000, no. 1).

3.2.2 Tort law

The classic route to compensation for damage inflicted by another is tort law. This is not the place to present all details of where European jurisdictions diverge when it comes to the laws of delict – our two studies have generated several hundred pages of such information. It may suffice to say upfront, however, that these dissimilarities are primarily general differences and not so much limited to the specific context under survey here, even though these are equally affected.

3.2.2.1 Causation as one example of differences between legal systems

One important element of a tort claim particularly relevant for losses caused by GMOs is, for example, causation. In light of the heated scientific debate about the risks of GM farming and whether they are realistic at all, it is obvious that proving a causal link between any given allergy, for example, and the consumption of GM food may be difficult, as it may be hard to find sufficient evidence proving that an economic loss sustained by a conventional farmer was caused by his neighbour who has opted for GM crops. National systems already differ when it comes to the standard of proof required for convincing a judge of any given fact – some are content with a preponderance of the evidence (“more likely than not”), others insist on (near) certainty.

Tort laws may foresee alleviations for claimants – from a lowering of said standard of proof in the latter jurisdictions to an entire reversal of the burden of proving causation. In France, for example, if GM content in crops exceeds the labelling threshold because of involuntary admixture, any ensuing loss can be recovered just by proving that it was grown near a field where GM crops were cultivated, without the need to specify that the transgenic pollen came from there or the like.

In case of multiple plausible causes of a given loss, most jurisdictions still foresee joint and several liability of all potential tortfeasors if their individual share cannot be identified. This means that whoever is sued first has to compensate the claimant in full and then seek recourse from the other “suspects”. Some jurisdictions are now moving towards a regime of proportional liability in such cases, holding each

potential tortfeasor only liable according to the likelihood that it was indeed him who caused the loss. Again other jurisdictions opt for a radical solution by not awarding any compensation to the victim at all because of her impossibility to fully prove who triggered the loss.

A cause of the victim's loss may also lie in her own sphere, in which case her claim for compensation will be at least reduced, if not entirely excluded. One important case scenario whose outcome differs from country to country, concerns an illness that the victim claims to have been caused by consuming food containing GMOs, but which could equally be the consequence of the victim's own predispositions or of an infection independent from eating transgenic food. Most jurisdictions would probably stick to an „all-or-nothing“ approach and consequently deny liability because of this „non liquet“ situation. Only a few so far are prepared to divide the loss between the victim and those responsible for potential external causes according to the respective likelihood (Koch, 2008b, pp. 436 ff.).

3.2.2.2 Fault liability as the “backbone” of classic tort law

The classic basis of a tort claim is fault, i.e. some culpable wrongdoing of the defendant. Unless there is a special liability regime in place which makes access to compensation easier for the victims (otherwise they will disregard it anyhow), fault liability will always be in place to step in as at least one option to pursue one's claims. This also means that damage caused by the negligence of the actor are run-of-the-mill cases for which all legal systems foresee liability – things going wrong through human error at any given point along the supply chain will easily be remedied this way.

These standards are objective ones, comparing the conduct of the defendant with the potential behaviour of an imaginary “reasonable man” (or woman). What should have been done by the defendant is always assessed ex post, however, when the chain of causation has been analysed thoroughly, tempting judges to retroactively impose duties upon the defendant that were unbeknownst to the latter at the time of acting. However, after the event even the fool is wise, so duties of care identified in the aftermath of the loss are not necessarily obvious to the tortfeasor in advance.

Another way to tighten liability apart from objectivising the standard of due care is to reverse the burden of proving fault under certain circumstances or even generally, which may very well be relevant in the context of farming, even though we will have to wait and see for the first case to come before any court in Europe.

If the duty of care is not determined by way of imagining what a reasonable person would have done under the circumstances, but by law which prescribes or forbids a certain behaviour in order to prevent the infliction of harm, any violation of such express duties will help to establish fault or even be considered faulty per se by most jurisdictions. This may also apply to non-legislative standards which are common usage in a particular industry or trade, including protocols or guidelines promoted by interest groups, but also instructions by a GMO producer. The reverse is not true, however – abiding by such standards does not per se exempt the defendant from liability.

