

SUSTAINABLE LIVING GUIDE:

27. THREE GARDEN TIPS

1. AERATE YOUR GARDEN THIS FALL¹

During elementary school, I remember my sense of intrigue when, at a certain time of the year, finger-sized brown cylinders mysteriously appeared all over the surface of the sports field grass. I imagined that they were the droppings of some nocturnal animal. Eventually I learned that they were plugs of dirt, the product of a core aerator, a machine with hollow tines or prongs that removes small cores from the soil.

I have also since learned that aeration is essential to maintaining a healthy lawn and garden. It allows roots and soil microorganisms to access a new supply of oxygen, while at the same time relieving compaction and promoting good humus formation and water absorption. Unlike a lawn, a garden cannot be aerated while the plants are in the soil. Aeration in a garden involves turning the soil, which can be achieved a number of ways.

The Right Soil Conditions for Aeration

It is important that soil conditions be appropriate for aeration, which means moderately moist soil that crumbles in your hand when squeezed. If the soil forms one solid chunk when you squeeze it, it is still too wet and you must wait until it dries further. If it is rock-solid or crumbles to dust, it is too dry. In that case, water it well and then wait until it is moderately moist. Soil temperatures should also be moderate.

Soil conditions are ideal in the fall. You should mix in fertilizers and soil amendments at this time, which will help the soil retain its structure. If your garden is well-maintained, it will not require tilling on a yearly basis, but rather a thorough hoeing to 2-3 inches depth will suffice.

Choose the Right Tools

If you're tilling an area for the first time or after extensive weed growth, you'll need to dig a little deeper. The best manual tool for this job is a spade—square bladed, sharp, and straight. A shovel is best for mixing materials once you've already loosened the soil. Using a spade, divide up your soil into rows and then work along each row digging trenches about a foot wide and the depth of the spade. As you dig dirt out of each new trench, use the dirt to fill the previous trench. Tilling your garden by hand is hard work, but it's good for your soil/soul! If your soil is very poor or has never been worked, digging down two spade-lengths may be necessary. This has a double purpose: it aerates the soil on the upper layer, and it loosens the soil at the lower layer which allows roots to penetrate deeper.

Avoid Common Garden Aeration Mistakes

A common mistake is to turn each spadeful of thatch- or weed-covered dirt completely over. This increases the chances of creating a thatch barrier under the soil which will cut off air and

¹ Jordan Laio©, Networx, August 17, 2010 at 05:41 AM

water. A better method is to lay each spadeful on its side, vertical with the ground. For a larger area, you will want to rent or buy a rototiller. If the soil is extremely compacted, you may need to start shallow and then go over it again two or three times, deeper each time, but this is not going to be necessary in the average garden bed.

I should mention that it is possible to till your soil too much and too often. This may actually increase the likelihood of future soil compaction, interfere with the rate at which organic matter decomposes, and also may encourage weed growth since each time you turn up new soil, you are also exposing new weed seeds. Surface aeration once or twice a year and deeper tilling less regularly should more than suffice.

2. ORGANIC FALL FERTILIZATION²

About this time, your lawn is taking a rest from its semi-annual job of growing fast and looking green. Most types of grass, especially in the temperate zones that make up most of the US go through a period of dormancy in the summer. This would be a good time to start thinking about switching to organic lawn care if you aren't practicing it yet. There are a lot of advantages to growing your lawn without using inorganic chemical fertilizers and weed killers. If you are already an organic lawn-care aficionado, that's great. When the summer is over you've got some work to do.

First of all, there's no time like the present to have your soil tested. There's no substitute to knowing what you are dealing with scientifically. The three major nutrients that fertilizers contain are nitrogen, phosphorus and potassium. Fertilizers are formulated with different amounts of these three essential fertilizing elements, as spelled out on every fertilizer label. You have to pick out a fertilizer that matches the chemical profile of your soil. In fall, it's important to increase the amount of nitrogen to facilitate root growth, which is necessary for successful over-wintering. There are a wide range of natural materials from which organic fertilizers can be derived, such as bone meal, blood meal, fish meal, feather meal, enzyme digested proteins, treated sewage, seaweed, worm castings, guano, and a many others. Organic fertilizers, because they release their nutrients more slowly, promote worms and beneficial bacteria, and add humus to the soil. This eventually helps to break up dense soils such as clay and sandy soil and allow them to retain moisture.

