Organic Policy Statement
Greenhouse Production Systems

GREENHOUSE PRODUCTION SYSTEMS IN ORGANIC PRODUCTION

Purpose

The Colorado Department of Agriculture (CDA) has developed this policy statement to give producers guidance on how organic standards apply to greenhouse systems commonly used in greenhouse production. The following statement will address some concerns regarding the production of organic crops in greenhouse production systems.

§205.2 Terms Defined

Greenhouse- Permanent enclosed structure that allows for an actively controlled environment used to grow organic crops, annual seedlings or planting stock used in organic production.

Hydroponics- The production of normally terrestrial, vascular plants in nutrient rich solutions or in an inert, porous, solid matrix bathed in nutrient rich solutions.

Aeroponics- A variation of hydroponics in which plant roots are suspended in air and misted with nutrient solution.

Containers- Any vessel and associated equipment used to house growing media and the complete root structure of terrestrial plants and to prevent the roots from contacting the soil or surface beneath the vessel, such as, but not limited to, pots, troughs, plastic bags, floor mats, etc.

Growing Media- Material which contains sufficient organic matter capable of supporting the plant root system and a natural and diverse soil ecology.

Organic Matter- The remains, residues, or waste products of any organism.

Discussion

The organic farming method derives its' name from maintaining or improving the organic matter of farm soil. Improving the organic matter improves soil ecology and the diversity of micro-organisms in the soil. These micro-organisms interact in a symbiotic manner with plant roots strengthening the plants through better water and mineral uptake, thus making these plants more resistant to pest, disease, and drought. In practice, the organic farmer is not just a tiller of the soil, but a steward of the soil ecology on the farm.

Hydroponics

Since the foundations of organic farming is based on sound management of soil ecology, it is clear that systems of crop production that eliminate soil from the system, such as hydroponics or aeroponics, cannot be considered as examples of acceptable organic farming practices. Thus, the CDA will not certify hydroponic operations until rule changes or clarifications have been made by the National Organic Program.

Growing Media & Container Production

Since all typical soil dwelling organisms can thrive in properly designed compost based

growing media, producing the beneficial symbiotic relationships found in soil, such growing media should be considered soil. Such growing media can be used in container based production systems.

Materials/Inputs (NOS §205.601)

All materials and inputs used in organic production must be from non-synthetic sources or be listed on the National List (§205.601). All growing media needs to be listed either on WSDA's Brand Name Materials List or OMRI's Product List. Any products not on these lists will need to be independently reviewed by the CDA and approved prior to use. Rooting hormones may be synthetic and could be prohibited in organic production unless cuttings are managed for a one year period prior to being sold as organic.

Land Requirements (NOS §205.202)

All production in which crops are grown in the ground must meet the 36 month land requirement. Container based production systems do not have to meet the 36 month requirement but the growing media must be approved before use. Container based greenhouse production in a greenhouse that was previously used in conventional production must document cleaning of the greenhouse with approved cleaners to show that it is free of any residual of prohibited materials that might contaminate organic crops.

Seedlings & Perennial Stock (NOS §205.204)

Annual seedlings must be produced from certified organic seed unless organic seed is not commercially available. If organic seed is not available, a seed non-availability form must be submitted with OSP. Perennial stock must be produced from organic planting stock or organic seed. If organic planting stock or organic seed is not commercially available then nonorganic seeds/planting stock may be used and the non-availability form submitted with OSP. Perennial planting stock that is not produced organically, must be under organic management for one year before sold as organic.

Manure (NOS §205.203)

Non-composted manure must be applied within 90 days of harvest for crops where the edible portion does not contact the ground or 120 days for crops where the edible portion does contact the ground.

Treated Wood (NOS §205.206(f))

Greenhouses may be constructed with treated wood provided that the treated wood does not have contact with any portion of an organic crop, roots or soil that is part of crop production.

Crop Rotation (NOS §205.205)

Crop rotation does not apply to container based production systems in greenhouses. Producers of crops grown in the ground in greenhouse system must implement a crop rotation as noted in crop rotation standard and meet the CDA's policy regarding crop rotation.

Additional Resources

National Organic Program:
http://www.ams.usda.gov/AMSv1.0/nop

Organic Materials Review Institute (OMRI):
https://www.omri.org/

Association of Official Seed Certifying Agencies Organic Seed Database:
http://www.organicseedfinder.org/

National Sustainable Agriculture Information Service:
https://attra.ncat.org/attra-pub/summaries/summary.php?pub=45