

Tips for Ecological Gardening

Natural landscaping

Would you like a yard and garden that is visually pleasing, a haven for birds and butterflies, and that once established, is also low maintenance? By creating a natural landscape your wish could come true, AND you would be enjoying the satisfaction of knowing you are gardening in an environmentally friendly manner.

Natural landscaping is about creating beautiful natural environments by cultivating plants that are native to the bioregion without using harmful chemicals. It means re-accessing our idea of what is aesthetically pleasing. Do we prefer straight lines of neat and tidy monocultures or a constantly changing matrix of different sizes, shapes and colors? Do we feel the need for order and control or revel in the unpredictability of nature's complexity?

A natural landscape is adapted to its environment. The use of a large number of native plants, trees and shrubs allows nature to do the work. Species that are best suited to the region have adapted to the area's insects, soil and climate, making the use of pesticides, fertilizers and intensive watering and care unnecessary. Indigenous plants attract and nourish native birds, butterflies, and insects, and create a natural ecosystem able to maintain its own balance with minimal human intervention. Native species are also generally non-invasive as well as less interesting to deer and rabbits.

Lawns

Sustainable gardening also means reducing the area of lawn in your yard. As lawn mowers in the United States are not yet legally required to have catalytic converters, they now exceed cars in the amount of pollution they produce. Lawn mowers and other gas-powered lawn tools produce 5% of the nation's air pollution and dangerous ozone-forming gases.

More than 30 million acres of the United States that were once woodlands, wetlands, prairie, or high-mountain desert have been converted to lawn, which makes grass the largest irrigated crop in the country. Lawn care uses more than 70 million pounds of pesticides and herbicides, and 30-60% of local water, as well as creating toxic run-off from water-polluting fertilizers.

If each one of us, out of the 49 million U.S. households with lawns, replaced just ONE SQUARE YARD of lawn with alternative plantings, we could eliminate 1.2 million hours of mowing each year, provide 10,000 acres of habitat for wildlife, and protect our waterways from 60,000 pounds of hazardous chemicals. Just one square yard...almost as easy as changing to compact fluorescent light bulbs in your home.

Instead of lawns, create a wildflower meadow, put in a pond, or plant additional native perennials, shrubs and trees. For an excellent step-by-step guide to minimizing your lawn visit:

http://www.audubon.org/bird/at_home/pdf/lawn_action_plan.pdf

For those wanting to having some lawn for play, picnics, and more, practicing natural lawn care will go a long way to contributing to sustainability. Changing from a gas-powered mower to a push or reel mower will not only cut down on oil use, but will provide you with a healthy form of exercise as well. In addition, there are a variety of 'eco-lawn' seed mixes available, which contain lower, slower-growing grasses that require less frequent mowing, and form denser mats eliminating the need for herbicides and pesticides.

Weeds, pests and diseases

Pesticides contaminate the air, water, soil, plants, and animals around us, and have been linked to a long list of diseases and health problems. Learning how to deal with pests without chemicals is a great way to help preserve your health and that of your community and the environment.

Creating an organically rich environment creates strong, healthy plants that are able to resist attacks from pests and diseases. Attracting beneficial insects and wildlife provides plants with natural predators. However, conventional farming and gardening practices, introduced species and climate change have all contributed to unnatural stresses and an imbalance in our ecosystem. Therefore sometimes it is necessary to provide a little help.

There are a number of products on the market, some of which we have recommended on our website, which offer solutions to common pest infestations without the use of toxic chemicals. Barriers such as row covers, netting and plant collars effectively protect crops from pests as well. Sticky traps and pheromone lures are another way to minimize pest problems without harming other living things in your garden.

Through the practice of Integrated Pest Management (IPM), a variety of strategies can be incorporated to minimize unwanted pests in your yard and garden. Used in commercial and residential applications this method of crop protection incorporates crop rotation, proper site selection, the use of pest-resistant species, biodiversity, and regular site maintenance to minimize the use of harmful chemicals. For more information on IPM, please visit Cornell Cooperative Extension's Gardening webpage:

<http://nysipm.cornell.edu/program/whatis.asp>

Planting indigenous species that have built up a strong resistance or tolerance to insect pests and diseases is one of the most successful strategies for deterring pests. Native plants are better at competing with weeds, which are in most cases

also indigenous plants that have worked out survival strategies for thousands of years. Native ground covers are particularly effective in out-competing weeds.

