ORGANIC seed ALLIANCE

TO: AC21 Members
FROM: Kristina Hubbard, Organic Seed Alliance
RE: Seed Integrity Survey: Findings from the Organic Seed Industry
DATE: May 29, 2012

BACKGROUND

The revival of USDA's Advisory Committee on Biotechnology and 21st Century Agriculture (AC21), and this committee's charge to look at an appropriate compensation mechanism, served as an impetus for Organic Seed Alliance (OSA) to reach out to seed companies that provide for the organic farming community. OSA initiated a survey to better assess the risks to seed companies regarding the unwanted presence of GE material in certified organic and other non-GE seed sources. We believe that seed industry feedback is vital to any effort to assess current challenges and identify effective solutions for protecting the genetic integrity of seed. We understand, however, that the issue at hand is delicate, and that companies risk harming their reputation by openly discussing results from genetic testing or sharing opinions of current policies and practices. Therefore, companies were told their responses were voluntary and would be held confidential. As such, the names of companies participating in the survey do not appear in the analysis below.

METHOD

OSA engaged industry leaders who are major providers of organic seed. Ten field crop seed companies (with field corn being their primary product) and ten vegetable seed companies participated in the survey. Half of the field crop company participants sell organic, non-GE, and GE seed products, while the other half sell only organic and non-GE seed products (see Figure 1). Only seed companies with a hand in commercial seed production were invited to participate, as opposed to companies that are solely distributors. Participants had the option of answering the survey questions by phone or by typing their answers and responding via email. One limitation of this method is that phone conversations provide an opportunity to clarify questions and answers. OSA does not believe this limitation significantly impacted the findings. Surveys were collected within the last six months.

SUMMARY OF FINDINGS

OSA spoke to seed companies that provide for the organic and non-GE farming community to better understand the burdens and costs associated with the avoidance of – and repercussions resulting from – GE material in our seed lines. Our findings show that the majority of seed companies surveyed believe it is "very important" for seed companies to supply the industry seed free of GE traits. All of the companies test some if not all of their organic and non-GE seed products for GE material.

Some of these companies say testing is expensive, at times in the tens of thousands of dollars. These costs add up even in absence of an industry-wide threshold level for GE material. Testing costs are a burden to companies and appear to be a barrier to further investments in the organic and non-GE seed sector.

Companies are losing revenue. When contamination occurs, some companies routinely sell organically produced seed to the non-organic market at lower prices because levels either exceed a company's internal threshold or are unacceptable to their customers.

Companies do not believe that a mechanism is currently available for recouping losses incurred by unwanted GE material. Courts may offer recourse, but companies say they cannot afford to go to court to recover losses, especially if they are up against the multi-billion dollar firms who own a high percentage of genetics used in today's industry.

Companies also face barriers to eradicating unwanted GE material. For companies buying seed stock through licensing agreements, these agreements often forbid activities that would allow companies to identify unwanted genetic material in seed used to produce organic and non-GE varieties.

DISCUSSION: FIELD CROPS

All of the field crop companies participating in the survey test some if not all of their organic and non-GE seed for GE material. Nine out of ten companies say their customers "occasionally" ask for testing, with one company noting requests arrive "frequently" (see Figure 2).

Seven out of ten companies enforce an internal threshold for rejection. This threshold ranges from 0.1% to 2%. The sample size varies by crop type. In corn, the sample size ranges from a 3,000 seed sample to a 10,000 seed sample.

Nine out of ten companies label contamination risks as moderate to high (see Figure 3). Eight out of ten companies relay that their seed has been contaminated and that contamination happens frequently (see Figures 4 and 5).

Companies typically use one or both of the following testing methods: ELISA (strip test) and PCR (Polymerase Chain Reaction), though other methods were noted, such as bio-assay (grow and spray). Costs vary for companies that could provide this information. One company estimates that it spends $40,000 – 60,000 each year on testing. Another company provided a similar annual estimate of $60,000 – 70,000.

Seven out of ten companies report "financial harm" from unwanted GE material in their seed products (see Figure 6). Half of the companies say they have thrown out or returned seed shipments due to the levels of GE material, though this happens infrequently. More frequent is the practice of directing organic seed to the non-organic seed market when levels exceed a company's internal threshold. Organic seed production has more expenses involved, so there is a loss when these products are redirected to less valuable markets. For two companies, this results in a loss of about $50 per bushel of corn seed. Another company reports losing 20 percent on every bushel of organic seed that is redirected to the non-organic market.

