Organic Food Safety – Regulatory Requirements
James A. Riddle, University of Minnesota
Revised March 11, 2009

Introduction

Organic foods must meet the same State and Federal food safety requirements as non-organic foods. In addition, the National Organic Program Final Rule, which took effect October 21, 2002, mandates that organic producers and handlers meet additional requirements, which have food safety implications. These requirements can be grouped into the following categories; records and traceability; crop management; livestock management; product contamination; and residue tolerances.

Every certified organic operation must maintain records and make its records available for inspection by government and certifying agents. The records must verify compliance with the organic regulation, and provide traceability. In order to be certified organic, land must have had no prohibited substances applied to it for a period of 3 years immediately preceding harvest of the organic crop. Prohibited substances include synthetic fertilizers, pesticides, and genetically engineered organisms (excluded methods). Certified operators must prevent prohibited substances from having contact with organic production and handling operations and products. The restrictions on the application of raw animal manure for organic producers go well beyond those imposed on non-organic producers. Organic livestock producers must not feed mammalian or poultry slaughter by-products to mammals or poultry. The feeding of manure is also prohibited. Organic feed mills also must prevent the contamination of organic feed with antibiotics, hormones, slaughter by-products, and insecticides, which may be added to non-organic rations. They must also ensure that rodenticides and insecticides used in the facility do not contaminate organic feed. Organic livestock must be slaughtered in certified organic slaughter facilities.

There are a number of measures that must be implemented by organic processors and handlers, which exceed the requirements imposed on handlers of non-organic products. Organic handlers must use management practices to prevent pests, including but not limited to removal of pest habitat, food sources, and breeding areas; prevention of access to handling facilities; and management of environmental factors, such as temperature, light, humidity, atmosphere, and air circulation, to prevent pest reproduction. An organic handler who applies a nonsynthetic or synthetic substance to prevent or control pests must prevent contact of the organically produced products or ingredients with the substance used. Organic handlers must implement measures to prevent the commingling of organic and nonorganic products and protect organic products from contact with prohibited substances. The following are prohibited for use in organic handling: packaging materials, storage containers, or bins that contain synthetic fungicides, preservatives, or fumigants; and the use or reuse of any bag or container that has been in contact with any prohibited substance.

If residue tests detect prohibited substances at levels that are greater than 5 percent of the Environmental Protection Agency's tolerance for the specific residue detected the product must not be sold, labeled, or represented as organically produced.

Records and traceability

Traceability is a fundamental requirement for organic certification. All organic operations are required to maintain records of their production and handling activities.

Such records must:
(1) Be adapted to the particular business that the operation is conducting;
(2) Fully disclose all activities and transactions of the operation in sufficient detail as to be readily understood and audited;
(3) Be maintained for not less than 5 years beyond their creation; and
(4) Be sufficient to demonstrate compliance with OFPA and the regulations.

In addition, the NOP regulation, in section 205.236.c, requires that all organic livestock operations maintain records "sufficient to preserve the identity of all organically managed animals and edible and non-edible animal products produced on the operation."

Every certified organic operation must make its records available for inspection and copying during normal business hours by authorized representatives of the USDA, the applicable State official, and the certifying agent.

This means that records kept by organic producers and handlers must verify compliance with the organic regulation, and provide traceability. For instance, an organic livestock producer must track all animals, including the source(s) of the animals; the sources and quantities of feed; all medications; and all products produced and sold. These requirements go well beyond the requirements for non-organic producers.

Crop Management

In order to be certified organic, land must have had no prohibited substances applied to it for a period of 3 years immediately preceding harvest of the organic crop. Prohibited substances include synthetic fertilizers, pesticides, and genetically engineered organisms (excluded methods).

The land must have distinct, defined boundaries and buffer zones such as runoff diversions to prevent the unintended application of a prohibited substance to the crop, or contact with a prohibited substance applied to adjoining land that is not under organic management. Certified operators must prevent prohibited substances from having contact with organic production and handling operations and products.

Organic producers must manage plant and animal materials to maintain or improve soil organic matter content in a manner that does not contribute to contamination of crops, soil, or water by plant nutrients, pathogenic organisms, heavy metals, or residues of prohibited substances.

