



Organic Land Care and the Development of National Standards

By Shawnee Hoover

Throughout the U.S. and Canada, there is a growing movement toward fostering naturally balanced and ecologically sustainable lawns and landscapes. Yet, with all the “green” advertising by the chemical lawn industry, how do people know what they are really getting when they hire a professional lawn service? Unlike organic food, there are no federally monitored standards that define the term *organic* in the lawn and land care industry. Beginning to fill this gap is an organic land care program, complete with strong standards that can be shared nationally, developed by the Northeast Organic Farming Association (NOFA). This article provides a peek into the acceptable and prohibited materials under the model NOFA standards for two of the most commonly discussed lawn issues – Fertilizers and Weeds (or undesired plants).

A person might ask for a natural program but what does *natural* or *organic* truly mean? What the landscaper (or lawn service provider) considers as natural may differ greatly from the client’s idea of natural. If a company does not advertise a “natural” or “organic” program then chances are high that the service provider is steeped in the conventional pesticide paradigm and may not think twice about applying toxic pesticides. They may not realize the extent to which synthetic lawn chemicals and pesticides damage soil microorganisms, contaminate local water sources, poison wildlife and its habitat, and expose people, pets and workers to dangerous toxins. They may even incorrectly and illegally tell the client that the toxic pesticides they use are safe. If a provider does advertise a natural or organic program, what materials and methods is it based on? Do those methods avoid or eliminate the use of toxic pesticides? Standards on organic land care would be useful in answering these types of questions.

There are plenty of organic lawn and land care providers out there, and their numbers are increasing daily. This is a good

thing. For the most part, if a landscaper advertises an organic program it is likely that he or she is interested in providing organic. Training programs are continuing to arise and new certifications will be developed, and with them comes a need for a systems-approach model that sets a strong standard for what constitutes *real* organic land and turf care.

A number of organizations have sought to fill the gap in national organic land care standards by forming associations or by simply abiding by their own belief that pesticides are both harmful and unnecessary. Associations geared toward landscapers like the Organic Landscape Alliance, Ecological Landscaping Association, Biological Urban Gardening Services and a small handful of others, have filled an important niche by teaching techniques that will produce beautiful pesticide-free lawns and landscapes. Members of the National Coalition for Pesticide-Free Lawns have further helped to educate on non-toxic methods and materials.

A model in the works

For guidelines on sustainable and ecological turf and land care, we turn to horticultural experts on organic production practices in the NOFA. The Association has been involved in certifying organic methods on farms since long before the passage of the *Organic Foods Production Act* in 1990. The step from organic farming to landscapes is not that far. In recent years, the Connecticut and Massachusetts chapters of NOFA developed a landscaper-training accreditation program and the only known comprehensive set of organic land care standards in the U.S. The standards are strong and address some of the most important organic issues, such as the use of sewage sludge in fertilizers, genetically modified seeds and plants, mandatory soil testing, and the use of synthetic chemicals. Moreover, they

lay out lists of preferable, allowable and prohibited practices and materials that lay the foundation of a model the rest of the country can adopt, from municipalities that go pesticide-free to landscapers that advertise organic. The NOFA standards are already being used as a baseline by organizations like Grassroots Environmental Education in New York who are developing their own organic landscaper-training programs.

NOFA standards for organic land care

The NOFA Organic Land Care program is more in-depth than described here. The standards, like those used in USDA organic food production, represent a systems-approach to ecological turf and land care. A systems-approach means that the health of the whole system is represented by the health and balance of each of its individual parts. For turf, this includes developing healthy soil, maintaining a proper pH balance, selection of appropriate grasses and other plants, aeration of compacted soil, timely thatch removal, and proper mowing and watering methods.

The NOFA standards will continue to develop. As they are adopted nationwide, suggested land care techniques will vary by region, but the list of preferred and prohibited materials should not vary.

NOFA states that the intent of the standards is to provide the fundamentals of organic land care and currently accepted practices and materials. The intent is not to provide all the possible techniques available for successful organic land care, which can vary by region, climate and landscape and which is better covered in the accreditation courses.

Most importantly, all service providers who get accredited through the NOFA program sign a pledge agreeing to provide organic services in accordance with the standards to clients who request organic land care. Such a pledge is of utmost importance in lieu of a rigorous monitoring system that ensures compliance. Any provider who breaks his/her pledge should be reported to NOFA. The pledge is an especially crucial tool for clients who hire providers that offer both organic and conventional services.

Below are excerpts from the NOFA book, *Standards for Organic Land Care: Practices for Design and Maintenance of Ecological Landscapes*. The excerpts address two of the most commonly discussed areas of land care: Fertilizers and Weeds (undesired plants).

Fertilizers and soil amendments

Overview: Fertilizers and soil amendments are tools that enable us to modify existing soil conditions. The “feed the soil” principle is used to benefit plant health, not artificially stimulate plant growth. Unnecessary applications of any fertilizer or soil amendment can cause mineral nutrients to build up to excessive levels in the soil. At these levels, nutrients may run off into local water resources. Nitrogen and phosphorus are the nutrients most involved in eutrophication of water bodies [stimulation of aquatic plant growth that depletes oxygen], and

are thus of major concern as pollutants. Nitrogen can also be a health hazard when it pollutes drinking water supplies.

