

DUTY TO DISCLOSE:

**The Failure of Food Companies to Disclose Risks of
Genetically Engineered Crops to Shareholders**



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Written by Saida Benguerel of the U.S. PIRG Education Fund.

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U.S. PIRG Education Fund
218 D Street SE
Washington, DC 20003
(202) 546-9707
www.uspirg.org

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EXECUTIVE SUMMARY

Scientists in the United States and abroad continue to raise serious concerns about the environmental and human health risks associated with growing and consuming genetically engineered crops. As a result, genetically engineered foods may pose financial risks to the food companies buying and selling genetically engineered crops. Even though the Securities and Exchange Commission (“SEC”) requires companies to disclose to shareholders any “material” facts that might affect business operations, most food companies have failed to alert their shareholders to the liabilities associated with genetically engineered ingredients.

Genetically engineered crops pose largely unexplored threats to human health and the environment. On the food safety side, scientists have sounded the alarm about potential allergenicity of some genetically engineered ingredients. Scientists are also concerned with the possibility of heightened toxicity levels, increasing antibiotic resistance, immune suppression, elevated cancer risks, and nutritional loss. Yet the Food and Drug Administration still refuses to make human safety testing of genetically engineered foods mandatory. In addition, environmental risks include the creation of “superweeds,” genetic cross contamination, adverse effects on non-target and beneficial species, increased pesticide use, and harmful soil contamination.

The risks inherent in genetically engineering the food supply have already cost the food industry financially. In 2000, Kraft-manufactured Taco Bell taco shells were discovered to contain StarLink corn, a variety of genetically engineered corn not approved for human consumption. The Food and Drug Administration officially recalled the Taco Bell taco shells; in response, Kraft

recalled 636,000 cases of contaminated product, at an estimated cost of \$10 million dollars in lost revenue. The StarLink contamination episode ultimately will cost the food industry billions of dollars.

In the wake of Enron and other catastrophic financial market failures, shareholders are demanding greater transparency and enforcement of SEC regulations. One area that is of particular concern is whether companies are disclosing to their shareholders and the public all information that will have a material impact on business operations. Despite the StarLink debacle and scientific evidence raising real concerns about the human and environmental safety of genetically engineered crops, the food industry has done little to alert its shareholders to potential liabilities.

In the United States, any publicly traded company registered with the Securities and Exchange Commission must disclose information that is “reasonably likely” to have an impact on business operations. To determine the extent to which food companies are disclosing the risks associated with genetically engineered foods, U.S. PIRG Education Fund examined the financial reporting documents of the 35 largest publicly traded food companies in the United States and found:

- ♦ **Ninety-five (95) percent of the top publicly traded processed food companies completely ignore the genetically engineered foods issue in their annual reports to shareholders.**
- ♦ **Only two companies—Kraft Foods and Interstate Bakeries—mention genetically engineered food as a potential liability in their annual reports to shareholders.**

♦ **Not one company elaborated on or gave an analysis of the risks involved with genetically engineered ingredients in their annual reports to shareholders. While Kraft and Interstate Bakeries' declarations are a good beginning, these financial documents do not discuss ways to mitigate harm, avoid future liabilities, and address future profitability.**

The U.S. food industry is at a crossroads. Currently, genetically engineered ingredients offer no financial or commercial benefits to the food industry, nor are consumers clamoring for genetically modified products. In fact, surveys and polls show just the opposite.

U.S. PIRG Education Fund recommends that companies in the processed food industry:

♦ Remove the risk of liability related to genetically engineered food by demanding

that their suppliers, manufacturers, raw goods producers, and farmers not use genetically engineered materials.

♦ Fully disclose to shareholders the use of and potential liabilities associated with genetically engineered ingredients.

♦ Label all products that contain genetically engineered ingredients so that consumers are fully informed of what they are purchasing.

U.S. PIRG Education Fund recommends that the SEC:

♦ Enforce the duty of public companies to disclose to shareholders the potential liability from using genetically engineered ingredients.

♦ Hold CEOs and CFOs responsible for material omissions in companies' annual reports, in compliance with the Sarbanes-Oxley Act of 2002.

INTRODUCTION

Genetically engineered crops and foods have been on the market for a decade. Since their introduction, genetically engineered products have generated controversy both in the United States and abroad. Despite this, processed food companies embraced the technology, although none chose to label their products as containing genetically engineered ingredients. By 2003, in the United States alone, 42.8 million hectares of land were devoted to growing genetically engineered crops.¹ Ninety-five percent of all genetically engineered crops are grown in either the United States, Canada, or Argentina.² Today, 60 to 70 percent of all processed foods on supermarket shelves in the United States contain genetically engineered ingredients.³ Corn and soybeans make up the vast majority of genetically engineered crops and often appear in processed foods as soy lecithin (a stabilizer) and corn syrup (a sweetener).

Kraft Foods, the largest food company in the United States and the second largest food company in the world,⁴ produces such well-known products as Lunchables, Boca Burgers, Oreo Cookies, and Post Raisin Bran. Kraft also markets the Taco Bell taco shell brand, under license from the Taco Bell restaurant chain. In 2000, Genetically Engineered Food Alert, a consortium of public interest groups, tested Taco Bell taco shells purchased at a local grocery store and discovered that some contained StarLink corn, a variety of genetically engineered corn not approved for human consumption. The possible side effects from ingesting StarLink corn include vomiting, diarrhea, and anaphylactic shock.⁵

This discovery had ripple effects throughout the food industry. The Food and Drug Administration officially recalled the Taco

Bell taco shells in October 2000 after Kraft voluntarily pulled them from grocery store shelves. The agency declared a Class II recall, defined as “a situation in which the use of, or exposure to, a violative product may cause temporary or medically reversible adverse health effects.”⁶ Due to the StarLink discovery, Kraft recalled 636,000 cases of contaminated Taco Bell taco shells, at an estimated cost of \$10 million dollars in lost revenue.⁷ This number does not include the ancillary costs of recalling a product, such as loss of consumer confidence. All told, more than 300 separate processed food products were recalled.⁸ Kellogg’s was forced to close down a processing plant due to the contamination, and, in 2001, recall its Morningstar Farms brand of meat-free corn dogs for containing StarLink corn.⁹ Consumers, farmers and others who claim they were affected by the contamination filed several lawsuits – two of which were settled for \$110 million and \$9 million.¹⁰ A report completed by Promar International, a global consulting firm for the food industry, on behalf of Kellogg’s, ConAgra, Unilever, and Aventis, numbered the loss from the StarLink contamination in the billions of dollars.¹¹

Public interest organizations, consumer groups, trade associations, scientists and others point to the Starlink debacle as proof that genetic engineering is inherently unpredictable and that contamination of the food supply could have widespread environmental, human health, and financial effects. Critics also point to weak federal oversight of genetically engineered crops and food, as the responsible agencies do not require any safety testing of transgenic crops or food products.

The risks posed by genetically engineered crops and inadequate federal oversight combine to create substantial liability issues for food companies that buy and sell genetically engineered crops. While some food companies have recently sought to avoid the use of certain genetically engineered ingredients, most remain

publicly silent on the issue.¹² Food companies have a duty to report the liabilities associated with the use of genetically engineered ingredients in their annual shareholder reports and other financial filings. But according to our analysis—with very few exceptions—food companies are ignoring the issue entirely.

THE IMPRECISE SCIENCE OF GENETIC ENGINEERING

The genome of an organism can aptly be compared to a complex ecosystem. Any alteration or perturbation can have major consequences. Proponents of genetic engineering maintain that scientists can locate genes and insert them into new plants with great precision and with few repercussions. Monsanto's website, for example, quotes Henry Miller of the Hoover Institution, a conservative think-tank, as saying that "genetic engineering [is] essentially a refinement of the kinds of genetic modification that have long been used," and the company itself calls the technology an "extension" of traditional plant breeding, only "more precise."¹³ However, an examination of the technology used to engineer plants and the choice of genes that scientists are inserting demonstrate that traditional plant breeding methods and genetic engineering are radically different.¹⁴ The insertion process of genetic engineering involves relatively rudimentary methods, resulting in haphazard placement that in no way can be described as "precise."

Of the two most common insertion methods used, one employs infectious bacteria while the other utilizes a crude physical means. To use bacteria in genetic engineering, scientists must first delete the disease-inducing genes in the bacteria and then insert new genes that produce the desired traits. This engineered bacterium, often called a bacterial "truck," is then mixed with the plant cells and allowed to infect them. In the other popular method, foreign genes are introduced directly into plant cells using a "gene gun," which shoots microscopic particles, such as gold, covered with foreign DNA, into the plant tissues. These techniques and others offer little control

over the precise location of the inserted genetic material.¹⁵

Additional genetic material often accompanies the foreign gene into the host plant. This normally includes an antibiotic marker gene that flags the newly inserted gene material. Because of the inherent imprecision in the genetic engineering process, scientists use antibiotic genes to mark which plant cells incorporated the gene of interest and which did not. The antibiotic resistance gene serves no purpose outside of the laboratory but remains in the plant regardless, posing human health and environmental risks.¹⁶ Along with the gene of interest and the antibiotic marker gene, scientists also insert a gene promoter into the host plant. The promoter, which functions as a genetic "on" switch and forces the gene of interest to express at a more potent level, typically is a disabled virus. Scientists have raised concerns about the safety of the most common promoter, the cauliflower mosaic virus, warning that it may lead to "genome rearrangement, insertion mutagenesis, insertion carcinogenesis, the reactivation of dormant viruses, and [a] generation of new viruses."¹⁷

The imprecision of genetic engineering and the inability of developers of genetically engineered crops to fully understand what they are inserting into a plant cell have been revealed on many occasions. For example, in May 2000, Monsanto, the industry leader in developing and commercializing genetically engineered seeds and crops, disclosed that its genetically engineered soybeans—the company's best selling genetically engineered crop—contained gene fragments that scientists had not intentionally inserted.¹⁸ After four years on

the market, independent researchers discovered two extra gene fragments in the soybeans. Neither Monsanto nor government regulators had any idea the pieces of genetic material were inserted during the process of engineering the crop. After that embarrassment, Monsanto again had to admit it did not fully understand the genetic makeup of the product it introduced to market, when, one year later, new research discovered additional unexpected DNA.¹⁹

As far back as 1997, Monsanto had to recall approximately 60,000 bags of canola—enough to seed between 600,000 to 750,000 acres of land—because the seed mistakenly contained an unapproved gene. According to some reports, quantities of seed had already been planted when Monsanto discovered the mistake.²⁰ Scientists also have shown that genetic engineering can alter the genetic make-up of the host plant in unanticipated ways. In one experiment, scientists attempting to genetically engineer potatoes to increase the sugar content unintentionally altered the potatoes' ability to process starch.²¹

Genetically engineered crops and traditional crops may contain similar levels of fats, proteins, and starch; on this basis, the Food and Drug Administration (FDA) deems these new genetically engineered products as “substantially equivalent” to their conventional counterparts. This concept, aggressively advocated by manufacturers of genetically engineered foods and crops, has been followed by the United Nations' Food and Agriculture Organization and World Health Organization and forms the basis of U.S. regulation of these products.

Although the idea of substantial equivalence is simple and may at first seem plausible, scientists have critiqued it as insufficient and misguided.²² Substantial equivalence does not guarantee the safety of food, food additives, or genetic alterations, as it is the industry that determines what is “equivalent.” This vagueness makes the concept particularly useful to the biotechnology industry, although numerous studies demonstrate that genetically engineered crops could pose serious risks to human health and the environment.

HEALTH RISKS OF GENETICALLY ENGINEERED FOODS

Genetically engineered food could have numerous human health consequences, including heightened toxicity levels, increased allergenicity, widespread antibiotic resistance, immune suppression, elevated cancer risks, and nutritional loss. In 1991, FDA scientists alerted the regulatory agency that genetically engineered foods could pose serious dangers to the food supply, specifically resulting in “increased levels of known naturally occurring toxicants, appearance of new, not previously identified toxicants, [or] increased capability of concentrating toxic substances from the environment (e.g. pesticides or heavy metals).”²³ Despite this warning, FDA refused to require mandatory safety testing. In addition, FDA was aware that the first commercialized genetically engineered whole food, the Flavr Savr tomato, caused lesions in the stomachs of rats, but again chose not to require pre-market safety testing.²⁴

FDA’s response to the potential toxicity problem is mirrored in its response to allergenicity concerns. Allergenicity is a human immunodeficiency reaction that can lead to anaphylactic shock and death. According to the National Institutes of Health, four to eight percent of children and one to two percent of adults exhibit allergies to certain foods and the building blocks of foods, namely proteins.²⁵ *Bacillus thuringiensis* (Bt), an insecticidal microbe that occurs naturally in the soil, is one example of the potential allergenicity of genetically engineered products. Conventional and organic farmers have used Bt spray for years to control certain insects, and the spray is seen as relatively benign because it breaks down quickly in sunlight. But with the help of genetic engineering, corn has been developed to produce the Bt

toxin in every cell of the plant, all of the time.

