



# The Promise, the Power and the Pitfalls of Biotech

**W**hile visions of sugar plums were dancing in people's heads last December, I was into a thoroughly good read of *Food Inc.* by Peter Pringle. In his book, he examines in detail the pros and cons of the incredibly complex topic of genetically modified foods. Although his work concentrates exclusively on plant activity, he takes a reasoned, objective view of the great promises and potential perils of the technology.

Fast forward to this February when three genetically modified female pigs from the St. Foy, Que.-based TGN Biotech Inc. research firm happened to find their way to a rendering plant. The rendered material was made into chicken feed, and distributed to a limited number of feed mills and farms in Ontario and Quebec. Jean-Francois Huc, president and CEO of TGN Biotech, says within 48 hours all suspect feed was identified and confiscated. When notified of the protocol breach, Health Canada, the Canadian Food Inspection Agency and Environment Canada swung into action to assess the potential risk to human health and determine the potential violation of federal regulations.

For the record, the genetically modified protein the company produces is only expressed in the seminal gland of the male pig. Huc says all transgenic pigs are identified at birth with a tattoo, an ear tag and are microchipped to boot. Unfortunately, a double human error, a technician with other duties on her mind and a tractor operator put the wrong dead pigs in the wrong bin and bingo – a crisis occurs.

You can be sure that this story, in many different permutations, will find its way into anti-biotech horror stories activists will recount without bothering to double-check the facts. In the continuing saga of biotech, perception is reality and the facts are negligible.



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Count on the biotechnology industry to be under the microscope again this year, and the heat will no doubt be intense. With the Percy Schmeiser case before the Supreme Court of Canada, the issues of patents and the patenting of life forms will come to the forefront. Other issues of concern will be the contamination of organic fields and the debate on the acceptance of genetically modified wheat. You can also expect the labelling issue of genetically modified foods to resurface. Increasingly, this seems to be the one-trick pony of the anti-GM contingent, along with their desire to have long-term epidemiological studies done on every single genetically modified organism.

But the technology is here to stay. Canadian and international farmers have adopted the technology because it uses less herbicide and reduces erosion in their fields. Statistics from the International Service for the Acquisition of Agri-biotech Applications show that at least 10 countries are growing over 50,000 hectares or more of genetically modified crops. Future applications for the technology include the promise of higher levels of antioxidants, such as lycopene-enhanced tomatoes, or beta-carotene in rice. In fact, the so-called "golden rice" was created in a laboratory in Switzerland in February 1999, but the creators could have infringed a total of 70

patents belonging to 32 different corporations. The corporations involved, however, waived their rights, since the research was done for humanitarian purposes with public funding. Health and environmental regulatory hurdles still need to be addressed before the rice can be grown.

All of the above are just the tip of the iceberg concerning the GM debate. But don't expect the way to the finish line, if there is one, to be neat and tidy.

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