

## II. GMO AD HOC SUBCOMMITTEE

### DISCUSSION DOCUMENT:

#### GMOs and SEED PURITY

This Discussion Document on seed purity is part of the effort to avoid the contamination of organic crops with genetically modified organisms (GMOs). The subcommittee listed eight Discussion Points, and separately listed eight Discussion Questions.

#### DISCUSSION QUESTIONS

The following Discussion Questions were posed:

- 1. Is there a need to establish a seed purity standard or protocol to ensure that planting seed meets the requirements of the NOP rule? Explain your answer.**

Yes. Given the increasing use of GMO seed in conventional agriculture, increasing concerns about contamination, and increasing consumer awareness of the potential dangers of GMO crops, Cornucopia believes the organic industry and consumer confidence in organics would benefit greatly from an established seed purity standard. This is an important step to ensuring organic integrity, and we thank the GMO Ad Hoc Subcommittee for its work in developing this Discussion Document.

In addition, if organic farmers seek compensation for damages due to GMO contamination of their crops, there must be an initial threshold set. Currently, "organic is a process, not a product," therefore the producers of GMO crops can claim that pollen drift does not harm the crops of their organic neighbors. That said, some organic buyers are setting their own thresholds and rejecting contaminated commodities.

Cornucopia believes that ensuring the purity of seeds used for organic production is especially important when organic growers use conventional seed, which has not been subjected to the same organic standards and oversight as organic seed.

The phrasing of the questions does not make a distinction between the testing of organic seed and conventional seed used in organic production. Due to the fact that organic seeds have an organic system plan for protecting seed purity, but conventional seeds do not have a plan or certification oversight, we would like to

see an explicit distinction between testing requirements for conventional versus organic seed, with a focus on testing any conventional seed being used in organic production.

***The focus should be on conventional, not organic, seed***

Organic agriculture is “a process not a product.” Just as organic certification for food is based on the Organic System Plan, the purity of organic seed should be based on the Organic System Plan of a seed producer.

The expectation of seed purity for organic seed is analogous to consumer expectations about pesticide residues on organic foods. Consumers expect that organic food will have no or minimal pesticide residues, yet only a small percentage of organic food is tested for pesticide residues. Even if 5% of farms are tested, only a small lot of product is tested from each farm.

In order to have a robust expectation that organically produced seed will be free of GMO contamination, it will be necessary for seed producers and certifiers to work together to establish and enforce appropriate isolation distances and practices. However, if this is done, adding another protocol of testing each seed lot may increase the cost of organic seed. This, in turn, may make organic seed less available, as organic farmers always run the risk that their carefully grown seed will have to be sold on the conventional market because it has been found to have an unacceptable level of GMO contamination. **As a result, the seed purity standard, if applied only to organic seed, may have the unintended consequence of making organic seed less available.**

***Organic integrity will benefit from testing conventional seed***

Although use of organic seed is required by organic regulations, there are exceptions to this rule, which has resulted in a significant amount of organic acreage planted with conventional seed. Section 205.204 (a)(1) states that “[n]onorganically produced, untreated seeds ... may be used to produce an organic crop when an equivalent organically produced variety is not commercially available.” Since the organic seed industry represents only a small portion of the total seed available, growers planting large acreages can find it difficult to obtain the volume they need. As a result, they may depend on nonorganic seed, because the organic varieties are not commercially available in sufficient quantity. Before establishing a seed purity standard, it would be helpful to estimate the percentage of organic acreage planted with conventional seed as compared to the percentage of acreage planted with organic seed, at least for high-risk crops such as corn.

We would like to see the seed purity standard focus on conventional seed, adding language to ensure that conventional seed will be the focus of this standard.

- 2. What is currently known about the level of GMO contamination of seed used by organic farmers and any associated testing of seed on the farm or in the supply chain? Comments from farmers, seed companies, or buyers describing the following would be relevant:**
- **the scope of testing (e.g. frequency, methods, costs);**
  - **the threshold used for rejection; and**
  - **the outcome of seeds that are rejected.**

In order to fully answer this question, both the conventional and organic seed industry will need to share their testing procedures for GMO contamination, as well as their results.