In determining potential allergenicity, scientists compare the genetically engineered organism’s structural similarity to known allergens, as well as its digestive and heat stability. Bt corn, particularly the type of Bt corn containing the Cry1AB protein, failed all three allergenicity protocols. As for digestive stability, two studies revealed that 10 percent of Cry1AB lasted in stomach-like conditions for one to two hours, in contrast to the two minutes Monsanto’s results showed.²⁶ Other studies also revealed a considerable amount of heat stability in the protein, yet the Environmental Protection Agency (“EPA”), which is responsible for oversight of crops producing their own pesticide, did not collect any heat stability data from Monsanto.²⁷

Potatoes also have been genetically engineered to produce the Bt toxin. In a study conducted in 1999 and published in the British medical journal *The Lancet*, scientists discovered that rats consuming Bt potatoes showed suppressed immune function, including detrimental effects on organ development and body metabolism.²⁸ Without mandatory and comprehensive pre-market safety testing, and with no labeling or post-market research conducted, the full impact of transgenic crops on the human immune system may never be fully revealed.

Another human health concern is the increased use and release into the environment of antibiotics. By using antibiotic marker genes to determine gene expression, the industry may be compromising one of the most important tools humankind has for fighting common

infections in people and animals. Novartis, a French biotech company, has used ampicillin to gauge transference of a new gene in genetically engineered corn. Britain, among other European countries, has banned the farming of Novartis' corn over concerns it will migrate from the corn to the general population and weaken the effectiveness of ampicillin, a much-needed defense from bacterial infections. The British Medical Association seconded the ban, when it concluded: "There should be a ban on the use of antibiotic resistance marker genes in [genetically engineered] food, as the risk to

human health from antibiotic resistance developing in micro-organisms is one of the major public health threats that will be faced in the twenty-first century."²⁹

Genetic engineering also may compromise the nutritional value of some foods. FDA's Division of Food Chemistry and Technology and the Division of Food Contaminants Chemistry have warned the agency that the genetic engineering of food could lead to the "undesirable alteration in the level of nutrients."³⁰

ENVIRONMENTAL RISKS OF GENETICALLY ENGINEERED FOODS

In addition to endangering human health, field testing and growing genetically engineered crops pose several risks to the environment as well. In a highly publicized study on harm to beneficial and non-target species, Dr. John E. Losey of Cornell University showed that Bt corn pollen that had dusted milkweed leaves harmed the monarch butterfly.³¹ Industry challenged this study, but additional research ultimately confirmed the findings of Losey and his fellow researchers.³² Similarly, studies have reported that ladybugs, which prey on the Colorado potato beetle, consumed fewer potato beetle eggs when the potatoes had high levels of Bt toxin.³³ Other studies have found that lacewing larvae reared on prey that was fed Bt-producing corn took longer to develop and had an elevated mortality rate.³⁴ In yet another study, researchers looking at genetically engineered potatoes in Ohio found natural and beneficial enemies reduced to such low levels that harmful aphid outbreaks occurred.³⁵

Another problem associated with genetically engineered crops is the creation of herbicide resistant “superweeds.” In fact, the current reliance on just a few broad-spectrum herbicides makes it likely that resistance will develop even faster. Already canola weeds resistant to three herbicides have been found in a field in northern Alberta, Canada.³⁶ Recent research also has revealed that weeds are beginning to develop resistance to Monsanto’s Roundup herbicide. Weeds resistant to the herbicide have been discovered in Delaware, Maryland, California, Tennessee, Ohio, Kentucky, and Indiana.³⁷ A recent scientific article reported that plants can take on this trait with “negligible” impacts, meaning the new trait is incorporated without any noticeable harm to the plant; as a result, herbicide resistance

may persist and spawn more troublesome weeds.³⁸ Studies on the viability of hybrids between genetically engineered crops and wild relatives show that the hybrids are not necessarily less fit than their wild parent.³⁹ Without adequate regulatory oversight, genetically engineered plants may continue to hybridize with their wild relatives and potentially create serious problems as invasive, or non-native, species. The current annual costs to the United States due to non-native species is estimated at \$123 billion.⁴⁰

One profound but largely unexplored area of environmental harm is the damage genetically engineered crops may pose to soil ecosystems. Bt toxin is released in harmful levels into the rhizosphere soil by root exudates from Bt corn.⁴¹ Bt engineered into cotton and other plants can seep into the soil through their roots and remain in the dirt at least seven months, depressing the soil microbes that help plants grow.⁴² Subsequent types of Bt corn, geared towards the eradication of the corn rootworm, a type of beetle, may prove to be even more harmful to soil. One study found that the glyphosate herbicide sprayed onto Monsanto’s Roundup Ready crops remained in the soil as long as three years.⁴³

Proponents of genetic engineering argue that the new technology reduces or eliminates the use of toxic farm chemicals, which are frequently manufactured by the same companies touting genetically engineered crops. On the contrary, genetically engineered crops often call for the use of more chemicals. In an important analysis of Roundup Ready soybeans, the former Chair of the Board on Agriculture for the National Academy of Sciences, the body that advises Congress on scientific issues, found that genetically engineered soybeans “clearly

require more herbicides than conventional soybeans, despite claims to the contrary.”⁴⁴

Another serious environmental danger is unchecked gene flow—also referred to as genetic pollution—from genetically engineered crops to their conventional or organic counterparts, as well as their wild cousins. Many farmers rely on the premium prices that they receive from non-engineered crops, which require strict segregation to meet specific market demands. Stewart Wells of the National Farmers Union of Canada, for example, has stated that it may soon be impossible to certify canola as organic because genetically engineered canola has been dispersed throughout the region by wind, rain, birds, and farm equipment. “If this continues, once wheat, barley, lentils, and other crops are genetically-engineered, I won't have anything left to grow. For organic farmers and the hundreds of thousands of consumers who choose organic food, this is an extremely serious issue.”⁴⁵ In the United Kingdom, the government recently announced that field experiments of genetically engineered corn would be halted for fear of genetic pollution of nearby organic farms.⁴⁶ According to a 2002 survey, 70 to 80 percent of organic farmers

in the Midwestern farm-belt states claim to be adversely affected by genetically engineered gene drift; 88 percent declare that they take measures to protect their farms from cross contamination.⁴⁷

In the fall of 2001, genetically engineered corn was discovered growing in Mexico, despite a 1998 government moratorium on commercial planting.⁴⁸ Mexico is the source of corn's greatest genetic diversity, and contamination of corn there could mean that corn biodiversity is severely threatened.⁴⁹

The mass contamination demonstrated by StarLink corn is a chilling example of the potential for widespread genetic pollution. Although StarLink corn was only grown on 0.4 percent of the total corn acres planted in the United States, it turned up in one-tenth of the corn tested by the EPA between November 2000 and April 2001.⁵⁰ Even more alarmingly, the Cry9C protein, which was the protein responsible for EPA keeping StarLink out of the human food chain in the first place, was found in other varieties of yellow corn seed.⁵¹ In addition, white corn, which has never been genetically engineered, was found to contain the StarLink protein.⁵²

U.S. REGULATION OF GENETICALLY ENGINEERED FOODS

In 1986, President Reagan's executive office finalized a strategy for regulatory oversight of genetically engineered crops and foods. This policy report, titled the "Coordinated Framework for Regulation of Biotechnology," stated that "existing statutes seem adequate to deal with the emerging processes and products of [genetic engineering]."⁵³ Twenty years later, this framework remains the overriding policy structure.

Several agencies share regulatory authority over genetically engineered crops. Although in certain cases food safety regulation is shared between FDA and EPA, the FDA is the ultimate authority. However, FDA does not require or enforce any mandatory safety standards; instead, the FDA provides industry with a list of voluntary and "suggested" safety guidelines. FDA does not require manufacturers to notify the agency when bringing a genetically engineered crop to market and does not conduct its own independent tests of genetically engineered food. The agency simply reviews summaries of studies that the company has completed.⁵⁴ As a result, the agency does not make determinations of safety, but merely notes that the manufacturer has determined that the product is safe. In many instances, the agency has asked for additional data from manufacturers and been denied.⁵⁵

One of the first indications of the inadequacies of FDA's regulatory oversight arose when the FDA reviewed Monsanto's genetically engineered bovine growth hormone (rBGH) for use on dairy cattle. In April 1988, the FDA questioned whether Monsanto's own studies had answered crucial safety questions, such as whether it had established a "margin of safety" or met

a "no effect" level in its submission.⁵⁶ The agency summarily fired Dr. Richard Burroughs, the lead government scientist in charge of reviewing the rBGH data, after he proposed conducting a two-year study on the safety of rBGH and ordered toxicology and immunology tests. By 1993, the FDA was willing to approve rBGH under a new standard of review: "manageable risk." Dr. Burroughs stated: "It used to be that we had a review process at the FDA. Now we have an approval process. I don't think the FDA is doing good, honest reviews anymore."⁵⁷

One major human health concern associated with rBGH is that it stimulates production of another hormone called IGF-1. Numerous studies and papers have connected IGF-1 to several types of cancer, including breast and prostate cancer.⁵⁸ In approving rBGH, FDA relied solely on summaries of tests performed by Monsanto. When the Canadian government reviewed Monsanto's data, it found that "the only short-term toxicology study, performed for three months in rats, was improperly reported, to include that [rBGH] was not and could not be absorbed into the bloodstream."⁵⁹ According to Dr. Michael Hansen, a biotechnology expert at Consumers Union, "these are toxicologically significant changes in the rats and they should have triggered a full human health review, including assessment of potential carcinogenic and immunological effects."⁶⁰ The genetically engineered hormone was eventually approved by FDA and has gone into widespread use in dairy herds across America. The analogy to food crops is clear: FDA does not review data for safety implications, but only acknowledges receipt of industry summaries.⁶¹

A COMPANY'S DUTY TO DISCLOSE

Companies that are publicly traded on the United States stock market have a duty to disclose operating policies and procedures to their shareholders, as well as to the Securities and Exchange Commission (“SEC”).⁶² Companies must file a 10-K report with the SEC on a yearly basis, along with quarterly and other reports. Disclosures to shareholders usually come in the form of annual reports, which chart the gains and losses of the company, as well as its future trajectory. Annual reports include an opening letter from the Chief Executive Officer, hard financial data, a Management Discussion and Analysis section, results of continuing operations, market segment information, new product development, subsidiary activities, and forward-looking statements, as well as potential liabilities.

The Securities Act of 1933 and the Securities Exchange Act of 1934 require that investors receive financial and non-financial information about the companies in which they own shares; the Acts also prohibit misrepresentations, fraud, and deceit on the shareholder.⁶³ They require the “full disclosure” of any “material facts” that might affect the company.⁶⁴

Rule S-K, Item 303, of the Securities Act of 1933 requires the company—in the Management Discussion and Analysis section—to discuss hard financial data in such a way as to enable the shareholder or the public to come to an understanding of the company’s business operations and prospects.⁶⁵ The narrative should focus on “material events and uncertainties known to management” that would change the outcome of the reported financial information.⁶⁶ This would include descriptions and amounts of “matters that would have an impact on future operations,”

even if they have not had an impact in the past.⁶⁷ The 1934 Act, Section 10(b), also makes fraud and the omission or misstatement of material facts unlawful.⁶⁸

Companies are encouraged to make forward-looking statements regarding business operations.⁶⁹ Overly optimistic statements about the future of the company are tempting to make, as they may increase shareholder confidence and increase the price of stock. But there is also the possibility that management can perpetrate fraud on unsuspecting shareholders, as demonstrated by the Enron fiasco.

The Private Securities Litigation Reform Act (PSLRA) of 1995 inoculates management from being responsible for statements that they make about the future successes of the company. Prior to PSLRA, the Securities and Exchange Commission upheld the principle that management had to make predictions of future performance in “good faith” or with a “reasonable basis” of knowledge by allowing shareholders to sue for fraud.⁷⁰ PSLRA now allows corporations to make these statements with little fear of liability or reprisals, provided the company includes a disclaimer in the form of a “safe harbor” statement. The company may assert the “safe harbor” provision, by declaring that the statements are “forward-looking statements” and that many factors may alter the outcome.