Organic fertilizers are a bit more expensive than inorganic ones, but in the end they will save you money because they are safer and easier for the lawn to absorb properly, you have to use less fertilizer to get the same amount of nutrition to your grass, and using organic fertilizer will decrease and eventually eliminate the need for using herbicides to control weeds. Until your lawn is established and healthy enough to fight off weeds on its own, you may have to use some weed control products. Luckily, there are some organic ones on the market that are safe to use. A good homemade organic spot weeder is a mixture of white vinegar, water, and dishwashing soap in a 4 to 2 to 1 part dilution.

Liquid seaweed is another fertilizer that you ought to consider using. Some experts advocate giving the lawn a seaweed bath every month. Seaweed gives the lawn a shot of trace elements that also promote root growth and disease resistance. Spray liquid seaweed according to directions when the ground is moist. You will need to spread lime to get the pH to the proper range which is somewhere between 6.0 and 7.0. Use about 30 pounds of palletized limestone

² Richard Schabb©, Networx, September 02, 2009

per 1000 SF. If your test shows high magnesium content in the soil, substitute aragonite, which is calcium chloride derived from ground seashells, or calcium limestone flour, which is finely ground mineral calcium chloride. The advantage of aragonite is that it will also help keep squirrels and moles away from your flowerbeds.

Spread compost or composted manure on the lawn at a rate of 100 pounds per 1000 square feet. Late summer or early fall is a good time to overseed. Rough up any bare spots and add topsoil or peat and seed them heavily, then very lightly over seed the entire lawn.

3. REDUCE THE CARBON FOOTPRINT OF YOUR YARD AND GARDEN³

Lawns get a bad rap among environmentalists, who are reluctant to use gas-powered mowers and trimmers on water-intensive grass. But if you're not ready to give up the grass, here are some ways to reduce the use of gasoline and other fossil fuels in maintaining your lawn.

Power Down the Mower and Leaf Blower

Gas mowers are noisy smog machines. US households use more than 600 million gallons of gas to cut grass, according to Yale research. The Union of Concerned Scientists estimates the average gas mower creates as much pollution as eight cars driving 55 miles per hour. Here are some tips for cutting pollution and saving gas:

- Reduce gas usage and pollution by replacing air filters and performing regular maintenance; keeping blades sharp to reduce mowing time; and avoiding spillage while filling the tank.
- Consider replacing a gas mower with an electric model. They use less energy and are non-polluting. The electricity is likely generated in coal-fired power plants, but the carbon usage and pollution is still much lower. They may cost more, but they save much more money in the long run because of lower fuel costs.
- The cleanest option, particularly for small lawns, is a hand-powered reel mower. The only fuel inputs are the food and water you consume, and the simple design is easier to maintain than a gas engine. New reel mowers are lighter and more efficient than clunky old models. They leave clippings on the lawn, where they serve as fertilizer and don't take up landfill space. The American Lawn Mower Company sells a variety of push mowers. One warning: Push mowers don't work well on tall grass, but the vertical scissor-like cutting action leaves lawns healthier once the grass is under control.
- Gas-powered weed trimmers and leaf blowers are even heavier polluters than mowers. Again, electric alternatives are available, as well as old-fashioned brooms and other hand tools.

Other Ways to Cut Carbon

- Zoysia Farm Nurseries and other companies sell slow-growth grasses that naturally need less water and mowing. Zoysia claims its grasses also choke out weeds and resist some

³ Steve Graham©, Networx, September 01, 2009

insects, reducing the need for the standard petroleum-based chemical pesticides and weed killers.

- The top-selling weed killers are Roundup and its generic replicas, which contain fossil fuels. There are alternatives with no fossil fuels. Cockadoodle DOO sells organic weed control made with corn gluten meal. It is designed to pre-empt weed growth, so it must be spread before weeds start to grow in the spring, then at least once again in the late summer or early fall.
- Likewise, most fertilizer is primarily ammonia derived from natural gas. Some organic alternatives with no fossil fuels are specifically designed for lawns. Bradfield Organics' Luscious Lawn and Garden is an alfalfa-based fertilizer. The AgGrand 4-3-3 Liquid Fertilizer contains kelp and fish, and supplies nitrogen, phosphorus, and potassium to the lawn.

The best way to reduce a lawn's fossil-fuel usage is to replace gas mowers. There are also other steps, including alternative fertilizers and weed killers.