

surveying growers, they could be⁴² or are currently being used in organic systems, as discussed previously. In the interest of preserving the integrity of organic, CFS strongly recommends that the NOSB take precautionary action and adopt a moratorium on techniques that have yet to be evaluated until clarification is possible.

Conclusions

CFS appreciates the efforts of the GMO Ad Hoc Subcommittee to clarify those thorny issues that pertain to “the use of GE organisms” and other technologies that “influence their growth and development by means that are not possible under natural conditions or processes and are not considered compatible with organic production.”⁴³ However, the original definition of “excluded methods” must be left intact in the Rule, and any clarifications that NOSB makes to encompass new and emerging technologies must be contained in Guidance or policy statements. We believe that this is in the best interest of protecting organic integrity, holding organic to the highest production standards, and ensuring consumer confidence in the National Organic Program and label.

Handling Subcommittee

Sugar Beet Fiber

According to the Organic Foods Production Act, the National List may provide for the use of substances in an organic farming and handling operation that are otherwise prohibited under the Act, *only if* the Secretary determines that the use of such substances: (i) would not be harmful to human health of the environment; (ii) is necessary to the production or handling of the agricultural product because of the unavailability of a wholly natural substitute; and (iii) is consistent with farming and handling.⁴⁴ Sugar beet fiber woefully fails to meet these factors. Sugar beet production and beet sugar extraction are both chemically-intensive and environmental destructive processes. Allowing the byproduct of these processes in organic foods directly conflicts with the principles of organic production and handling. Moreover, no evidence has been presented either by the petitioner or Subcommittee to demonstrate that sugar beet fiber is essential in organic production—it must remain off the National List.

Sugar beet production degrades the environment

A critical factor in determining whether a production or handling substance should be added to the national list is whether “the substances manufacture, use, and disposal [will] have adverse effects on

call SPT (Seed Production Technology). Pioneer developed a genetically engineered “maintainer line” that restores fertility in order to be able to self the lines and recover seeds. This engineered maintainer line is only used to maintain the female inbreds, and the transgenes do not appear in hybrid production fields or in the seeds sold to farmers.

⁴² For example, some of the new technologies are designed to create specific mutations in the existing genes of a crop. Recombinant DNA is often used to create the mutations, but this DNA degrades within the initial plant cell and is not present in regenerated plants and subsequent crops. This is being used by Cibus in a process they call RTDS (Rapid Trait Development System), and crops are already being field-tested that were produced with this method.⁴² A case study with details of how this system works, including a few possible end results, such as potatoes with virus resistance and corn with drought tolerance, would be useful in determining how the organic community feels about targeted mutagenesis, electroporation of DNA into microspores, and other new methods of plant breeding.

⁴³ Excluded Methods definition, 7 CFR §205.2 Terms Defined.

⁴⁴ 7 U.S.C. § 6517(c)(1)(A)(i)-(iii)

the environment.”⁴⁵ The Technical Evaluation Report (TER) could not be any clearer—both sugar beet production and beet sugar production have adverse effects on the environment.

Like most conventionally farmed crops, conventional sugar beets rely heavily on monoculture, have a limited rotation, and use fertilizers and pesticides that may be harmful to the environment and that reduce ecological biodiversity. The U.S. Environmental Protection Agency has created thresholds for 57 different pesticides found in sugar beet pulp or roots.⁴⁶ In fact, “pesticide pollution from sugar beets is a global concern.”⁴⁷

In Sweden, where the petitioner obtains and processes its sugar beets, the sugar beet seeds are commonly treated with imidacloprid, a controversial neonicotinoid pesticide thought to be dangerous to pollinators. Neonicotinoids are systemic, meaning that they are taken up by the plant through the plant’s vascular system and are expressed throughout the plant’s tissues, including flowers, pollen, and nectar.⁴⁸ Neonicotinoids work by destroying the central nervous systems of insects, including bees and beneficial pollinators.⁴⁹ Because neonicotinoids are persistent, bees and beneficial pollinators are chronically exposed to residue of such pesticides.⁵⁰ Thus, the use of imidacloprid and other herbicides “reduce[s] biodiversity in and around the farms where sugar beets [are] cultivated.”⁵¹