The case is simpler with unapproved GMOs – whoever made it possible to let them flow into the food or feed supply chain will easily be held liable for any negative

consequences thereof that are deemed compensable, in case of qualified fault probably most (if not all) legal systems would even indemnify pure economic loss.

3.2.2.3 Special liability regimes for GMOs

A few jurisdictions foresee special liability rules for harm caused by GMOs. Some deal with the economic loss of non-GM farmers only (such as France), others provide also for other types of harm, while of those some only foresee special solutions for the research and development stage (such as Austria or Germany), whereas the remainder also covers losses caused during commercial distribution (e.g. Finland, Norway, or Poland). As a rule of thumb, all these special solutions provide for strict liability, i.e. liability without the requirement of fault within the sphere of the tortfeasor.

3.2.2.4 Other strict liability rules

Some jurisdictions have general strict liability rules which may apply at least in some cases under survey here, provided that cultivating GMOs falls under the definitions used. Such rules address, for example, „hazardous substances” (as in the Netherlands), „extremely dangerous activities” (as in Estonia, Hungary, or Italy) or are even broader. Under this condition, these provisions may serve as additional bases of claims to indemnify losses to persons or property. However, at present it seems rather doubtful that courts are willing to subsume GMOs under any notion of ultra-hazardous objects, particularly if they are approved, though the circumstances of the case may ultimately be decisive (e.g. if large-scale bodily injury is at stake).

3.2.2.5 Product liability

Another special liability regime was introduced throughout Europe, based upon the EC Product Liability Directive (PLD)³. Liability of the producer irrespective of fault will be one of the prime causes of action for damage caused by GMOs in the food or feed supply chain, even though the regime foreseen by the Directive does not cover all imaginable scenarios. As the ECJ emphasises, the Directive does not just provide a minimum standard, but is the exclusive no-fault liability regime for harm caused by product defects.

The Directive was not only introduced to protect consumers, but also „because the existing divergences may distort competition and affect the movement of goods within the common market”, as stressed in the very first recital of the Directive.

The trigger of liability is a product “defect”, which means it „does not provide the safety which a person is entitled to expect” according to reasonable expectations. The latter means that, for example, a feed producer whose products are used by another in the food chain would not be liable for losses thereby caused.

The persons onto whom liability is channelled under the Directive are “producers”, who are defined as manufacturers of a finished product, of raw material or of any component part, therefore anyone involved in the manufacturing process from the beginning to the end. In case more than one „producer” within that meaning can be identified, they are all jointly and severally liable (Art. 5 PLD). In addition, the term is expanded to include those who present themselves as producers on the product without actually being involved in the manufacturing process. Furthermore, if the defective products came into the internal market from outside, the importer is also responsible like the actual producer abroad (Art. 3 PLD). If the producer cannot be

identified, the supplier will be liable instead unless he reveals the identity within reasonable time. This applies mutatis mutandis to goods imported into the European market, so that the distributors have to compensate those injured unless they name the importer (while the name of the extra-EU producer is irrelevant in this case). Therefore, the local supermarket can be strictly liable for harm caused by GM food produced in, say, the U.S., if the company that imported these products into Europe is not made known to the claimants in due time. Otherwise, if for example tortilla chips contain GMOs that are harmful, the seed producer, the farmer who grew the maize, the producer of the masa flour, the company that processed the flour to chips, and the owner of the brand under whose name they are sold on the market (if separate legal entities) are all jointly and severally liable for losses caused by this defect, and the victims can choose who to go after first.

The producer is exempt from liability, for example, if he did not put the defective product into circulation, i.e. if it left his premises involuntarily, be it by accident or by way of sabotage (Art. 7 lit. a and c PLD). Therefore, a GM farmer from whose fields pollen are blown to a neighbouring conventional field will not be considered a producer of whatever produce is derived from the latter field, since he did not intend to participate in the cultivation of that field. The same is true for testing labs which do not produce for the commercial market. This does not mean that they are completely off the hook – there may be other grounds of action against them, e.g. fault or some special liability standard, but not through product liability.

