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Testimony in Favor of Mandatory Labeling of Genetically Engineered Foods,

by Jeffrey Smith, Executive Director of Institute for Responsible Technology

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My name is Jeffrey M. Smith. I'm the Executive Director of the Institute for Responsible Technology. I have written the books *Seeds of Deception* and *Genetic Roulette*. I'm also a filmmaker. My latest film is called *Genetic Roulette: the Gamble of Our Lives*. I have testified before numerous government committees, visited 36 countries and worked with leaders on all continents on this type of issue. I am also one of the few people that present evidence at medical conferences about the health dangers of genetically engineered foods. I would like to start by giving the broader context for labeling of genetically modified organisms (GMOs).

The FDA Abdicated its Responsibilities to Protect and Inform the Public

The process of genetic engineering was described explicitly by FDA scientists as "unique and different" and carrying different risks. In documents made public from a lawsuit in 1999, the memos from the FDA dating back to 1991 and 92 made it clear that the scientists were deeply concerned with the possible risks of GM food and crops. They elaborated their concerns and said that GMOs might lead to allergies, toxins, nutritional problems, and new diseases that were resistant to antibiotics; they repeatedly urged their superiors to require long-term study. Every time these scientists received a new draft back from the political appointees in charge, more and more of their concerns and the science were removed. One person, Louis Pribyl, wrote: what's become of this document, it's basically a political document; it doesn't address

the unpredicted side effects. In the FDA's official document, it made the excuse for no labeling and no required testing, and stated that the agency wasn't aware of any information showing that the foods created by these new methods differ from other foods in any meaningful or uniform way. This became the foundation of the FDA policy which then allowed companies like Monsanto, who told us that PCBs, agent orange, and DDT were safe, to determine on their own whether genetically modified foods were safe and to introduce it to the market without telling the FDA or consumers. But if you track the documents among the scientists of the FDA, they specifically and explicitly complained about that particular sentence and that particular policy adopted by the agency. You can read how former Center for Veterinary Medicine director Gerald Guest said: I urge you not to use the excuse of no information as the basis for no regulation.

The concern by the scientists was consistent and strong. Linda Kahl, the FDA compliance officer, summarized the positions in her memo, stating that according to the technical experts at the agency the process of genetic engineering is different and leads to different risks. She complained that by trying to insist that it is not different is like trying to force a square peg into a round hole.

Unfortunately, the FDA's own scientists were ignored. In fact the very existence of their concerns was denied in the policy statement, which falsely claimed that the agency wasn't aware of any information showing that GMOs were different (even though the consensus among the scientists working there was just the opposite). The person in charge of policy at the

FDA was Michael Taylor, Monsanto's former attorney, later Monsanto's Vice President, now the "Food Safety Czar." He was Deputy Commissioner of Policy, a position created specifically for him after the Bush White House had instructed the FDA to promote biotechnology.

It is telling that when the commissioner of the FDA boasted to the White House that the policy was now in line with the direction dictated by the White House, it still was not considered pro-biotech enough. Various departments responded with requests, including the elimination or shortening of the 12 pages showing that GMOs might harm the environment, the insistence that the document be explicit in claiming that GMOs are more precise, or the addition of the words "substantial equivalent." As the FDA policy went higher and higher up the chain of political hierarchy, GMOs became safer and safer.

If you actually talk to the scientists involved, or read their memos, they were clearly concerned. It wasn't until 7 years after the FDA policy was announced that we discovered these memos because of a lawsuit. We realized that the entire foundation of the GMO policy in the United States government was based on a lie. By example, when I told someone in the US government that GMOs are not the same, she said "but you know, the entire policy of government is based on the concept that they *are* the same." This is the fundamental deception. It's the lie that is continually being challenged by those of us who are familiar with the science, and continually being defended, sometimes in very aggressive ways, by the biotech industry. There has been a sort of bubble of insulation around the decision makers in the federal government, as revealed by the Clinton administration's Dan Glickman, Secretary of Agriculture. He said: What I saw

generically from the pro-biotech side was the attitude that the technology was good and that it was almost immoral to say that it wasn't good cause it was going to feed the hungry and clothe the naked. And if you're against it, you're stupid. And that, frankly, was the side our government was on. He said, You felt like an alien or disloyal by trying to present an open-minded view.

