

Food Production

Yard by Yard Practices

- Growing vegetables, fruits, and herbs
- Cover crops and companion plantings
- Incorporating animals

The Importance of Home Gardens

The US food system is a complicated, nuanced, and often passionately debated topic. As America has shifted away from small family farms towards large-scale operations (with large farms making up only 4% of the farming population but producing about 2/3 of agricultural outputs), a new set of environmental and human concerns have arisen. As detailed in a [report from the National Academy of Sciences](#), the environmental impacts of our industrial agricultural system fall into three categories: pollution (such as pesticide residues on vegetables, fertilizer runoff into water sources, emissions from heavy machinery, etc.), depletion of natural resources (water use, soil degradation, use of fossil fuels, etc.), and wildlife impacts (for example, pesticides killing non-target insects like important pollinators, destroying wildlife habitat, etc.).

Farmers are increasingly realizing the need for ecologically-sound and environmentally-friendly practices on the farm. There is greater understanding now of the benefits that these practices provide to farmers, making them more resilient while not diminishing productivity. Yet, there is still tremendous work that needs to be done to alleviate the negative impacts of our food system.

As consumers, each of us plays a role in the functioning of our food system--we each have a small amount of power to make the system a little bit better or a little bit worse. One way that all of us can make the system a little bit better is returning to our roots as a nation of farmers and growing some of our own food (whether that's simply a potted herb in the windowsill, a container garden of veggies on the patio, raised garden beds in the back yard, or a full-fledge family farm). Growing your own food gives you confidence about its quality and environmental impact, provides opportunities to benefit from time outside, can build community, and increases your resilience and self-sufficiency. After the turmoil of the pandemic years and the disruptions we witnessed in supply chains and food systems, many of us would benefit from the self-reliance of homegrown crops.

As backyard gardening has experienced a resurgence of interest, there are as many reliable resources as there are varieties of vegetables to choose from. Rather than attempt a full guide to backyard gardening (a subject which could fill a whole library of books), we will instead point out several quality resources and discuss a few simple ways to get started.

Putting the Practices into Action

Vegetables, Fruits, and Herbs

For most people, growing edible plants is much more accessible than raising animals for food. A great place to get started with a vegetable garden is to talk with the staff from your local OSU County Extension Office. Their horticulture and agriculture educators are there to be a resource for you, and the volunteers from the Master Gardener programs offer a wealth of first-hand experience. They also publish a variety of [online guides specific to Oklahoma](#), and have other resources such as a [guide to container gardens](#), and a list of "[Oklahoma Proven](#)" [vegetable varieties](#) that do well in our climate.

Another great resource is the Old Farmer's Almanac. Their website has a wealth of great information about [growing food plants](#) as well as guides to growing trees, landscape plants, and houseplants, information on frost dates and planting calendars, garden planning tools, and much more. They even have a comprehensive [guide to starting a vegetable garden](#) to walk beginners through each step.

Gardening clubs and online communities (such as Facebook groups) provide connections to experienced gardeners who are happy to answer questions and share first-hand experience. YouTube is also a great place to find how-to videos, garden tours, tool reviews, and much more. The OSU Extension's "[Oklahoma Gardening](#)" channel is a great place to get started!

Cover Crops and Companion Plantings

Using cover crops and companion plantings are two techniques related to soil health that make food systems more sustainable. Both practices are reliable ways to bring the ecology of natural systems into your garden. Cover crops are plants grown on your gardening area that are typically *not* grown for food. Companion planting is the technique of growing multiple types of plants close to one another in combinations that are mutually beneficial.

Cover crops fulfill two of the six principles of soil health: they keep your soil covered and keep growing roots in the soil during periods when you otherwise would not have crops growing. They keep your soil from eroding or compacting during the times you are not actively growing food, and their roots and dead leaves provide a constant source of food for soil microbes and arthropods that will benefit your food crops later on.

For most gardeners growing on relatively small plots of land, cover crops provide the most benefit during the winter months. The catch is that you have to be sure to harvest your fall crop with enough time left to sow your winter cover crop with enough time for it to sprout and grow before winter fully sets in. Talk to your OSU Extension educator about the right timing for your situation.

There are several reasons to cover crop in the winter. If you have heavy or compacted soils, growing cover crops that will die in the winter can improve your soil texture. Forage radishes will grow deep, thick roots that break up the soil but die when it freezes, adding organic matter to the soil and leaving open channels for air and water to reach deeper into the ground. Grasses and leafy cover crops can also be worked into the top few inches of soil once they are killed by a freeze. Other cover crops, like peas and vetch, grow through the winter and add nutrients to the soil through symbiotic relationships with soil bacteria. You may also consider growing cover crops to suppress weeds. Cover crops that grow

densely together (such as buckwheat and clover) can make it harder for weed seeds to sprout. When you're ready to plant your vegetables, mow the cover crop and work the debris into the soil a week or two before planting your veggies.

Companion planting also fulfills one of the principles of soil health: plant diversity. High plant diversity has two benefits in your garden. It ensures that all of your plants aren't competing for the exact same nutrient requirements, and it ensures that you have a more complete diet to feed the soil microbes (the roots of different plant species release different compounds into the soil to feed beneficial microbes). Companion planting can also have extra benefits such as (potentially) repelling pests from sensitive plants or providing support for climbing crops. A classic example of companion planting is the "Three Sisters" (corn, beans, and squash) grown by Native American farmers. The spreading squash plants cover the soil and hold in moisture, the corn provides a sturdy stalk for the bean vines to climb, and the beans enrich the soil with extra nitrogen. Check out [this guide](#) for more resources on companion planting.

Animals

Just like with growing your own garden, raising your own livestock gives you much more control over inputs (like antibiotics and supplements) and environmental impact of your food compared to purchasing animal products from a grocery store. There are additional benefits to your vegetables and landscape when livestock is incorporated into the ecosystem of your property.

Animals are a natural part of the ecosystem, and bringing them back to the landscape in a responsible manner is a great way to improve the soil health of your land. As animals feed on plant matter, they return nutrients to the soil. Some livestock, like goats, are also great at removing invasive plant species, and domesticated honeybees can contribute to pollinating your crops.

The key is that animals only benefit the health of your family and your land if you manage them well and make their health a priority. Here are a few things to keep in mind as you get started:

- Know your community's rules and regulations for keeping livestock in residential areas and follow them closely.
- Know how many animals your land can support and don't go above this number! Contact your local Conservation District or an expert from the Natural Resource Conservation Service for help designing a grazing management plan that ensures your livestock benefit the land instead of over-grazing it. This is important whether you're raising chickens, goats, sheep, cattle, or others.
- Utilize knowledgeable resources to get started: once again, the OSU Extension team is a great resource, as are local livestock-specific organizations, like bee keepers associations. Many extension offices also host classes for specific animals, like raising chickens.

Additional Resources

[OSU Extension Fact Sheet on Raising Chickens](#)

[OSU Extension Fact Sheet on Beekeeping](#)