

NORTH COAST YARD & GARDEN

HORTICULTURAL NEWS AND INFORMATION FOR THE OHIO GARDENER

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IN MY GARDEN

Organic gardening is once again increasing in popularity. The fastest growing group seems to be new homeowners who are raising a family and are concerned about exposing their children and pets to chemicals. These people are usually new to gardening, and when they begin to read about organic methods and products they are thrown headlong into some of the most enduring controversies in modern gardening.

Just as there are different “levels” of vegetarianism, there are different approaches to organic gardening. At its most basic level, organic gardening seeks to avoid use of fertilizers and pesticides that were chemically manufactured in factories. Instead, nutrients are obtained from natural sources of plants, animals and minerals, and when necessary, low-impact and naturally-occurring substances are used to control pests and diseases.

The confusion begins with the safety of natural products. Strychnine is a deadly rat poison that is naturally produced by trees. Tobacco dust was used as a natural insecticide for years until it was realized how much nicotine was absorbed by the farmers who used it. The next level of uncertainty is where to draw the line between natural and synthetic. Pyrethrin is a natural insecticide from the painted daisy, related to the chrysanthemum. Most insecticides today contain pyrethroids, or

synthetic versions of pyrethrin. Are they natural or synthetic?



Tiger Eye™ sumac with Diablo™ ninebark and fountain grass

Add to this the debates over using gasoline-powered lawn mowers, leaf blowers and rototillers, plus the controversies about city ordinances and homeowner association regulations that require lawns to be kept mowed low but green and watered, and then add arguments about the sustainability of using natural products like sphagnum peat, and it is no wonder that newcomers to the gardening world are somewhat put off.

I encourage anyone who wants to try organic gardening, or any new gardening technique, to begin without worrying too much about whether it is being done “correctly”. Read a lot, but pay attention to your own results obtained from different methods and products. All the experts in the field had to start the same way – reading, trying, and learning from their own and others’ experiences.

TURF TALK

ORGANIC LAWN CARE

Each year the number of new gardeners who are interested in organic techniques grows. Even people who are not interested in gardening per se are inclined to care for their lawns with a minimum if chemicals.



Organic lawn care is nothing new. It was the only method of lawn care until the proliferation of synthetic fertilizers and weed killers after World War II. Since then, attitudes toward turf maintenance and expectations for the lawn's appearance have changed considerably, requiring a relearning of what was once common knowledge.

SOIL

Organic gardening techniques recognize the soil as the key to healthy and vigorous plants. Unfortunately the soil under the turf is often the poorest soil in the yard. Our Northeast Ohio soil is composed primarily of clay which restricts the ability of water, air, nutrients and grass roots to penetrate the soil. Typical lawn use further compacts the soil, making the situation even worse. Synthetic lawn fertilizers and their associated weed killers and insecticides

destroy much of the soil life which normally acts to loosen and improve the soil.

The first step in organic lawn care is to repair the soil. The simplest way to begin is to have the lawn core aerated heavily in both spring and fall. A machine is used to extract half-inch-thick cores of soil from the lawn and deposit them on the surface. This opens up channels through the thatch layer and into the soil about three or four inches down. The core aerator should be run over the lawn at least two or three times to get a good quantity of channels in each square foot. The cores may be left of the soil surface or raked off.

The next step is to top-dress the lawn with a half-inch layer of compost or composted manure. It will take quite a bit to cover an entire lawn – nearly eight cubic yards, or one double-axle dump truck load for a 5,000 square foot area. Unfortunately, compost is too heavy to put down with a spreader as its weight will pack it down and prevent it from flowing out the base of the spreader. The simplest way to spread it is to cast it around with a shovel and then rake it evenly. The compost or manure will settle into the openings created by the core aerator and the earthworms and other soil life will work the enriched material into the native clay.

The grass in the lawn can use at least twelve inches of topsoil over the clay. The deeper the grass roots can penetrate, the more durable and drought-resistant the lawn will be. Most lawns have only a few inches of top soil, and newly constructed homes often have sod placed directly on the hard clay. It may take three or more years of heavy core aeration and top dressing before a reasonable amount of good top soil is created under an existing lawn, but this effort will be well worth it in the long run.

