

# FOOD FIGHTS

## Genetically Modified Food and the Law

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The increased prevalence of genetically modified (GM) crops as a source of human food and animal feed over the last 10 years has been dramatic. Since the introduction of the first commercial GM crop in 1995, the use of GM seed has rapidly increased in U.S. agriculture. It is now estimated that 70 percent of products on grocery shelves include some genetically modified ingredient. Despite the clear importance of genetic technology, there is still political and consumer resistance to GM crops within certain constituencies fueled by concerns over theoretical risks arising from genetic manipulation and/or skepticism over whether we have the ability to anticipate the types of harm genetic engineering may cause to the environment and to present or future generations.

To date, tort litigation related to GM crops has been limited.<sup>1</sup> The seminal case arose when GM corn not approved for food use was detected in taco shells and other food products in September 2000.

In May 1998, the U.S. Environmental Protection Agency (EPA)<sup>2</sup> had issued a “split” registration permitting the planting and sale of StarLink® corn<sup>3</sup> for domestic animal feed and industrial uses, including ethanol production, but not for use as human food. StarLink is genetically engineered to express the protein Cry9C, which is toxic within the alkaline digestive tract of certain insects, including corn borers, but not within the acidic digestive tract of humans. During the EPA registration process, concern over whether the long string and durable Cry9C protein might be an allergen resulted in the first, and probably the last, split EPA registration. StarLink was approved for nonfood uses but not for human food use. To implement the requirements of the split registration, the EPA imposed isolation distances for planting StarLink to prevent cross-fertilization with non-StarLink corn and channeling requirements to prevent StarLink corn grain from entering human food grain channels. Due to

the failure of either the isolation or the channeling requirements, or perhaps both, StarLink was detected in various food products, most notably Taco Bell™ taco shells sold in grocery stores, leading to food and grain recalls and suits or claims by various entities handling, processing, or selling corn grain or food products. The focus of the *StarLink* litigation was primarily domestic and related to the prohibition against its use in food and economic consequences of the presence of StarLink throughout the distribution system.

Based on what is currently known, GM food litigation is likely to center, as did *StarLink*, on economic issues rather than personal injury—at least barring new scientific evidence or the emergence of a specific GM crop that can be linked to health hazards. As in *StarLink*, should there be a disruption in the corn market attributable to GM crops, one would expect similar classes of plaintiffs and similar legal claims. Set forth below is a brief description of the nature of

the concern over GM crops, the *StarLink* experience, and a review of the legal and practical issues raised by claims in tort for economic losses attributed to GM crops.

### Performance versus Perception

A unique feature of GM claims is that the harm asserted, at least to date, has been economic and not physical.<sup>4</sup> The economic harm, in turn, arises not out of identifiable damage to property (other than the presence of the GM grain), but from disruption in corn markets caused by fear of harm and lack of consumer acceptance.

Three main areas of concern have been raised about GMs: (1) potential toxicity, (2) potential allergenicity, and (3) environmental issues relating to the loss of genetic diversity. Fear of toxicity of products derived from GMs is a primary but unsubstantiated concern underlying the restriction of GMs. The anxiety about toxicity ranges from fear of the spread of antibiotic resistant pathogens to unpredictable mutations that may prove carcinogenic.<sup>5</sup> There is further theory that naked or free DNA can be taken up by mammalian cells and incorporated into the genome, leading to such adverse effects as “acute toxic shock, delayed immunological reactions and autoimmune reactions.”<sup>6</sup>

Concern about safety has not been supported by scientific evidence. The Food and Agriculture Organization of the United Nations and the World Health Organization have assessed the potential risks of GM crops and concluded that “food safety considerations for current GM crops and derived food and feed are fundamentally of the same nature as those that arise from conventional plant breeding.”<sup>7</sup>

Furthermore, no peer-reviewed scientific studies report adverse effects on human health as a consequence of eating GM foods, and studies indicate that dietary DNA has no direct toxicity itself.<sup>8</sup> Indeed, the fact that GM food crops have now been grown on over 230 million cumulative hectares worldwide provides evidence for the “lack of harmful human health effects from the consumption of GM food products.”<sup>9</sup>

With respect to the potential for allergic reaction, it is noteworthy that the GM foods currently on supermarket shelves throughout the United States appear not to have caused any allergic reactions. Indeed, it has been reported that this result is “unsurprising as the proteins that have been added have no known history of allergenic potential.”<sup>10</sup> Additionally, potentially hundreds of millions of people have been consuming food from GM crops and meat from GM fed animals for up to 10 years with no substantiated reports of adverse effects.<sup>11</sup> Furthermore, recent studies have found no adverse effects on animal health or productivity as a result of the use of GM feed, and no adverse effects from the consumption of the animals.<sup>12</sup>

In response, critics of GM food assert that even if there have been no readily observable and severe health effects, that does not rule out the possibility of milder, less widespread, or longer term effects.<sup>13</sup> Indeed, at least in the context of health-related concerns, opposition to GMs is based more on what we do not know than what we do know. Repeatedly, criticisms leveled at GMs cite the absence of knowledge rather than affirmative evidence of harm or risk of harm.

The final argument made by

those in opposition to genetic modification involves environmental concerns and the threat to biodiversity. Opponents of GM crops assert that they threaten the genetic diversity of U.S. crops.<sup>14</sup> Genetic diversity is important to food security, as well as avoiding widespread crop epidemics in the face of drought, disease, or new pests. The crop epidemics cited by these opponents, however, occurred before the introduction of GM crops. If those epidemics reflect anything, it is the effects of increased uniformity in the kinds of crops grown, not the effect of introducing GM traits into those crops.