Two more defences expressly foreseen in the Directive are important: First, the question is to what extent „compliance of the product with mandatory regulations issued by the public authorities” (Art. 7 lit. d PLD) can really exonerate the producer, or in other words, whether coexistence legislation and permits granted on its basis constitute „mandatory regulations” within that meaning. This may rarely ever – if at all – be the case, as it is meant to designate specific rules of conduct.

Second, but of higher relevance in our context, Art. 7 (e) PLD contains the so-called development risk defence, which member states did not necessarily have to implement. A producer can therefore not rely upon it in Finland, Luxembourg, Norway or Spain (there only if food for human consumption is defective). In the remaining countries, he is not liable if he can prove „that the state of scientific and technical knowledge at the time when he put the product into circulation was not such as to enable the existence of the defect to be discovered”. If it therefore turns out that products containing certain GMOs are defective within the meaning of the Directive (e.g. bear certain health risks for consumers), but this is not discovered until after these products have been put into circulation, the producer will not be liable for said defect. The defence does not extend to risks which were known as such but could not be detected with state of the art technology. There may be a grey zone where there is already a suspicion of harmfulness at the time the products are brought onto the market, but no scientific proof yet. It is hard to imagine, though, how the latter could apply to GMOs approved for cultivation in the EU, which have undergone high-level scrutiny by the authorities and are only admitted to the market if greenlighted after thorough testing and analysis.

The producer may still be liable despite the applicability of the development risk defence: While the latter excludes (strict) product liability, the producer may

nevertheless have to account for his negligence in monitoring the product safety, for issuing adequate warnings or for failing to recall products.

3.2.2.6 Environmental liability

The Environmental Liability Directive (ELD)⁴, despite its name, does not deal with individual losses at all, and imposes an administrative regime which decides upon who has to bear which costs of preventing harm to the environment or of restoring it once damaged.

This shift to administrative law is not problematic, however: The best representative of the interests of the environment seems to be the state anyhow, where all these activities can be bundled, and who already is in charge of a series of measures to protect the environment. The ELD therefore shifts expenditures for remedying specific losses from society at large to those who are responsible for the damage, though not necessarily in a sense of blame, but rather in order to let those pay that derive benefits for the harmful activities.

The Directive expressly extends to “any deliberate release into the environment, transport and placing on the market of genetically modified organisms”. In contrast to the PLD, the ELD is meant to set only a minimum, not an exclusive standard. Consequently, even after its implementation the legal situation with regard to environmental liability in Europe continues to be quite colourful (CEA, 2009, pp. 10 et seq., 56 et seq.). Apart from optional provisions in the Directive itself, many countries had already (or have in the meantime) introduced parallel legislation distributing environmental risks, some also provide for damage to individuals which is triggered by and therefore secondary to an initial harm to the environment.

On the international level, there are efforts to come up with a regime that very much resembles the EU Directive, at least that is what the current efforts based upon Art. 27 of the Cartagena Protocol on Biosafety seem to strive for. However, its fate is so far entirely unforeseeable.

3.2.3 Insurance

3.2.3.1 Social insurance

Social insurance cushions the immediate financial consequences of harm to the human body irrespective of the cause, at least in all European systems covered. Therefore, illnesses and other negative health conditions triggered by GMOs, whether directly or indirectly, will first be an issue for social security benefits in Europe, so victims will not suffer an immediate financial loss to the full extent when seeking treatment. This is clearly one prime difference to damage to property or to the economic losses mentioned at the beginning.

