



Transitioning to Organic Vegetable Production



New organic vegetable farmers come from a variety of backgrounds. Home gardeners may want to expand into larger commercial production. People who are attracted to farming and do not have a lot of experience in gardening or farming may want to start out in organic vegetable production. Also, experienced non-organic vegetable producers may want to transition some, or all, of their farm to an organic system.

Organic vegetables are grown on land that has not had prohibited substances used on it for a minimum of 3 years prior to the harvest of the crop. Prohibited substances are typically synthetic substances that are not allowed under the National Organic Program. They include chemical fertilizers and synthetic herbicides and insecticides. It is important to document the last date of prohibited substance application in order to prove to the certification agency when 36 months free of prohibited applications has passed. Subsequent harvests can be sold as organic. This is especially important for vegetable growers who want to have early season crops such as lettuce or spinach, which might need to be harvested early in a given year.

All synthetic materials are prohibited for use unless they have been specifically approved by the USDA National Organic Program and are written on the National List of substances for organic agriculture. All natural products are allowed, unless they are

specifically listed as prohibited on this same list. This list can be found on the USDA National Organic Program website, <http://www.ams.usda.gov/nop> or from any organic certification agency. Prohibited substances also include items such as seeds treated with captan, thiram or with genetically modified rhizobial bacteria. During the years that a farmer is transitioning to organic all organic regulations must be followed. Documentation that no prohibited materials were used and evidence of approved practices (such as organic seed packages and labels from approved products) are important.

Organic farming is much more than what you cannot use. It is instead a proactive management system based on ecologically sound practices in concert with the use of approved inputs. Soil fertility is approached with the aim of not only feeding the current year's crop, but also to continuously build organic matter and improve soil tilth. The use of green manure plowdowns and crop rotations, animal manures, plant materials and compost are techniques used to enhance soil fertility. Balancing soil nutrients using natural, mined rocks (lime, rock phosphate, etc.) is also permitted. Organic vegetable growers need to document where crops are planted from year to year to ensure their crop rotation avoids the planting of the same pest and disease hosts in subsequent years. Good soil stewardship, such as the incorporation of green manures, pays off in healthy crops and lessened insect pressures. Resources on organic production requirements and practices are available from the National Organic Program website (www.ams.usda.gov/nop) and from ATTRA (www.attra.ncat.org or 800-346-9140).

Organic seeds must be used when you are growing an organic crop (they are not mandated during the transition years). This requirement includes any green manure seeds such as rye that may not be harvested, but are still grown on organic land. The only exception is when you cannot find the specific variety or type of seed you wish to grow and can prove with documentation (i.e. phone logs or seed catalogs) that a good faith effort was made to find the organic seed. High price is not an acceptable reason to not buy organic seed. Genetically modified seeds and seeds treated with non-approved substances are forbidden during both the transition and certified organic years.

However, non-treated, nongenetically modified, conventional seed is allowed when equivalent organically produced varieties are not available

Organic transplants must be used when selling an organic crop. Non-organic tubers or rhizomes can be used for an organic crop, if they are not available as organic. Perennial crops must have been either organic or under organic management on your land for 1 year before any organic plant sale can be made.

Use of manures is very strictly regulated under U.S. organic law. If the edible portion of a crop is in contact with soil particles, then raw manure cannot be applied any sooner to the soil than 120 days before the harvest of the crops. This includes all root crops, such as potatoes and carrots, and most vegetables where you eat the skin, such as peppers, tomatoes or squash. If the edible portion of the crop is not in contact with soil particles, then the organic crop cannot be harvested before 90 days after the application of raw manure.

All animal waste based inputs are seen as raw manure unless there is documentation they conform to the compost or processed manure definitions. Compost has a 25 or 40 to 1 carbon to nitrogen ratio which maintained a temperature of 130 °F for 15 days and was turned 5 times. Piled aged manure, even if it appears composted, is not NOP compost unless it was made according to the rules. Processed manure is heated to 165 degrees or to 150 degrees for one hour or is documented to contain less than 1000 most probable number (MPN) fecal coliform and 3 MPN Salmonella per 4 grams. When buying compost or processed manures, obtain this documentation prior to use. NOP-compliant compost or approved processed manures can be applied up until the day of harvest.

All components of your potting mix must be allowed for organic production. Clear documentation that the product has no prohibited synthetic fertilizers, wetting agents or fungicidal treatments is needed for each item in the potting mix. There are suppliers of ingredients for potting mixes, as well as complete potting mixes that are approved for organic production. Check the OMRI website www.omri.org, or with a certification agent for suppliers.

Weed control can be a challenge, especially for fine-seeded and slow-germinating vegetable crops. There are many mechanical tools for the vegetable grower, from tractor-driven equipment to rototillers and hand

tools. Plan your weed control realistically, with your acreage, rows and planting beds fitting your equipment and your own physical capabilities. Mulching is another weed control option, with non-organic mulch allowed as long as it has not had a recent application of herbicides. Plastic mulch of all types are allowed, but must be removed at the end of the harvest season. Use of cover crops and inter-seeding can also help the vegetable grower build organic matter and smother unwanted weeds.

Pest Control. The organic regulation mandates that a specific pest control hierarchy be used. You must start with cultural controls (i.e. seed varieties, planting timing), mechanical controls (i.e. row covers, flaming or handpicking) or biological controls (i.e. beneficial insects). If these methods are documented as ineffective, then natural inputs can be used. If natural inputs are not effective, then approved synthetics can be used. For pest control products, both the active ingredients and the inert ingredients must be products allowed for organic production. The acceptability of brand name products should be verified with your certification agent. You may also find product acceptability through the Organic Materials Review Institute, OMRI, www.omri.org.

Documentation is an important aspect of organic farming. During the transition years a record keeping system should be developed to suit your operation. Small pocket calendars or spiral notebooks can be used to note field activities, inputs, storage and sales information, which will be needed once the farm is certified for organic production. These records are a valuable historical reference, detailing your farm's unique growing conditions, and will aid you in making yearly management decisions.

If you plan to sell more than \$5000 per year of organically labeled products, your farm must be certified organic. You can choose to contact a certification agency at the beginning of the three-year transition, or you can wait until early in the third year to do so. If you sell less than \$5000 in gross annual sales, you still must meet all of the USDA regulations for organic production and must document your compliance, but you are not mandated to be certified and inspected.

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