Once a good layer of top soil six to twelve inches deep is created, microorganisms, earthworms and other invertebrates will keep the soil loose and provide nutrition to the grass through the breakdown of natural materials. Water will be able to soak into the lawn, preventing runoff into waterways and flooding during downpours. The water will also be available to the grass for a much longer period of time, reducing the need for irrigation with city water. Reduced stress on the lawn will result in fewer insect and disease problems as well.

FERTILIZER

Grass plants are heavy feeders, requiring a lot of nitrogen and other nutrients compared to other landscape plants. To maintain a green, healthy-appearing lawn, some fertilizer will have to be applied regularly. There are several options for feeding the lawn organically.

Fish emulsion has a nutrient balance that is most similar to synthetic lawn fertilizers. It is heavy in nitrogen, and much of that nitrogen is available to the turf immediately without having to be broken down first by soil microorganisms. Fish fertilizer is generally available as a liquid only, meaning it has to be sprayed over the lawn, which is a time-consuming process. Fish emulsion also has a disagreeable smell, even if it has been “deodorized” in the quantities that are necessary for lawns.

Several companies have produced granular organic fertilizers that can be applied quickly and easily with a spreader. These formulations include a number of natural sources of nutrients, including by-products of food and clothing industries. Cottonseed meal, feather meal, bone and blood meal, corn gluten and various manures make up the bulk of the nutrients in these products. Select a product that

has the highest percentage of nitrogen you can find.

Milorganite is a high-nitrogen lawn fertilizer that is often considered organic. It is made from city sewer sludge, so some people consider it to be less than desirable for organic lawns because it contains trace amounts of metals. The EPA has deemed Milorganite to be within the acceptable levels of these materials for use on lawns, landscapes and even vegetable gardens, but some organic enthusiasts consider it a poor choice for an organic garden or lawn.

MAINTENANCE

Proper turf maintenance is essential to keep a lawn healthy without chemicals. Mow the lawn frequently so that no more than one third of the grass blade is removed at one time. Raise the mower to at least two inches in the spring time and three inches in the summer. Longer grass blades maintain larger root systems for better heat and drought tolerance. Longer grass shades the soil to preserve water and to prevent weeds. Let the grass clippings lay on the lawn to recycle nutrients back into the soil. Grass clippings do not contribute to thatch and provide up to a quarter of the nitrogen the lawn needs.

Proper watering is just as critical. Do not water the lawn until the turf shows signs of wilting. Wilted grass has a bluish tint to it, and footprints remain visible on the lawn for more than a minute or so. When watering is necessary, water the lawn thoroughly so that the top several inches of soil are moistened. Watering deeply but infrequently will encourage the roots to grow farther down into the soil in search of moisture. Frequent light waterings encourage surface roots that quickly dry out once watering stops.

When summer weather is especially dry, consider letting the lawn go dormant. A watered lawn may stay green, but it will still be stressed by high temperatures, and this will often encourage insect or disease problems.

WEEDS

Unfortunately there is no organic equivalent of the weed and feed, so a totally weed-free organic lawn is difficult if not impossible to achieve. This is the most disappointing aspect of organic lawn care for most homeowners. They have been conditioned to expect lawns to consist exclusively of grass with zero broadleaf plants. There are a number of ways weeds can be reduced to a tolerable minimum.

The most important way to eliminate weeds is to keep the lawn healthy. A thick and vigorous lawn will out-compete most weeds. It is a good idea to sprinkle grass seed over thin areas in your lawn in the spring or fall to prevent weeds from taking advantage of them. Mow at the appropriate height to reduce sunlight available to weed seedlings.

Corn gluten is a natural weed preventer. Many plants produce seeds that naturally inhibit the sprouting of other plants so that the seedlings have little competition. Corn is one such seed, and corn gluten contains these inhibitors. Spread corn gluten on the lawn in spring when forsythia is in bloom to reduce the amount of crabgrass and other weeds that germinate. The corn gluten also contains enough nitrogen to serve as a dose of fertilizer. Don't expect corn gluten to prevent all weeds – studies show it is at best only sixty percent as effective as chemical crabgrass preventers. Keep in mind that corn gluten will also inhibit grass seed from sprouting, so don't use it for

several weeks before you plan to over seed the lawn.

