# Organic Practices for the Home Gardener

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**Working in harmony with nature**

What is "organic gardening"? Simply defined, it means not using synthetic pesticides, herbicides or fertilizers, which may include certified organic products or natural methods to control pests and weeds. Ideally, organic gardening becomes a philosophy—a way of working in harmony with natural systems, and continually replenishing any resources the garden consumes, thus focusing on sustainability.

In an organically managed yard or vegetable garden the emphasis is on "cultivating an ecosystem that sustains and nourishes plants, soil microbes and beneficial insects rather than simply making plants grow" (NC State University Extension). Gardening organically begins with the soil and incorporates natural pest and weed control as well as plant selection and management.

Soil is at the heart of organic gardening practices. While the *Encyclopedia of Organic Gardening* was last published in 1971, it has long been considered a rich and classic source of information for the organic farmer and gardener. J.I. Rodale (reissue edition, 2000) describes a system whereby "fertile soil is maintained by applying Nature's own law of replenishing it," by using humus, organic matter, compost, and mulching. The soil, he says, is "a living, breathing entity" and should be treated as such. It is, furthermore, a "storehouse of living organisms which must be fed and cared for."

According to the *Helpful Gardener* website, good soil is "dark and crumbly and has a rich, earthy smell. It absorbs water like a sponge, breathes air like a lung and is teeming with life." It is the most effective nutrient-provider, pest-controller, and weed-combatant the organic gardener has, providing plants considerable immunity against pests and disease.

A handful of healthy soil contains about 10 billion living organisms" that break down coarse organic matter to provide basic nutrients in a form that can be easily absorbed by plants in a natural cycle. Because healthy, fertile soil is critical, it's important for the organic gardener to understand its basic mechanisms and learn how to enhance its productivity using organic practices.

Nutrient recycling is a key principal in organic gardening and critical to building and sustaining healthy soil. Complex nutrients are readily available in the form of decaying organic waste, including garden compost, decaying leaf mold, dried animal manure, seaweed and green manure. In addition, many complex nutrients do not feed plants directly but are initially broken down by a host of micro-organisms and several larger critters like worms and beetles.

**Master Gardeners Linda Bachmann and Ruth Sutton** discuss plans for the summer 2015 WSU Discovery Garden Vegetable Garden. Planning biodiversity when planting a vegetable garden aids in combating pests. *Photo by Trish Varrelman / WSU Skagit County Master Gardeners.*

Composting, the form of nutrient recycling that we are most familiar with, is critical to the organic gardener. According to the *Planet Natural* website, "compost" is decomposed organic material produced when bacteria and fungi in the soil break down kitchen and other kinds of biodegradable materials, resulting in an ideal soil amendment rich in minerals and other organic building blocks. There is a direct relationship between the number of microorganisms in the soil and its productivity, and the creation of high fertility levels accelerates the decomposition of organic matter, releasing nutrients slowly, as plants need them. How you compost depends on a variety of factors, including the size of your garden and related space. But, no matter how small your garden is, you can compost kitchen and garden waste to create a continual, rich amendment to your soil.

Amending the soil carefully is particularly important for the organic gardener. Applying organic amendments such as compost can loosen soil, improve water infiltration, and increase long-term nutrient supply, according to Washington State University Extension.

However, over-application of amendments can increase risks to water quality and, in some cases, harm plants. Regularly testing garden soil can provide the organic gardener with essential information regarding the required nutrients.

S. Solomon in *Growing Vegetable West of the Cascades: The Complete Guide to Organic Gardening*, believes that a key problem in the Pacific Northwest is that our soil is poor. While we have mild winters, we don't get the heat in summer required to effectively compost and create rich soil. Additionally, minerals have been leached away over geological time. As a

result, manures and compost also tend to be low grade. It may be infertile soil, Solomon says, rather than weeds or pests, which are the real culprit facing the organic gardener.

The organic gardener relies on careful planning, which can result in a garden that produces 12 months a year. Consider developing a plan that includes plantings for spring, summer and fall/ winter harvests, building in not only seed starts and transplants, but a schedule for fertilizing and amending the soil.

**Master Gardener Merle Green** chops garden waste for mixing in a composting bin last summer in the WSU Display Garden Vegetable Garden in Mount Vernon. *Photo by Trish Varrelman / Skagit County Master Gardeners.*

Organic gardens often rely on succession planting-where one crop follows closely behind the last. This can allow a small garden to produce as much as a larger one, which requires less compost, fertilizer, tillage and watering. Additionally, crop rotation is important to the organic garden, minimizing the transference of diseases, the need for pesticides, and avoiding the soil depletion of nutrients used by a particular family of plants.