Another environmental concern is cross-pollination between GM crops and other plant species. Opponents argue that soybeans genetically engineered to be resistant to herbicides could create a strain of herbicide-resistant weeds through cross-pollination. Similarly, it has been argued that the widespread use of corn genetically engineered to express the Bt protein to deter the European corn borer could hasten the development of Bt-resistant corn borers, not through cross-pollination, but through overexposure to Bt.<sup>15</sup> Furthermore, some fear harm to the environment and wildlife due specifically to increased use of broad-spectrum herbicides made possible by herbicide-tolerant GM crops.<sup>16</sup> The current scientific record, however, does not appear to substantiate these concerns, and it can be argued plausibly that genetic modification will reduce environmental exposure to plant or animal toxins.

Although not all of the environmental or toxicity concerns will be specifically identified in the allegations of a complaint regarding GM foods, the kind of vocal

opposition to GM crops that the above views typify underlies the resistance of some consumers, and some governments, to accept GM crops, which in turn drives the economic harm that is claimed in GM food litigation.

### Political Pressures

These concerns have led to recurrent political pressures against GM crops domestically and internationally. For instance, Congressman Dennis J. Kucinich (D-Ohio) introduced the Genetically Engineered Food Right to Know Act (H.R. 5269), legislation that would amend the Federal Food, Drug, and Cosmetic Act, the Federal Meat Inspection Act, and the Poultry Products Inspection Act to require labeling of any food that contains genetically engineered material or that is produced with genetically engineered material.<sup>17</sup> He has also introduced the Genetically Engineered Organism Liability Act (H.R. 5271), which would assign liability for injury caused by GM crops.<sup>18</sup>

This situation is exacerbated by political activists resistant to GM crops in Europe and elsewhere. Since grain markets are international, issues with GM crops overseas have economic consequences for domestic producers and exporters. Actions that disrupt the flow of grain to international markets may be the basis for losses by both domestic and overseas entities. In April 2004, the European Union (EU) “brought into force the world’s toughest labeling regime.”<sup>19</sup> EU regulations mandate labeling “beyond food and food ingredients” to “labeling of animal feeds and feed additives as well as highly refined oils, sugars and starches.”<sup>20</sup> The regulations also require labeling of products that are derived from GM crops even if they do not contain detectable levels of

novel DNA or protein.<sup>21</sup> Outside the EU, other nations also have required labeling of food containing GM ingredients. Japan, South Korea, Australia, and New Zealand all require mandatory labeling, though their requirements are more liberal than those of the EU.<sup>22</sup> Some of these nations, moreover, will not accept imported grain that is commingled with unapproved genetically modified grain.

Notably, refusal to accept GM crops based on unsubstantiated concerns has been successfully challenged. Last year, the World Trade Organization ruled in favor of the United States regarding a complaint brought in 2003 against the EU, charging that “a moratorium on approvals of genetically modified crops that Europe adopted in 1998 had violated a food treaty requiring regulatory decisions to be made without ‘undue delay’ and to be based on science.”<sup>23</sup> The complaint also alleged that “Austria, France, Germany, Greece, Italy and Luxembourg had violated trade rules by banning biotech crops that had been approved by the European Commission.”<sup>24</sup> Although, for Europe, the case represented “politics, responding to public fears justified or not about perceived threats to health and the environment,”<sup>25</sup> U.S. government and industry officials expressed the view that the decision would “set a precedent that countries must have sound scientific reasons for rejecting genetically modified crops.”<sup>26</sup>

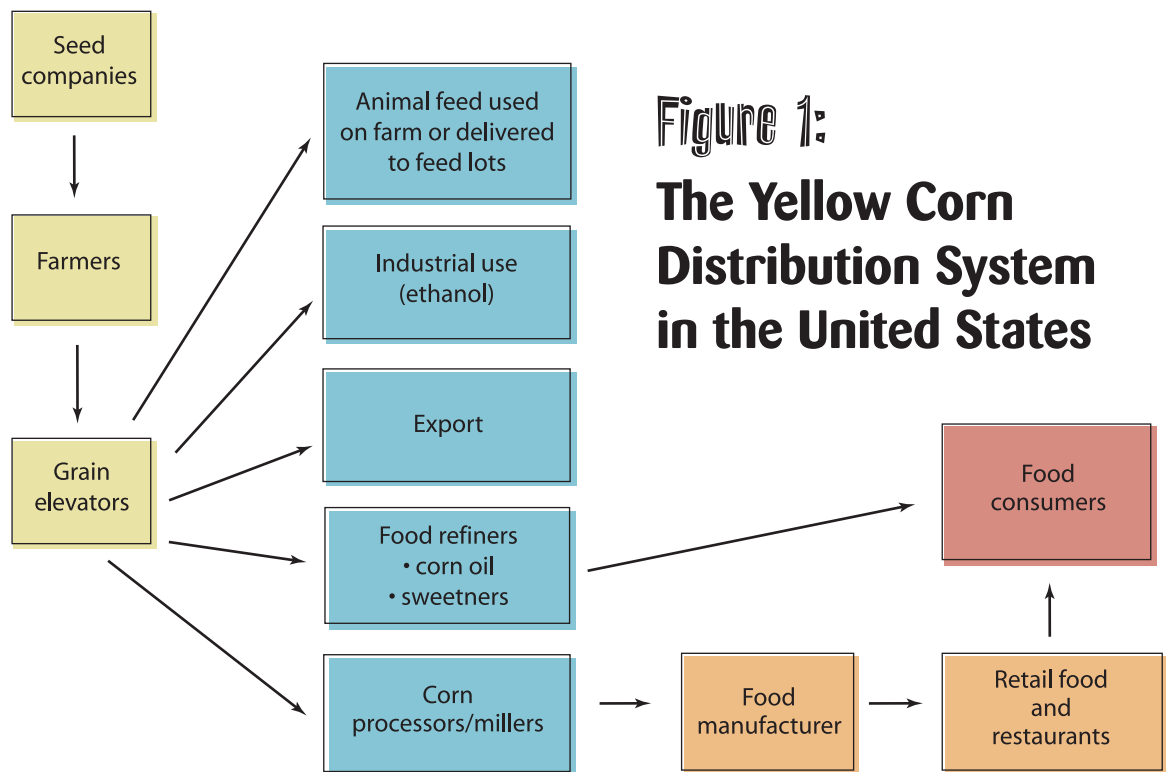
Such political pressures are again generally based on widespread fears anchored in unsubstantiated concerns relating to the health effects of GM food. The reality is that despite millions of exposures to GM foods, there are no substantiated cases of toxic or

