

# Science or nonsense?

## Two sides of the GM debate

**A** LLEGATIONS BY Jeffrey Smith of the “dangers and health risks” to humans and animals posed by GMO food in “Rammed down our throats” (*nose71*, September 2005), are blatant lies. Shocking, misleading information unsubstantiated by scientific evidence.

What he failed to tell us is that his so-called “bestseller” condemning GMO crops, which he hawked around South Africa, has not received the

Jeffrey Smith's allegations are blatant lies, says industry spokesman  
**Hans Lombard**



backing of any academy of science or medicine, any faculty of agriculture or science, or any agricultural research institute in the world.

In response to only a few of his wild fearmongering and scientifically unproven allegations (see italics), here are the facts:

■ *GM crops are not adequately tested for safety.* No agricultural crop in history has been subjected to as stringent scientific and medical tests as GMO crops, which have passed these tests with flying colours.

The European Commission (EU) conducted 81 scientific research tests over 15 years costing R640 million. It concluded: “GM food is both safe for

humans and the environment. Biotech crops may even be safer than conventional food.”

After in-depth research by a panel of leading scientists, the Royal Society (UK) stated: “There is no serious threat or even existence of any potential environmental harm or human health hazards in GM food.” Nine academies of science – in Brazil, China, India, Mexico, the US, Germany, France and Canada and Uruguay.

In addition to these, the British Medical Association says there is very little potential for GM foods to cause harmful effects.

■ *After GM soya was introduced in the UK allergies skyrocketed.* The Royal Society denies this and says there is no evidence that GM foods cause allergic reactions. Allergic risks posed by GM plants are no greater than those posed by conventional crops.

Long before the advent of GM crops, medical scientists determined that allergies were caused by milk, egg whites, peanuts and soya beans and will continue to do so, GM or non-GM.

If the allegations regarding allergies were true, why does the EU continue to import annually on average 17 million tons of soya from the US and Argentina, 90% of it GM?

■ *GM cotton produced in Andhra Pradesh, India, reduced yields by 18% and was subsequently banned.* Again, the Indian authorities in Andhra Pradesh reject this allegation as an outright lie. Chengal Reddy, chairman of the Federation of Farmers' Associations in Andhra Pradesh, denies that there has been a Bt cotton failure.

According to him, Bt cotton plantings in 2002/03 was a roaring success. Mangala Rai, director-general of the Indian Council of Agricultural Research, says cotton farmers in Andhra Pradesh increased their Bt cotton yields by 30% and reduced pesticide sprays by 65%. On the basis of

this the Indian government approved the planting of an additional 40,000 ha of Bt cotton in Andhra Pradesh, Karnataka, Maharashtra and Gujarat. Furthermore, the Indian government has approved three new Bt cotton varieties.

Andhra Pradesh now has the choice of six Bt cotton hybrids.

If Smith's allegation were true, why is it that India increased the area under approved biotech cotton from 100,000 ha two years ago to 500,000 in 2004, involving more than 300,000 small-scale farmers?

■ *Rats fed on GM potatoes developed potentially pre-cancerous cell growth and seven out of 40 rats fed on GM tomatoes died within two weeks.* These tests were never peer-reviewed. They were dispelled as flawed by scientists worldwide.

A report in Britain's influential *Lancet* medical journal claimed that scientists who reviewed Arpad Pusztai's experiments came to the conclusion that the study was flawed, since it had been poorly conducted and did not meet acceptable scientific standards.

The UK Advisory Committee on Novel Food Programmes concluded that “no meaningful conclusions could be drawn from Pusztai's study”.

The Royal Society stated: “We found no convincing evidence of adverse effects from GM potatoes. The effects were uninterpretable because of technical limitations of the experiments and the incorrect use of statistical tests.”

Pusztai was subsequently fired from the institution where he worked.

On the tomato issue Pusztai, who had nothing to do with the experiments, said the rats died for unspecified reasons.

The GM tomatoes were on the market for three years and consumed by thousands of people, without any ill-effects reported by any medical or health institutions.