3.2.3.2 Private insurance

Private insurance allows the pooling of hazards among a larger group of risk-prone individuals, who thereby reduce the full impact of a loss on their assets by spreading the risk among all those who are equally exposed. However, insurers need to have sufficient information to estimate how often a risk will materialise, and how much damage it will cause, while at the same time being confident that the loss is not certain to occur. They need to be able to calculate how high the premiums need to be priced in order to accumulate sufficient funds to pay the aggregate losses and to

cover administrative costs with a certain margin of profit for the insurer, at the same time taking into account that the higher the premium, the less demand there will be for the product. This in turn would weaken another important aspect of insurability, the size of the risk pool: The more insured participate, the better the risk can be spread, unless the additional customers are more risk-prone than average, so if only people living near a river buy flood insurance, the mere number of clients does not improve the mutuality aspect.

While the immediate prospects of having a range of suitable insurance products for the risks of cross-pollination and ensuing economic losses offered on the market are rather slim, the classic risks affecting humans, property, or the environment may more likely be underwritten.

As far as first-party insurance is concerned, life or health cover does not seem to be affected by this variety of risk, and at least with respect to farming hazards, one may well imagine to expand existing insurance bundles to these kinds of losses.

More recent product and environmental liability policies for farmers „usually have an explicit GMO exclusion” (Ebert & Lahnstein, 2008, no. 7), apparently overreacting to the lack of experience with existing liability rules.⁵ If other product defects or environmental risks of novel technology can be covered, however, one wonders why this should not equally be possible for GMOs. In order to (re-)enable the insurance industry to offer cover for liability risks of GMO operators, at least one step forward would be a clarification of the duties of care, in particular by legislating on good farming practice.

3.2.4 Compensation funds

Some countries have set up compensation fund regimes in order to assist farmers who have suffered an economic loss due to the involuntary admixture of GM crops with their own (Koch 2008a, nos. 173 ff.). Neither these nor any other separate funds are currently established that shall offer compensation for bodily injuries or property damage caused by GMOs to third parties.

4 Outlook

As could be seen, tort laws throughout Europe provide for a wide range of options for victims to seek redress for harm they may have suffered. However, not all of them are victim-friendly, which is why some claim that current solutions were insufficient.

Those jurisdictions which provide for easy access to compensation, doing without the requirement of fault and facilitating proof of causation, are invariably countries where the political climate is predominantly hostile towards genetic engineering in general and GM farming in particular. This not only rubs off on the tone of liability and other redress systems, but also on other rules on coexistence.

Speaking of which, these are crucial for determining chances to be held liable, which in turn is essential information for liability insurers. The more specifically legal systems define good practices of both GM and non-GM production, the better they can coexist: Buffer zones not only need to be defined for crop varieties, but also for all other possible contacts between conventional, organic and GM farmers. In light of the current scepticism about novel technology, waiting for the market to decide rather

than regulating ex ante in essence puts development to a standstill, as the market will not even get going.

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¹ The first study covered all (then) 25 EU member states, the second study surveys 20 European legal systems in comparison with four non-European jurisdictions (Australia, Brazil, Canada and the US). The first study deals with the economic losses only and has already been published (Koch 2008a). The second study, covering the other types of losses mentioned, was executed within the framework of Co-Extra (<http://www.coextra.eu>), it will be published shortly.

² Apart from setting food and feed safety standards, this is mostly done by way of soft law (EC Commission, 2003, p. 36).

³ Council Directive 85/374/EEC of 25 July 1985 on the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products, OJ L 210, 7.8.1985, 29, as amended.

⁴ Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage, OJ L 143, 30.4.2004, 56; as amended.

⁵ Cf. CEA (2009, p. 12): „Some policies exclude ... genetically modified organisms.“ A few years ago, one of the world’s largest reinsurers did not yet expect such a large-scale exclusion apparently: „Although there are exceptions, ... Munich Re does not see any general trend to exclude losses attributable to genetically modified organisms from public liability, product liability and environmental impairment liability covers in general, nor to impose any limits on them.“ (Munich Re, 2003, p. 99). They recommended „to exclude genetic engineering risks from the liability section“ of property insurance policies, however, if these cover laboratories or other R&D installations with dangerous GMOs that could contaminate the environment or pose unknown health risks (Munich Re, 2003, p. 103).