

Grow Your Own Organic Food



By Stephanie Davio

What's better than both local and organic? Food that you grow yourself—*organically, of course*. Not only is it economical, but you are in control and know exactly what is in the food you raised. With a plethora of information available on organic gardening for every type of home, there's really no excuse not to give it a go!

Organic gardening seeks to sustain ecological balance to produce healthy plants. Remember: a healthy plant is less likely to fall victim to insects and disease. Gardening is a challenge, but it comes with very fruitful rewards. The following is a simple guide to help you grow and maintain an organic garden:

Deciding on a plot based on space/soil

First and foremost, you need to ask yourself where you want to locate your garden. Fortunately, you don't need to have a huge property to yield big results. From tiny apartments in big, sprawling cities to a suburban backyard, there are many options for every kind of living arrangement:

- **Container Gardening.** This is ideal if you don't have

a lot of space to work with, are just getting started in gardening, or if you are renting your property and are not allowed to change the landscape. If you live in an urban setting or an area that has a high concentration of contaminants in the soil, it might also be a good idea for you to choose this option. One of the benefits of container gardening is that you are not necessarily limited by the seasons to grow food. For instance, you can take pots inside and place them in a sunny window during the colder months. You can also rearrange the plants as needed, and take them if you move. Some places you might think of planting a container garden include windowsills, porches, and balconies, but be as creative as you'd like! Take advantage of vertical space by putting up shelves or a trellis. Just about any sunny spot will work, and you don't have to limit yourself to pots; you can even grow food from a bag, if you'd like.

- **Community Gardens.** A community garden is a small plot of land that is shared by neighbors or a community. Each member can rent or reserve a small plot of land to garden and tend for a season or year. Stipulations vary by garden and community, but in many cases you can grow whatever you want provided that you maintain it for the duration of the time you rent it, and



Container gardens are great in small spaces, when you don't have a yard or in areas of poor soil quality.

some don't allow the use of synthetic fertilizers or pesticides – be sure to ask about this before you decide to participate! This is a great option for people who don't have access to a yard, balcony, porch or windows with sufficient sunlight, like city dwellers living in a huge apartment complex. It's also great for people who want to get serious about harvesting their own food and want to produce more than what they are able to in the space they have, or just for people who want the joy of farming with friends.

For obvious reasons, community gardens are becoming increasingly popular options, and you'd be surprised to find that there may be one or several in close proximity to where you live. How do you find out if one already exists in your area? Finding one can be as easy as taking a stroll through your neighborhood and asking around in your community. You can also ask your city's community center or department of recreation, go to your local nursery, gardening supply store or public garden and ask them for information, check your local listings, or search the web. Don't be discouraged if you can't find a local community garden or if what you do find is already full: you can easily start one yourself! For more information on how to set one up, as well as a listing of registered community gardens around the country, go to the American Gardening Association website: www.communitygarden.org.

Develop Healthy Soil

The foundation of any healthy garden is the soil, and as such, an

organic garden should always begin with an assessment. As the old adage goes, "You are what you eat." So it is for plants: what you feed the soil is ultimately fed to the plant, so healthy soil is paramount to the health of the plant. Therefore, the soil must be nutritionally balanced, loose and not compacted, filled with organic matter, and the correct pH, and not contain any hazardous chemicals like lead, arsenic or residual pesticides. It's easy to tell if the soil is compacted by grabbing a handful and letting it crumble between your fingers, but how do you figure out the nutrient content, pH or whether it's contaminated? Test it! Your local agricultural extension agency may have soil testing services that are affordable and likewise you might even try taking a sample of your soil to your local public garden or nursery for examination. Be sure to call first to ask if such a service is available, and specify that you would like organic recommendations for fertility to improve the soil, and let them know what contaminant test you want.

Tip: if you live in an urban area, it is important that you test for lead contamination if you are growing anything edible. You especially want to know if an orchard previously grew on your land or pressure-treated wood was installed at the site.