They were withdrawn when the

To page 32

**H**ANS LOMBARD, a public relations man paid to “hawk” GM foods around South Africa, provides superb examples of industry spin.

Starting with his accusations about my book, *Seeds of Deception*, US academic institutions don't “back” books. Professors select them. And several, from universities including Yale, assign it. The book is also “backed” by an international team of scientists that reviewed it and is rated No. 1 on the subject by *The Ecologist*. It documents

hijacked regulatory agencies, rigged research, threatened scientists and covered-up health risks.

### Health Risks

Lombard's claim that nine national academies say there are no risks from GM foods is absurd. I shared his quote with the director of the Board on Life Sciences at the US National Academy of Sciences. She responded, “The academies have issued numerous reports on assessing the risks of transgenic plants. If the academy

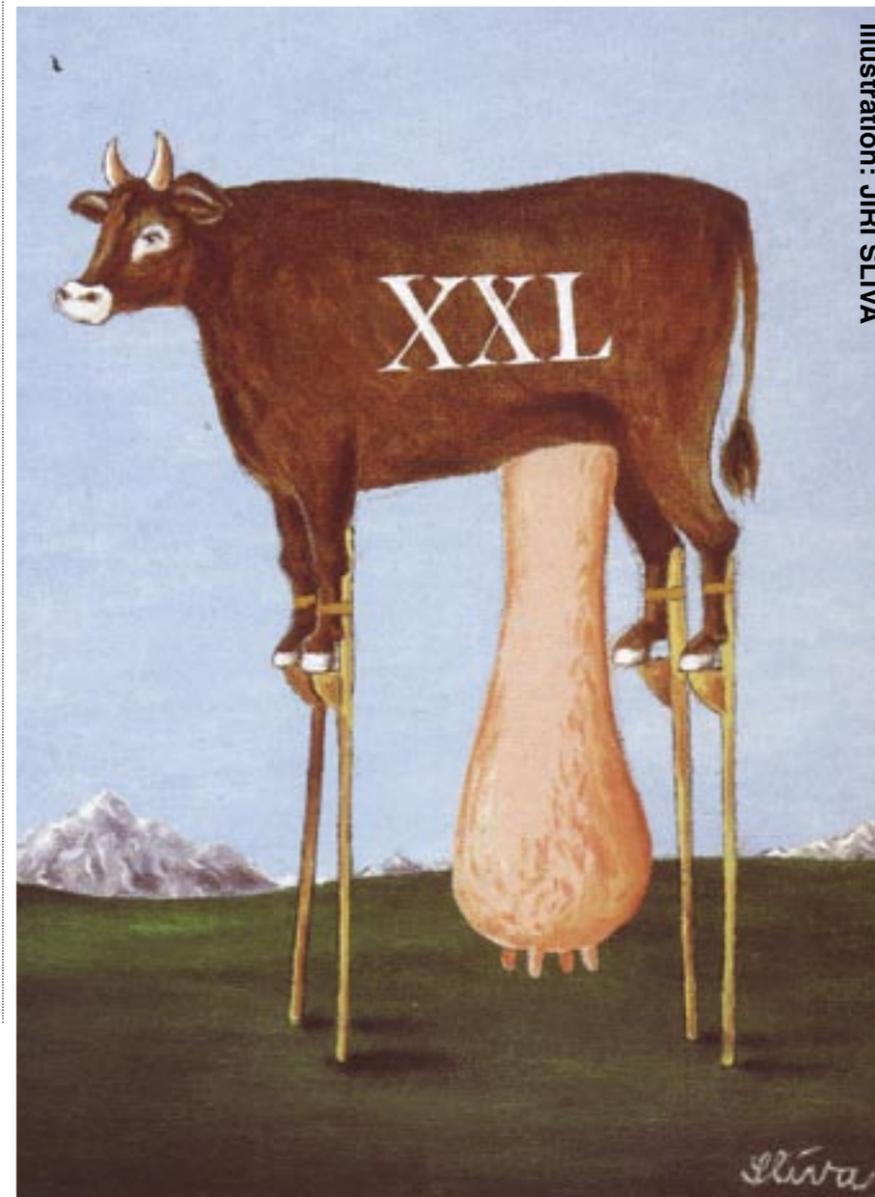
believed there were no such potential risks, why would we have delved into these matters in these reports?” The Royal Society of Canada stated that it is “scientifically unjustifiable” to presume that GM foods are safe, and that the “default presumption” is that unintended, potentially hazardous side-effects are present. Seven of Lombard's nine academies contributed to a report that describes “the potential for allergic reactions” and “toxic compounds as a result of the GM technology.”