It doesn’t stop there. Sugar beet production relies on applications of the toxic fumigant methyl bromide.⁵² Methyl Bromide is injected directly into soil before sugar beets are planted and covered with a tarp, sterilizing the soil, and killing a wide spectrum of pests, soil-borne fungi, nematodes, weeds, insects, mites and rodents.⁵³ It negatively affects both target and non-target pests. Methyl bromide slowly seeps into the atmosphere once it is injected into soils and then more rapidly once the tarp is removed. Deleterious human health effects from exposure to methyl bromide gas include central nervous system failure; respiratory system failure; and severe damage to lungs, eyes, and skin.⁵⁴

Methyl bromide is also regulated as a notorious ozone depleting chemical. Its use in industrialized nations was outlawed in 2005 in accordance with the Montreal Protocol (Montreal Protocol on

⁴⁵ 7 C.F.R. § 205.600(b)(2)

⁴⁶ TER at 6.

⁴⁷ TER at 9.

⁴⁸ See Joe Cummins, *Requiem for the Honeybee*, 34 Inst. for Sci. in Soc’y 37 (2007).

⁴⁹ Eric Hoffmann & Steven Castle, *Imidacloprid in Melon Guttation Fluid: A Potential Mode of Exposure for Pest and Beneficial Organisms*, 105 J. ECON. ENTOMOLOGY 67 (2012).

⁵⁰ Henk Tennekes, *The Systemic Insecticides: A Disaster in the Making* (Weevers Walburg Communicatie, Zutphen, The Netherlands) (2010), available at www.disasterinthemaking.com.

⁵¹ TER at 8.

⁵² TER at 9.

⁵³ Pesticide Action Network-UK, *Europe Turns the Tide on Methyl Bromide*, 79 Pesticide News 11, 11 (2008) available at www.pan-uk.org/pestnews/Issue/pn79/pn79pp11-13.pdf.

⁵⁴ Pesticide Action Network-UK, *Europe Turns the Tide on Methyl Bromide*, 79 Pesticide News 11, 11 (2008) available at www.pan-uk.org/pestnews/Issue/pn79/pn79pp11-13.pdf.

Substances that Deplete the Ozone Layer (Montreal Protocol)).⁵⁵ Now, nearly eight years later, the U.S. continues to extend its use by applying for “critical use exemptions” on behalf of growers who have yet to find alternatives and phase it out. This is certainly not the type of production system that organic should support under any circumstances.

Beet sugar production degrades the environment

Beet sugar extraction is equally destructive. It is among the vegetable processing operations cited as responsible for high levels of pollution, and long has been noted for voluminous wastewater with a high biological oxygen demand (BOD).⁵⁶ Air pollution and emissions are other concerns for beet sugar extraction.⁵⁷ Sugar beet processing facilities contain high levels of formaldehyde,⁵⁸ as well as a number of other synthetic substances that are not included on the National List (including α -alkyl- omega - hydroxypoly-(oxyethylene), Linear undecylbenzenesulfonic acid, dialkanolamide, monoethanolamine, triethanolamine, ethylene dichloride, ethylene glycol monobutyl ether and tetrasodium ethylenediaminetetraacetate).⁵⁹ Finally, the sugar beet fiber itself may also be chemically treated with a number of different substances in order to remove undesirable color, odor, and flavor.⁶⁰

Transgenic contamination is bound to happen

Genetic engineering is prohibited in organic production. In order to meet the requirements of 7 C.F.R. § 205.105, non-organic sugar beets would have to come from identity preserved non-engineered sources. This prospect seems unlikely. In the United States, 95 percent of all sugar beets grown commercially are genetically engineered to be resistant to Monsanto’s herbicide Roundup.⁶¹ It is unclear how the NOP would enforce a requirement that sugar beet fiber contain no genetically engineered material considering the prevalence of engineered sugar beets.