Many potential nutrients in soils are not readily available to plants. Proper management of soils can free these nutrients for uptake. The rate of release of mineral elements depends on environmental factors specific to each site. Therefore, the use of any amendment must reflect soil test results and good stewardship of the environment. It is preferred to use renewable materials that are sustainably harvested. Many nutrient amendments are mined or harvested from natural sources which are not renewable. We do not want to waste these resources for our short-term benefit.

Preferred (*Ecologically appropriate practices and materials.*)

- Compost yard waste on-site, and use the compost in beds or gardens. Locate compost piles where they will not be susceptible to runoff.
- Monitor phosphorus levels with soil tests so that repeated compost application does not result in build up of excess phosphorus over time.
- Use compost that is well-decomposed.
- Compost should be applied to soil surface as a 1-2 inch layer (approximately 3-6 cubic yards per 1,000 sq. ft.), then incorporated into the soil to a depth of 4-6 inches.
- Make sure compost is thoroughly mixed with soil. A one-inch layer is better suited for marginally good soils, and a two-inch layer is better suited for very sandy or low organic matter soils.
- Compost from local sources using local materials to reduce transport of bulk materials.

Allowed (*Practices and materials that are acceptable when needed, but should be reduced in favor of the preferred alternatives where possible.*)

- Top Dressing/Surface Application
 - On turf: 1/4 inch or less, no more than two times per year for no more than three years unless a soil test shows organic matter less than 4% and phosphorus below “medium.”
 - Around perennials: 2 inches or less.
 - Around ornamentals and shade trees: 3 inches or less.
 - In sandy or low organic matter soils: 6 inches or less for one-time planting or new bed.
- Any compost that appears adequately decomposed, does not contain sewage sludge, industrial toxic wastes, large stones, trash or other prohibited materials, and is made from at least two different raw materials.
- Sheet composting (turning under organic material to compost in place) in establishing gardens and beds.

Prohibited (*Practices and materials not acceptable in organic land care.*)

- Sewage sludge (biosolids), municipal solid waste, paper mill by-products as raw materials of compost. (Current EPA standards are not adequate to protect the public from contamination of biosolids from heavy metals, industrial toxins, pharmaceuticals, and radioactive materials.)
- Compost with undesirable objects or offensive odors.
- Compost with large amounts of weed seed.
- Planting human food crops in sheet composting systems that use animal manure within 120 days before harvest.
- Using more than the amounts specified under Allowed.
- Overloading compost, which results in exceeding the limits for nitrogen and/or phosphorus.
- Compost that has gone anaerobic.

Weeds (undesired plants)

Overview: A weed has been defined as a plant out of place, whose attributes perhaps have not yet been discovered. It is important to distinguish between “weeds” in the yard and invasive plants causing havoc in natural ecosystems. Preventive measures can eliminate many weed problems before the weeds become established. The choice of methods for weed control should be made carefully to reduce the number of trips over the landscape, save fossil fuels and avoid soil compaction. Overuse of a rototiller can burn up organic matter quickly and reduce the soil to powder. All machinery and equipment should be in good condition to prevent contamination of soil, edible crops or plants. Hand tools should be sharpened and well maintained for efficient action. Careful cleaning of tools and equipment after working in weedy areas is highly recommended.

The key to weed control is timing. Careful observation of weed populations and weed seedling emergence patterns after disturbance will help the landscaper develop an appropriate weed control program. Careful cultivation prevents the formation of large weed populations.

Preferred

- Avoid conditions that favor weeds: compacted soils or overtillage; overwatering and excessive nitrogen.
- Adjust soil biology or chemistry to favor desired plants over weeds.
- Covering the ground with desired plants that out-compete weeds.
- Weeds in beds containing woody and/or perennial plants are hand weeded, spot sprayed with organic herbicides, smothered with mulch, or cultivated by hand.
- Weed-free mulches to suppress weeds.

- Vertical edging or repeated hand edging between lawn and garden bed areas to prevent grass from infiltrating.
- Overseeding cover crops such as annual ryegrass into bare spots on lawns or white clover or buckwheat into vegetable garden row crops.
- Timely mechanical or hand cultivation.
- Shallow cultivation to avoid bringing more weed seeds to the surface.
- Boiling water poured slowly and directly over the weed root.

Allowed

- Plastic mulches that do not contain polyvinyl chloride (PVC), including landscape fabric.
- Paper mulch beneath an organic mulch.
- Flame weeders.
- Hot water weed burners.
- Vinegar or salt if used only on walkways or terraces where weeds emerge between cracks.
- Corn gluten - only one application per year of 20 pounds per 1,000 square feet. (Note that corn gluten may contain genetically modified organisms, and that it contains approximately 10 percent organic nitrogen, which should be considered in planning fertilization for the year.)
- Organically approved herbicides based on ethenoic and acetic acid or potassium salts of fatty acids.

Prohibited

- All synthetic herbicides, arsenates, and caustic acids or salts.
- Synthetic growth regulators.
- Diesel products.
- Petroleum distillates.
- Micronutrients in toxic quantities.
- Synthetic transpiration repressants.

For a copy of the NOFA Standards for Organic Land Care: Practices for Design and Maintenance of Ecological Landscapes or to find an accredited land care provider in one of eight Northeastern states, visit <http://www.organiclandcare.net/> or contact NOFA at (203) 888-5146. Beyond Pesticides also maintains a database of service providers by state who have disclosed the types of methods and materials they use. See www.safetysource.org. For more information on the National Coalition for Pesticide-Free lawns, visit www.pesticidefreelawns.org or contact Beyond Pesticides.