Unprecedented Risk Ignored and Risks Hidden

Thus, the decision to wave GMOs onto the market was political, not scientific. But the ability of the technology to cause harm is monumental in its scope and unprecedented exposure.

Because unlike other technologies, once GMOs are released into the food supply and environment, they end up self-propagating by cross-pollination and seed movement. They can affect everyone who eats, all living beings, and all future generations. For something with the capacity for such harm, you would think and hope that those in charge of the approval process would have exhausted every doubt before exposing the population and the environment to this self-replicating pollution of the gene pool. The opposite happened. Those responsible ignored the doubts and concerns.

Unfortunately, this ignorance of safety concerns has become a worldwide epidemic. People and officials everywhere have come under the spell that "someone else is responsible and must be doing a good job." When I travel to other countries they say "wow, the US approves it, the FDA approves it, they must have done a lot of studies so we don't have to." When you look to the FDA, however, they say: we don't actually approve GMOs, we have a voluntary consultation

process, at the end of which we issue a letter which reminds companies like Monsanto that it's its responsibility to determine if the food is safe, not ours. But when you talk to a former Monsanto scientist, as I have, he told me that when his colleagues found damage to rats from their corn, instead of withdrawing the corn, they re-wrote the study to hide the effects.

I am not surprised at this, as we have very clearly caught them red-handed rigging their research. They use "tobacco science:" the wrong detection method, the wrong control group, the wrong statistical models, overcooked and diluted samples, short feeding trials, small sample sizes, etc. So that's the background upon which GMOs were allowed into the market and promoted.

Suppressing Research and Attacking Independent Scientists

Now we have a situation where there are very few studies, and those that have been done are largely conducted by the industry themselves, limiting their research and feeding trials to maybe 90 days, sometimes 30 days. And even though they try to hide the evidence, when the raw data is found—through leaks or lawsuits—there are signs of toxicity in the GMO-fed animals. But when independent research is done, the biotech cabal immediately attacks the researchers, who are then often fired, stripped of responsibilities, forced out, denied funding, denied tenure, and proverbially gagged. We have clearly documented this with many examples and quotes.

In spite of the shortage of real data, if you review the research studies that have been done, as the American Academy of Environmental Medicine did in 2009, they conclude there is clear causal evidence that GMOs are linked to things like reproductive disorders, immune problems, accelerated aging, organ damage, gastrointestinal problems, and dysfunctional regulation of cholesterol and insulin. They asked the government for an immediate moratorium on GMOs; they supported labeling; and in the meantime they said all doctors should prescribe non-GMO diets to every patient, as well as hand out educational material to those patients. Since then, thousands of doctors have been prescribing non-GMO diets.

Doctors, Patients and Animals Show Significant Health Improvements after Eliminating GMOs

I've had the great pleasure of presenting information to doctors at numerous conferences, and interviewing doctors who prescribe non-GMO diets and their patients who have removed them. What they describe is often dramatic—people are recovering from a wide variety of disorders and diseases, often immediately. Furthermore, the diseases and disorders are similar to those that the American Academy identified as afflicting lab animals fed GMOs: reproductive, gastrointestinal and immune system problems in particular.

Because they're not labeled, when individuals try to remove GMOs they have to create a wider strategy. Maybe they switch to organic, maybe they reduce processed foods. These present potential co-factors that could influence health, thereby making it difficult to determine whether it's the elimination of GMOs alone that caused the improvement. This confusion also

benefits the biotech industry because it's very hard to ascertain liability and demonstrate harm if products are not labeled.

At the same time I started interviewing the doctors and their patients, I began interviewing veterinarians and farmers. And when they took livestock off of GM soy and corn and switched them to non-GM soy and corn, there were no co-factors. They were not eating organic, they were not reducing processed foods. And the animals started getting better from maladies they had suffered from for years, oftentimes within 2 or 3 days. These include reduction in diarrhea, reduced use of antibiotics and general medicine, increased conception rate, increased litter size, reduction in ulcers and other digestive disorders, and reduction in birth defects. Veterinarians dealing with household pets also concluded that these type of problems are correlated with GMOs in the diet.