In response to the Enron fiasco, the U.S. Congress passed the Sarbanes-Oxley Act of 2002. On August 27, 2002, the SEC implemented Section 302, which requires CEOs and CFOs to certify financial and other information in their companies’ quarterly and annual reports.⁷¹ The Sarbanes-Oxley Act instills a strict fiduciary

duty on board members to be accountable for what appears in the company's annual report. The 2002 Act also attempts to improve the accuracy and reliability of corporate disclosures by requiring the SEC to review company filings more often and companies to report any changes in financial condition and results of operations on a timelier basis.⁷² This Act also requires companies to "fairly present" their financial conditions and results of operations and not just follow the letter of the law.⁷³

Materiality Triggers the Duty to Disclose

Congress passed the Securities Act of 1933 and the Securities Exchange Act of 1934 in the wake of the 1929 stock market crash to renew shareholder faith in capital markets, as well as to protect investors. The system is based on a simple, straightforward concept:

"all investors, whether large institutions or private individuals, should have access to certain basic facts about an investment prior to buying it. To achieve this, the SEC requires public companies to disclose meaningful financial and other information to the public, which provides a common pool of knowledge for all investors to use to judge for themselves if a company's securities are a good investment. Only through the steady flow of timely, comprehensive and accurate information can people make sound investment decisions."⁷⁴

Congress also established the Securities and Exchange Commission in 1934 to "enforce the newly-passed securities laws, to promote stability in the markets, and most importantly, to protect investors."⁷⁵

Companies have to disclose all "material" facts to their shareholders. In 1976, the Supreme Court defined materiality to mean

that there is "a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the 'total mix' of information available." The Court further noted that a disclosure is material if "there is a substantial likelihood that a reasonable shareholder would consider it important in deciding how to vote."⁷⁶ In a more recent decision, the Court reaffirmed the definition and extended it to encompass factual omissions as well.⁷⁷

Similarly, the Financial Accounting Standards Board ("FASB"), a private organization responsible for codifying accounting and financial terms and operating procedures, states that a disclosure or omission is material if it would probably change or influence "the judgment of a reasonable person relying upon the report."⁷⁸ Most importantly, the SEC clarified in its Staff Accounting Bulletin No. 99 that qualitative information can be material and that "exclusive reliance on certain quantitative benchmarks to assess materiality in preparing financial statements and performing audits of those financial statements is inappropriate."⁷⁹

In a July 2004 report on environmental disclosure, the United States Government Accountability Office ("GAO"), formerly the General Accounting Office, states that the SEC requires disclosure if the liability is "probable" and the amount is "reasonably estimable."⁸⁰ If the liability is not at least probable or reasonably estimable, but is "reasonably possible," then it must be disclosed in the footnotes of the annual report.⁸¹ Reasonably possible is defined as any outcome that has more than a remote chance of happening.⁸²

The SEC clarifies that if the known trend, demand, commitment, event or uncertainty

is not *reasonably likely* to occur, no disclosure is required. However, if that determination cannot be reached, management must proceed under the assumption that the trends and events will take place and full disclosure is required.⁸³

According to the SEC itself, the weight should tip more towards disclosure unless management can objectively determine that the reasonability of the facts or events will not come to fruition or will not have an effect on company operations.⁸⁴

KNOWN RISKS OF GENETICALLY ENGINEERED FOODS REQUIRE DISCLOSURE

Publicly traded food companies have a duty to disclose facts associated with genetically engineered ingredients because the risks and liabilities involved with genetically engineered crops and ingredients are material to their business operations. Testifying before Congress in 2004, William H. Donaldson, Chairman of the SEC, stated that a company should disclose whether it “faces public or government opposition, boycotts, litigation, or similar circumstances that are reasonably likely to have a material adverse impact on a company's financial condition or results of operations.”⁸⁵ He acknowledged that public or government opposition to a company's product is a material matter subject to disclosure.

Item 303 of SEC Regulation S-K of the Securities Act of 1933 is of particular importance to companies that face risks posed by genetically engineered food. This regulation requires that companies describe trends and information known by the company to have a material impact on business operations.⁸⁶ The application of this rule could reasonably cover:

- Consumer rejection of inventory, boycotts, and growing consumer preference for organic products;
- International renunciation and loss of international market share, as well as costs associated with complying with international rules and regulations.
- Shareholder resolutions and divestment;
- Loss of insurance coverage;

- Lawsuit liabilities associated with cross contamination and loss of consumer confidence;
- Compliance with sudden regulatory changes, labeling laws, and other laws;
- Growing demand for stronger regulation of biopharming.

Known risks posed by genetically engineered foods are both qualitatively and quantitatively material to shareholders and the public. Easily quantifiable financial impacts, such as lawsuits or boycotts, are obviously material to business operations. Less quantifiable, but no less important, are qualitative issues, such as regulatory compliance, insurance industry concerns, and shareholder demands.

Consumer Rejection of Genetically Engineered Foods

Consumer concerns regarding genetically engineered foods are increasing. A 2003 Food Policy Institute report out of Rutgers University found that the number of people who felt that genetically engineered foods would better their quality of life fell by 20 percent since a similar poll conducted in 2001. Two-thirds of those polled believe that serious incidents involving genetically engineered foods are certain to happen. And almost half of the respondents felt that it was unsafe to eat genetically engineered foods.⁸⁷ The Pew Initiative on Food and Biotechnology, in comparing a 2003 survey to one conducted in 2001, found a similar split over safety concerns.⁸⁸

Despite the prevalence of genetically engineered foods on America's supermarket

shelves, only 25 percent of respondents in the Rutgers study believe they have eaten them.⁸⁹ U.S. consumers remain in the dark about genetically engineered ingredients in their foods because there are no labeling requirements. Industry has lobbied for the prohibition of labeling, stating that “it would unfairly stigmatize products already determined to be safe.”⁹⁰ FDA’s own research, however, shows that a majority of consumers want foods labeled if they contain genetically engineered ingredients.⁹¹ The same research also uncovered the fact that consumers feel “outrage” when they discover the true extent to which genetically engineered ingredients are already in the food system.⁹² Researchers from twelve American universities joined together to create a comprehensive study to reveal how Americans feel about the labeling of genetically engineered foods. Approximately 92 percent of respondents believe that genetically engineered foods should be labeled. Other studies show similarly strong numbers calling for labeling.⁹³ In a recent *Time* magazine poll, for example, 58 percent of those queried said they would not eat genetically engineered products if they were correctly labeled as such.⁹⁴

Consumers have demonstrated their rejection of genetically engineered crops in other ways. A 100-city protest against Starbucks led the company to offer non-genetically engineered products.⁹⁵ Bowing to consumer pressure, three major supermarket chains, Whole Foods, Wild Oats, and Trader Joe’s, have pledged to ban genetically engineered ingredients from their private-label products.⁹⁶ Trader Joe’s mission statement on genetically engineered organisms states: “we determined that, given a choice, our customers would prefer to eat foods and beverages made without the use of genetically engineered ingredients.”⁹⁷

Even McDonald’s instructed its potato supplier not to grow genetically engineered potatoes,⁹⁸ and McCain Foods, which produces a third of the world’s French fries, also has agreed to stop using genetically engineered potatoes.⁹⁹

Meanwhile, the organic food industry, which does not use genetically engineered ingredients, continues to grow by a compounded 20 percent rate annually.¹⁰⁰ In the United States alone, the organic snack food sector grew by 29.6 percent in 2003.¹⁰¹ Since there are no labeling laws for genetically engineered foods, and organic products cannot be produced with genetically engineered ingredients, buying organic is the best way that consumers can be assured that they are not purchasing unwanted genetically engineered foods.

International Renunciation of Genetically Engineered Crops

The financial impact from international renunciation of genetically engineered foods has a quantifiable material impact on the business operations of the processed food industry. The European Union’s new requirements for labeling and traceability of genetically engineered ingredients became effective on April 18, 2004. John R. Cady, President and CEO of the National Food Processors Association, stated that these new requirements “establish a serious trade barrier that will keep many U.S. food products out of the European market. European consumers will see such labels on food products as ‘warning labels.’”¹⁰² Already, official opinion polls show that 95 percent of EU citizens want the right to choose whether genetically engineered crops are imported or grown in the EU, and 70.9 percent would ban genetically engineered foods entirely.¹⁰³ To keep abreast of European consumer desires, international

food companies are making their products “GE-free.”

Companies such as Kraft, Heinz, Danone, and Kellogg’s have had to create twin production and distribution systems for different markets. These companies have announced that they source their ingredients for the European market from non-GE producers.¹⁰⁴ PepsiCo alerts its customers that ingredients used in its products are “not derived from genetically modified sources and no GMOs are used in our soft drink manufacturing process or in those of our ingredients suppliers in Europe.”¹⁰⁵ The rejection of genetically engineered products extends to the supermarkets that are the distribution point for the processed food industry. Major European grocery store chains, such as Marks & Spencer, Spar, Tesco, Safeway, Carrefour, and Waitrose, have removed genetically engineered products from their shelves.¹⁰⁶

Countries around the world have banned the import, production, and commercialization of genetically engineered foods on various levels. Nations as diverse as Algeria, which has an outright ban on genetically engineered goods, and China, which banned the commercial planting of transgenic rice, wheat, corn, and soybeans, are denying genetically engineered foods a foothold in their country.¹⁰⁷ In Russia, Valery Kechkin, who serves on the Federation Council, said the Russian Parliament would not approve purchases of genetically engineered food “unless there was such a desperate need to justify it.”¹⁰⁸ Chile, according to a recent report, is second only to Europe in its rejection of genetically engineered ingredients. The report relies on a study that shows 75 percent of the Chilean public completely rejects genetically engineered food.¹⁰⁹

South Korea and Japan, two of the largest importers of U.S. corn, rejected shipments of corn found to be contaminated with StarLink. In both nations, StarLink is not authorized for human consumption, and although the U.S. had guaranteed that the shipments were StarLink-free, it was proven otherwise.¹¹⁰ StarLink also was found in a variety of consumer products in Japan and South Korea.¹¹¹ In 2000, South Korea was forced to recall 14,528 kilograms of tortilla chips that were tainted with StarLink corn.¹¹²

South Korea and Japan also have blocked other genetically engineered ingredients from their grocery store shelves and forced recalls of contaminated products. In 2001, Calbee Foods of Japan recalled a variety of its snack products after traces of genetically engineered and prohibited NewLeaf Plus potatoes were found. Proctor and Gamble was forced to pull 800,000 canisters of its Pringle potato chips from Japan after they were found to contain the same prohibited genetically engineered potato.¹¹³

In 2002, Angola, Malawi, Zambia, Zimbabwe, Lesotho, Mozambique, and Swaziland were hit with a serious food shortage crisis. But Zimbabwe still rejected shipments of U.S. food aid since they included genetically engineered crops, and the neighboring nations followed suit. These nations feared that farmers would plant the genetically engineered grains rather than eat them, introducing genetically engineered organisms in their already fragile agricultural systems. Eventually, most of the countries decided to accept the food shipments if the grains were milled, but Zambia turned down the food in any form, purely on the basis that it was genetically engineered.¹¹⁴

Shareholder Demands

At a July 2003 symposium in Washington, D.C. hosted by Senators Corzine, Nelson, and others, SEC Commissioner Goldschmid stated that emerging issues such as genetic engineering were material if shareholders demanded information on them.¹¹⁵ During the question and answer period, Commissioner Goldschmid replied to a question on materiality by stating that what an investor considers material varies over time. As an example, he stated that “current shareholder proposals on genetic engineering” are material.¹¹⁶ In addition, in May 2001, the director of corporate finance at the SEC wrote a memo declaring that shareholder divestment campaigns and consumer boycotts can be considered “material” and thus subject to disclosure under SEC rules.¹¹⁷

More than 30 food-related companies have been the subject of shareholder resolutions since 1999.¹¹⁸ Filed by three-dozen separate investment groups, the resolutions called for the research, labeling, and phasing out of genetically engineered ingredients.¹¹⁹ This is the largest social-issue shareholder resolution movement since apartheid-era South Africa.¹²⁰ In 2003, shareholders filed resolutions against Archer Daniels Midland, ConAgra, Kellogg’s, Safeway, Wal-Mart, and others.¹²¹ Shareholder resolutions on such a mass scale indicate that genetically engineered ingredients are material to the shareholder.

Insurance and Financial Industry Concerns

According to Robert Hartwig, chief economist for the Insurance Information Institute, genetically modified foods “are among the riskiest of all possible insurance exposures that we have today.”¹²² A main

concern of the insurance industry is that the FDA does not guarantee the safety of genetically engineered foods. Thomas Greany, senior vice president at Marsh, a risk-management firm, has stated, “When it comes to a drug or medical device, what underwriters look to as most important is FDA oversight.”¹²³ But without any mandatory safety testing or effective regulation required by the FDA, the insurance industry is left hanging.

As far back as 1998, Swiss Re, one of the leading re-insurance companies in the world, saw genetic engineering as potentially the most high-risk bet of all new technologies.¹²⁴ Recently, the top five insurers in the United Kingdom announced that they would not cover certain risks associated with genetically engineered agriculture.¹²⁵ Without insurance, or with compromised insurance, the food industry could be in serious financial danger.

The finance industry also has renounced investment in genetically engineered foods. The largest bank in Europe, Deutsche Bank, wrote in a report that investors should completely divest from companies involved in genetically engineered organisms.¹²⁶ Other financial institutions have followed suit, including Credit Suisse First Boston, which stated that the commercializing of genetically engineered organisms has “lost momentum.”¹²⁷

Lawsuit Liability

Item 103 of Rule S-K requires companies to disclose any “material legal proceeding, other than ordinary routine litigation incidental to the business.”¹²⁸ The instruction further narrows the requirement to exclude disclosure if the “amount involved, exclusive of interest and costs,

does not exceed 10 percent of the current assets of the registrant.”¹²⁹

When the StarLink contamination and recall went public, consumers sued in class actions for perceived harms, as well as for a refund of their money.¹³⁰ These cases delved into the consumer effects of StarLink, while farmers pursued the economic impacts with nuisance and tort claims.¹³¹

Lawsuits of all kinds can have a material impact on the business operations of the genetically engineered food industry. Public nuisance “has a broad application, and it will have a broad application in the future, when public safety is at issue,” says Richard A. Lewis, the lawyer who filed a class-action lawsuit against Aventis CropScience on behalf of farmers who claimed that cross-contamination of StarLink corn lowered corn prices.¹³² *In re StarLink Corn Products* survived summary judgment when the judge likened the farmers’ private nuisance claims to that of a 1973 case in which commercial fisherman and clambers in Maine sought damages against an oil company for a spill that endangered wildlife. Aventis settled out of court for \$110 million.¹³³

Other settlements from the StarLink corn debacle include a \$60 million payout to Taco Bell franchises by the manufacturers of the StarLink-tainted taco shells for loss of sales due to consumer confusion over whether Taco Bell restaurants were involved in the contamination—which they were not.¹³⁴ Attorney Thomas P. Redick, chair of the Agricultural Management Committee of the Environmental Section of the American Bar Association, has said that “StarLink serves as confirmation that both personal injuries and economic loss will be compensated, even when the Centers for Disease Control (“CDC”) says no one could prove to have been hurt, and even though

economic losses are very difficult to prove. Aventis also proved that biotech companies will compensate economic losses of customers, to a point, both voluntarily and through class-action settlements.”¹³⁵ As demonstrated by the StarLink corn recall and ensuing litigations, processed food companies face potential legal battles that could number in the billions of dollars.