allergic reaction. “The GM foods currently on the market have been tested for increased levels of known allergens and toxins and none has been found.”<sup>27</sup>

Furthermore, the “potential ecological and health hazards, specifically the evolution of ‘superweeds’ from herbicide resistance and the build up of resistance to antibiotics . . . [is] unfounded, and neither hazard has actually materialized.”<sup>28</sup>

In fact, a strong argument can be made that GM crops are more protective of the environment and public health than conventionally bred and grown crops in that the genetic modifications are intended to reduce the need for harmful pesticides and make crops better able to combat those harmful environmental circumstances that lead to their decimation. “Scientists generally agree that genetic engineering can offer direct and indirect health benefits to consumers. . . . Direct benefits can come from improving the nutritional quality of foods[,] . . . reducing the presence of toxic compounds, and by reducing allergens in certain foods.”<sup>29</sup>

Moreover, heightened sensitivity to agricultural products domestically and abroad is at least in part the result of naturally occurring events such as bovine spongiform encephalopathy and hoof and mouth disease, which have raised concern over the safety of the food supply. Ironically, genetic engineering may offer the best means to protect against such naturally occurring disasters. When surveyed “about various potential uses for genetic modification of animals, consumers were most strongly supportive of those which provide protection against disease.”<sup>30</sup> Possibly “a reflection on recent headlines about avian flu, develop-



**Figure 1:**  
**The Yellow Corn Distribution System in the United States**

ing heartier livestock is the most widely supported reason to genetically modify animals, including to produce chickens resistant to avian flu . . . and to produce cattle resistant to mad cow disease.”<sup>31</sup>

While the overarching issue of whether and how GM crops should be grown, handled, and labeled is one for policymakers, not litigators, these issues set the scene for GM litigation. If there is an inadvertent release of an unapproved GM crop, defendants will face not only the concerns and fears discussed above but the reinforced perception that genetic engineering is not controllable—the genie, once out of the bottle, cannot be put back. That was the context of *StarLink*.

### GM Litigation: An Introduction

#### The background of *StarLink*.

Litigation over GM crops raises legal issues that are at the same time familiar and novel. The legal theories advanced in *StarLink* included negligence, nuisance, and strict product liability,<sup>32</sup> theories that are not new by any measure. Unlike other large-scale product liability lawsuits, however, the claims were not driven by any credible allegations of physical harm, but by claimed economic losses attributed to a general fear of GM crops.

The claimants in *StarLink*, moreover, included parties from virtually every point in the corn production and distribution sys-

tem. Farmers claimed damages from contamination of their crops with *StarLink* as well as economic harm from depressed corn prices, ostensibly caused by the rejection of U.S. corn by foreign markets. Grain elevators claimed contamination of their stored corn and facilities and depressed corn prices. Exporters claimed damage for the costs incurred as a result of the rejection of U.S. corn, and processors and millers claimed damages for their inability to sell corn-based products that were or were suspected to be affected by *StarLink*. Individual consumers sought refunds for corn-based products that contained *StarLink*. Finally, food retailers and restaurants, most

notably Taco Bell™, sought damages for lost sales that they attributed to the stigma attached to corn-based products as a result of the StarLink situation.

In short, *StarLink* involved many millions of dollars of claimed losses from everyone who touched corn or a corn-based product, whether or not their corn or products actually contained StarLink, and notwithstanding the fact that there was not, and has not been since, any evidence that the offending substance caused physical harm to anyone.

**U.S. corn production and distribution.** Corn is the single largest field crop grown in the United States. Ninety-two million acres were planted in 2007, and in 2006 U.S. growers produced 10.5 billion bushels of corn. Corn production has increased in response to the current high demand for ethanol, and the U.S. Department of Agriculture is projecting a 2007 harvest of 14.5 billion bushels. Once harvested, the majority of this corn never reaches a domestic human food consumer. Historically, 56 percent is used mostly for animal feed; 13 percent for industrial purposes (such as ethanol production); and another 18 percent exported for food, feed, and industrial purposes, most of which goes for animal feed.<sup>33</sup> The corn that does reach U.S. food consumers, only approximately 13 percent, does so after traveling through a complex distribution chain and several steps of processing, as shown in **Figure 1**.

The complexity of the corn production and distribution system, as well as the sheer volume of corn produced in the United States, illustrates the magnitude of the potential litigation exposure in

the event of a release of unauthorized GM seed. As evidenced in *StarLink*, the parties potentially affected by disruptions in the corn markets include everyone in **Figure 1**. Between the farmers and the various intermediaries, potential plaintiffs could number in the tens or hundreds of thousands, even excluding consumer claims. The volume of corn produced, moreover, could create significant potential exposure for economic loss, even if plaintiffs were able to prove only a small decrease in corn prices resulting from the release. For example, at 14.5 billion bushels a year, a price decrease of \$0.01 per bushel attributable to GM corn could result in a damages claim of over \$145 million.