Lombard also misrepresented a 2001

Hans Lombard, provides superb examples of industry spin, contends author and activist  
**Jeffrey Smith**



Illustration: JIŘÍ SLIVA



European Commission report, which identified 81 mostly unpublished EC-funded projects. By mid 2005, there were only 19 peer-reviewed animal feeding safety tests on GM foods worldwide, and industry studies are shown to have “serious deficiencies.” Moreover, a WHO spokesperson acknowledged that current regulations are inadequate to determine the health effects.

Geneticist David Suzuki says: “Any politician or scientist who tells you these products are safe is either very stupid or lying.” This may describe the small group of industry-supported biotech scientists who have managed to author all sorts of “official” or official-sounding reports, including the

To page 32

## Lombard

From page 30 company that launched the project ran into technical and financial problems.

■ *Filipinos living next to a Bt maize field developed respiratory and skin reactions.* The person who published this information was Norwegian scientist Prof Terje Traavik, an ardent anti-GMO activist. His studies were never peer-reviewed. When challenged to provide scientific data by Dr Nina Gloriani Barzaga from the University of the Philippines' Manila College of Public Health, he said his studies were "only preliminary and not complete".

He was also challenged by Prof Rick Roush, director, Statewide IPM Programme, University of California, who commented: "Traavik never allowed any of his work to be peer-reviewed. He never offered any details of his research to any of the rest of us scientists. His work remains nothing more than a wild and implausible allegation."

The area was visited by the Philippines Department of Agriculture, a team of medical doctors, and representatives from the College of Chest Physicians and the Manila College of Health. They came to the conclusion that the villagers showed no allergic symptoms or signs of viral respiratory infection.

More than 20,000 ha of GM maize has been grown in the Philippines during the past three years by more than 5000 farmers. Nobody has complained of an allergy.

In 2004, GM maize was planted on 19.3 million ha in 17 countries on all six continents (400,000 ha of them in South Africa). There have been no reports of allergies or any other adverse effects anywhere in the world.

■ *Pigs fed GM maize on Midwest US farms developed false pregnancies, sterility and gave birth to bags of water; and 12 cows fed GM maize in Germany died mysteriously.* Activists sent out press releases attributing the cause of these incidents to GM maize. They never bothered to either check their facts or to visit the farms to carry out any scientific tests.

Millions of animals, pigs and dairy cows, all over the world, including South Africa, eat GM feed daily. Why would only 12 cows in Germany and a few pigs in the US suffer? If GM feed was the cause, then by now all animals would have been wiped off the face of the earth.

The problem with the pigs was pseudo-pregnancies. "This has nothing to do with feeding the pigs Bt maize," says Dr Jerome Baker, CEO, Federation of Animal Science Societies in the US.

This is a condition in which a sow or gilt has a delay in its oestrus cycle. During this delay many behavioural or physical signs typical of pregnant animals may be exhibited but no piglets are ever delivered.

Professors John Carr, Thomas Carson and Gary Munkfold from Iowa State University visited the five farms in question and concluded that there was no link between the pseudo-pregnancy reproductive problem and the feeding of Bt maize. Pseudo-pregnancies have been recognised for many years (long before the advent of GM crops) on pig farms throughout the world, irrespective of the type of feed being used.

The cause of the problems on the pig farms concerned was diagnosed as inadequate gilt preparation, poor quality body condition and subsequent failure to feed the animals adequately. Analysis of three boars fed Bt maize revealed no effect on semen quality and quantity.