Taken together, we have the same disorders and diseases that get better in humans and livestock that remove GMOs as those that afflict laboratory animals that are fed GMOs. We don't think it's a coincidence that these type of disorders that are on the rise in the US population since GMOs were introduced.

The Characteristics of GMOs Match the Symptoms Reported

If you look at the nature of these GMOs, the two predominant traits—Bt-toxin production and herbicide tolerance—are predisposed to create these type of disorders. Bt-toxin is produced in every cell of Bt corn, and we were told that it has a history of safe use in the food supply

because it's a natural spray used even in organic agriculture. But the EPA ignored the peer-reviewed published studies and their own scientific advisory panel which looked at mice studies and human studies that demonstrated that Bt-toxin is a probable allergen. Second, they claimed that Bt-toxin has no effect on human cells or mammal cells, just on insects. This claim again ignored the peer-reviewed published studies. And last year, the *Journal of Applied Toxicology* reported that the Bt-toxin pokes holes in human cells causing leakage. This is approximately the same methodology by which Bt-toxin kills insects. It breaks open the integrity of their digestive tract.

The biotech industry and the EPA further claimed that Bt-toxin was destroyed completely in the digestive process in the stomach, so therefore it wouldn't pose any health problems whatsoever. In Canada, in Sherbrooke University Hospital, they found Bt-toxin in the blood of 93% of pregnant women tested, and 80% of their unborn fetuses. Thus, Bt corn presents a potential allergen in our food supply that also pokes holes in human cells. Its action might cause irritation along the digestive tract, potentially leading to leaky gut. The damaged intestinal walls may then allow the Bt-toxin to reach the blood and end up in the unborn fetuses. The same leaky gut may allow undigested food particles into the blood, which many scientists and doctors say are related to autoimmune disease, allergies, inflammation, cancer, Alzheimer's, Parkinson's, even autism. Bt-toxin on its own could help explain the increase in digestive disorders and immune system problems.

The Roundup herbicide which is sprayed onto most GM crops is a competitor to Bt-toxin in its ability to do harm, and can also help explain why these particular disorders are linked to GMO

consumption. Roundup is an endocrine disrupter and can cause problems in the reproductive hormonal balance; it's also linked to cancer. The lab animals that were fed Roundup Ready crops, for example, had damage to the testicles, uterus, and ovaries. In one study, more than half of the offspring died within 3 weeks, and the babies were smaller and unable to have babies. In another study with hamsters, by the third generation most were sterile, they died at 4 or 5 times the rate infant mortality, and some had hair growing in their mouths. In another government-sponsored study, the offspring were smaller and fewer. Thus, the high amounts of Roundup residue in GM crops and animal feed can help explain the reproductive disorders linked to GMOs.

Roundup is an antibiotic that kills many beneficial bacteria in the gut. (Many strains of pathogenic gut bacteria, like salmonella, E. coli, and botulism, however, are resistant to Roundup.) Since gut bacteria is a key factor in the immune and digestive systems, the impact of Roundup may also be linked to immune and GI tract disorders.

In summary, the characteristics of the GMOs on the market, whether they are Bt-toxin producing or the Round Up ready crops, lend themselves to these types of disorders. There are now numerous doctors, thousands I would say, who are prescribing non-GMO diets. And there are many more consumers who are telling us they're getting better after switching to non-GMO diets. Tragically, our Institute for Responsible Technology is the only organization I know of that collects case studies and testimonials of people experiencing changes on a GM versus a non-GM diet.

When I speak these days, I usually ask the audience, “How many of you changed to non-GMO foods?” Then I ask, “Now how many of *you* notice an improvement in your health or reduction of symptoms?” Almost all who changed their diet also raised their hands as having noticed changes. And then they describe the symptoms that I hear night after night after night: allergies, asthma, migraine, weight problems, lack of energy, digestive problems, etc., all showing improvement.