All of the companies participating in the survey disagree with the following statement: "No seed company has ever experienced economic loss due to unwanted GMO contamination."

At this time, none of the companies believe there is a mechanism available to them for recouping any of these costs – whether it's identifying unwanted GE material (e.g., testing costs) or redirecting organic seed to the less profitable non-organic market. One company owner acknowledged that the courts might be his only recourse.

Seed companies were asked if steps are taken to "clean up" seed lines when contamination is found. One company spokesperson said he would look for another line or genetics provider. Only one company has a protocol in place that would assist in "cleaning up" seed lines. Companies relayed that some germplasm licensing agreements prohibit testing, creating a barrier to eradicating unwanted GE material.[1]

When asked if companies could meet a genetic purity standard of "none found in a 3,000 seed sample," half of the companies had concerns about the standard and indicated they either didn't know if they could meet it or didn't think they could. Companies with concerns said they wanted to make sure such a standard does not harm organic farmers or the organic seed industry. They are concerned that without a compensation mechanism in place or other safety nets to cover incidences of high levels of GE material, the financial burden and risk of organic seed companies will only increase, and possibly be passed on to farmer customers, discouraging investment and growth in this sector, and thus leaving some seed needs unmet.

DISCUSSION: VEGETABLES

The risk of contamination of vegetable seed crops is most acute in sweet corn and, most recently, in relatives of *Beta vulgaris* crops (e.g. table beets and chard) with the introduction of GE sugar beets. The vast majority of vegetable companies participating in the survey believe it is "very important" for seed companies to supply the industry seed free of GE traits. The majority of companies do not conduct testing. Four companies indicate that they do conduct testing, though only one relayed a rejection threshold (0.0 percent). The majority of companies report that they "occasionally" receive requests for testing reports, with the balance reporting "never." Half of the companies label contamination risks as either "low" or "don't know" while half label risks as either "moderate" or "high." All of the companies that responded to the following statement disagreed with the statement: "No seed company has ever experienced economic loss due to unwanted GMO contamination."

RECOMMENDATIONS

Organic farmers depend on organic and other non-GE seed varieties to meet the organic standards as well as consumer demand. The unwanted presence of GE material in the seed they rely on places an unfair burden on farmers and the companies managing these genetics. The organic community is responding to the challenges contamination poses in a number of ways, including prevention measures in their organic systems plan and testing and redirecting contaminated seeds and harvests.

Even though testing is not required, all field crop companies (and some vegetable companies) participating in this survey are taking on these costs to meet customer demand and track evidence of the problem. Some companies test their seed out of principle, because they want to protect the integrity of the organic label. Yet when contamination is found, there is no recourse available – no way to collect compensation for testing costs, prevention measures, losses incurred from selling organic seed to the non-organic market, or costs associated with cleaning up seed lines.

---

[1] All of the companies that license germplasm have concerns about these licenses, specifically the limits on how the material can be used. For example, it's clear that licensing from larger firms often means entering into an agreement where legally you cannot test for GE traits. This puts companies who want to protect their reputation as a supplier of "clean" seed in a vulnerable position of risking litigation if they decide to test illegally.

ORGANIC seed ALLIANCE

This issue is not just a marketing problem. No dollar amount can be placed on a company's reputation in cases where seed routinely tests positive for GE material through no fault of the company, and customers demand levels that the company may not be able to meet. This also means that a seed purity standard should not be put in place without an appropriate compensation plan for those harmed, as well as prevention policies and practices that move U.S. agriculture toward a shared responsibility approach. Currently, the burden of preventing and dealing with contamination remains the burden of those who attempt to avoid GE products.

As such, it is our recommendation that USDA place a moratorium on deregulating new GE crops at least until a comprehensive approach to prevention and compensation is established. At the very least, those who produce and profit from these technologies – the patent holders – should bear the costs. These costs include mitigating the spread of GE material, testing and eradicating unwanted GE material, losing premiums and sales of non-GE products, among other perpetual costs absorbed by the organic and non-GE agricultural community. We believe it is most appropriate to establish a compensation plan that patent holders pay into as part of a strengthened regulatory framework. The mechanism that covers and corrects economic and other forms of harm should be far simpler and more accessible than lawsuits.

Lastly, USDA should conduct a comprehensive analysis of existing contamination at the seed level. The current state of the genetic integrity of our nation's seed is unknown. The snapshot this seed industry survey provides, along with other findings from OSA's research and that of others in the organic and non-GE community, points to an ongoing problem that is only getting worse.