Soil nutrient content and pH can be adjusted to a particular crop's needs with the use of compost, animal manures, green manures, rock powders and crop rotations, lime, gypsum or oak leaves. These techniques will also foster earthworms, which aerate the soil, prevent compaction and release nutrients by breaking down

organic matter. Make sure that if you add any of these products to your garden, they are not contaminated! Many municipalities, for example, make grass clippings, mulch and compost available to residents, which is a nice gesture, however many times these can contain pesticide residues that can contaminate your garden. If possible, use your own grass clippings and compost for mulch. If you do decide to purchase these, try to get it from a certified organic producer or find out the product's source and its inputs. Whereas national organic standards regulate prohibited materials used in organic production, fertilizer products at the store cannot be certified organic.

How to Choose Products

How do you choose what products to use if they can't be certified organic? Be careful not to be fooled by products labeled as "safe" when choosing products for your garden. In general, unless you can find these products on the listing of the Organic Materials Review Institute's (OMRI) list of approved substances (often products approved will say "OMRI approved" on their labels), they do not meet the organic standards. Sometimes it is because they contain inert ingredients that are not approved for organic use and may be toxic. This same caution applies to fertilizers and potting soil as well as insecticides and herbicides.

Composting at Home

Compost is not only a great source of fertilizer for your garden, but it's also a great way to know exactly what you're putting in your garden, it helps you to reduce your ecological impact by reducing waste, and it reduces your costs! You can often create all the fertilizer you need yourself through simple composting of kitchen and yard scraps. You can easily build your own compost bin, purchase a pre-made bin, or even start a worm composting bin in your house, which is perfect for those with limited space. For more information, Be-



Composting creates great organic fertilizer and reduces your waste

yond Pesticides has a fact sheet on composting that you can find on our "Alternatives Fact Sheet Page" off of the tab "Info Services" on our mainpage, www.beyondpesticides.org/alternatives/fact-sheets/index.htm. A great book is also Barbara Pleasant's *The Complete Compost Gardening Guide*.

Planting

Once you know where you'll be planting your garden and have nice, healthy soil, it's time to get to the fun part—actually planting! You can either get a head start and plant the garden from scratch—plant seeds in a tray and keep them in a sunny warm spot indoors until the threat of the last frost is over, then transplant them outside or in their respective containers—or you can wait and just plant seeds directly in the ground. Warning: While it is fine to plant seeds directly in the ground for your garden, be cautious of critters, like squirrels and birds, who like to dig up the seeds for a tasty treat. You can repel these by planting visual bird and animal scare devices. These can be found at your local gardening supply store or online: www.Bird-X.com

is a company that sells tons of these products. You can also simply purchase seedlings or starter plants and transplant them into your planters or ground. Make sure the plant is fully hydrated when you go to transplant it, and don't remove the plant from its original container until you're ready to place it in its new home so as to minimize the roots exposure to the sun.

When purchasing seeds, seedlings, or plants, try to purchase from organic sources if at all possible. Unlike some of the other inputs described above, these can be certified organic. You can often purchase certified organic seedlings and starter plants at a farmers' market or local farm throughout the season. If you can't find any local sources, however, there are many seed catalogs that specialize in organic seeds and there is an enormous selection of plant varieties.

As always, when you're looking for organic products, make sure it has the USDA certified organic seal! A great resource for finding seeds online is from Seeds of Change: www.seedsofchange.org.

■ **Crop Rotations and Intercropping.** Biodiversity is the key here! Intercropping, or having a variety of plants in each growing area, will discourage pests from spreading; in a monoculture, on the other hand, pests don't have very far to move to get to their next meal. This technique will also encourage beneficial insects, shade out weeds and increase yield by maximizing the use of limited space.

■ **Plant Pest-Repellent Herbs and Flowers.** Flowers planted within the vegetable garden or along the periphery will attract and sustain many beneficial insects that will help control the population of the "bad guys." The scent of many flowers and herbs, such as rosemary, can act as natural insect repellents.

Troubleshooting: Preventive Measures

■ **Harness Beneficial Animals and Insects.** Most of the insects in your garden are beneficial; therefore you should protect them rather than kill them with dangerous pesticides. These are the insects that are the natural enemies to your pests and can help keep their populations low. Some beneficial insects and animals include insect-feeding birds, spiders, lady beetles,

lacewings, wasps and hornets, predatory mites, and many parasitic wasps and flies. Some of these species can be purchased either online or at your local gardening supply store, however, exercise caution when releasing beneficial insects because it can be difficult containing these guys in your garden, and you don't want to cause a pest problem somewhere else.