Regulatory Compliance

Studies have shown that corporations may experience financial loss and negative impacts to business operations for failing to prepare for regulatory changes.¹³⁶ Calls for tightened regulation of genetically engineered foods have increased worldwide, even though the biotech industry has been lobbying for looser restrictions. By not preparing for and anticipating the inevitable regulatory changes, the food industry is setting itself up for major financial losses, similar to monetary losses experienced by other industries when environmental regulations were tightened. Kraft Foods acknowledged in its 2001 Prospectus that “governments throughout the world are considering regulatory proposals relating to genetically modified organisms or ingredients, food safety and market and environmental regulation...”¹³⁷ These regulations stretch from city-led initiatives to state and countrywide prohibitions.

On March 2, 2004, for example, Mendocino County in Northern California became the first county in the nation to prohibit the growing and raising of genetically engineered plants or animals. At least seven other counties in California are considering similar ballot measures in 2004.¹³⁸ Legislatures in California, Colorado, Iowa, Hawaii, New York, New Hampshire, Vermont, Massachusetts, Maine, Michigan, and Minnesota have introduced bills to label

or ban genetically engineered foods over the last several years.¹³⁹ All told, 288 bills relating to biotechnology have come before state legislators in the last three years alone.¹⁴⁰ Most recently, Vermont passed a law requiring genetically engineered seeds to be labeled and registered.¹⁴¹ In addition, 78 out of the 246 towns and cities in Vermont have passed non-binding resolutions banning genetically engineered organisms.¹⁴² This grassroots groundswell has been repeated in states as far away as Hawaii. Since 2003, Hawaii has been at the epicenter of the most prolific legislative and grassroots movements, as its island ecosystem is the site of many genetically engineered crop field trials.¹⁴³

Japan, which imports one-fifth of all U.S. food exports, has added even more restrictive labeling requirements to its original 2001 laws.¹⁴⁴ South Korea has had restrictive labeling laws in place since 2001 as well.¹⁴⁵ Other nations that require labeling of genetically engineered foods include China, Australia, New Zealand, and the European Union.¹⁴⁶

The European Union had a de facto moratorium on new genetically engineered crops and animals, starting in 1998.¹⁴⁷ However, the U.S., Canada, and Argentina have filed a World Trade Organization (“WTO”) lawsuit against the EU, claiming the moratorium violates free trade agreements.¹⁴⁸ Since the claim was filed, the EU has allowed new products to be sold within its borders, largely because of the new labeling and traceability framework that went into effect in April 2004.¹⁴⁹ The U.S. continues to go forward with its claim before the WTO anyway. Non-governmental organizations have spearheaded initiatives in 24 separate European countries to ban genetically engineered crops altogether.¹⁵⁰ In addition, regional governments and

districts are banding together to form a network in an attempt to be completely “GE-free.”¹⁵¹

Some decision-makers within the U.S. federal government have sought some form of regulatory change. In 2001, the FDA issued a proposed rule that would require the food industry to consult with the agency 120 days before any genetically engineered product was brought to market, although this new rule never came to fruition. In addition, the U.S. Congress has introduced at least six federal bills seeking to strengthen the federal regulation of genetically engineered foods and crops. Finally, in 2000, the U.S. signed the Cartagena Protocol on Biosafety, an international agreement centered on risk assessment, notification, labeling, and information transference of genetically engineered organisms.¹⁵² Each of these steps, taken at the local, state, federal, and international level to strengthen regulations, has the ability to materially affect the food industry.

Growing Demand for Regulation of Biopharming

Biopharming, the process of using plants to grow and ultimately extract industrial chemicals and pharmaceuticals, is the latest application of genetically engineered plant technology. Plants, including food crops like corn and soybeans, are being used to produce products such as growth hormones, blood clotters, abortion-inducing chemicals, and vaccines. These products pose potentially serious risks to human health and the environment.¹⁵³

The U.S. Department of Agriculture (“USDA”) has approved the field testing and planting of biopharm crops in more than 300 separate open-air fields across the country.¹⁵⁴ Two major cases of known

contamination have raised red flags about the ability to keep biopharm crops separate from those earmarked for human consumption. ProdiGene, a Texas-based company, planted biopharm corn in a Nebraska field that was subsequently used to grow soybeans. The biopharm corn volunteered the following year, leading to the destruction of 500,000 bushels of soybeans contaminated with the biopharm corn. In Iowa, pollen from a ProdiGene biopharm corn experiment may have drifted into a neighboring conventional cornfield, forcing the farmer to destroy 155 acres of corn.¹⁵⁵ Two recent reports from the National Research Council emphasized the difficulty in keeping biopharm crops such as corn out of the food supply; as such, the NRC has recommended using non-food crops rather than food crops.¹⁵⁶ However, the biotechnology industry continues to use food crops in field trials, putting the food industry and general public at risk of further contamination.¹⁵⁷

The National Food Processors Association (“NFPA”) stated in comments to the USDA

in 2003 that “the risk and impact of contamination to the food supply is simply too great, as the food industry learned through experiences with the commodity crop Starlink corn. However, given that PMP [plant-made pharmaceuticals, or biopharm] production has already been field tested with food crops, NFPA strongly opposes the use of food crops to produce PMPs commercially without effective controls and procedures that ensure against any contamination of the food supply.”¹⁵⁸ The Grocery Manufacturers of America said “plant-made pharmaceuticals require stringent new regulations to ensure continued consumer confidence in the absolute safety of the U.S. food supply.”¹⁵⁹ As the two largest trade associations, these organizations effectively speak for the processed food industry. The significant risks associated with biopharming are not lost on the trade associations representing processed food producers; this alone should trigger the need for public and shareholder disclosure.

SURVEY FINDINGS: FOOD COMPANIES FAIL TO DISCLOSE RISKS

In order to determine if and to what extent food companies disclose the risks associated with genetically engineered foods, U.S. PIRG Education Fund surveyed the annual reports of the 35 largest publicly traded food companies in the United States, according to *Processed Food Magazine's* "Top 100 Food Companies."¹⁶⁰ The U.S. PIRG Education Fund survey only includes those companies publicly traded on the U.S. capital markets, excluding privately held top-earners such as J.R. Simplot and Cargill. The companies fell into distinct food categories: snack foods, meat processing, confectionary, beverage, and baked goods. Each of these categories is directly affected by the genetic engineering of food crops. For example, soft drink companies may use corn syrup derived from genetically engineered corn, and processed meat producers may feed their stock with genetically engineered grains. Refer to the Appendix for a list of the 35 companies surveyed.

In each company's annual report, U.S. PIRG Education Fund searched for references to specific terms, including genetic engineering, genetically modified, GE, GM, GMO, transgene, and organic. U.S. PIRG Education Fund examined the companies' 2003 annual reports, as filed in 2004.^a

The SEC "material facts" disclosure requirement is normally posited in the Management Discussion and Analysis (MD & A) section of the annual report. This is the portion of the report in which the CEO gives a narrative explanation of financial data. Disclosures may also appear in "Market Risks" or other sections of the annual report,

^a Farmland Industries' 2003 annual report was not available; therefore, we surveyed the 2002 report.

as required to explain the issues to the shareholders and the public.

U.S. PIRG Education Fund's survey found:

♦ **Only Kraft Foods and Interstate Bakeries mention that genetically engineered organisms may affect business operations in their annual reports to shareholders.**

♦ **Ninety-five (95) percent of the top publicly traded processed food companies completely ignore the genetically engineered foods issue altogether in their annual reports to shareholders.**

♦ **Not one company elaborated on or gave an analysis of the risks involved with genetically engineered ingredients in their annual reports to shareholders. Risk assessment by management should include ways of mitigating harms, avoiding future liabilities, and addressing future profitability.**

Kraft states in its MD & A section that there are a number of challenges that may adversely affect its business, including "consumer concerns about food safety, quality and health, including concerns about genetically modified organisms, trans-fatty acids and obesity."¹⁶¹ Kraft does not elaborate on the liabilities associated with genetically engineered ingredients, nor does it declare what it is doing to lessen the problems associated with genetic engineering.

Kraft again mentions genetic engineering in its "safe-harbor" statement: "The food industry is also subject to consumer concerns regarding genetically modified organisms and the health implications of

obesity and trans-fatty acids.”¹⁶² The safe-harbor statement is a place for the company to declare that certain issues may affect the forward-looking statements that the company has made. A reasonable safe-harbor statement for a processed food company to make regarding genetically engineered organisms would mention tightening domestic and international regulations and labeling laws, insurance industry concerns, and cross-contamination liabilities. Of the companies surveyed for this report, not one disclosed the effects genetic engineering could have on forward-looking statements.

Interstate Bakeries states that it “could be adversely affected if consumers in our principal market lose confidence in the safety and quality of our products. Adverse publicity about the safety and quality of certain food products, such as the recent publicity about foods containing genetically modified ingredients, whether or not valid, may discourage consumers from buying our products or cause production and delivery disruptions.”¹⁶³ This section is preceded by the following statement: “You should carefully consider the risks described below, together with all other information included in this report, in considering our business and prospects. ... The occurrence of any of the following risks could harm our business, financial condition or results of operations.” Interstate Bakeries does not mention genetically engineered ingredients specifically in its safe-harbor statement, but it does state that consumer preference, regulatory compliance, and product recalls and safety concerns may have an effect on future business operations.

In general, food companies cited many issues as areas of concern regarding their future profitability, including the consolidation of the grocery industry, cost of

raw materials, global economic conditions, and seasonal demands. One food company even listed an “act of terrorism” as a potential threat to its future economic health.¹⁶⁴ Yet, almost every single food company chose not to disclose the impacts of genetically engineered ingredients on the food industry.

In addition, U.S. PIRG Education Fund searched the websites of the same publicly traded companies using the same criteria as for the annual reports. Kraft, Nestle, ConAgra, Farmland Industries, and Hormel all mention agricultural biotechnology on their websites. Hormel has a section devoted to defining the terms and explaining the topic to a layperson.¹⁶⁵ Kraft and Nestle post speeches from management, addressing problems regarding the public perception of genetic engineering.¹⁶⁶ ConAgra posted a press release from 1999 stating that a subsidiary was working with Monsanto to accept genetically engineered corn in its grain elevators and distribution points.¹⁶⁷ Farmland Industries posted a letter from an information officer detailing the company’s stance on genetic engineering.¹⁶⁸

Other Company Revelations

While most processed-food companies are not disclosing to their shareholders that genetically engineered ingredients pose a problem, some CEOs and directors are discussing the significance of the issue in other realms; this points to the known materiality of the risk. In an address to the Oxford University European Affairs Society in 1999, Peter Brabeck-Letmathe, CEO of Nestle Corporation, the largest food company in the world,¹⁶⁹ stated:

“There are other arguments that speak for a rational approach to genetic engineering. I would, however, like to

raise the issue of the risks. As consumers, we are often confronted with horrifying questions: ‘What if?’ What if the genetically modified plants indeed show a higher incidence of allergenicity 20 years down the road? What if there are really modified plants that seed out 20 miles from where they were planted?”¹⁷⁰

Similarly, in an article titled, “Growing Trust,” an information officer from Farmland Industries, makers of processed meats, states:

“As more uses are developed, hesitancy about biotechnology in agriculture may

also increase. The issue of biotechnology is possibly explosive because it is potentially massive in its application. In the past, the use of scientific technology has not always been sensitive to its impact on society and the environment. Some wonder how biotechnology would differ.”¹⁷¹

These articles illustrate that processed food companies are aware of the liabilities associated with genetically engineered products, yet choose not to disclose this information to their shareholders.

CONCLUSION AND RECOMMENDATIONS

The use of genetically engineered crops poses unnecessary risks to the food industry. This risk is not just financial in nature, but is qualitative as well. Food companies are not only at risk for product liability recalls, lawsuits, and loss of sales, but harm to reputation, brand identity, and loss of shareholder and public confidence. As we saw with StarLink, a single contamination episode can result in losses totaling in the billions of dollars. Furthermore, inadequacies in the U.S. regulatory scheme exacerbate safety concerns of genetically engineered crops and foods, which has led to national and international rejection of this technology.

Publicly traded processed food companies are obligated to disclose to their shareholders and the public material facts that might affect business operations. Even though two companies mention genetically engineered ingredients in their annual reports, neither company goes far enough. Companies are obligated to explain to their shareholders the risks involved with genetically engineered foods, their proposals for ameliorating them, and what actions will be taken in the future to avoid liabilities. By disclosing risks and remedies, food companies will not only be complying with the law, but will be reassuring shareholders that they operate as responsible corporate entities.

The liabilities associated with genetically engineered ingredients could be financially catastrophic to shareholders. And yet, the threat remains largely ignored by food companies in their annual financial reports to shareholders.