Professor Jimmy Clarke, professor of ruminant nutrition in animal sciences at the University of Illinois, Urbana-

Champaign reviewed the results of 23 research experiments conducted over the past four years at universities in the US, Germany and France. He found no significant difference between animals fed GM maize and soybeans compared to those fed conventional crops.

Tests were done on poultry, swine, dairy/beef cattle, sheep, water buffalo, rabbits and catfish. These reviews were supported by numerous other scientists who also concluded that: "Based on safety analysis, human consumption of milk, meat and eggs produced from animals fed GM crops should be as safe as products derived from animals fed conventional crops."

As far as the deaths of the dairy cows in Germany are concerned several scientific institutions in Germany strongly deny that any cows have ever died in Germany from GM maize and the Robert Koch Institute reported: "There is no reason to suspect that Bt maize caused the death of dairy cows."

The Union of German Academies of Science and Humanities reported that: "Food from GM maize is more healthy than that from conventional maize. Feeding trials with thousands of animals have proved GM products harmless. The health and productivity of animals was not impaired after being fed GM fodder."

In the EU, soybeans are the main source of protein for animal feed. Some 26 million tons are used as animal feed. More than 90% of all soybeans are GM produced and mainly imported from the US and Argentina. Spain plants nearly 60,000 hectares of GM maize annually, virtually all for animal feed. No ill-effects in dairy cows or pigs have been reported.

■ *Hans J Lombard is an international agricultural analyst and consultant to the agri-biotech industry.* ☐

## Smith

From page 31 cial-sounding reports, including the UK Royal Society's. (See GMWatch.org.)

### Allergies

The UK's York Laboratory discovered that soy allergies jumped 50% over the previous year, just after GM soy was introduced. A lab spokesman said, "We believe this raises serious new questions about the safety of GM foods."

Although no tests can guarantee that a new GM food is free from allergens, the FAO/WHO suggests criteria to minimize

the risk. The GM soy on the market fails those criteria. So does the GM white corn used in millmeal, which is engineered to produce a toxic insecticide called Bt.

In a November 2005 study, advanced immune tests showed that a GM pea caused severe allergy-like responses in mice. If those peas were subjected to normal GM food safety assessments, however, they could have been approved. Thus, dangerous allergenic GM crops may already be on the market.

### GM cotton: failures and deceptions

According to the April 13, 2005 Deccan Herald, "A study that tracked geneti-

cally modified Bt cotton crop for three years in Andhra Pradesh has proved conclusively that it has failed on all fronts including yield, cost of cultivation, returns to farmers and resistance to pests." Bt cotton cost 12% more, yielded 8.3% less, and the returns were 60% lower. Some farmers even complained "that they were not able to grow other crops after Bt because it had infected their soil very badly."

Yield loss in the Warangal district last year was 30-60%, but according to a government statement on Feb 1, 2005, the official tally had been tampered with and yield figures secretly increased. Once

Andhra Pradesh compiled the state's actual yields, they demanded about \$10 million from Monsanto to compensate farmers' losses. The company refused and on June 3 was banned from the state. A November 8 report by AP's Monitoring & Evaluation Committee, shows that other companies' Bt varieties have stunted growth and massive pest damage.

In Madhya Pradesh, rampant wilting of Monsanto's cotton in 200,000 acres caused about \$87.5 million in damages, according to NewKerala.com. In parts of Tamil Nadu, "up to 75 per cent of the Bt cotton seeds" planted "failed to germinate this season." A health report also claimed, "Bt cotton was causing severe to moderate allergy to people coming in contact with it."

Lombard can easily obtain contradictory statistics. Ask Monsanto. They commissioned studies from market research agencies, not scientists. One claimed four times the actual reduction in pesticides, twelve times the yield, and 100 times the profit. Lombard quotes

## Monsanto was convicted in the US of 'outrage' which refers to conduct 'beyond all possible bounds of decency'

Chengal Reddy, who "has worked closely with [Monsanto] since the mid-1990s." GMwatch.org exposes this "non-farmer" and his so-called "federation."

