

Sustainable Food Gardening

by Master Gardener Penny Fink

The Food Gardening Specialists of the UC Master Garden Program of Sonoma County provide science-based horticultural information and teach home and community gardeners how to grow food sustainably. So what, exactly, does growing food sustainably mean? The United Nations defines *sustainability* as "...design, construction, operations and maintenance practices that meet the needs of the present without compromising the ability of future generations to meet their own needs."¹ The Division of Agriculture and Natural Resources, University of California defines it as "...the ability to carry on an activity indefinitely with minimal impact on the environment."² They emphasize that, while gardening is only one of many human activities in the equation, the practices of sustainable gardening, especially by a large portion of home gardeners, can have an immediate and positive impact on the environment. These definitions and impact are particularly applicable to food gardening.

We break down the practical implementation of sustainability in our food gardens into five major components:

1. Nurture and protect the soil

A food garden begins with good soil. Compost is your very best friend here. If possible, make your own compost to recycle your own organic matter, and purchase additional compost, as needed. Compost will improve soil structure and feed soil organisms that, in turn, feed your plants. Practice minimum soil disturbance to promote the macro- and microorganism population, to retain carbon in the soil and to improve water retention. This includes digging small holes for transplanting, leaving roots in the soil and returning healthy plant residue (composted or chopped) to the top of the soil. Mulch will protect your soil, prevent weeds and conserve water. Plant cover crops rather than allowing your beds to remain fallow.



2. Right plant, right place, right time

The *right plants* for your food garden are those vegetables and fruits that grow successfully in your microclimate that you want to eat. For example: sweet potatoes require a tropical climate and will have limited success in most of the county. However, regular potatoes grow well here. If growing fruit trees, know the chill hours

¹ "Our Common Future," Oct 1987, United Nations World Commission on Environment and Development [this report coined and defined the meaning of "sustainable development"].

² The California Garden Web, University of California, Department of Agriculture and Natural Resources.

for your microclimate. Don't plant a peach variety requiring 800 chill hours if your area only receives 400 chill hours—pick another variety. In many areas of Sonoma County most tomatoes do well, whereas in a few places, only some varieties do well. And, whatever your microclimate, fruiting vegetables need six to eight hours of sun but prefer eight to ten hours—shady areas are not the *right place* for them. But salad greens will mature with only four to six hours of sun. For the food garden, the *right time* or *right season* also is important. “Cool season” veggies are sensitive to temperatures over 70 degrees, and are typically planted in early spring or late summer into early fall; “warm season” veggies are sensitive to frosts, and are typically planted in late spring. Our planting chart “[Year-Round Food Gardening in Sonoma County](#)” is invaluable.

3. Include plants that attract beneficials



The preferred wildlife in the food garden, in addition to soil organisms, are bees, beneficial insects, worms, frogs and lizards—all of which are happy in any producing vegetable garden. Here is your chance to add herbs and flowers as companion plants and to encourage beneficial insects. Our “[Companion Planting Chart](#)” is a good start for grouping vegetables to best benefit their growth.

Encourage beneficials to stay. For example, plant a hedgerow or add a source of water and a wild bee house to your food garden.

4. Incorporate Integrated Pest Management (IPM)

Sustainable pest management approaches are those that are the least toxic. Avoid using synthetic fertilizers, herbicides and pesticides. In addition to attracting beneficials, sustainable practices in the food garden include using physical barriers (such as bird netting), using sticky and pheromone traps, hosing off aphids, hand-picking insects and eggs, spraying with insecticidal soap and crop rotation. For other sustainable methods, see the University of California's [Integrated Pest Management](#) site for the home gardener.

5. [Conserve water](#)

People often over-water their vegetables. Always check soil moisture before watering--whether irrigating by hand or by drip. Drip is the most efficient way to deliver water to your food garden. Minimum soil disturbance and mulch also help retain water in the soil. Our [Food Gardening with Less Water](#) page is a valuable resource.

Learn more about these sustainability components by clicking on the links above. Also, see our food gardening [publications](#) and [articles](#).