

Discussing genetic engineering with a concerned public

By Kevin Folta

Our farm producers have brought unprecedented low-priced, safe food to the United States and the world. Despite the success, there are challenges to sustained production that may best be solved with genetic engineering. These technologies have proven safe and effective for almost two decades, mostly in the arena of high-acreage agronomic crops like corn, soy and cotton. Yet the public remains skeptical, and in some cases concerned, about these technologies. A reserved well-fed public, a clunky regulatory system and a demand for new solutions are colliding — and agriculture may not be allowed to implement the safest and most effective solutions science can provide.

This situation may soon become quite problematic for Florida farmers, as genetic engineering solutions may be important

in addressing key issues in the state, such as citrus greening.

One way to help solve the problem is better public understanding about what genetic engineering is, and how it helps growers profitably produce food, oftentimes with less environmental impact. Our farmers are considered to be among the most trusted, warm, competent and knowledgeable sources of information. However, they also represent a tiny fraction of the population and are not well represented in social-media space, and that's where this conversation is taking place. This is a perfect storm where special interests, well-funded activists and TV doctors are excited to dictate the future of your access to innovation.

The short message: American producers need to be speaking to the public in a visible way, exploiting the conduit of social media. How do you do that effectively?

ENGAGE AND TEACH

Universally, farm producers simply say, “I don’t have the time to do this.” Unfortunately, that is the problem. You are the public relations face of your industry, and an incredibly powerful one.

Your voice is needed in online communities. While many will gravitate to such places to argue and inflame, sober voices carry great weight, and a few comments from someone that has used ag technologies extinguishes wild rhetoric. Many excellent communities of communicating farmers exist on Facebook and Twitter. Many find that 15 minutes a week can be productive time learning from others and interacting with the public. Most people are kind, wonderful and just want to understand what you do. Go tell them.

LEAD WITH STRONG ETHICS

Everybody agrees on the need for safe food, profits for farmers and minimizing the environmental impact of farming. Lead with your values. Talk about what is important to you as a producer and how you’d never grow a product that is remotely dangerous. Talk about responsible use of inputs, why you use them and how you use them safely. Discuss their costs and your need to minimize expenses. If your family participates in or resides on the farm, talk about that.

With regard to genetic engineering, refer to the success of Bt (*Bacillus thuringiensis*) cotton and corn and how these crops have allowed producers to cut broad-spectrum insecticide use. While glyphosate-resistant products have increased the use of that herbicide, they have cut the need for other herbicides with higher environmental impacts and safety considerations. Talk about these successes and how they allow farmers to be better stewards of the land and produce a healthy product.

EMOTION IS A GOOD THING

Experts have broken the brain down to two major functional parts: a “reptile” brain and an “executive function” center. The reactive reptile brain jumps with emotional messages and makes quick decisions without much processing. The ever-calculating, executive-function brain measures careful decisions based on information gathered. These two work together to shape our decisions.

Today the public is bombarded with emotional, scary messages about food technology and farming: “Antibiotics!” “Pesticides!” “Hormones!” “Genetically Modified!” These words are meant to alarm the emotional brain and drive quick, poorly reasoned decisions. These messages are more effective when coupled with imagery of children or the environment.

On the other hand, those that understand the technology behind food and farming appeal to that rational, thinking brain. We share information based on facts, logic, numbers and statistics. Guess which one wins? Emotion wins every time.

When engaging the public, take the time to draw on emotion. Talk about how new technology could change the lives of families living in extreme poverty in the developing



Join the online community!

Many farmers participate in online discussion groups, helping to answer questions and show their commitments to food, family and sustainability. Pages featured here are *Ask the Farmers*, *A Farmer's Life*, *Farm Babe*, *Nurse Loves Farmer* and *Foodie Farmer*. These pages seek to inform non-farmers about food production. Any of these authors would be happy to help you get started in sharing your story.

world. Talk about how genetic engineering exists that can help alleviate some forms of blindness — yet it goes unused. There are plenty of stories about how farmers were facing challenges in weed or insect control before genetically engineered crops changed the way they farm. Share these.

DISCUSS MISSED OPPORTUNITIES

Taxpayer-funded science saved the Hawaiian papaya industry, and public science has created solutions through genetic engineering that can help farmers use less water, less fertilizer, fewer insect controls and improved weed control options. These examples are just the tip of the iceberg. These solutions could help farmers save money, help the environment, perhaps feed the needy and present new opportunities for consumers.

However, such technology rests paralyzed on university or company shelves. Technology is tested, shown to be safe and effective, but never proceeds to application. Why? A considerable part is the fear of public sentiment and of

igniting activist campaigns and the high regulatory cost. Sadly, it is a lack of scientific understanding and poor communication that augments these problems.

Our producers are well served to talk about technology they need and how genetic engineering might contribute to a solution they could use. How could new technology save scarce resources, facilitate machine harvesting or provide resistance to disease? It all is possible today, and simply not deployed.

DON'T DISCUSS AS A SINGLE SOLUTION

The claim that biotechnology is needed to feed the world falls on deaf ears. First of all, it is simply not true. Genetic engineering is a tool. It is a way to add a single trait to a plant that must be used in concert with other inputs and traditional plant breeding. It is a way to meet a discrete agricultural problem, and is not a universal solution. Be honest about those limitations.



Where to get good information

The four websites pictured above are a good starting point for science-based information.

Biofortified.org and Sense About Science are independent sites with experts available to answer your questions. They also present science-based information about genetic engineering. GMOAnswers.com and Farmers and Ranchers Alliance also have excellent science-based information, often provided by independent experts. They are funded by industry with the intent of providing information on genetic engineering and other agricultural issues.

ACKNOWLEDGE THE STRENGTHS AND PROBLEMS

Your credibility as a trusted information source requires recognition of the positive and negative aspects of a technology. Most growers that have used the technologies over the decades can speak to how they can reduce labor, time, fuel and other inputs. At the same time, farmers have hope for more solutions that have never been developed and they have seen the emergence of resistant weeds and insects that are products from overdependence on good technology. These shortcomings should always be acknowledged.

SHARE YOUR PERSONAL STORY

When I ask producers to share their stories, eyes roll back into heads. Many farmers feel that this is against their nature, is bragging or inappropriately draws attention to their operations. However, it is important for listeners to understand your human side. It is important for them to understand that you feed your family with your food. Your humanization complements the appeal to ethics that was discussed previously.

“GENETICALLY MODIFIED”

Note that this article refers to the process as “genetic engineering.” That’s what it is. It is a precise process where traits are engineered into the complex machine of the plant. By definition, every new hybrid is a genetic modification, as its gene content is significantly different from either parent, so adding a single gene via the lab is just a tiny tweak compared to other genetic improvement methods. The term “genetically modified organism” is a pejorative term. It is meant to create disdain and distrust. Speak of these technologies as the precise, tested technologies they represent.

The next decade will rain unprecedented technology onto the farm. From software to satellites, new innovations will help growers produce more with fewer inputs and increasing sustainable profits. New seed varieties with precise genetic changes will be part of that package. Those new plant innovations are shifting from the fields of the Midwest to the groves of Florida and California, and soon specialty crops will contain engineered traits. It is important for farmers to know the technology, but more importantly, know how to talk about it. Then they need to share their stories and experiences through today’s most visible venues in social media.

IN CONCLUSION

Future access to innovation depends on your involvement now. The public wants to learn more, and someone is going to help provide information. Will that be an agenda-driven activist in a high-rise cubicle, or will it be you, the trusted source that knows food and farming? 🍌

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