In Andhra Pradesh, 71% of farmers who used Bt cotton ended up with losses. Realizing they had been deceived, farmers attacked the seed dealer's office and even "tied up Mahyco Monsanto representatives in their villages," until the police rescued them. Tragically, other cotton farmers around India committed suicide. In Vidarbha, Maharashtra alone, between July 2 and November 17, about 114 took their own lives.

### GM potatoes, fired scientists, and biased reports

Dr. Pusztai, the world's leading researcher in his field, was awarded a UK government grant to develop safety testing protocols for GM food. His 20-member team created a GM potato, engineered to produce an insecticide. Using a government-approved research design, they tested it on rats. Nearly every system was adversely affected, including damaged organs and immune system and prolific cell growth. Rats fed natural potatoes spiked with the same insecticide did fine. The insecticide, therefore, wasn't the cause. Rather, the

process of genetic engineering was the likely culprit.

When Pusztai publicly expressed his concerns about GMOs, he was a hero at his prestigious institute, but not in the pro-GM UK government. Two phone calls were allegedly placed from the UK prime minister's office, forwarded through the receptionist, to the institute's director. The next morning, Pusztai was released after 35 years and silenced with threats of a lawsuit. His project was disbanded and disinformation widely circulated. The biotech gang at the Royal Society staged so-called peer-reviews using only partial data, and according to a leaked document, three government ministers prepared "an astonishingly detailed strategy for spinning, and mobilizing support for" GM foods, including "rubbishing" Pusztai's research.

When data later became available, 23 top scientists came to Pusztai's defense. The study was published in the prestigious Lancet (in spite of threats made to its editor by a Royal Society official). Nonetheless, the

disinformation campaign continues. Lombard, for example, claims that the Lancet called the study flawed. In reality, the editor was quoting the Royal Society, while chastising them for "criticizing reports of research . . . before those data were reviewed and published in the proper way."

Lombard was correct that the GM tomato study was not peer reviewed. It was submitted by Calgene to the FDA. According to the study, GM-fed rats developed stomach lesions and 7 of 40 died within two weeks and were replaced. Documents made public from a lawsuit reveal that political appointees approved the tomato over the objections of government scientists.

### Bt maize and mysterious symptoms

According to Mindanews, "On August 8, 2003, about 100 residents from Sitio Kalyong were documented to have been suffering from headache, dizziness, extreme stomach pain, vomiting and allergies." The Filipinos lived adjacent to a GM cornfield and developed symptoms only while pollen was airborne. Similar symptoms appeared in different locations during the following two years, also during pollination.

Dr. Traavik, a prominent EU virologist, tested 39 villagers. Their blood had an antibody response to the Bt insecticide produced by the corn. This increased the probability that the corn created the symptoms. Traavik presented preliminary findings at a conference and in accordance with normal protocol, will not circulate data until publication.

### No adverse effects?

The seven academies cited above called for "public health regulatory systems . . . in every country to identify and monitor any potential adverse human health effects of transgenic plants." Not one country does this. It could take decades, therefore, to identify even serious problems. We do know, however, that about



Illustration: JIRÍ SLIVA

100 died and 5,000-10,000 fell sick due to a GM food supplement called L-tryptophan, sold in the US in the 1980s.

Monsanto is a chief contributor to Lombard's Public Relations firm. Monsanto bribed up to 140 Indonesian officials, is regularly accused of doctoring research data, and was found guilty of poisoning a town and covering it up for decades. They were convicted in the US of "outrage," which typically requires conduct "so outrageous in character and extreme in degree as to go beyond all possible bounds of decency so as to be regarded as atrocious and utterly intolerable in civilized society." It is a shame that in South Africa, the government has entrusted Monsanto with the health of its people.

■ *Jeffrey Smith is the author of Seeds of Deception, about the risks of genetic modification and skulduggery in the biotech industry. A more detailed version of his response to Hans Lombard is posted at [www.noseweek.co.za](http://www.noseweek.co.za)* ☐