U.S. PIRG Education Fund recommends that the food industry:

- Remove the risk of liability related to genetically engineered food by demanding that their suppliers, manufacturers, raw goods producers, and farmers not use genetically engineered materials.
- Fully disclose to shareholders the company's use of and potential liabilities associated with genetically engineered ingredients.
- Label all products that contain genetically engineered ingredients, so that consumers are fully informed of what they are purchasing.

U.S. PIRG Education Fund recommends that the SEC:

- Enforce the duty to disclose all material effects from genetically engineered organisms in the food industry.
- Hold CEOs and CFOs responsible for material omissions in companies' annual reports, as required by the Sarbanes-Oxley Act of 2002.

APPENDIX: PUBLICLY-TRADED COMPANIES SURVEYED

1. Kraft Foods

Sales: \$29,723 million

Address: Three Lakes Drive, Northfield, IL 60093

Phone: (847) 646-2000

Fax: (847) 646-6005

Web Site: www.kraftfoods.com

Brands:

100% Bran, Aladdin, Alpha-Bits, Altoids, Athenos, Baker's, Balance Bar, Banana Nut Crunch, Blendy, Blueberry Morning, Boca Burger, Breakstone's, Breyers, Bull's-Eye, Callard & Bowser, California Pizza Kitchen, Calumet, Capri Sun, Carte Noire, Celis, Certo, Cheez Whiz, Churny, Claussen, Clight, Cool Whip, Cote d'Or, Country Time, Cracker Barrel, Cranberry Almond Crunch, Crystal Light, D-Zerta, Daim, Dairylea, DiGiorno, Dream Whip, Eden, El Caserio, Estrella, Ever Fresh, Figaro, Foster's, Freia, Frisco, Frosted Shredded Wheat, Fruit & Fibre, General Foods International Coffees, Gevalia, Golden Crisp, Good Seasons, Grand Mere, Grape-Nuts, Great Grains, Handi-Snacks, Harvest Moon, Hoffman's, Hollywood, Honey Bunches of Oats, Honey Nut Shredded Wheat, Honeycomb, Invernizzi, Jack's, Jacobs Kronung, Jacobs Monarch, Jacques Vabre, Jell-O, Kaffee HAG, Kenco, Knudsen, Kool-Aid, Korona, Kraft, Kraft Free, La Vosgienne, Lacta, Light n' Lively, Louis Rich, Magic Moment, Marabou, Maxim, Maxwell House, Meister Brau, Milka, Minute brand tapioca, Minute Rice, Miracle Whip, Miracoli, Molson, Nabob, Natural Bran Flakes, Old English, Oreo O's, Oscar Mayer, Oven Fry, Peanott, Pebbles, Philadelphia, Poiana, Polly-O, Post, Presidente, Prince Polo, P'tit Quebec, Q-Refresko, Raisin Bran, Red Dog, Saimaza, Sanka, Seven Seas, Shake 'N Bake, Shipyard, Shredded Wheat, Shredded Wheat 'n Bran, Simmenthal, Slim Set, Snack Abouts, Sottilette, Splendid, Spoon Size Shredded Wheat, Starbucks, Stove Top, Suchard, Sugus, Sure-Jell, Taco Bell, Tang, Temp-Tee, Terry's, Toasties, Tobler, Toblerone, Tombstone, Vegemite, Velveeta, Waffle Crisp, Yuban

2. Nestle USA Inc.

Sales: \$28,000 million

Address: 800 N. Brand Blvd., Glendale, CA 91203

Phone: (818) 549-6000

Fax: (818) 549-6952

Web Site: www.nestle.com

Brands:

Brands: Baby Ruth, Butterfinger, Carnation, Carnation Instant Breakfast, Chase & Sanborn, Coffee Mate, Contadina, Friskies, Friskies ALPO, Friskies Mighty Dog, Goobers, Hills Bros. Coffee, Juicy Juice, Kerns, Libby's, MJB Coffee, Nescafe, Nestle, Nestle Carnation Follow-Up Baby Formula, Nestle Carnation Good Start Baby Formula, Nestle Crunch, Nestle Drumstick Ice Cream, Nestle Flipz, Nestle Quik, Nestle, O'Henry, Ortega, Raisinets, Stouffer's, Stouffer's Lean Cuisine, Sweet Success, SweeTarts, Taster's Choice, Toll House, Turtles, Willy Wonka

3. ConAgra Inc.

Sales: \$27,629 million

Address: One ConAgra Drive, Omaha, NE 68102-5001

Phone: (402) 595-4000

Fax: (402) 595-4707

Web Site: www.conagra.com

Brands:

Act II, Andy Capp's, Armour, Banquet, Blue Bonnet, Butterball, Chef Boyardee, Chun King, Cook's, Country Pride, County Line, Crunch n Munch, Decker, Egg Beaters, Eckrich, Fleischmann's, Gilroy Brands, Gulden's, Healthy Choice, Hebrew National, Hunt's, Hunt's Snack Pack, La Choy, Lamb-Weston, Libby's, Marie Callender's, Orville Redenbacher's, Parkay, Peter Pan, Slim Jim, Swift Premium, Swiss Miss, Van Camp's, Wesson, Wolfgang Puck's

4. Unilever

Sales: \$25,700 million

Address: Unilever House, Blackfriars, London, EC4P 4BQ, United Kingdom

Phone: +44-20-7822-5252

Fax: +44-20-7822-5951

Web Site: www.unilever.com

Brands:

Ben & Jerry's, Bertolli, Birdseye, Breyers, Country Crock, Dove, Flora, Hellmann's, I Can't Believe It's Not Butter, Knorr, Magnum, Lipton, Omo, Slim-Fast

5. PepsiCo Inc.

Sales: \$25,112 million

Address: 700 Anderson Hill Road, Purchase, NY 10577-1444

Phone: (914) 253-2000

Fax: (914) 253-2070

Web Site: www.pepsico.com

Brands: 7Up, Alegro, All Sport, Aquafina, Burger Rings, Chee-tos, Diet Pepsi, Dole, Doritos, Frappuccino Coffee Drink, Fritos, Funyuns, Gamesa, Grandma's Cookies, Lay's, Lipton Brisk, Lipton Brew, Lites, Mirinda, Mountain Dew, Mug, Nobby Nuts, O'Grady's, Parkers, Pepsi, Pepsi Max, Pepsi One, Rold Gold, Ruffles, Slice, Smartfoods, Smith's, Smooth Moos, Storm, SunChips, Tostitos, Tropicana, Tropicana Pure Premium, Tropicana Season's Best, Walkers

6. Tyson Foods

Sales: \$23,367 million

Address: 2210 W. Oaklawn Drive, Springdale, AR 72762-6999

Phone: (479) 290-4000

Fax: (479) 290-4061

Web Site: www.tyson.com

Brands: Barney's, Black Forest, Bonici, Casino Chef, Cobb, Colonial, Copperfield's, Corn King, Delightful Farms, Deli Slices, DFG Foods, Dorskocil Foods, Fresh Cuts, IBP, ITC, Iowa Ham, JAC PAC Foods, Jefferson, Jordan's, KPR Foods, Lady Aster, Mexican Original, Our American Favorite, Pizzano, Pizza Topper, Restaurantic, Reuben, Russer, TNT Crust, TastyBird, Thorn Apple, Weaver, Wilson, Wilson's, Wright, Tyson

7. The Coca-Cola Co.

Sales: \$19,564 million

Address: One Coca-Cola Plaza, Atlanta, GA 30301-1734

Phone: (404) 676-2121

Fax: (404) 676-6792

Web Site: www.cocacola.com

Brands: Barq's, Bright & Early, Citra, Coke, Coca-Cola, Dasani, Diet Coke, Fanta, Five Alive, Fresca, Fruitopia, Georgia, Hi-C, Mello Yello, Minute Maid, Mr. PiBB, Nestea, Powerade, Schweppes, Sprite, Surge, TAB

8. Anheuser-Busch Inc.

Sales: \$13,566 million

Address: One Busch Place, St. Louis, MO 63118-1852

Phone: (314) 577-2000

Fax: (314) 577-2900

Web Site: www.anheuser-busch.com

Brands: Azteca, Bud Dry, Bud Ice, Bud Ice Light, Bud Light, Budweiser, Busch, Busch Ice, Busch Light, Busch NA, Catalina Blonde, Elk Mountain, Hurricane, Hurricane Ice, King Cobra, Michelob, Michelob Amber Bock, Michelob Black & Tan, Michelob Classic Dark, Michelob Dry, Michelob Golden Draft, Michelob Golden Draft Light, Michelob Hefeweizen, Michelob Honey Lager, Michelob Light, Michelob Malt, Michelob Pale Ale, Michelob Porter, Michelob Winterbrew Spiced Ale, Natural Ice, Natural Light, O'Douls, O'Doul's Amber, Pacific Ridge Pale Ale, Red Wolf, Rio Cristal, Tequila, Ziegenbock

9. Archer Daniels Midland Co.

Sales: \$12,950 million

Address: P.O. Box 1470, Decatur, IL 62525

Phone: (217) 424-5200

Fax: (217) 424-5447

Web Site: www.admworld.com

Brands:

Novasoy

10. Sara Lee Corp.

Sales: \$9,617 million

Address: 3 First National Plaza, Chicago, IL 60602-4260

Phone: (312) 726-2600

Fax: (312) 558-8653

Web Site: www.saralee.com

Brands: Aoste, Argal, Ball Park, Benenuts, Best's Kosher, Bil Mar, Bravo, Brossard, Bryan, Caf? de Ponto, Chat Noir, Cochonou, Cornby, Dacor, Douwe Egberts, Duyvis, Felix, Friele, Galelio, Harris, Hillshire Farm, Hornimans, Hygrade, Imperial, Jacqmotte, Jimmy Dean, Justin Bridou, Kahn's, Kanis & Gunnick, King Cotton, Kir, Lassie, Maison du Caf?, Marcassou, Marcilla, Merrild, Moccona, Monarca, Monarch, Mr. Turkey, Natreen, Natrena, Nobre, Nutrine, Pickwick, Rudy's Farm, Sara Lee, Savane, Seitz, Sinai 48, Soley, State Fair, Stegeman, Suenos de Oro, Superior, Sweet Sue, Van Nelle, Wolferman's, Zwanenberg

11. H.J. Heinz Co.

Sales: \$9,431 million

Address: 600 Grant St., Pittsburgh, PA 15219

Phone: (412) 456-5700

Fax: (412) 456-6128

Web Site: www.heinz.com

Brands:

Budget Gourmet, Earth's Best, Farley's, Guloso, Heinz, Ken-L-Ration, Olivine, Ore-Ida, Orlando, Plasmon, Starkist, Wattie's, Weight Watchers

12. Dean Foods Co.

Sales: \$8,991 million

Address: 2515 McKinney Ave., Ste. 1200, Dallas, TX 75201

Phone: 214-303-3400

Fax: 214-303-3499

Web Site: www.deanfoods.com

Brands: Amboy, Atkins, Arnold's, Aunt Jane's, Barber, Bennett's, Berkeley Farms, Carnation Coffee Mate Liquid, Cates, Coburg, Cream O' Weber, Dairy Ease, Dairy Pure, Dean Ultra, Dean's Country Charm, Easy 2%, Fitzgerald's, Gandy's, Goldenrod, Guilt Free, H. Meyer, Heifetz, Hillside, Hoffman House, Maplehurst, Marie's, McArthur, Meadow Brook, Peter Piper, Purity, Rainbo, Reiter, Roddenbery, Rod's, Sani-Dairy, Schwartz, Sealtest, T.G. Lee, Verifine, Wengert

13. Kellogg Co.

Sales: \$8,304 million

Address: One Kellogg Square, Battle Creek, MI 49016-3599

Phone: (616) 961-2000

Fax: (616) 961-2871

Web Site: www.kelloggs.com

Brands: All-Bran, Apple Jacks, Bran Buds, Cocoa Frosted Flakes, Cocoa Krispies, Common Sense, Complete Bran Flakes, Corn Flakes, Cracklin' Oat Bran, Crispix, Croutettes, Cruncheroos, Double Dip Crunch, Eggo, Ensemble, Froot Loops, Frosted Flakes, Frosted Mini-Wheats, Fruitful Bran, Harvest Burgers, Just Right, Lender's Bagels, MeatFree Corndogs, Mueslix, Nut & Honey Crunch, Nutri-Grain, Pops, Pop-Tarts, Product 19, Raisin Bran, Rice Krispies, Smacks, Special K

14. General Mills Inc.

Sales: \$7,949 million

Address: One General Mills Blvd., Minneapolis, MN 55426

Phone: (763) 764-7600

Web Site: www.generalmills.com

Brands: Bac-Os, Basic 4, Betty Crocker, Bisquick, Bugles, Cheerios, Chex, Cinnamon Toast Crunch, Clusters, Cocoa Puffs, Colombo, Cookie Crisp, Count Chocula, Crispy Wheaties 'N Raisins, Dunkaroos, Farmhouse, Fiber One, French Toast Crunch, Fruit Roll-Ups, Gold Medal, Golden Grahams, Green Giant, Haagen-Dazs, Honey Nut Cheerios, Hungry Jack, Kix, Lloyd's, Lucky Charms, Nature Valley, Oatmeal Crisp, Old El Paso, Pillsbury, Pop Secret, Progresso, Raisin Nut Bran, Reese's Peanut Butter Puffs, Red Band, Ripple Crisp, Robin Hood, Squeezit, Sweet Rewards, Total, Totino's, Triples, Trix, Underwood, Wheaties, Yoplait