The structure of the corn production and distribution system also highlights some of the legal challenges involved for plaintiffs in GM crop litigation. Many of the affected parties are substantially removed from the seed producers, precluding contractual theories of recovery and raising issues of duty and proximate cause for negligence claims. In addition, from early in the production and distribution chain, corn is commingled, making it virtually impossible to trace a food product back to any particular processor, grower, or other intermediary.

### Lessons from *StarLink*

The *StarLink* plaintiffs faced several substantive legal defenses to their tort claims. First, the economic loss doctrine generally precludes recovery in tort for solely pecuniary harm and arguably precluded recovery by a large number of *StarLink* plaintiffs who could not demonstrate any actual contamination of their crops or property. Second, with respect to the negli-

gence claims, the remoteness of many of the claimed injuries created a serious question about both duty and proximate cause. Finally, given that plaintiffs largely framed their strict liability claims as failure to warn claims, the Federal Insecticide, Fungicide and Rodenticide Act threatened to preempt those claims entirely.

A number of these defenses were addressed in whole or in part in one reported *StarLink* decision.<sup>34</sup> This decision does not finally resolve all of the nuances to these defenses, particularly in other jurisdictions, but does provide some guidance with respect to how other courts may treat GM claims.

**Economic loss: negligence and strict liability.** The economic loss rule bars recovery of purely pecuniary losses, at least in strict liability and negligence, absent personal injury or physical damage to property other than the allegedly defective product itself.<sup>35</sup> There are two recognized rationales for the doctrine: (1) that the law of contracts, not torts, is the appropriate mechanism for addressing disappointed commercial expectations; and (2) that allowing such recovery “would open the door to virtually limitless suits, often of a highly speculative and remote nature.”<sup>36</sup>

Claims for economic losses arising from the presence of an unapproved GM crop in the corn system implicate both rationales. The claims involve harm from the entry of a defective product into the stream of commerce. That product was not what it purported to be, based on the presence of an unexpected GM trait. In that sense, such claims are directly in line with the contractually based economic loss cases that hold that a failure of product expectations is properly a

contract, not a tort, problem.

GM crop litigation also raises the specter of unbounded liability that forms the alternative rationale for the economic loss doctrine. Given the size of the corn market in the United States, the number of participants in that market, and the pervasive presence of corn-based products in the food supply, allowing recovery to all who might be affected by disruptions in that market could certainly be said to open the door to virtually limitless suits.<sup>37</sup>

In *StarLink*, Judge James Moran reached a hybrid conclusion on the nature and purpose of the economic loss doctrine. He noted that the “classic case” of economic loss involves the purchase of a defective product, and that the “primary policy concerns” underlying the doctrine are contractually based.<sup>38</sup> He recognized, however, that the doctrine has been expanded to include claims that threaten to expose a defendant to liability to an unbounded group of potential plaintiffs.<sup>39</sup> In the case of *StarLink*, he held that farmers who had purchased *StarLink* seed were limited to contract remedies, and that farmers whose crops were not physically affected by *StarLink*, or who claimed damages from *StarLink* contamination after their corn left their possession, could not maintain a strict liability action.<sup>40</sup>

The *StarLink* decision is, of course, not binding precedent in other jurisdictions, and other states have either not yet recognized the economic loss doctrine or apply it more narrowly. If that reasoning is persuasive in other jurisdictions, however, a substantial portion of potential claimants in the event of the release of an unauthorized GM crop could be precluded from recovery under strict liability and negligence.

In addition, courts have consistently denied recovery for economic harm suffered by a plaintiff as a result of injury or impact to a third party. Examples include damage to a bridge or other property that impedes access to a third party’s business, causing economic losses, or damage to physical property that prevents a third party from realizing the benefits of its contract with the owner of the damaged property.<sup>41</sup> Though not always articulated as the economic loss doctrine, this concept of derivative harm is a close cousin and may operate to bar the claims of GM crop plaintiffs whose only harm arises from the presence of an unauthorized GM plant in someone else’s crop or food product, like the Taco Bell™ and non-*StarLink* farmer plaintiffs.

**Economic loss: public nuisance.** Authority on the question of whether a plaintiff must show damage to his or her own property to maintain a public nuisance claim remains conflicting. Public nuisance stands on a different analytical footing from negligence or even strict products liability. Negligence and strict liability assume some relationship between the alleged wrongdoer and the plaintiff, either by a duty of care or as a consequence imposed for placing a product in a linear distribution chain that will reach the plaintiff. Public nuisance, on the other hand, allows claims for harm resulting from more generalized nuisance conditions, provided that the plaintiff can show some kind of special harm distinguishable from that of the general public.

Some cases have held that landowners adjoining oil spills or other pollution could not recover in nuisance for diminution in

value absent a showing of physical impact to their property.<sup>42</sup> However, there is also authority for the proposition that a claim of public nuisance survives without such proof if the plaintiffs can show the required special harm.<sup>43</sup>

Arguably, farmers hindered in their ability to earn a living from the “common property” that is the U.S. corn supply have suffered a harm distinguishable from that of the general public. To the extent that the economic loss doctrine is driven by concerns about boundless liability, however, one could argue that it would preclude these kinds of claims as well. Unlike the commercial fisherman in *Moderia v. Northeast Utilities Services Co.* and *Burgess v. T/V Tamano*, who relied on a finite area of fishing waters, corn farmers in the U.S. plant and harvest 90 million acres of corn each year, making them a considerably more “limitless” class of potential plaintiffs.

