

# Organic Gardening: The Basics

One in a series of “How-to’s”

**G**arden pests can be nuisances to you and your crops. Fortunately, there are many alternatives to chemically intensive practices that result in bountiful crops and improved soil quality. Organic gardening can create an ecosystem that is biologically diverse, sustainable and safe for the local environment. Food grown in an organic garden is more nutritious and free of toxic pesticides, that have been proven to cause serious health problems.

To maintain a successful garden, it is important to adopt sensible biological and mechanical practices. These practices can prevent and correct the cause of problems which can occur, rather than merely treating the symptoms.



**Develop healthy soil.** Test your soil and adjust soil nutrient content and pH with the use of compost, animal manures, green manures, rock powders, crop rotations, lime, gypsum, oak leaves and acid peat moss. Healthy soil is usually dark in color and has active micro-organisms. For soil testing contact your local agricultural extension office, or pick up a soil test kit at your local gardening supply store. It is important to test your soil before planting in order to choose the right plants that will survive and thrive in your soil conditions.



**Use crop rotations.** Avoid planting the same crop in the same place twice. This helps control plant diseases, reduce insect outbreaks and weeds, balance and improve soil nutrient content and improve yields.

**BP Tip!:** Alternate shallow-rooted plants like cabbages or lettuce, with deep-rooted plants like tomatoes or squash for improved soil aeration; alternate plants like corn and potatoes which remove nitrogen from the soil, with legumes like beans and peas, which add nitrogen to the soil.



**Implement intercropping.** Planting several types of plants in each growing area discourages pests from spreading, aids beneficial insects, suppresses weeds, and increases yields.



**Plant pest-repellent herbs & flowers.** Certain aromatic plants act as a deterrent to many insects and garden pests. Marigolds, for example, seem to repel cabbage moths, while geraniums repel beetles from sweet corn, asparagus and soybeans. The strong aroma of garlic, onions, parsley, chives, mint and turnips repels many flying insects, ants, beetles and aphids.

**BP Tip!:** Know your companion plants to maximize the benefits of intercropping; for instance, basil keeps pests away from tomatoes, and carrots grow well with onions, chives and garlic.



**Water deeply and infrequently.** This encourages deep roots, which in turn release nutrients, aerate the soil, and prevent erosion, rather than short, more frequent watering.

**BP Tip!:** Water plants early in the morning rather than during the daytime hours when evapo-transpiration is high, or during the night, when fungal infection can develop.



**Mulch for weeds.** Apply thick layers (2 or more inches) of straw, sawdust, or hay between plants and rows to prevent sunlight from reaching the soil surface. However, be sure to avoid overmulching, which can reduce oxygen

content in your soil.

**BP Tip!** Do not use material previously treated with herbicides such as 2,4-D, since garden vegetables like tomatoes and peppers can absorb residues from the treated mulch.



**Harness beneficial animals.** Attract insects that are beneficial to your garden and prey on pest insects. Predatory mites, parasitic wasps and flies, spiders, and ladybugs help control pest populations by eating aphids, mites, cutworms and others. Flowers, such as marigolds, lavender, rosemary, and daisies attract bees and other pollinators.



**Identify pests.** It is difficult to eliminate pest problems unless you know the identity of the pest. Use picture guides from the internet, your local library, publications from your local county extension office, or take specimens of the pests or evidence of its damage to your local county extension agent.

For more information about organic gardening and least-toxic weed and pest control, contact Beyond Pesticides.

## In your organic garden, watch out for..

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...**Weeds.** Annual, biennial or perennial weeds can be difficult to eliminate, but they can be controlled if their roots are completely removed. It is best to target these weeds at the seedling stage, before seeds are produced. Frequent, small hoeings can help you identify and remove weeds.

...**Disease.** Plant diseases result from nutrient and light deficiencies, poor drainage, and infection by fungi, bacteria or viruses. The best way to prevent diseases is to give plants the right site and the right soil conditions, and maintain clean garden tools. Disease resistant plant varieties are also useful.

...**Insects.** Good cultural practices will prevent most problems, but when outbreaks occur, use biological control, traps, and barriers. Handpick large insects. Products like diatomaceous earth, essential oils and insecticidal soaps can also be helpful.

Visit your local garden shop for these and other least-toxic alternatives.

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