Raw animal manure must be composted unless it is:

(i) Applied to land used for a crop not intended for human consumption;
(ii) Incorporated into the soil not less than 120 days prior to the harvest of a product

whose edible portion has direct contact with the soil surface or soil particles; or
(iii) Incorporated into the soil not less than 90 days prior to the harvest of a product whose edible portion does not have direct contact with the soil surface or soil particles.

The restrictions on the application of raw animal manure for organic producers go well beyond those imposed on non-organic producers. While all producers are required to follow certain nutrient management requirements, there are no restrictions on when and how raw manure is applied to non-organic cropland. Organic producers must not use sewage sludge or arsenate compounds. Recent news reports indicate that arsenic compounds, commonly used in non-organic poultry feed as growth promoters and parasiticides, are linked to high incidence of cancer and other illnesses in areas where poultry litter containing arsenic is used as fertilizer.

Livestock Management

Organic livestock producers must not feed mammalian or poultry slaughter by-products to mammals or poultry. The feeding of manure is also prohibited. While the FDA banned the feeding of cattle brain and spinal tissue to cattle in 1997, and has restricted the feeding of blood, blood products, human food waste, and poultry litter, but they still allow the following materials to be fed to non-organic cattle:

- Gelatin (rendered from the hooves of cattle and other species);
- Fats, oils, grease, and tallow (from cattle and other species);
- Poultry and poultry by-products;
- Rendered pork protein; and
- Rendered horse protein.

None of the items listed above may be fed to organic cattle or other organic livestock.

Non-organic milk replacers commonly contain spray dried blood plasma and blood serum from cattle and hogs. Young organic animal are typically fed whole organic milk. Non-organic milk replacers are not allowed.

In order to produce organic livestock feed, feed mills must be inspected and certified. If they produce both organic and non-organic feed, they must implement procedures, documented with written records, to prevent the commingling of organic and non-organic feed. This includes steps to clean storage bins and mixing and bagging equipment prior to producing batches of organic feed.

Organic feed mills also must prevent the contamination of organic feed with antibiotics, hormones, slaughter by-products, and insecticides, which may be added to non-organic rations. They must also ensure that rodenticides and insecticides used in the facility do not contaminate organic feed.

Organic livestock must be slaughtered in certified organic slaughter facilities. As such, the facilities must slaughter organic animals when all equipment is clean and empty. There must be no chance of commingling organic with non-organic meat, or contaminating organic meat with prohibited materials. Records must be maintained of all

organic slaughter activities and steps taken to protect organic integrity.

Product Contamination

There are a number of measures, which must be implemented by organic processors and handlers, which exceed the requirements imposed on handlers of non-organic products. For instance, organic handlers must use management practices to prevent pests, including but not limited to removal of pest habitat, food sources, and breeding areas; prevention of access to handling facilities; and management of environmental factors, such as temperature, light, humidity, atmosphere, and air circulation, to prevent pest reproduction.

On organic handler who applies a non-synthetic or synthetic substance to prevent or control pests must prevent contact of the organically produced products or ingredients with the substance used. The operator must also update the operation's organic handling plan to reflect the use of such substances and methods of application, and include a list of all measures taken to prevent contact of the organically produced products or ingredients with the substance used.

Organic handlers must implement measures to prevent the commingling of organic and nonorganic products and protect organic products from contact with prohibited substances.

The following are prohibited for use in organic handling: packaging materials, storage containers, or bins that contain synthetic fungicides, preservatives, or fumigants; and the use or reuse of any bag or container that has been in contact with any substance that might compromise the integrity of an organically produced product or ingredient, unless the container has been thoroughly cleaned and poses no risk of contamination.

Residue Tolerances

Federal or State officials or accredited certifying agents may require pre-harvest or post-harvest testing of any agricultural input used or agricultural product to be sold, labeled, or represented "organic" when there is reason to believe that the agricultural input or product has come into contact with a prohibited substance or has been produced using excluded methods.

When residue tests detect prohibited substances at levels that are greater than 5 percent of the Environmental Protection Agency's tolerance for the specific residue detected or unavoidable residual environmental contamination, the agricultural product must not be sold, labeled, or represented as organically produced.

Conclusion

Though the NOP regulation is a process- rather than product-based standard, there are many provisions that require organic crop and livestock producers and handling operations to reduce food safety risks beyond those required of non-organic producers and handlers.