The *StarLink* opinion left this question unresolved. On the one hand, it included the fairly unequivocal statements that “we caution that proving direct harm to their own property is a predicate to any recovery” and “absent a physical injury, plaintiffs cannot recover for drops in market prices.”<sup>44</sup> On the other hand, it did not specifically include a requirement of physical harm in the portion of the opinion denying the motion to dismiss the nuisance claims, and it expressly relied on *Burgess*. A later case applying Illinois law, however, read the *StarLink* decision as barring both negligence and public nuisance claims in the absence of physical harm to other property.<sup>45</sup>

Further, recent cases involving the economic loss doctrine support

the argument that proof of physical harm is required in public nuisance cases. In *Duquesne Light Co. v. Pa. Am. Water Co.*,<sup>46</sup> the Pennsylvania Superior Court held that an electric company's negligence and public nuisance claims against a water company were barred because the electric company sought damages solely related to economic loss.<sup>47</sup> The court reasoned that since the economic loss doctrine was meant "to protect a tortfeasor from tremendous liability for a single act, economic losses are not recoverable when they are not the result of personal injury or property damage."<sup>48</sup>

**Economic loss as stigma damages.** At bottom, the claims of many of the *StarLink* plaintiffs—and the likely claims of future plaintiffs in the event of an unauthorized release of GM corn—are based on the stigma that attached to corn and corn products as a result of someone else's apprehension about the safety of that corn, be it U.S. consumers or foreign markets. Whether expressly premised on the economic loss doctrine or not, courts have been reluctant to award damages for this kind of stigma in cases where neighboring environmental contamination, or fear of contamination, was claimed to be the cause of reductions in the value of the plaintiffs' property.<sup>49</sup>

Like the environmental plaintiffs, the plaintiffs whose property was never touched by the offending GM corn are claiming stigma damages, and these claims may be barred whether the analysis is framed as part of the economic loss doctrine or the notion that stigma alone is not a compensable harm. With respect to plaintiffs who have commingled crops or adulterated food products, there is also a ques-

tion whether stigma or public fear of a product can amount to "damage to property" in the absence of any evidence that the presence of the GM corn causes any intrinsic damage to the commingled crops or the food product.<sup>50</sup>

**Duty and proximate cause.** To prevail on a negligence claim, the plaintiffs must establish all of the elements of negligence, including the existence of a duty and proximate cause. Courts have often limited recovery by plaintiffs whose claimed harm was remote from the alleged wrongdoing, or derivative of physical harm to third parties, though it is not always clear whether those decisions rest primarily on analysis of duty or of proximate cause. Common to all of those decisions is the overarching theme that it is simply untenable to allow liability for all possible consequences of a single act. In the words of Justice Scalia, "Life is too short to pursue every human act to its most remote consequences; 'for the want of a nail, a kingdom was lost' is a commentary on fate, not the statement of a major cause of action against a blacksmith."<sup>51</sup>

Following the same analogy, another court noted:

The court would have little difficulty in submitting the loss of the shoe, the horse, and probably the rider to a jury if caused by the sale of a defective nail. . . . The loss of the battle creates a doubtful question, but the loss of the kingdom is so remote as to bar its submission to the jury.<sup>52</sup>

The *StarLink* negligence claims asserted that the seed developer and producers had a duty to ensure compliance with EPA-imposed growing restrictions after the sale

of the seed and that the breach of that duty was the proximate cause of the commingling of *StarLink* and non-*StarLink* corn. Where plaintiffs have asserted a similar theory against gun manufacturers, courts have almost without exception found that either the duty or the proximate cause requirements, or both, precluded those claims.<sup>53</sup>

In *StarLink*, the court rejected the defendants' argument that there was no duty to prevent the harm alleged—namely, the decrease in the market value of U.S. corn resulting from *StarLink* contamination.<sup>54</sup> The issue, according to the court, was not whether the defendants had a duty to protect the market price of corn, but whether they had a duty to prevent contamination of the food supply with *StarLink*, a duty that was not too remote for recovery. The court further distinguished *StarLink* from the gun cases, reasoning that the postmarketing restrictions required by the EPA as part of the split registration for *StarLink* created a duty, even if one might not have otherwise existed.

There, however, the claimants were farmers who had either received seed from the companies or experienced contamination of their crops in the very early stages of the production chain. In the lexicon of the horseshoe nail, the farmers might well be considered the horse or the rider, as the impact of the conduct at issue was more direct. Arguably, the corn processors, elevators, and exporters are closer to representing the battle, and the food retailers that complain of stigma and lost sales represent the kingdom.<sup>55</sup> In other words, even following the analysis of the *StarLink* decision, there may well be claims other than farmer claims

that are simply too remote for recovery in negligence. Additionally, as previously noted, it remains to be seen how much of the *StarLink* district court decision will be followed by other courts in the event of future GM crop litigation.

**FIFRA preemption.** Genetic modification of agricultural crops may fall into one or both of the following categories: modification to provide insect resistance (known as plant incorporated pesticide or PIP) and genetic modification to enhance performance. GM crops that are registered with the EPA as pesticides, like *StarLink*, fall within terms of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).<sup>56</sup>

Because they are subject to FIFRA's labeling requirements, any state law claims that attack the adequacy of the warnings or instructions contained in the label, or allege that the manufacturer had a duty to provide any additional information, are likely preempted.