Even if sugar producers source non-genetically engineered sugar beets, transgenic contamination is so prevalent that it is likely that some genetically engineered sugar beet fiber would make its way into organic consumers’ shopping bags. Genetically engineered sugar beets can cross-pollinate with conventional sugar beets (as well as other *Beta* crops such as organic and conventional chard and table

⁵⁵ Methyl Bromide Questions and Answers, Environmental Protection Agency, <http://www.epa.gov/ozone/mbr/qa.html> (last updated Jan. 8, 2011). In 1987, twenty-seven countries, including the United States, signed the Montreal Protocol on Substances that Deplete the Ozone Layer. Both the Convention and the Montreal Protocol are dedicated to protecting the earth’s ozone layer by reducing or phasing out the use of ozone depleting substances such as Methyl Bromide. The United States has not completely phased out the use of Methyl Bromide—many crops are granted critical use exemptions to the treaty.

⁵⁶ TER at 8.

⁵⁷ TER at 8.

⁵⁸ TER at 8.

⁵⁹ 7 CFR 205.605(b)

⁶⁰ TER at 4.

⁶¹ Glyphosate-based herbicides, such as Monsanto’s Roundup brand, kill plants by inhibiting an enzyme that is necessary for the conversion of sugars into amino acids. *Monsanto v. David*, 516 F.3d 1009, 1011 (Fed. Cir. 2008). Glyphosate-based herbicides are non-selective and therefore kill virtually all plants, weeds, and crops. *Monsanto v. David*, 516 F.3d 1009, 1011 (Fed. Cir. 2008). Monsanto created Roundup Ready crops so that when its glyphosate-based Roundup herbicide is applied to crops, it will kill all the weeds while the genetically engineered crop survives. *See generally id.* at 1011-1012. The increasing reliance of glyphosate-based herbicides on Roundup Ready crops in recent years has led to an epidemic of glyphosate-resistant weeds, commonly known as “superweeds,” now found on millions of acres of farmland.

beets). The sugar beet industry's own evidence demonstrates that transgenic contamination is likely to occur, leaving growers, sellers, and consumers of other, non-GE beets at significant risk of contamination. The NOSB must protect organic consumers from sugar beet fiber contaminated with genetically engineered genes.

Sugar beet fiber is not essential—alternatives exist

Sugar beet fiber is not “essential for the handling of organically produced agricultural products.”⁶² While it is used to increase the soluble fiber in foods, it is not essential to the production of any food.

The Technical Evaluation Report lists several alternatives to sugar beet fiber. First, there are other sources of organic vegetable fiber. In many situations other fibers—oat bran, rice bran, barley fiber, wheat bran, citrus pulp, and psyllium—could be used as substitutes for the sugar beet fiber needed. There are also several “functional and commercially available fiber sources that already appear on 7 CFR 205.605, including alginates, gellan gum, and low-methoxy pectin.”⁶³ “Fructooligosaccharides (FOS), gum Arabic, guar gum, oligo-fructose enriched inulin and high methoxy pectin currently appear on 7 CFR 205.606.”⁶⁴

The basic tenets of organic production require organic production systems to integrate “cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity.”⁶⁵ Non-organic sugar beet production systems promote just the opposite, and cannot be part of an organic farming and handling system. We urge you to reject the petition to allow conventionally grown sugar beet fiber because its system of production goes against the principles of organic and it is not an essential food ingredient.

Other Ingredients

CFS believes that the Handling Subcommittee proposal on other ingredients does not comply with the criteria laid out in OFPA. The 'baseline criteria' proposed in the recommendation are not as strict as the requirements of OFPA. "Other ingredients" should be reviewed in the same manner that all ingredients are for organic production, based on the review criteria for human health impacts, environmental harm, essentiality, and compatibility with organic. There is no special provision under OFPA to allow for a secondary, less stringent review process for any ingredients entering products labeled organic. Contents of organic food must either be organic or included on the National List for that purpose.

⁶² 7 C.F.R. § 205.600(b)(6).

⁶³ TER at 10.

⁶⁴ TER at 10.

⁶⁵ 7 C.F.R. § 205.2.