However, the easiest way to control weeds is with mulch. Apply a 4-inch thick layer of an organic mulch, such as straw, bark, wood or compost, around plants to create a barrier against annual shallow-rooted weeds and prevent them from germinating. The longer-rooted perennials, such as dandelion, will be easier to dig out, as the soil below the mulch will remain moist.

When preparing new beds, smother weeds using a method known as sheet-mulching. Place thick layers of wet newspaper and cardboard on top of the grass or weeds, preferably in the Fall. Water well. Sprinkle a small amount of compost on top of the cardboard/paper layer, then add a thick layer of organic material such as leaves and cover with another thick layer of straw. Apply water to weigh the straw down and leave over the winter. In the Spring, you can add a layer of topsoil mixed with compost, or simply dig holes into the mulch wherever you wish to place your plants.

Composting and peat moss

The real key to a sustainable garden is healthy soil. Healthy soil breeds strong, resilient plants which require less care and are better able to resist the attack of insects and fungal bacteria, thereby requiring minimum inputs. The best way to build healthy soil is through the application of compost.

Composting is the breakdown of degradable organic matter when combined with water and oxygen. Waste plant material, kitchen scraps and manure are some of the most common ingredients. Compost contains valuable slow-release nutrients and has a structure which improves soil water-holding capacity and drainage.

For information on how to make your own compost visit Cornell Cooperative Extension's Compost website:

<http://counties.cce.cornell.edu/tompkins/compost/index.html>

Please also refer to the list of local compost providers to learn where you can find it. In our product directory we have also recommended sources of compost-making tools and resources.

In addition to compost, many individuals use potting soil for their yard and garden needs. The majority of potting soils found on the shelves of retail outlets in the United States contain a mixture of substances such as sand, bark, loam, minerals, fertilizers and peat. The peat moss comes from Canadian peat bogs, which currently produce about 25% of the world's horticultural peat.

Peat moss, or sphagnum moss, grows in wetland bogs, and is different from 'Spanish moss,' which grows on trees in some of the southern states. Spanish moss grows very quickly and is a renewable resource, while peat bogs, which require the build up of undecayed organic matter, take thousands of years to regenerate.

Peat bogs are a vital part of the carbon cycle, acting as carbon sinks for the earth. These bogs store about twice as much carbon as forests, meaning that this greenhouse gas is not released into the atmosphere, but rather stored within the plant structure. There, due to very slow rates of decomposition, it remains largely unreleased. An estimated 25 percent of the world's carbon may be locked up in the peat bogs of Canada.

Destruction of peat bogs results in the accelerated release of carbon dioxide, methane, and other greenhouse gasses into the atmosphere. In addition, it leads to habitat destruction and the consequent loss of biodiversity. Rare and endangered species in Canada that use peatlands include Whooping Cranes, Piping Plovers, Trumpeter Swans and Wood Bison. Many plants are specialized to live only in bogs and will not be found anywhere else on earth. These include insect-eating plants such as sundew, pitcher plants and bladderworts.

Gardeners, greenhouse, nursery and landscape businesses have become dependent on peat for use as a growing medium. Yet traditional methods, which rely on using a mix made purely from a combination of sterilized soil with the addition of small amounts of organic composted material, give equally desirable, if not better results.

A Sustainable Landscape

We hope these general tips will help and encourage you to transform your garden into a sustainable paradise. The fundamental objectives in creating an ecological garden are to decrease: lawn size, the spread of invasive plants, water use, pesticide use and polluted runoff; and to increase biodiversity by enhancing the soil, choosing native plantings and providing food, water sources and shelter for beneficial wildlife.

Further resources with more detailed information about how to create an ecological garden can be found by clicking on the resources page (<http://www.fingerlakesbuygreen.org/content/show/useful>).