As to whether FIFRA also preempts a claim based on a failure to adhere to FIFRA-required warnings, the U.S. Supreme Court recently settled a long-running split of authority among the circuits, holding that states are free to make violations of FIFRA requirements actionable under state law.<sup>57</sup> This is consistent with the result reached in *StarLink*, where the court held that FIFRA preempted the strict liability claims, based on a failure to warn, but did not preempt certain claims alleging failure to follow the registration and labeling requirements or failing to communicate required warnings and restrictions farther down the distribution chain.<sup>58</sup>

In the event of a future release of unapproved GM seed, it is likely

that plaintiffs will attempt to frame their claims as design defect claims, rather than warning claims, and allege failure to adhere to FIFRA requirements, to avoid preemption. Moreover, not all GM crops involve traits that bring them within the labeling requirements of FIFRA. Where the trait functions as a pesticide or fungicide, it would be subject to labeling requirements and at least certain claims would be preempted. Other traits, however, relate to the performance of the plant alone and therefore do not fall under FIFRA. If a future unauthorized release falls into that category, FIFRA preemption would not apply.<sup>59</sup>

### Problems of Proof

**Causation.** If a particular GM crop is alleged to have caused harm by entering the corn system, it may be possible to trace that seed to the original producer through DNA testing if there is a single producer but not if there are multiple producers. Every other step, however, in determining how precisely the seed entered the system is fraught with uncertainty. By way of example, it will likely never be clear how many parties were responsible for *StarLink* entering the human food supply. It could happen if an individual grower brought his corn to the wrong elevator, if a grain elevator failed to segregate *StarLink* and non-*StarLink* corn, through cross-pollination in the field, or contamination of shared storage or transport facilities. Because corn is commingled at every step in the process, from the combine at harvest to its ultimate destination, it would be impossible to identify, in most cases, even which elevator sold the affected corn. Similarly, if there is an inadvertent release of an unapproved

GM crop, it may be difficult to establish how that inadvertent release happened.

Accordingly, it will be extremely difficult for plaintiffs to pinpoint where in the chain an act of negligence might be found or who was responsible for that act. Correspondingly, it will be a challenge for seed producers defending such a claim to establish that the cause of the release was an act or omission by someone else in the testing, production, or distribution chain.

### Limitations on testing.

Limitations on the ability to conclusively test food products or harvested corn for all GM traits present potential problems of proof in GM claims. The processing of corn-based food products may in some cases render the genetic material at issue undetectable. Even in the corn itself, there are no uniform standards in place for what constitutes a true positive detection. As discussed above, plaintiffs who have not had their crops, grain, or other property contaminated by the offending GM crop may be precluded entirely from recovery. Difficulties in establishing with certainty whether the GM crop is present in processed food, or even in raw corn supplies, could complicate the application of the economic loss doctrine.

In addition, plants with "stacked" or combined GM traits are becoming more common, but current testing methods cannot tell the difference between a lot of grain that includes a mixture of the lines containing the individual traits and one that contains any grain with the stacked traits. Thus, if a foreign country has approved two individual traits but has not approved grain containing both of those traits stacked in one plant, there may be no way to accurately

determine whether it is receiving stacked grain or a lot of grain containing both of the other two individual lines. This difficulty could lead that country to accept the stacked crops; it could also lead to overrejection of grain in that market, which in turn could increase the chances of domestic litigation.

**Damages considerations.** Even assuming liability, the issue of damages in GM litigation is far from simple. Where the primary harm asserted stems from disruption in the corn market, plaintiffs must find a way to craft a causal connection between the GM event and the disruption. This is never going to be an easy task. Corn markets respond to myriad factors, including supply, the effect of complex government policies relating to sale, commodities markets, and others. For example, corn markets suffered in the months following Hurricane Katrina due to the closure of the main shipping channel for exported corn, the Mississippi River. If there were to be a release of an unapproved GM crop in close proximity to such a natural disaster, and that release led to litigation, it would become necessary to try to untangle the effect on price not only of the natural disaster but also all of the other factors influencing corn prices, from the effects of the release.

### International Considerations

In addition to potential domestic lawsuits, a seed company faced with the release of an unauthorized GM crop will face a tangle of international considerations due to the large amount of U.S. corn that is exported to markets, such as Europe and Japan, that have very low tolerances for GM crops.

First, the Cartagena Protocol

on Biosafety, an international treaty currently signed by 141 nations but not the United States, provides a framework for its signatories to implement in governing the acceptance, labeling, and transport of GM crops. It requires information about new GM crops accepted into signatory nations to be shared in a Biosafety Clearing House. Precise enforcement mechanisms for noncompliance have not yet been developed, but there is a working group currently reviewing that issue. In addition, individual signatory nations may have developed their own laws and regulations relating to penalties on importers for noncompliance.

The significance of the Cartagena Protocol for seed producers is twofold. First, if there is a release of an unauthorized GM crop, companies that export corn from the United States will need to deal with the various requirements imposed by individual nations and, in the future, potential penalties for noncompliance. As in *StarLink*, they are likely to look to the seed producer to make them whole for the costs of compliance, raising the likelihood of some of the claims described above. Second, should the seed producer seek to take remedial measures to prevent disruption in the corn market by affirmatively repurchasing and rerouting grain already in transit, the Cartagena Protocol might affect the movement of that grain to and through signatory nations, as well as the availability of alternative export markets that would accept the grain.

The fact that some of the economic harm may be felt by overseas parties, such as purchasers of crops that are unable to accept or resell them in a foreign country, or non-U.S. importers or exporters,

may raise questions about choice of forum and choice of law. Within the United States, choice of law analyses vary from state to state, and it remains unsettled whether the applicable law should be that of the forum where the harm is felt or the forum where the allegedly wrongful conduct occurred, particularly in the case of a product that touches so many jurisdictions. This analysis is further complicated by the potential for a suit brought in a foreign jurisdiction, seeking application of non-U.S. law.