Dandelions, oxalis, creeping Charlie and other weeds can be pulled by hand, burned with a flame weeder or killed with a soap-based or vinegar-based organic weed killer. Organic weed killers will kill the grass as well as the weed, so use them carefully.



Some weeds may be tolerable. In fact, one lawn weed was never considered a weed until chemical herbicides for lawns came on the market. White clover was a critical part of all lawn seed mixes in the first half of the twentieth century, and lawn seed mixes were judged for quality by how large a percentage of clover seeds was included. Clover stays green even when turf grass goes brown and dormant. It also feeds the lawn by its ability to convert nitrogen in the air into a form that feeds plants. When the lawn weed killer 2,4-D was introduced in weed and feed, its only drawback was that it killed clover. Lawn fertilizer companies managed to turn this negative into a positive by instituting an ad campaign that lumped clover in with other lawn weeds until they had successfully changed public opinion about clover in lawns. The elimination of clover had a side benefit: people had to buy even more fertilizer.

LAWN DISORDERS

Once again, the best defense against pests and diseases is to keep the lawn healthy. Most lawn fungal diseases can be corrected by supplying a good dose of fast acting nitrogen (like fish emulsion) so the grass grows fast enough that the diseased parts are mowed off. Insects will rarely bother a healthy lawn.

White grubs, beetle larvae that feed on grass roots, do seek out healthy lawns. There are a few options for organic control of white grubs. Milky spore disease is a naturally occurring bacteria that infects and kills the grubs of Japanese beetles. It can be spread on the lawn twice a year for at least two years until a population of bacteria is permanently established in the soil, infecting Japanese beetle larvae each year for twenty or more years. Unfortunately milky spore does not seem to ever establish in Ohio or Kentucky soils, for reasons that are still unknown to scientists. A better option is to treat the soil with beneficial nematodes that will attack all kinds of lawn damaging grubs, not just those that become Japanese beetles. Nematodes for grub control are available through catalogs or over the internet.

GARDEN CALENDAR

- Our first frost occurs by October 30th 50% of the time.
- Harvest above-ground vegetables before frost. Watch the weather

forecast and expect frost if the predicted low is below 38°F.

- Cut back perennials when the leaves wilt or turn brown.
- Discard diseased plants and leaves, do not compost them.
- Apply lime and other soil amendments to empty beds as needed.
- Fertilize trees and shrubs once their leaves turn color and they have gone dormant. These nutrients will be stored in the roots for next spring.
- Plant new trees and shrubs to take advantage of end-of-season bargains.
- Stake new trees if they will be exposed to winter winds.
- Water new plants if the weather is dry. Keep the soil slightly moist.
- Leave ornamental grasses uncut for added interest in the winter landscape.
- October is the best month to plant spring-blooming bulbs.
- Lift tender bulbs like dahlias and gladiolus after frost. Let the bulbs dry for a couple days, and then remove excess soil, loose roots or stems. Store in peat moss or shredded newspaper, in a dark, cool, dry place with good air circulation.
- Take cuttings of geraniums, coleus, begonias and other frost-tender plants for winter houseplants.
- Stop fertilizing houseplants until spring.
- Begin gradually lowering the cutting height on the lawnmower, eventually reaching 1½ - 2 inches.



ROGER S. BOLGER HAS OVER TEN YEARS OF PROFESSIONAL HORTICULTURAL EXPERIENCE AND HAS GARDENED ALL HIS LIFE IN NORTHEAST OHIO. HE HAS GIVEN DOZENS OF GARDENING TALKS AND SPECIALIZES IN WOODY PLANTS, PERENNIALS, TURF, ENTOMOLOGY, INTEGRATED PEST MANAGEMENT, ORGANIC GARDENING, PONDS AND BACKYARD WILDLIFE.

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