■ **Identify Pests.** Learning to recognize the inhabitants—both good and bad—of your garden is as fascinating as it is necessary. It is difficult to effectively eliminate a pest problem without toxic chemicals unless you know the identity of the pest. Use picture guides from your local library or the references provided, ask knowledgeable neighbors, or take specimens to your county's agricultural extension office. Find out key aspects for the pest's biology, such as its life cycle and food, water, and breeding requirements.

■ **Monitor Problems.** To keep ahead of pest problems, become a good sleuth! Carefully examine each area for signs of weeds, brown spots, and leaf damage, such as wilting, curling, or holes. If you detect a problem, use a hand lens and examine the affected plant. Expect to see a variety of insects, but if any seem particularly abundant, then collect and identify samples as these may be your culprits. Keep records of your monitoring results so that you will be able to learn how to predict pest outbreaks to prevent damage. With time, you will be able to recognize problems



Beneficial insects provide a natural source of pest control. Photo of ladybug eating aphids by Greyson Orlando.

endemic to your garden.

Troubleshooting: Damage Control

If pest problems start to get out of control, combat the problem using the least-toxic method available for your pest. This requires that you know which pest is causing the problem:

■ **Weeds.** In a personal garden, weeds can often be easily contained by using a hoe or simply hand pulling them. If weeds are getting through, you can apply a thick layer of mulch, which will inhibit weeds and help retain soil moisture. Applying thick layers of mulch between plants and rows after the soil has warmed is ideal. If you are being burdened by a particularly pesky type of weed, horticultural vinegar may be used to spot treat as needed –be sure to check the ingredients, however, to make sure your product appears on the OMRI list.

■ **Disease.** Healthy plants –like healthy immune systems— can fight off disease with their own immune systems. Soil that is biologically active with a healthy population of microorganisms and plenty of organic matter will keep pathogenic organisms in check, but sometimes nutrient deficiencies or infections caused by fungi, bacteria or viruses can occur.

Fungi: Too much moisture on the foliage, poor air circulation and over-fertilization can contribute to fungal infestations. Make sure to water your plants in the mid to late afternoon to insure that leaves will dry. Removing diseased plant parts will help keep it from spreading

Bacteria: Wet soil, high humidity and high temperatures can cause the tiny organisms to spread, making your plant rot or wilt. To keep bacteria at bay, plant resistant varieties, improve drainage, adjust watering practices, and fertilize with slow release nutrients, like compost.

Viruses: These tiny disease organisms can kill plants quickly! Look for leaf mottling, curling or wilting. You can prevent and control this problem with healthy soil, planting resistant varieties, remov-



ing infected plants and controlling insects and animals that carry the infection from plant to plant, like aphids.

■ **Insects.** A healthy garden with a balanced population of beneficial predators and parasites will generally have fewer insect infestations than one without. And, though good cultural practices such as rotation and resistant varieties are your first line of defense, occasionally an outbreak can occur. When or if this happens, there are many strategies that you can take without resorting to toxic pesticides, like biological controls, traps and barriers. You can effectively hand pick large insects –like tomato hornworms. For smaller insects, you can wash the underside of plant leaves

to remove most of the mites or aphids on an infested plant. If the population builds up again, just repeat the process. The important thing is to identify your pest so that you can make an effective decision on how to eliminate or deter it by understanding its life-cycle, feeding preferences, and their natural predators. Work with your knowledge to keep an ecological balance in your garden. Have fun!

Resources

The following factsheets are available on Beyond Pesticides' organic gardening webpage, www.beyondpesticides.org/organic-food/gardening: The Basics; Planning for Planting: How to You're your Organic Garden; Ecological Pest Management; Compost is the Key to Successful Plant Management; Beyond Pesticides' Alternatives Fact Sheets; and more.

Other useful websites include: American Community Gardening Association: www.communitygarden.org; Cool Foods "Garden Guide" www.coolfoodscampaign.org/your-tools/garden-guide; Organic Gardening: www.organicgardening.com; Truck Farm Film and Food Project: www.truck-farm.com. We also recommend the following books: *Rodale's Ultimate Encyclopedia of Organic Gardening*; *Starter Vegetable Gardens: 24 No-Fail Plans for Small Organic Gardens*; and, *The Complete Compost Gardening Guide*.