With respect to the forum for potential litigation, the international component of the corn market raises the possibility that seed producers will face suit in a foreign forum. The level of this risk depends upon the principles of jurisdiction of the specific foreign nation (or nations) involved. This is beyond the scope of this article. Nonetheless, potential litigants should be aware of the possibility of an overseas lawsuit.

### Conclusion

The unique circumstances of GM food and crop litigation present challenges to plaintiffs as well as to defendants. It cannot be denied that GM crops are of increasing importance to our economy, our farmers, and consumers throughout the world. It is similarly clear that concerns about the safety and prudence of GM crops have the potential to drive decisions that can cause widespread economic damage. Traditional tort theory does not precisely fit the unique circumstances where economic loss flows from disruption to the flow of an international commodity. Liability concepts must reflect not only the risk but the benefit of this new technology, and the need to tread carefully when considering

recovery for nonproximate losses that traditional damage theory has been slow to recognize. ■

## Notes

1. In contrast, substantial litigation has arisen relating to intellectual property issues surrounding GM crops, as well as litigation relating to restrictions placed on growers' reuse of seed containing GM traits.

2. StarLink® is classified as a plant-incorporated pesticide because it produces a protein that is toxic to certain insect pests. As such, it is under the primary regulatory jurisdiction of the EPA.

3. Starlink® is a registered trademark, but for ease of reading we will not include the registered trademark symbol at each mention after this point.

4. A handful of consumers made claims alleging adverse reaction to corn-based products in *StarLink*, but those claims were quickly dropped when testing by the Centers for Disease Control showed no allergenicity.

5. *Open Letter from World Scientists to All Governments Concerning Genetically Modified Organisms (GMOs)*, (Institute of Science in Society 2000), [www.issis.org.uk/list.php](http://www.issis.org.uk/list.php).

6. *Id.*

7. GM SCIENCE REVIEW PANEL, FIRST REPORT: AN OPEN REVIEW OF THE SCIENCE RELEVANT TO GM CROPS AND FOOD BASED ON THE INTERESTS AND CONCERNS OF THE PUBLIC at 61 (July 2003), available at [www.gmsciencedebate.org.uk/report/pdf/gmsci-report1-pt3.pdf](http://www.gmsciencedebate.org.uk/report/pdf/gmsci-report1-pt3.pdf).

8. *Id.* at 66–67.

9. *Id.* at 73.

10. *Id.* at 88.

11. *Id.* at 100.

12. *Id.*

13. *Id.*

14. See Greenpeace International, *GE Agriculture and Genetic Pollution*,

[www.greenpeace.org/international/campaigns/genetic-engineering/ge-agriculture-and-genetic-pol](http://www.greenpeace.org/international/campaigns/genetic-engineering/ge-agriculture-and-genetic-pol).

15. See *Oilseed Gene Leak* “Unsurprising,” BBC NEWS, Apr. 20, 1999, [news.bbc.co.uk/2/hi/science/nature/323383.stm](http://news.bbc.co.uk/2/hi/science/nature/323383.stm).

16. Paul Brown & Davis Gow, *Damning Verdict on GM Crop*, GUARDIAN UNLIMITED, Mar. 22, 2005, [www.guardian.co.uk/life/science/story/0,12996,1443004,00.html](http://www.guardian.co.uk/life/science/story/0,12996,1443004,00.html).

17. Rajesh Swain, *Rep. Kucinich Introduces Genetically Engineered Food Right to Know Act*, U.S. FED. NEWS, May 9, 2006. The bill, introduced on May 2, 2006, is being cosponsored by 11 other congressmen. It was referred to the House Agriculture Committee and to the House Energy and Commerce Committee.

18. Rajesh Swain, *Rep. Kucinich Introduces Genetically Engineered Organism Liability Act*, U.S. FED. NEWS, May 9, 2006. Similar legislation has been introduced in several states over the past few years, but no state has actually enacted the legislation. The bill, introduced on May 2, 2006, is being cosponsored by five other congressmen. It was referred to the House Judiciary Committee and to the House Energy and Commerce Committee.

19. Greenpeace International, *Food*, [www.greenpeace.org/international/campaigns/genetic-engineering/food](http://www.greenpeace.org/international/campaigns/genetic-engineering/food) (last visited June 7, 2006).

20. Nicholas Kalaitzandonakes, *Another Look at Biotech Regulation*, 27 ABI/INFORM 44 (Apr. 1, 2004).

21. *Id.* at 45.

22. *Id.*

23. Paul Geitner & Andrew Pollack, *Unyielding Stances on Biotech; WTO Back U.S. on Modified Food, but EU Stays Opposed*, INT'L HERALD TRIB., Feb. 10, 2006, at 14.

24. *Id.*

25. *Id.*

26. *Id.*

27. THE STATE OF FOOD AND AGRICULTURE 2003–2004: AGRICULTURAL BIOTECHNOLOGY: MEETING THE NEEDS OF THE POOR? § 5 (Food and Agriculture Organization of the United Nations 2004), available at [www.fao.org/documents/show\\_cdr.asp?url\\_file=/docrep/006/Y5160E/Y5160E00.htm](http://www.fao.org/documents/show_cdr.asp?url_file=/docrep/006/Y5160E/Y5160E00.htm).

28. *Id.*

29. *Id.*

30. *Public Sentiment About Genetically Modified Food, November 2005 Update* at 4 (Pew Initiative on Food and Biotechnology), <http://pewagbiotech.org/research/2005update/2005summary.pdf>.

31. *Id.*

32. The plaintiffs also asserted claims under contract, breach of warranty, state consumer protection statutes, and common-law fraud and misrepresentation.

33. The Department of Agriculture is currently projecting that the demand for corn for ethanol will double over the next several years, so these numbers may change.