15. Swift & Co.

Sales: \$7,733 million

Address: 1770 Promontory Circle, Greeley, CO 80634

Phone: (970) 506-8000

Fax: (970) 506-8307

Web Site: www.swiftbrands.com

Brands: Swift Premium, Swift Select, Swift Black Angus

16. Smithfield Foods Inc.

Sales: \$7,356 million

Address: 200 Commerce St., Smithfield, VA 23430

Phone: (757) 365-3000

Fax: (757) 365-3017

Web Site: www.smithfieldfoods.com

Brands: Dinner Bell, First Prize, Great, Gwaltney, Jamestown, John Morrell, Kretschmar, Lykes, Patrick Cudahy, Patrick's Pride, Peyton's, Realean, Smithfield Lean Generation Pork, Smithfield Premium, Tobin's, Valleydale

17. Farmland Industries Inc.

Sales: \$6,574 million

Address: 3315 N. Farmland Trafficway, Kansas City, MO 64116

Phone: (816) 891-3698

Fax: (816) 891-2691

Web Site: www.farmland.com

Brands: Carando, Farmland, Farmland Black Angus Beef, Farmland Certified Premium Beef, Farmstead, OhSe, Roegelein

18. Dairy Farmers of America

Sales: \$6,448 million

Address: Northpointe Tower, 10220 N. Executive Hills Blvd., Kansas City, MO 64153

Phone: (816) 801-6455

Fax: (816) 801-6456

Web Site: www.dfamilk.com

Brands: Borden Cheese, Breakstone Butter, Healthy Pleasures, Mid-America Farms, Sport Shake

19. Campbell Soup Co.

Sales: \$6,133 million

Address: Campbell Place, Camden, NJ 08103-1799

Phone: (609) 342-4800

Fax: (609) 342-3878

Web Site: www.campbellsoup.com

Brands: Campbell's, Chunky, Franco-American, Godiva, Goldfish, Healthy Request, Hungry-Man, Pace, Pepperidge Farm, Prego, SpaghettiOs, V8 Vegetable Juice

20. Land O'Lakes Inc.

Sales: \$5,847 million

Address: 4001 Lexington Ave. North, Arden Hills, MN 55126

Phone: (612) 481-2222

Fax: (612) 481-2022

Web Site: www.landolakes.com
Brands:Country Morning Blend, Land O'Lakes

21. Dole Food Co. Inc.

Sales: \$4,392 million
Address: 31365 Oak Crest Drive, Westlake Village, CA 91361
Phone: (818) 879-6600
Fax: (818) 879-6618
Web Site: www.dole.com

Brands: Dole, Dole Classic Salad, Dole Complete Salads, Dole Fruit Bowls, Dole Lunch for One, Dole Special Blends

22. Miller Brewing Co.

Sales: \$4,364 million
Address: 3939 W. Highland Ave., Milwaukee, WI 53201
Phone: (414) 931-2000
Fax: (414) 931-3735
Web Site: www.millerbrewing.com

Brands: Miller, Miller Lite, Miller Genuine Draft, Miller High Life, Sharp's, Henry Weinhard's Private Reserve, Hamm's, Olde English, Milwaukee's Best, Sauza Diablo, Skyy Blue, Stolichnaya Citrona, Icehouse, Red Dog, Leinenkugel

23. Hershey Foods Corp.

Sales: \$4,120 million
Address: 100 Crystal A Drive, Hershey, PA 17033
Phone: (717) 534-6799
Fax: (717) 534-6760
Web Site: www.hersheys.com

Brands: 5th Avenue, Almond Joy, Amazin' Fruit Candies, Amazin' Fruit Super Fruit Candies, Bridge Mixture, Brown Cow, Cadbury's Candies, Caramello's, Cherry Blossom, Chipits Chocolate Chips, Chuckles, Crash Bar, Eat-More, Glosette, Good & Plenty, Goodies, Heath Bar, Heide, Hershey's, Hugs, Jolly Rancher, Kisses, Kit Kat, Krackel, Lowney, Luden's, Milk Duds, Mounds, Mr. Freeze, Mr. Goodbar, Nibs, NutRageous, Oh Henry!, Ovation, PayDay, Pot of Gold, Rain-Blo, Reese's, Rolo, Skor, Sour Dudes, Special Crisp, Special Dark, Strawberry Cow, Super Bubble, Sweet Escapes, Symphony, TasteTations, Top Scotch, Twizzelators, Twizzlers, Whatchmacallit, Whoppers, Wunderbeans, York, Zagnut, Zero

24. Hormel Foods Corp.

Sales: \$3,910 million
Address: One Hormel Place, Austin, MN 55912-3680
Phone: (507) 437-5611
Fax: (507) 437-5158
Web Site: www.hormel.com

Brands: Black Label, By George, Chi-Chi's, **Cure** 81, Curemaster, Dinty Moore, Dubuque, Farm Fresh, Fast'N Easy, Herdez, Homeland, **Hormel**, House of Tsang, Jennie-O, Kid's Kitchen, Light & Lean, Little Sizzlers, Mary Kitchen, Old Smokehouse, Quick Meal, Rosa Grande, Sandwich Maker, SPAM, Stag, Wranglers

25. Procter & Gamble Co.

Sales: \$3,800 million
Address: One Procter & Gamble Plaza, Cincinnati, OH 45202
Phone: (513) 983-1100
Fax: (513) 983-9369
Web Site: www.pg.com

Brands: Brands: Crisco, Folger's, Hawaiian Punch, Jif, Millstone, Olean, Ponica, Pringles, Sunny Delight

26. Adolph Coors Co.

Sales: \$3,776 million

Address: 311 10th St., Golden, CO 80401-1295

Phone: (303) 279-6565

Fax: (303) 277-6517

Web Site: www.coors.com

Brands: Blue Moon, Coors, Extra Gold, George Killian's, Herman Joseph's, Keystone, Original, Steinlager, Winterfest, Zima

27. Interstate Bakeries Corp.

Sales: \$3,532 million

Address: 12 E. Armour Blvd., Kansas City, MO 64111

Phone: (816) 502-4000

Fax: (816) 502-4126

Web Site: www.irin.com/ibc

Brands: Beefsteak, Bread du Jour, Butternut, Cotton's, Dolly Madison, Eddy's, Holsum, Home Pride, Hostess, J.J. Nissen, Marie Callender's, Merita, Millbrook, Mrs. Cubbison's, Roman Meal, Sun Maid, Toscana, Wonder

28. Weston Foods

Sales: \$3,039 million

Address: 255 Business Center Drive, Ste. 200, Horsham, PA 19044

Phone: (215) 672-8010

Web Site: www.weston.ca

Brands: Arnold, Entenmann's, Freihofer's, Thomas'

29. Wm. Wrigley Jr. Co.

Sales: \$2,746 million

Address: 410 N. Michigan Ave., Chicago, IL 60611

Phone: (312) 644-2121

Fax: (312) 644-0097

Web Site: www.wrigley.com

Brands: Airwaves, Doublemint, Extra, Ice White, P.K. Alpine, eclipse, Freedent, Juicy Fruit, Spearmint, Big Red, excel, Hubba Bubba, Orbit, Winterfresh, Big League Chew, Bubble Jug, Bug City, Blasters, Bubble Tape, Everest

30. Constellation Brands Inc.

Sales: \$2,731 million

Address: 300 Willowbrook Office Park, Fairport, NY 14450

Phone: (716) 393-4130

Fax: (716) 394-6017

Web Site: www.cbrands.com

Brands: Almaden, Arbor Mist, Barton, Canadian LTD, Chi-Chi's, Cook's, Corona, Double Diamond, Fleischmann's, Inglenook, J. Roget, Kentucky Tavern, Manischewitz, Montezuma, Mystic Cliffs, Paul Masson, Peroni, Point, Skol, St. Pauli Girl, Taylor, Tsingtao

31. Perdue Farms Inc.

Sales: \$2,700 million

Address: Old Ocean City Road, Salisbury, MD 21802

Phone: (410) 543-3000

Fax: (410) 543-3874

Web Site: www.perdue.com

Brands: Cafe Perdue, Cookin' Good, DeLuca, Fit'n Easy, Freshly Sliced Deli Pick-Ups, Golpak, Perdue Oven Stuffers, Perdue, Shenandoah, Tender Ready

32. Pilgrim's Pride Corp.

Sales: \$2,533 million

Address: 111 S. Texas St., Pittsburg, TX 75686-0093

Phone: (903) 855-1000

Fax: (903) 856-7505

Web Site: www.pilgrimsonline.com

33. McCormick & Co. Inc.

Sales: \$2,320 million

Address: 18 Loveton Circle, Sparks, MD 21152-6000

Phone: (410) 771-7310

Fax: (410) 527-8289

Web Site: www.mccormick.com

Brands: Bag N' Season Seasoning Mixes, Club House, Golden Dipt Sauces, McCormick Schilling

34. Brown-Forman Corp.

Sales: \$2,208 million

Address: 850 Dixie Highway, Louisville, KY 40201-1080

Phone: (502) 585-1100

Fax: (502) 774-7876

E-mail: Brown-Forman@b-f.com

Web Site: www.brownforman.com

Brands: Armstrong Ridge, Bel Arbor, Black Bush, Blue Grass, Bolla, Bonterra Vineyards, Brolio, Bushmills, Canadian Mist, Carmen Vineyards, Early Times, Fetzer Vineyards, Finlandia, Fontana Vineyards, Fontanafredda, Forester, Gentlemen Jack, Glenmorangie, Ice Breakers, Jack Daniel's, Jekel Vineyards, Korbel, Mendocino, Michel Picard, Noilly Prat, Oblio, Old Forester, Pepe Lopez, Southern Comfort, Tropical Freezes, Usher's, Woodford Reserve

35. Gold Kist Inc.

Sales: \$1,863 million

Address: 244 Perimeter Center Pkwy. NE, Atlanta, GA 30346

Phone: (770) 393-5000

Fax: (770) 393-5262

Web Site: www.goldkist.com

Brands: Gold Kist Farms

END NOTES

- ¹ International Service for the Acquisition of Agri-biotech Applications. 2004 "ISAAA Briefs No. 30-2003 - Global Status of Commercialized Transgenic Crops: 2003." Available at: <http://www.isaaa.org/kc/CBTNews/press_release/briefs30/es_b30.pdf>.
- ² Friends of the Earth International. "Genetically Modified Crops: A Decade of Failure." Available at: <http://www.foei.org/publications/pdfs/gm_decade.pdf>.
- ³ Laura Vozzella. "Scaring Away Consumers?" *Associated Press*. March 28, 2000.
- ⁴ Remarks of Betsy Holden. "Competing in the 21st Century." Available at: <<http://164.109.46.215/pdfs/usdaoutlookholden.pdf>>.
- ⁵ Marc Kaufman. "Biotech Critics Cite Unapproved Corn in Taco Shells." *Washington Post*. September 18, 2000.
- ⁶ U.S. Food and Drug Administration. Enforcement Report. November 15, 2000. Available at: <<http://www.fda.gov/bbs/topics/enforce/enf00668.html>>.
- ⁷ Kate Madigan, State PIRGs. "Risky Business: Financial Risks that Genetically Engineered Foods Pose to Kraft Foods, Inc. and Shareholders." April 2003. Available at: <<http://pirg.org/ge/GE.asp?id2=5270&id3=ge&>>.
- ⁸ U.S. Food and Drug Administration. Enforcement Report. November 15, 2000. Available at: <<http://www.fda.gov/bbs/topics/enforce/enf00668.html>>.
- ⁹ "Kellogg's Unit Recalls StarLink Corn Dogs." *Reuters*. March 13, 2001; Mark Kaufman. "Corn Woes Prompt Kellogg to Shut Down Plant." *Washington Post*. October 21, 2000.
- ¹⁰ Mike Robinson. "Judge Approves \$9 Million Settlement in Bioengineered-Corn Suit." *Associated Press*. March 8, 2002; "Biotech Firms Pay \$110 Million to Settle StarLink Lawsuit." *Associated Press*. Feb. 6, 2003.
- ¹¹ Promar International. "Jurassic Foods? The Food Industry in a Post-StarLink World." October 31, 2000. Available at: <<http://www.promarinternational.com/brochures/jurassicwsamples.pdf>>.
- ¹² Companies such as Gerber, Frito-Lay, and Heinz have pledged to not use certain genetically engineered ingredients in their products in the U.S.
- ¹³ Monsanto. "Plant Biotechnology Basics." Available at: <<http://www.biotechknowledge.monsanto.com/biotech/bbasics.nsf/basics.html>>.
- ¹⁴ Michael Hansen. "Genetic Engineering Is Not Extension of Conventional Plant Breeding: How Genetic Engineering Differs From Conventional Breeding, Hybridization, Wide Crosses and Horizontal Gene Flow." 2000. Available at: <<http://www.consumersunion.org/food/food.htm>>.
- ¹⁵ Michael Hansen and Ellen Hickey. "Genetic Engineering: Imprecise and Unpredictable." *Global Pesticide Campaigner*. Volume 10, Number 1. April 2000.
- ¹⁶ Richard Caplan, State PIRGs. "Antibiotic Resistance Marker Genes in Genetically Engineered Foods." Available at: <http://www.pirg.org/ge/reports/arm_whitepaper_6_02.pdf>.
- ¹⁷ Mae-Wan Ho, Angela Ryan, and Joe Cummins. "Hazards of Transgenic Plants Containing the Cauliflower Mosaic Viral Promoter." *Microbial Ecology in Health and Disease*. 12:6-11. 2000. Available at: <<http://www.foodsafetynetwork.ca/gmo/gmnewcastlereport.pdf>>.
- ¹⁸ James Meikle. "Soya Gene Find Fuels Doubt on GM Crops." *The Guardian* (London). May 31, 2000.
- ¹⁹ Andrew Pollack. "Mystery DNA is Discovered in Soybeans by Scientists." *New York Times*. August 16, 2001.
- ²⁰ Peter Montague. "Genetic Engineering Error." *Rachel's Environment & Health Weekly*. June 5, 1997.
- ²¹ Trisha Gura. "Reaping the Plant Gene Harvest." *Science*. Vol. 287. 2000. Pages 412-414.
- ²² Erik Millstone, Eric Brunner, and Sue Mayer. "Beyond Substantial Equivalence." *Nature*. October 7, 1999.
- ²³ Memo from FDA Division of Food Chemistry & Technology and FDA Division of Food Contaminants Chemistry to James Maryanski, FDA Biotechnology Coordinator. "Points to Consider for Safety Evaluation of Genetically Modified Foods." Nov. 1, 1991. Quoted in: Center for Food Safety. "The Hidden Health Hazards of Genetically Engineered Foods." *Food Safety Review*. Spring 2000.
- ²⁴ Dennis Ruggles. Food and Drug Administration. "Statistical Analysis of Three 28-Day Toxicity Studies in Charles River Crl: CD BR Rats Given a Transgenic Tomato." June 7, 1993.
- ²⁵ International Food Information Council. "Questions and Answers About Food Allergy." August 2002. Available at: <<http://www.ific.org/publications/qa/allergyqa.cfm>>.
- ²⁶ Hubert Noteborn. "Assessment of the Stability to Digestion and Bioavailability of the LYS Mutant Cry9C Protein from *Bacillus Thuringiensis* serovar tolworth." Submitted to the EPA by AgrEvo. EPA MRID No. 447343-05 (1998); Hubert Noteborn, et al. "Safety Assessment of the *Bacillus Thuringiensis* insecticidal Crystal Protein Cry1AB Expressed in Transgenic Tomatoes." American Chemical Society Symposium Series 605. Engel, et al (Eds.) 1995.

