POLICY PENNINGS

By Daryll E. Ray

The StarLink™ Event: Can it help us better understand broader GMO issues?

There's a really good chance you're aware that the gene-altered corn called StarLink™ was detected in certain taco shells and other yellow corn products even though this corn is not approved for food use. Recent media attention to this issue has fallen just short of presidential candidate coverage. A quick count of StarLink™-related articles posted on the http://www.just-food.com/ web site numbered 70 during the six weeks following the publication of the original story in the Washington Post in mid-September.

The StarLink™ controversy first hit my radar screen on Monday, September 18, when Reuters picked up the Post story saying that, "a form of biotech corn (StarLink™) not allowed in food because it could trigger allergies has been detected in Taco Bell taco shells sold in grocery stores." Since then, several retailers, distributors and producers of corn-based food products have pulled suspect products from grocery shelves or ordered partial plant shutdowns and the introduction of GMO testing procedures. Japan and other importers of U.S. grain are urging U.S. officials to stop all food shipments containing even traces of StarLink™ corn.

Even though Archer-Daniels-Midland, Cargill, ConAgra Foods, Kellogg and Safeway are taking this extremely seriously, others may be tempted to dismiss the StarLink™ controversy as simply a convenient contrivance to fuel an already fiery debate on genetically modified organisms (GMOs). After all, there are no documented health-related problems attributable to the StarLink™ event.

Such a cavalier dismissal would be a mistake for at least three reasons.

First, for all we know, a health problem of some degree could be real. The reasons the Environmental Protection Agency did not clear the StarLink™ product for human consumption stem from the relatively slow digestibility of a protein and a lack of data on whether that protein is an allergen. Other Bt corn products do not contain this protein and were given clearance for use in food products.

If further testing were to show, for example, that a portion of the population could become dangerously allergic to the protein, caution would indeed be warranted. In fact, subsequent regulatory actions or label warnings could provide a plank to the platform of trust that is needed if consumers here and abroad are to begin a journey toward eventual acceptance of GMOs.

Second, the event has put the full chain of players in the agro-food complex–from agricultural input suppliers to commodity producers to processors to distributors to retailers–on notice. Clearly, it has the complete attention of the food end of the agro-food complex. What may be missing is equivalent resolve on the other end of the continuum.

Producing a genetically engineered commodity should be similar to producing seed for a seed company. The seed company enforces strict non-contamination standards on the seed producer and on itself. A clear set of rules is provided to the farmer concerning planting configurations, handling of planting, harvest and transportation equipment and so on. Failure to observe those rules would jeopardize the producer's short- and long-run relationship with the company.

Aventis, the company that marketed StarLink™ corn, did provide producers rules concerning planting configurations, and farmers were warned against marketing the corn to food producers. But since the corn is not delivered to Aventis, the oversight loop is broken. (See the Iowa State University report by Neil Harl, Roger Ginder, Charles Hurburgh, and Assistant Iowa Attorney General Steve Moline for complete reproductions of the rules, warnings and subsequent correspondence sent to producers. A copy of the report, which also provides an excellent chronology of the StarLink™ event, can be found at: http://www.exnet.iastate.edu/Pages/grain/publications/buspub/0010star.PDF.)

Completing the oversight loop requires ironclad procedures for the transportation, storage and ultimate delivery of the StarLink™ corn to approved end-users. While Aventis made available approved marketing outlets to producers, no one "saw to it" that the grain reached its ultimate user without contaminating other corn or being contaminated. This is a quality control step that Aventis would not allow to be breached in their contract-produced seed corn.

To me, this event suggests that interlocking signed agreements may be needed among the seed supplier, producer and first handler of the genetically modified crops. To build the trust of end-users, the production and marketing of genetically modified commodities must use integrity-preserving processes.

Finally, the StarLink™ event provides a context for all of us in the agro-food industry to better understand why there is so much fear, resistance and skepticism about GMOs in general. Here is my list of considerations:

- **A technological breakthrough is usually met with resistance.**

Most of the run-of-the-mill technological changes are really incremental improvements of well-known and accepted existing technologies. That, of course, is not the case with GMOs.

The introduction of genetically modified organisms is a technological breakthrough on par with the introductions of pasteurization, electricity, the automobile and the microwave, none of which was immediately accepted by consumers. Viewed that way, it would be shocking if GMOs were readily and quickly accepted.

Some of the resistance results from the experience of previous technological advances that did not pan out as expected. One only needs to call to mind DDT and thalidomide, among others, to understand that there are

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reasons why people might be slow to trust products that have been declared "safe." The acceptance of totally new technology usually takes time.

• **Acceptance of new technology often is quicker if consumers experience direct benefits.**

While initially greeted with scorn, as time passed, the advantages of the automobile became generally apparent. After all, the four-hour trip to the county seat on horseback could be accomplished in less than a hour in an automobile. Soon every farm had a car, a truck, and a tractor as real horse power became a thing of the past.

Yet, even when the advantage of a new technology is clear, it can take a relatively long time to achieve consumer acceptance. In the case of pasteurization of milk, it took decades to achieve acceptance–ultimately adopting legislation requiring its use–even though pasteurization virtually eliminates dangerous milk-borne diseases. To this day, there are folks who seek out noncommercial sources of raw milk so they can avoid drinking pasteurized milk.

Irradiation of food as a means to drastically reduce food borne pathogens like *e. coli* and salmonella is a current example of a technology with potentially high consumer benefits meeting resistance from a public wary of potential or unknown risks.

So what about StarLink™ and similar GMO technologies? Well, the unvarnished truth is that in the case of these specific GMOs, the end consumer receives virtually no direct benefits (indirect benefits could include environmental improvements). Producers are the ones who benefit from reduced expenditures on pesticides and fewer field passes. The degree to which consumers realize these cost savings likely ranges from imperceptible to inconsequential in this time of surplus production and severely depressed prices.

So, if we view consumers not as recipients of the benefits, but rather as subject to the risks—as small or large as they may be—it is more understandable why consumers' reception of GMOs like StarLink™ may be less than enthusiastic. But, back to the first point, many consumers would resist this technological change even if they received large benefits.

• **The consumer really is king.**

In a market driven economy, it is the role of the producer to produce what the customer wants. We, in production agriculture, like a server in a restaurant, are in no position to overrule or deride our customers.

It is good to remind ourselves occasionally that what really matters in the end is what customers are willing to purchase, not how we personally feel about our customers' decisions or preferences. We also know that those decisions and preferences may (or, more likely, will) change as consumers receive additional information and as time passes.

• **Trust is product one.**

A corollary to the previous point is that farmers, the entire agro-food complex and government regulators must earn the trust and confidence of the consuming public. While it no doubt will be annoying, inconvenient and costly to institute foolproof commodity segregation procedures and other actions to prevent the reoccurrence of the StarLink™ event, it clearly is the thing to do. Everything considered, it's even the economically efficient thing to do.

So will GMOs play a major role in agriculture's future? By all means. Just as other technological breakthroughs have eventually been accepted, so will GMOs. The process will be hastened if we acknowledge our domestic and export customers' need for safety assurance and actively participate in devising and implementing safeguards and "integrity-preserved" production and marketing procedures.

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