34. See *In re StarLink Corn Prods. Liab. Litig.*, 212 F. Supp. 2d 828 (N.D. Ill. 2002) (Moran, J.).

35. See, e.g., *Rich Prods. Corp. v. Kemutec, Inc.*, 2001 U.S. App. LEXIS 3103, at \*7–8, 10 (7th Cir. Mar. 2, 2001); *Coastal Conduit & Ditching Inc. v. Noram Energy Corp.*, 29 S.W.3d 282, 288 (Tex. 2000); see also *Two Rivers Co. v. Curtiss Breeding Serv.*, 624 F.2d 1242, 1251 (5th Cir.1980); *Determan v. Johnson*, 613 N.W.2d 259, 262 (Iowa 1999).

36. See *Neb. Innkeepers, Inc. v. Pittsburgh-Des Moines Co.*, 345 N.W.2d 124, 127 (Iowa 1984); *East River Steamship Corp. v. Transamerica Delaval, Inc.*, 476 U.S. 858, 874 (1986).

37. See *Neb. Innkeepers*, 345 N.W.2d at 127.

38. *In re StarLink*, 212 F. Supp. 2d at 839.
39. *Id.* at 840.
40. *Id.* at 843.
41. See, e.g., *Robins Dry Dock & Repair Co. v. Flint*, 275 U.S. 303, 309 (1927) (“a tort to the person or property of one man does not make the tortfeasor liable to another merely because the injured person was under a contract with that other”); *Selgado v. Am. Feed & Livestock Co.*, 628 F. Supp. 123, 126 (E.D. Wis. 1986) (denying recovery of damage to property used but not owned by plaintiff); *Leadfree Enter. v. U.S. Steel Corp.*, 711 F.2d 805, 808–09 (E.D. Wis. 1983) (denying recovery of business loss arising from collapse of negligently constructed bridge).
42. See, e.g., *Atkins v. Thomas Solvent Co.*, 440 Mich. 293 (1992).
43. See *Moderia v. Ne. Util. Serv. Co.*, 2000 Conn. Super. LEXIS 3477 (Dec. 22, 2000) (recovery for commercial fishermen’s lost earnings from damage to public fishing waters allowed under public nuisance); *Burgess v. M/V Tamano*, 370 F. Supp. 247, 250 (D. Me. 1973) (allowing nuisance claims by commercial clam diggers for economic losses arising from damage to common fishing waters).
44. *In re Starlink*, 212 F. Supp. 2d at 842, 843.
45. See *Sample v. Monsanto Co.*, 283 F. Supp. 2d 1088, 1092 (E.D. Mo. 2003) (“In Illinois . . . [p]hysical injuries to persons or property are compensable; solely economic injuries are not.”).
46. 850 A.2d 701 (Pa. Super. Ct. 2004).
47. *Id.* at 707.
48. *Id.* at 706–07; see also *Mercury Skyline Yacht Charters v. Dave Matthews Band, Inc.*, 2005 U.S. Dist. LEXIS 29663 (N.D. Ill. Nov. 22, 2005) (in Illinois, solely economic losses are not recoverable in tort actions, including nuisance).
49. See *Berry v. Armstrong Rubber Co.*, 989 F.2d 822, 829 (5th Cir. 1993) (no recovery for “decrease in value caused by a public perception without accompanying physical harm to the property”); *Adams v. Star Enter.*, 51 F.3d 417, 422, 423 (4th Cir. 1995) (no recovery for environmental stigma damages in nuisance or negligence); *The Good Fund, Ltd.—1972 v. United States*, 540 F. Supp. 519, 535 (D. Colo. 1982) (finding “no authority for a tort based on fear without physical damage”).
50. See *Mercer v. Rockwell Int’l Corp.*, 24 F. Supp. 2d 735, 744 (W.D. Ky. 1998) (rejecting argument that “harm” to property was public’s perception that it was unsafe); *Wilson v. Amoco Corp.*, 33 F. Supp. 2d 981, 986 (D. Wyo. 1998) (“stigma damages absent some other definable physical harm to the property are simply too speculative to warrant serious consideration”).
51. *Holmes v. Sec. Investor Prot. Corp.*, 503 U.S. 258, 287 (1992) (Scalia, J., concurring).
52. *O’Houd Establishment for Trade & Contracts v. Tri-State Contracting & Trading Corp.*, 523 F. Supp. 249, 255 (D.N.J. 1981).
53. See *Hamilton v. Beretta USA Corp.*, 2001 NY LEXIS 946, at \*17 (Apr. 26, 2001) (imposing duty on manufacturers for injuries several steps removed from distribution of guns “would create not only an indeterminate class of plaintiffs but also an indeterminate class of defendants”); see also *City of Philadelphia v. Beretta U.S.A. Corp.*, 126 F. Supp. 2d 882, 902 (E.D. Pa. 2000) (rejecting handgun claims based on both duty and proximate cause); *City of Cincinnati v. Beretta U.S.A. Corp.*, 2000 Ohio App. LEXIS 3601, at \*19, \*36–37 (Aug. 11, 2000) (same).
54. *In re StarLink Corn Prods. Liab. Litig.*, 212 F. Supp. 2d 828, 843 (N.D. Ill. 2002).
55. See *O’Houd*, 523 F. Supp. at 255.
56. 7 U.S.C.A. §§ 136 *et seq.*
57. *Bates v. Dow Agrosciences LLC.*, 544 U.S. 431, 442 (2005).
58. See *In re StarLink*, 212 F. Supp. 2d at 838.
59. The law regarding whether regulatory approval by the Department of Agriculture and the Food and Drug Administration would preempt claims relating to non-PIP plants is unsettled and is beyond the scope of this article.