Growing vegetables and other plants consistently using organic principles alleviates much of the need for pest management. Solomon believes that insects and diseases are "entitled to their tithe," relinquishing ten per cent of his garden to pests. If you can't live with that, then plant an extra ten percent for your unwanted guests.

As an organic gardener, decide what level of loss to pests and disease you can tolerate and use sound approaches such as Integrated Pest Management (IPM) to deal with the damage beyond your level of tolerance. IPM is the careful study and diagnosis of garden pests, weeds and diseases in order to solve garden problems, reduce losses, and manage the ecosystem with as little harm to the environment as possible.

Organic gardeners use natural products to manage intolerable and persistent pest problems; IPM methods focus on selective (rather than general) insecticides and herbicides. There are far more beneficial insects in our Northwest gardens than there are harmful ones; general insecticides kill the good bugs as well as the bad guys.

By broadening our understanding of the insect world and seeing insects as an important part of nature we can avoid most pest problems. For example, it's important to understand the reproductive cycles of those pests most harmful to our gardens and to apply IPM practices at the right time in that cycle. The challenge is to learn to co-exist with insects and pests, and accept the full spectrum of nature as it is, from the beauty and bounty to the pests that keep us on our toes. A few pinholes in your lettuce are a small price to pay for a delicious, organically grown salad.

According to organic gardening blogger, Susan Harris, organic IPM practices involve encouraging naturally predatory insects and micro-organisms to do the work for you; carefully choosing disease resistant plants; rotating plants to different parts of the garden from year to year to interrupt pest cycles; using insect or animal traps rather than chemicals to control pests; and, most importantly, being tolerant of a small amount of damage.

UC Davis scientist Pete Goodell says that once we know the scope and details of the problem, we can decide what to do, knowing that the best way to control pests is a combination of methods. These include using the pest's natural enemies (biological); reducing a pest's ability to reproduce and survive (cultural); making the environment difficult for the pest, such as using traps, mulch, and screens (mechanical); and using organically-based natural pesticides as a last resort (chemical). For information about organic pesticides, methods, and contents, see the products lists on the *Grow Safe* website.

Organic gardening is a long-term approach to creating rich harvests of vegetables that are safe and delicious throughout all the seasons. By paying attention to soil needs, planning and sound planting practices, the organic gardener continues year by year to build a home garden that increases in productivity and becomes increasingly resistant to harmful pests. It requires extra effort, but the results are well worth the work and attention paid.

Knowing that you have employed practices that minimize the use of substances harmful to the environment and, at the same time, maximize the health of soil microorganisms and helpful insects will make your harvests even richer,

**RESOURCES:**


- Rodale, J.I. (Ed.). 1971; reissue 2000. *Encyclopedia of organic gardening*. Emmaus, PA: Rodale Books, Inc.
- Solomon, S. (2007). *Growing vegetables west of the Cascades: The complete guide to organic gardening* (Updated 6th edition). Seattle: Sasquatch Books.
- http://www.helpfulgardener.com/organic/2006/vegetable-garden.html
- http://www.growsmartgrowsafe.org
- http://www.ipm.ucdavis.edu/GENERAL/whatisipm.html
- http://blogs.usda.gov/2015/03/17/tips-for-starting-an-organic-garden/
- http://www.planetnatural.com/home-composting/
- https://pender.ces.ncsu.edu/2014/04/what-is-organic-gardening-2/
- https://s3.wp.wsu.edu/uploads/sites/2071/2014/04/Organic-Soil-Amendments-FS123E.pdf


Note: some hyperlinks in this article have been updated since its initial publication.

WSU MASTER GARDENER KNOW & GROW
Organic Practices for the Home Gardener

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| WHAT: | Learn what you can do in the way of sanitation, monitoring, and managing your garden from an organic perspective. |
| WHERE: | WSU-Mount Vernon NW Washington Research & Extension Center, Sakuma Auditorium<br>16650 State Route 536 (Memorial Highway) |
| WHEN: | Tuesday, May 12th from 1 PM to 2:30 PM |
| COST: | Free |
| SEATING: | Space is limited and available on a first-come, first-served basis |

For more information visit www.skagit.wsu.edu/mg or call 360-428-4270, ext. 0.