Figure 1: Seed Products of Participating Field Crop Companies

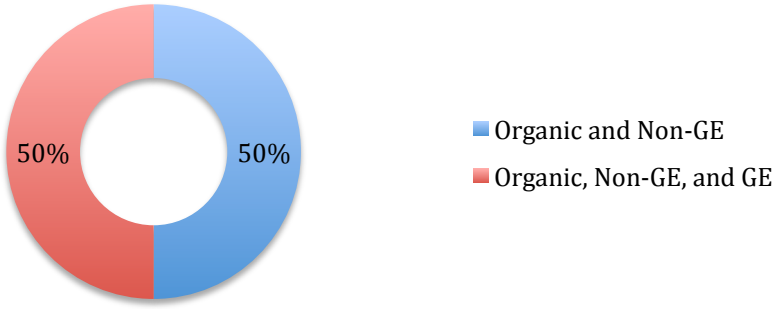


Figure 2: How often do you receive a request from a seed customer for a testing report on GE levels of the seed they purchase from you?

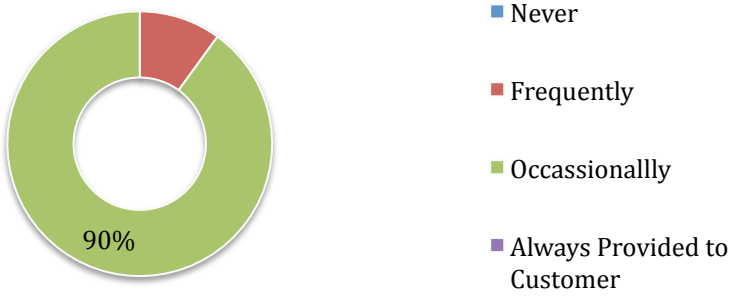
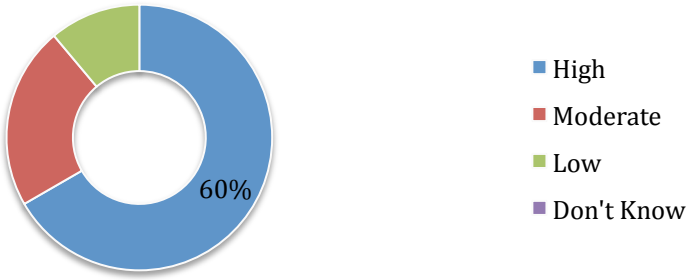


Figure 3: What do you believe is the risk and exposure of your organic seed and non-organic, non-GMO seed from contamination by GE (GMO) traits?



ORGANIC seed ALLIANCE

Figure 4: Has your seed been contaminated?

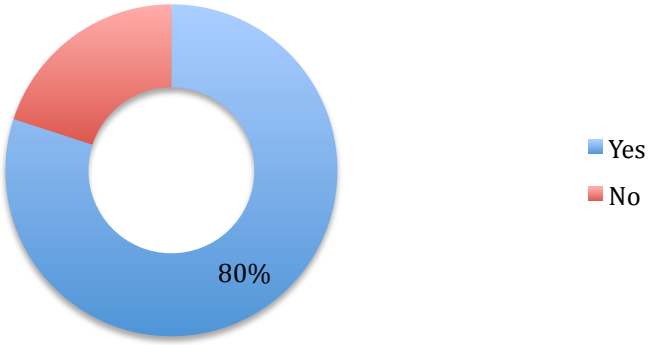


Figure 5: How often are GE-contaminated samples found?

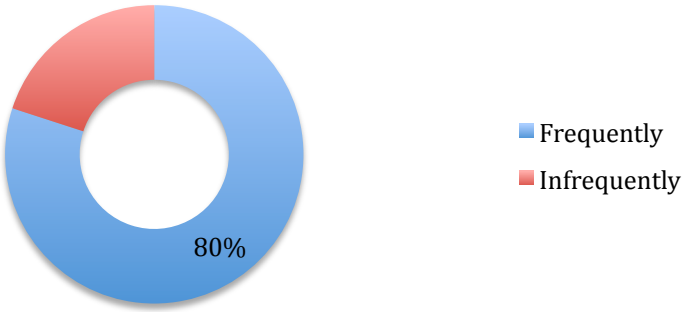


Figure 6: Have you been financially harmed due to GE contamination?