- ²⁷ Bill Freese. "Genetically Engineered Crop Health Impacts Evaluation – GAPS Analysis." October 2003. Available at: <<http://www.foe.org/safefood/gapseval.pdf>>
- ²⁸ Stanley Ewan and Arpad Pusztai. "Effects of Diets Containing Genetically Modified Potatoes Expressing Galanthus Nivalis Lectin on Rat Small Intestine." *The Lancet*. Vol. 354, No. 9187. Oct. 16, 1999.
- ²⁹ British Medical Association. "The Impact of Genetic Modification on Agriculture, Food and Health-Interim Statement." May 1999.
- ³⁰ Memo from FDA Division of Food Chemistry & Technology and FDA Division of Food Contaminants Chemistry to James Maryanski, FDA Biotechnology Coordinator. "Points to Consider for Safety Evaluation of Genetically Modified Foods." Nov. 1, 1991. Quoted in: Center for Food Safety. "The Hidden Health Hazards of Genetically Engineered Foods." *Food Safety Review*. Spring 2000.
- ³¹ John Losey, et al. "Transgenic Pollen Harms Monarch Larvae." *Nature*. May 20, 1999. Page 214.
- ³² Jesse and Orbycki. "Field deposition of Bt transgenic corn pollen: Lethal effects on the monarch butterfly." *Oecologia*. 2000.
- ³³ Giroux et al. "Bacteriological Insecticide M-ONE Effects on Predation Efficiency and Mortality of Adult *Coleomegilla maculata lengi* (Coleoptera: Coccinellidae)." *Journal of Economic Entomology* 87: 39-43. 1994.
- ³⁴ Hilbeck A., Moar W.J., Pusztai-Carey M., Filippini A. and Bigler F., 1999. "Prey-mediated effects of Cry1Ab toxin and protoxin and Cry2A protoxin on the predator *Chrysoperla carnea*." *Entomologia Experimentalis et Applicata*. 91 (2), 305-316.; Hilbeck, A., M. Baumgartner, P.M. Fried, F. Bigler. 1998a. "Effects of transgenic *Bacillus thuringiensis* corn-fed prey on mortality and development time of immature *Chrysoperla carnea* (Neuroptera: Chrysopidae)." *Environmental Entomology*. 27: 480-487.; Hilbeck, A., W.J. Moar, M. Pusztai-Carey, A. Filippini, and F. Bigler. 1998b. "Toxicity of *Bacillus thuringiensis* Cry1Ab toxin to the predator *Chrysoperla carnea* (Neuroptera: Chrysopidae)." *Environmental Entomology*. 27: 1255-1263.
- ³⁵ Hoy, C.W., J. Feldman, F. Gould, G.G. Kennedy, G. Reed, and J.A. Wyman. 1998. Naturally occurring biological controls in genetically engineered crops. Pp. 185-205 in *Conservation Biological Control*, P. Barbosa, ed. New York: Academic Press.
- ³⁶ Mary MacArthur. "Triple-resistant canola weeds found in Alta." *The Western Producer*. February 10, 2000.
- ³⁷ Andrew Pollack. "Roundup Becoming Useless." *New York Times*. Jan. 14, 2003.
- ³⁸ Snow, A. A., B. Andersen, and R.B. Jørgensen. "Costs of transgenic herbicide resistance introgressed from *Brassica napus* into weedy *B. rapa*." *Molecular Ecology*. Vol. 8, Issue 4. April 1999.
- ³⁹ Norman Ellstrand. "Transgene escape into wild populations." Unpublished, on file with U.S. PIRG.
- ⁴⁰ Cornell University news. "Alien animals, plants and microbes cost U.S. \$123 billion a year, Cornell ecologists report." 24 January 1999. Available at: <<http://www.news.cornell.edu/releases/Jan99/AAAS.Pimentel.hrs.html>. Accessed May 2001>.
- ⁴¹ Deepak Saxena, Saul Flores, and G. Stotzky. "Insecticidal toxin in root exudates from Bt corn." *Nature*. Vol. 402. December 2, 1999.
- ⁴² Id.
- ⁴³ Sally Deneen. "Genetic Engineering vs. Organic." *E/Environmental Magazine*. September 18, 2003.
- ⁴⁴ Charles Benbrook. "Troubled Times Amid Commercial Success for Roundup Ready Soybeans." AgBioTech InfoNet Technical Paper Number 4. 3 May 2001. Available at: <<http://www.biotech-info.net/troubledtimes.html>>.
- ⁴⁵ National Farmers Union, Canada. "Bio-Tech Companies Must Pay for Genetic Pollution." 10 May 1999. Available at: <<http://www.nfu.ca/genpollu.htm>>.
- ⁴⁶ "British Gov't Halts Maize Trials." *Associated Press*. 21 May 2001.
- ⁴⁷ Organic Farming Research Foundation. "Fourth National Organic Farmer's Survey." 2004. Available at: <<http://www.ofrf.org/publications/survey>>.
- ⁴⁸ Rex Dalton. "Transgenic corn found growing in Mexico." *Nature*. Vol. 413. September 27, 2001.
- ⁴⁹ Michael Pollan. "Genetic Pollution." *New York Times Magazine*. December 9, 2001.
- ⁵⁰ Anthony Shadid. "Genetically Engineered Corn Appears in One-Tenth of Grain Tests." *Boston Globe*. May 3, 2001.
- ⁵¹ Marc Kauffman. "Biotech Corn Protein Found in 2nd Variety." *Washington Post*. November 22, 2000.
- ⁵² Marc Kauffman. "Engineered Corn Found in White Tortilla Chips." *Washington Post*. July 4, 2001.
- ⁵³ Office of Science and Technology Policy. "Coordinated Framework for Regulation of Biotechnology." Federal Register. Vol. 51, No. 123. June 26, 1986.
- ⁵⁴ Richard Caplan, State PIRGs. "Failure to Do Anything: Regulation of Genetically Engineered Foods at the FDA." Available at: <<http://pirg.org/ge/GE.asp?id2=4781&id3=ge&>>.

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- ⁵⁵ Doug Gurian-Sherman. “Holes in the Biotech Safety Net: FDA Policy Does Not Assure the Safety of Genetically Engineered Foods.” Available at: <http://www.cspinet.org/new/pdf/fda_report__final.pdf>.
- ⁵⁶ Jeff Kamen. “Formula for Disaster.” *Penthouse*. March 1999.
- ⁵⁷ *Id.*
- ⁵⁸ Andrew G. Renehan, et al. “Insulin-like Growth Factor (IGF-1), IGF Binding Protein-3, and Cancer Risk: Systematic Review and Meta-regression Analysis.” *The Lancet*. 2004. Page 1346; June M. Chan, et al. “Plasma Insulin-like Growth Factor I and Prostate Cancer Risk: a Prospective Study.” *Science*. January 23, 1998. Page 563.
- ⁵⁹ Shiv Chopra, et al. “RBST (Nutrilac) ‘GAPS Analysis’ Report.” Health Protection Branch, Health Canada. April 21, 1998. Available at: <<http://www.nfu.ca/gapsreport.html>>
- ⁶⁰ Center for Food Safety Press Release. “Legal Challenge Filed with FDA to Remove Monsanto’s rBGH from the Market.” December 15, 1998. Available at: <<http://www.centerforfoodsafety.org/li/BGHpress1.html>>.
- ⁶¹ Richard Caplan, State PIRGs. “Failure to Do Anything: Regulation of Genetically Engineered Foods at the FDA.” Available at: <<http://pirg.org/ge/GE.asp?id2=4781&id3=ge&>>.
- ⁶² Securities and Exchange Commission. “The Laws that Govern the Securities Industry.” Available at: <<http://www.sec.gov/about/laws.shtml>>.
- ⁶³ 17 C.F.R. § 229
- ⁶⁴ 17 C.F.R. § 229
- ⁶⁵ 17 C.F.R. § 229
- ⁶⁶ 17 C.F.R. § 229
- ⁶⁷ 17 C.F.R. § 229.303, Instruction 3 to paragraph 303(a)
- ⁶⁸ 17 C.F.R. § 240.10b-5
- ⁶⁹ 17 C.F.R. § 229.303, Instruction 7 to paragraph 303(a)
- ⁷⁰ Consumers Union Press Release. “In Wake of Enron, Consumer Group Urges Congress to Restore Investor Confidence by Updating 1995 Private Securities Litigation Law.” Feb 15, 2002. Available at: <<http://www.consumersunion.org/finance/secure202.htm>>.
- ⁷¹ Securities and Exchange Commission. “The Laws that Govern the Securities Industry.” Available at: <<http://www.sec.gov/news/press/2003-89a.htm>>.
- ⁷² United States Government Accountability Office. “Environmental Disclosure: SEC Should Explore Ways to Improve Tracking and Transparency of Information.” July 2004.
- ⁷³ Michelle Chan-Fishel. “Third Survey of Climate Change Disclosure in SEC Filings of Automobile, Insurance, Oil & Gas, Petrochemical, and Utilities Companies.” Friends of the Earth. 2004.
- ⁷⁴ Securities and Exchange Commission. “The Investor’s Advocate: How the SEC Protects Investors and Maintains Market Integrity.” Available at: <<http://www.sec.gov/about/whatwedo.shtml>>.
- ⁷⁵ *Id.*
- ⁷⁶ *TSC Industries Inc. v. Northway, Inc.* 426 U.S. 438, 448 (1976).
- ⁷⁷ *Basic, Inc. v. Levinson*, 485 U.S. 224 (1988).
- ⁷⁸ Financial Accounting Standards Board. “Statement of Financial Accounting Concepts No. 2.” 1980. Available at: <<http://www.fasb.org/st/#cons>>.
- ⁷⁹ Securities and Exchange Commission. “SAB 99.” 1999. Available at: <<http://www.sec.gov/interps/account/sab99.htm>>
- ⁸⁰ United States Government Accountability Office. “Environmental Disclosure: SEC Should Explore Ways to Improve Tracking and Transparency of Information.” July 2004.
- ⁸¹ *Id.*
- ⁸² *Id.*
- ⁸³ Securities and Exchange Commission. “SEC Interpretation: Management’s Discussion and Analysis of Financial Condition and Results of Operations; Certain Investment Company Disclosures” 54 Fed. Reg. 22427, 22430. 1989.
- ⁸⁴ Securities and Exchange Commission. “Commission Guidance Regarding MD&A of Financial Conditions and Results of Operations.” Release # 48960. 2003; “MD&A of Financial Condition and Results of Operations: Certain Investment Company Disclosures.” Release # 6835. 1989.
- ⁸⁵ William H. Donaldson, Chairman, U.S. Securities and Exchange Commission. “Testimony Concerning Fiscal 2005 Appropriations Request for the U.S. SEC.” Available at: <<http://www.sec.gov/news/testimony/ts033104whd.htm>>
- ⁸⁶ 17 C.F.R. § 229.303(a)(3)(ii)