Lynn Clarkson, of Clarkson Grain, indicated in a webinar that plant breeders at seed companies estimate that there is about 3% GMO contamination in their conventionally grown “non-GMO” seeds<sup>5</sup>. He suspects that organic seed may be contaminated as well, because the organic fields are smaller, which makes them more prone to GMO contamination from drift.

- 3. What testing methods are appropriate to use in order to determine and label for seed purity and to verify compliance to a seed purity standard?**

Testing methods for seed purity should follow the same protocols as testing methods for pesticide residues. The sample should be taken by an organic inspector, or someone who is trained in the protocol of sample collection. The chain of custody should be clearly indicated on the sample form to ensure that no adulteration or contamination occurs as the seeds are sent to a testing laboratory. The results should be sent directly to an organic certifier or other third party, not to the seed supplier. If this procedure is not followed, for example if the seed company takes its own samples and directly receives the test results, there is potential for falsification of the results.

- 4. How would an example such as proposed in Discussion Point #7 above affect your farm or business?**

The Discussion Point #7 suggested a purity standard of “none found in a 3,000 seed sample.” This standard may be impossible to meet. The Organic Seed Alliance asked seed companies if they could meet a genetic purity standard of “none found in a 3,000 seed sample.” Half the companies had concerns about their ability to meet the standard, and the harm it might cause to organic farmers and the organic seed industry.<sup>6</sup>

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<sup>5</sup> Clarkson, Lynn. 2013. *How Can Organic, Non-GMO, and GMO Crops Coexist?* Available on eOrganic at <http://www.extension.org/pages/66781/live-broadcast:-how-can-organic-non-gmo-and-gmo-crops-coexist>

<sup>6</sup> Organic Seed Alliance, 2012. Seed Integrity Survey: Findings from the Organic Seed Industry

A universal standard for genetic purity could be beneficial for organic farmers, if it provides information on GMO contamination of conventional seed. Given the increasing number of acres planted to genetically modified crops, it seems highly likely that contamination will be detected in future seed lots. The sampling must be done by an independent third party, as described in our answer to Discussion Question #3, and testing results sent directly to the certifier, to ensure accuracy.

Alternatively, a universal standard, if it does not distinguish between testing conventional and organic seed, could be harmful to organic farmers. Testing will increase the cost of organic seed, due to the cost of the tests. It will also reduce the availability of organic seed, if organically produced seed lots are found to have unacceptable GMO contamination, and are not available for organic farmers. Financial impacts must be carefully considered to ensure that small farmers are not unfairly burdened by the cost of these tests.

**5. Is there a better suggestion for a seed purity standard than that proposed in Discussion Point #7 above? Describe.**

A seed purity standard should be based on a threshold system—a percentage of GMO contamination—not on presence or absence of GMOs. Seed growers, handlers and buyers currently appear to use a percentage basis of contamination, rather than the “none found” purity standard.

**6. What is known about relevant sampling, testing, and detection level protocol necessary to implement such a standard?**

Questions 5 and 6 are being actively addressed by organic seed producers. We urge the NOSB to involve the conventional seed producers in this discussion as well.

**7. What training, guidance, or resources do certifiers need to verify compliance to a seed purity standard?**

The specifics of a seed purity standard must be clarified before this question can be answered.

**8. What approach could an organic seed producers use to safeguard against GMO contamination from an adjacent or neighboring conventional farm? Buffer zones, distance, planting time, pollination factors, and contamination possibilities/solutions could be included in your response.**

The methods used to prevent GMO contamination from pollen drift will vary from crop to crop. The pollen from tall, wind-pollinated crops, such as corn, will drift long distances. Europe has done extensive testing to show that 100 feet of

separation is needed to reduce pollen drift by 99%.<sup>7</sup> One way to verify this is to plant blue corn. Pollen drift will be evident as blue kernels in the neighboring corn fields.

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<sup>7</sup> Clarkson, Lynn. 2013. *How Can Organic, Non-GMO, and GMO Crops Coexist?* Available on eOrganic at <http://www.extension.org/pages/66781/live-broadcast:-how-can-organic-non-gmo-and-gmo-crops-coexist>