Labeling is a Right, Irrespective of Your Belief about the Risks of GMOs

We can go in great detail about the dangers of GMOs, as I have in the book *Genetic Roulette: The Documented Health Risks of Genetically Engineered Foods*. And you can hear stories from doctors, parents, farmers, and veterinarians in the movie, *Genetic Roulette—The Gamble of Our Lives*. But the question before us is “Should we label GMOs.” To answer this, you don’t have to believe that GMOs are unhealthy. You can believe the biotech industry. You can take them at their word when they tried to discredit Dr. Serralini’s study released on September 19, 2012. You can join Monsanto in claiming that the engineered corn and Roundup had nothing to do with the massive multiple tumors, organ damage, and early deaths, that were in far greater in numbers in the treated group than the controls. And you can dismiss this study, even though it was the most comprehensive, long-term feeding study done on this genetically engineered corn (2 years instead of the industry’s 90 days). You can believe the policy of the FDA, ignore the

memos from the scientists, and declare that GMOs are safe. But know that there are huge numbers of people who don't believe them.

The question comes down to: "Who should have the choice to eat GMOs or not? To feed them to our children or not?" I think it's obvious that the decision lies with those who eat and those who buy food for their families. It's really up to us to make that decision, to decide if we want to take that gamble. It should not be up to an organization like the FDA, which ignored the science and the scientists and went with the political appointee Monsanto-Man.

Labels Allow People to Practice Their Religions

We can also look at it from the religious side. We have a website called www.faihandgmos.org, where there are rabbis, swamis, priests, reverends, and pastors who explain why they are against genetically engineered foods from a religious perspective. They encourage their congregations to avoid eating GMOs. Again, they're not labeled, so it is difficult for people to practice their religion. So these are just some of the reasons why we think GMOs should be labeled.

Beware of the Biotech's Deceptive Practices

Because you're probably just being introduced into this world that I've been involved in since 1996, I don't know if you've been exposed yet to the enthusiasm of the biotech industry in trying to discredit and denounce everything I just said. I can describe to you the stories of many

different scientists who faced the attack strategy of the industry, but I'll focus on just one from India.

There's a very prominent scientist by the name of P.M. Bhargava. Twenty-five of his close personal friends and former students have Nobel Prizes. He was asked by the Indian Supreme Court to evaluate the approval process of GMOs in India after a citizen's petition was submitted to the Court. They assigned Bhargava because he is one of the most well known scientists in India, and is known and respected all over the world. After eight months of evaluating the approval process, he realized that not a single GMO in the world was properly evaluated. He said "Of the 30 or so categories of studies that should be done, only 10 percent have been conducted, generally poorly, and by the companies themselves, so they can be completely dismissed." He said it would take at least 5-7 years to do proper evaluations to determine whether GMOs are safe.

But every time he presented adverse findings about GMOs to the Indian approval committee, no matter what he brought in, they always responded, "Oh that's been discredited, he's been discredited, she's been discredited..." When he made his final report to the Supreme Court, the Minister of Health, and the Prime Minister, the approval committee tried to turn on him claiming that he was discredited, that he has not conducted research on DNA and RNA, that he is against the government. In truth, Dr. Bhargava had conducted more relevant studies than the entire genetic engineering approval committee put together. And he had served on more than 100 government committees, including the highest in the land.

This was a prime example of the automatic knee-jerk reaction to try to discredit anyone, no matter what their level of credentials, if they say things that are opposed to the industry stories. According to them, no one who disagrees with them is qualified to make a decision. We should just trust them, and not worry our little heads over this issue. It's really a biotech industry issue and they'll be happy to make the decisions for us.

Someone Here Needs to Take Responsibility

I would like to encourage your committee to embody the antidote to this epidemic of thought that believes "someone else is responsible and they must be doing a good job—so we don't have to." This is an opportunity for your state government to step in and take over where the FDA failed. They've abdicated their responsibility. They should have required testing and labeling, but there, the fox is guarding the hen house. It's time to reverse this dangerous trend, take the responsibility that no one else is taking, and say GMOs at least need to be labeled. If we label them, then consumers can *also* be empowered to make decisions for themselves. They don't have to rely on someone else who must be doing a good job. Because in reality, no one up to this point is doing the good job. Eating GMOs is a gamble, and it should be up the individual whether they want to risk themselves and their family.