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- ⁸⁷ Hallman, W.K., Hebden, W.C., Aquino, H.L., Cuite, C.L. and Lang, J.T. “Public Perceptions of Genetically Modified Foods: A National Study of American Knowledge and Opinion.” Food Policy Institute, Cook College, Rutgers – The State University of New Jersey. 2003.
- ⁸⁸ Pew Charitable Trusts. “Public Sentiment About Genetically Modified Food.” September 2003. Available at: <<http://pewagbiotech.org/research/2003update/>>.
- ⁸⁹ Hallman, W.K., Hebden, W.C., Aquino, H.L., Cuite, C.L. and Lang, J.T. “Public Perceptions of Genetically Modified Foods: A National Study of American Knowledge and Opinion.” Food Policy Institute, Cook College, Rutgers – The State University of New Jersey. 2003.
- ⁹⁰ Mark Kaufman. “Consumers Want Engineered Food Labeled.” *Washington Post*. February 13, 2001.
- ⁹¹ Id.
- ⁹² Id.
- ⁹³ True Food Now. Poll Roundup. Available at: <http://www.truefoodnow.com/home_polls.html>; See also Abeyayehu Tegene, et al. “The Effects of Information on Consumer Demand for Biotech Foods: Evidence from Experimental Auctions.” U.S. Department of Agriculture. Technical Bulletin No. 1903. Available at: <<http://www.ers.usda.gov/publications/tb1903/tb1903.pdf>>.
- ⁹⁴ Innovest Strategic Value Advisors. “Monsanto & Genetic Engineering: Risks for Investors.” April 2003. Page 8.
- ⁹⁵ “Starbucks To Change Milk Product.” *Associated Press*. March 16, 2001.
- ⁹⁶ “Whole Foods, Wild Oats to Ban Gene-Altered Foods.” *Bloomberg*. December 30, 1999.
- ⁹⁷ Trader Joe’s website. Available at: <<http://www.traderjoes.com/products/gmf.asp>>.
- ⁹⁸ Scott Kilman. “McDonalds, Other Fast-Food Chains Pull Monsanto’s Bio-Engineered Potato.” *Wall Street Journal*. April 28, 2000.
- ⁹⁹ John Spears. “Monsanto Pulls Altered Potatoes in Wake of Consumer Resistance.” *Toronto Star*. March 23, 2001.
- ¹⁰⁰ Organic Trade Association. “2004 Manufacturer Survey.” Available at: <<http://www.ota.com/pics/documents/2004surveyoverview.pdf>>.
- ¹⁰¹ Id.
- ¹⁰² National Food Processors Association Press Release. “EU Biotech Labeling and Traceability Requirements.” April 16, 2004. Available at: <<http://www.nfpa-food.org/NewsReleases/NFPAPressRelease041604.htm>>.
- ¹⁰³ Eurobarometer 55.2. “Europeans, Science and Technology. December 2001. Available at: <<http://www.europa.eu.int/comm/research/press/2001/pr0612en-report.pdf>>.
- ¹⁰⁴ Friends of the Earth Press Release. “Major US Companies Drop Genetically Engineered Foods in Europe Citing Consumer Fears.” March 7, 1999.
- ¹⁰⁵ Friends of the Earth Europe GMO Survey. March 7, 2000. Available at: <<http://www.safe-food.org/-consumer/europe.html>>.
- ¹⁰⁶ Innovest Strategic Value Advisors. “Monsanto & Genetic Engineering: Risks for Investors.” April 2003. Page 34.
- ¹⁰⁷ The Campaign to Label Genetically Engineered Foods. International Regulation, Legislation, Activities, and Contacts. Available at: <<http://www.thecampaign.org/international.php>>.
- ¹⁰⁸ Randy Fabi. “Russia Won’t Buy U.S. Biotech Crops.” Reuters. July 21, 2000.
- ¹⁰⁹ Dr. Maria Isabel Manzur. “The situation of GMOs in Chile: The View of Civil Society.” Available at: <http://www.field.org.uk/biodiversity_current.php>.
- ¹¹⁰ Stephanie Strom. “Altered U.S. Corn Found in Samples Sent to Japan.” *New York Times*. January 18, 2001.
- ¹¹¹ “Japan Consumers Group Says Finds StarLink in Food.” *Reuters*. February 1, 2001.
- ¹¹² Juan López Villar. “GMO Contamination Around the World.” Friends of the Earth International. October 2001. Available at: <<http://www.foe.org/camps/comm/safefood/gefood/foodaid/contamination.pdf>>.
- ¹¹³ Id.
- ¹¹⁴ BBC News World Edition. “Zambia ‘Ignored Science’ Over GM.” October 31, 2002. Available at: <<http://news.bbc.co.uk/2/hi/africa/2376505.stm>>.
- ¹¹⁵ “Environmental and Social Disclosure and the Securities and Exchange Commission: Meeting the Information Needs of Today’s Investors.” July 10, 2003. Available at: <<http://www.corporatesunshine.org/sympsumm.pdf>>.
- ¹¹⁶ Id.
- ¹¹⁷ On file with U.S. PIRG.
- ¹¹⁸ As You Sow Foundation. “Genetic Engineering of Foods.” Available at: <<http://www.asyousow.org/geneticallyengineerfood.htm>>.
- ¹¹⁹ Id.
- ¹²⁰ James Cox. “Firms Face Battle Over Altered Food.” *USA Today*. Feb. 15, 2000.

-
- ¹²¹ Interfaith Center on Corporate Responsibility. “Companies, Resolutions and Status: 2003-2004 Season.” Available at: <http://www.iccr.org/shareholder/proxy_book04/04statuschart.php>.
- ¹²² Kristen Philipkoski. “Food Biotech is a Risky Business.” *Wired Magazine*. Dec. 1, 2003.
- ¹²³ Id.
- ¹²⁴ Thomas Epprech. “Genetic Engineering and Liability Insurance.” Swiss Reinsurance Company. 1998. Page 3.
- ¹²⁵ Paul Brown. “Insurers Refuse to Cover GM Farmers.” *The Guardian* (London). October 8, 2003. Available at: <<http://www.guardian.co.uk/gmdebate/Story/0,2763,1058096,00.html>>.
- ¹²⁶ “GM Investors Told To Sell Their Shares.” *The Guardian* (London). August 25, 1999.
- ¹²⁷ J. Ingham and L. Johnston. “People Power Blow to GM Food.” *The Express* (UK). Dec. 24, 1999.
- ¹²⁸ 17 C.F.R. § 229.103
- ¹²⁹ 17 C.F.R. § 229.103, Instruction 2.
- ¹³⁰ Thomas P. Redick. “Biopharming, Biosafety, and Billion Dollar Debacles: Preventing Liability for Biotech Crops.” 8 Drake J. Agric. L. 115, 129 (2003).
- ¹³¹ Id.
- ¹³² Molly McDonough. “The Growing Use of Nuisance Theory.” *ABA Journal*. August 2003.
- ¹³³ Id.
- ¹³⁴ “Taco Bell Franchises to Get \$60 Million for StarLink.” *Reuters*. June 8, 2001.
- ¹³⁵ Thomas P. Redick. “Biopharming, Biosafety, and Billion Dollar Debacles: Preventing Liability for Biotech Crops.” 8 Drake J. Agric. L. 115, 129 (2003).
- ¹³⁶ Kate Madigan, State PIRGs. “Risky Business: Financial Risks that Genetically Engineered Foods Pose to Kraft Foods, Inc. and Shareholders.” April 2003. Available at: <<http://pirg.org/ge/GE.asp?id2=5270&id3=ge&>>.
- ¹³⁷ Kraft Foods Inc. 2001 Prospectus. As cited in: Kate Madigan. “Risky Business: Financial Risks that Genetically Engineered Foods Pose to Kraft Foods, Inc. and Shareholders.” April 2003. Available at: <<http://pirg.org/ge/GE.asp?id2=5270&id3=ge&>>.
- ¹³⁸ Californians for GE-Free Agriculture. “Links to California State Initiatives.” Available at: <<http://www.calgefree.org/news/initiatives.shtml>>.
- ¹³⁹ The Campaign to Label Genetically Engineered Foods. “Legislation in the States.” Available at: <<http://www.thecampaign.org/states.php>>.
- ¹⁴⁰ Pew Initiative on Agriculture and Biotechnology analyses of 2001-2002 and 2003 legislative sessions available at: <<http://pewagbiotech.org/resources/factsheets/>>.
- ¹⁴¹ GE-Free Vermont available at: <<http://gefreetvt.org>>.
- ¹⁴² GE-Free Vermont at available at : <http://gefreetvt.org/ndex.php?articleID=17&page=town_to_town>.
- ¹⁴³ GE-Free Hawaii available at: <<http://www.higean.org/index.html>>.
- ¹⁴⁴ Innovest Strategic Value Advisors. “Monsanto & Genetic Engineering: Risks for Investors.” April 2003. Page 38.
- ¹⁴⁵ Id.
- ¹⁴⁶ Id.
- ¹⁴⁷ Ian Sample. “EU Approves Sweet corn.” *The Guardian* (London). May 20, 2004. Available at: <<http://www.guardian.co.uk/gmdebate/Story/0,2763,1220464,00.html>>.
- ¹⁴⁸ Office of the United States Trade Representative Press Release. “U.S. and Cooperating Countries File WTO Case Against EU Moratorium on Biotech Foods and Crops.” May 13, 2003. Available at: <<http://www.ustr.gov/releases/2003/05/03-31.htm>>.
- ¹⁴⁹ Deliberate Release Directive 2001/18/EC.
- ¹⁵⁰ GMO-Free Europe available at: <<http://www.foeurope.org/GMOs/gmofree.htm>>.
- ¹⁵¹ More information is available at : <<http://www.foeurope.org/GMOs/gmofree>>.
- ¹⁵² The Cartagena Protocol on Biosafety. Available at: <<http://www.biodiv.org/biosafety/default.aspx>>.
- ¹⁵³ Bill Freese. “Manufacturing Drugs and Chemicals in Crops: Biopharming Poses New Threats to Consumers, Farmers, Food Companies and the Environment.” July 2002. Available at: <<http://www.foe.org/biopharm/quanda.html>>.
- ¹⁵⁴ Richard Caplan, State PIRGs. “Raising Risk: Field Testing of Genetically Engineered Crops in the United States.” June 2003. Available at: <<http://pirg.org/ge/GE.asp?id2=10195&id3=ge&>>.
- ¹⁵⁵ Id. Page 5.
- ¹⁵⁶ National Research Council. “Environmental Effects of Transgenic Plants.” 2002.; National Research Council. “Biological Confinement of Genetically Engineered Organisms.” 2004.
- ¹⁵⁷ Gregory Jaffe. “Sowing Secrecy: The Biotech Industry, USDA, and America’s Secret Pharm Belt.” June 2, 2004.

¹⁵⁸ Docket No. 03-031-1. Field Testing of Plants Engineered to Produce Pharmaceuticals and Industrial Compounds. 68 Federal Register 11337. March 10, 2003. Available at: <<http://www.nfpa-food.org/comments/nfpacommentspmp.htm>>.

¹⁵⁹ Grocery Manufacturers of America Press Release. "GMA Says Stringent FDA USDA Biopharm Regs Needed to Maintain Food Supply Purity." February 6, 2003. Available at: <<http://www.gmabrands.com/news/docs/NewsRelease.cfm?DocID=1063>>.

¹⁶⁰ "Top 100 Companies for 2003." *Food Processing Magazine*. Available at: <http://www.foodprocessing.com/Web_First/fp.nsf/Contentframeset?OpenForm&MainSrc=/fp/Resources/resources.html>.

¹⁶¹ Id.

¹⁶² Kraft 2003 Annual Report. Available at: <<http://164.109.46.215/pdfs/kraft03ar.pdf>>.

¹⁶³ Interstate Bakeries 2003 Annual Report. Available at: <http://www.corporate-ir.net/ireye/ir_site.zhtml?ticker=IBC&script=700>.

¹⁶⁴ Proctor & Gamble 2003 Annual Report. Available at: <<http://www.pg.com/investors/annualreports.jhtml>>.

¹⁶⁵ Hormel website. "What is Biotechnology?" Available at: <<http://www.hormel.com/templates/knowledge/knowledge.asp?catitemid=4&id=263>>.

¹⁶⁶ Remarks of Betsy Holden. "Competing in the 21st Century." Available at: <<http://164.109.46.215/pdfs/usdaoutlookholden.pdf>>; Peter Brabeck-Letmathe. "Beyond Corporate Image: The Search for Trust." Nov. 30, 1999. Available at: http://www.nestle.com/pdf/English/Search_for_Trust.pdf.

¹⁶⁷ ConAgra Website. "ConAgra to Accept Biotech Corn." Available at: <<http://www.conagrafoods.com/media/news.jsp?ID=19990603>>.

¹⁶⁸ Paolo Banchera. "Growing Trust: With Education, Communication Comes Consumer Understanding." Available at: <<http://www.farmland.com/news/sysnews/oldarchive/AUG1999/growingtrust.htm>>.

¹⁶⁹ Nestle website. Available at: <<http://www.nestle.com/Html/About/index.asp>>.

¹⁷⁰ Peter Brabeck-Letmathe. "Beyond Corporate Image: The Search for Trust." Nov. 30, 1999. Available at: <http://www.nestle.com/pdf/English/Search_for_Trust.pdf>.

¹⁷¹ Paolo Banchera. "Growing Trust: With Education, Communication Comes Consumer Understanding." Available at: <<http://www.farmland.com/news/sysnews/oldarchive/AUG1999/growingtrust.htm>>.