



# BEYOND PESTICIDES

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March 21, 2019

Ms. Michelle Arsenault  
National Organic Standards Board  
USDA-AMS-NOP  
1400 Independence Ave. SW  
Room 2648-S, Mail Stop 0268  
Washington, DC 20250-0268

**Docket ID # AMS-NOP-18-0071-0001**

## **Re. MS, LS: Genetic engineering issues**

These comments to the National Organic Standards Board (NOSB) on its Spring 2019 agenda are submitted on behalf of Beyond Pesticides. Founded in 1981 as a national, grassroots, membership organization that represents community-based organizations and a range of people seeking to bridge the interests of consumers, farmers, and farmworkers, Beyond Pesticides advances improved protections from pesticides and alternative pest management strategies that reduce or eliminate a reliance on pesticides. Our membership and network span the 50 states and the world.

These comments cover the discussion document on vaccines from excluded methods in the Livestock Subcommittee, the Excluded Methods Determinations proposal in the Materials/GMO Subcommittee (MS), and the following discussion documents in the MS: Induced Mutagenesis, Embryo Transfer in Livestock, and Genetic Integrity Transparency of Seed Grown on Organic Land.

We support more detailed comments from Michael Hansen of Consumers Union on these issues.

## **Excluded Methods Determinations April 2019**

### **Transposons**

We agree with the MS that transposons arising from environmental stress, such as heat, drought, or cold, are not excluded methods and that transposons developed with the use of in vitro nucleic acid techniques are excluded methods. The former occur within the context of the whole organism and as such, are part of traditional breeding, as well as natural evolution. The

latter are techniques directed towards specific genetic elements and are thus genetic engineering techniques.

### **Cisgenesis and Intragenesis**

We support the definitions of cisgenesis and intragenesis, but suggest that the NOSB also give explanations more easily understood by the lay reader—such as that cisgenesis involves transfer of genes within a species or crossable species and thus can be equivalent to techniques used in traditional breeding. On the other hand, intragenesis can have genes made up of elements of different genes and should be considered an excluded method.

### **Induced Mutagenesis**

As in the case of transposons, we distinguish mutagenesis arising from environmental stress, such as heat, drought, cold, or radiation, from directed mutagenesis or gene editing. Mutation arising from environmental stress is a whole-organism response to stress, and is a natural part of evolution. Directed mutagenesis or gene editing ignore pleiotropic effects. Directed mutagenesis should be considered an excluded method.

### **Embryo Transfer in Livestock**

Offspring resulting from embryo transfer that involves treatment of either the donor or recipient with hormones or other prohibited substances should not be permitted to be certified organic. A difficulty arises because of the lack of Origin of Livestock regulations that would clarify compatibility with organic practices.

Organic producers should be aware of the dangers of genetic homogeneity, regardless of the source—particularly in livestock, where population sizes are smaller than in plants. Genetic diversity is important in organic production because it helps produce more resilience to stress, including climate change.

### **Genetic Integrity Transparency of Seed Grown on Organic Land**

We agree with the Materials Subcommittee (MS) that it is important to protect the genetic integrity of organic crops. In this context, it is important to have a protocol for those cases in which organic seed is not available. We agree that it makes sense to view any system adopted now as a starting point, to be improved as we learn more. We agree that it makes sense to start with corn, which is the most at-risk crop, and to extend the process to other at-risk crops in the future. Finally, we believe that now is the time to get started on this work.

The need to collect more data has been an overarching theme in the development of a seed purity standard. This proposal is the starting point we need to begin learning how to best provide transparent information to growers, enabling them to choose the level of seed purity they are comfortable with, and to collect data and track contamination risks to inform seed purity standards. We believe that a testing requirement could call for testing of indicators of genetic engineering that would capture genetically engineered seeds that have been commercialized up to this point.

## **Use of Vaccines in Organic Livestock Production Made by Excluded Methods**

In the case of specific health problems that pose an emergency, we favor a policy that allows vaccines made by excluded methods to be used only when a National List material or natural substance is not commercially available. In this scenario, we suggest an approach to defining “emergency” that is the same as that used for defining emergency use of parasiticides.

Regardless of the approach taken, it will need to be informed by a list of available vaccines. It appears that such a list is available through APHIS.<sup>1</sup>

Thank you for your consideration of these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Terry Shistar".

Terry Shistar, Ph.D.  
Board of Directors

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<sup>1</sup> [https://www.aphis.usda.gov/animal\\_health/vet\\_biologics/publications/CurrentProdCodeBook.pdf](https://www.aphis.usda.gov/animal_health/vet_biologics/publications/CurrentProdCodeBook.pdf).