



Growing garden VEGETA

Gardeners like to stir the soil in Wyoming, where soils are notoriously lacking in organic matter.

To produce garden fresh vegetables, we must take care of the soil. Building organic matter increases soil friability or “crumbliness,” improves the ability to till, facilitates aeration and water penetration, and improves the moisture-holding capacity. It also provides a source of many plant nutrients.

Good sources of organic matter include sphagnum peat moss, composted leaves and grass, and composted livestock or poultry manure. Composting the material kills weed seeds. Each year, till in a couple of inches of compost to enhance the organic matter of your garden. The publication *Backyard Composting: Simple, small-scale methods*, B-974R, is available at <http://www.uwyo.edu/CES/PUBS/b974R.pdf>

Use caution if using manure on a garden. I hauled in a load of manure from a friend’s feedlot and spread it on my garden many years ago. It wasn’t composted manure (the weed seeds weren’t dead). I never used to have to hoe out purslane until then. To this day, I’m still fighting that @#%#@#@ weed. It reproduces vegetatively. If I leave a piece of it in the soil, it will reproduce from that piece. Believe me; you don’t want this weed in your garden if you don’t already have it.

Adding lime as a soil amendment is not recommended for Wyoming soils, which tend to be alkaline. Lime is added to soils in the eastern United States, which are acidic. Sulfur can be a helpful soil amendment on Wyoming’s highly alkaline soils. Applying sulfur at up to a half-a-pound per square foot is recommended on high pH soils. Most garden sites will do fine without the addition of micronutrients or sulfur.

Nutrients

Do you want to grow an organic garden without the use of commercial fertilizers and herbicides to control weeds? Patience is one key to success. Organic gardeners must provide needed plant nutrients with organically produced manures or green manures (leftover plant material, such as sweet clover, tilled back into the soil before it turns brown). Weeds must be tilled, pulled, or burned out. Manures do not work like commercial fertilizers. Soil microbes take considerable time to break composted manures down to release needed nutrients for the plant. Commercial fertilizers release needed nutrients within days of application.

Ammonium nitrate, one of the more popular nitrogen fertilizer products, will no longer be available to the farming and gardening community. The product, a main ingredient for bomb making, is being taken off the market in part because of homeland security reasons. Urea-based products will replace ammonium nitrate.

University of Wyoming research conducted at the UW Powell Research and Extension Center shows that Agrotain-treated urea offers one option as a dry granular product to replace ammonium nitrate granules. Agrotain inhibits the activity of the urease enzyme, which converts urea to ammonia, according to the research. Urea without Agrotain can quickly be released into the air. When purchasing granulated nitrogen, make sure it contains a stabilizer such as Agrotain.

A problem I often see in the garden is sprinkler irrigation. I recommend furrow irrigation or, better yet, a drip irrigation system. Sprinkling water on big-leaved plants like squash, tomato, watermelon, etc., will subject the plants to disease problems. The splashing water droplets from the sprinkler will pick

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up and spread bacterial disease organisms, such as early blight on potatoes and tomatoes, from plant to plant like a firestorm. The water droplets also provide a wonderful environment on the plant for fungal diseases. Furrow irrigating keeps water off plants.

Weed management

Weed-control options in the garden include plastic mulches in the form of plastic landscape fabrics, which work particularly well with transplants like tomatoes and peppers. Organic mulches like bark or weed- and herbicide-free grass clippings added between the rows will help suppress invading weeds. Be careful not to overdo grass clippings. Too much too close to a plant can do more harm than good; they will cut off needed oxygen and suffocate the vegetables we work so hard to grow.

Preen® is an example of a pre-emergent herbicide that can be applied to garden soil at planting time. The active ingredient, trifluralin, will control weed seed as it germinates, yet it is

selective for a wide variety of vegetables in the treated garden. It will work well in the flower garden, too. Preen is short-lived in the soils so it should not be applied too much ahead of planting. Selectively spraying weeds with a herbicide such as Roundup® or other glyphosate product is an option. Be careful not to let the product drift onto your or a neighbor's precious vegetables or flowers when using it around the garden.

The publication *Gardening Vegetables in Wyoming*, B-1115, is an all-around gardening source. It is available at <http://www.uwyo.edu/CES/PUBS/B1115.pdf>. Downloads are free or a hardcopy version can be obtained by e-mailing the College of Agriculture's Resource Center at bixbyd@uwyo.edu, calling the center at (307) 766-2115, or writing to the University of Wyoming, College of Agriculture, Department 3313, 1000 E. University Ave., Laramie, WY 82071.

We in the UW Cooperative Extension Service (CES) are proud of our heritage in helping homeowners and gardeners achieve their production goals! Every county in the state has a CES office. We can be found in the phone book in the county government section. County CES office contact information is also available on the Web at <http://www.uwyo.edu/UWces/Counties.asp>

Other resources:

Gardening: Extending the Vegetable Growing Season— <http://www.uwyo.edu/ces/PUBS/B1148.pdf>

Gardening: Hot Beds & Cold Frames— <http://www.uwyo.edu/CES/PUBS/B1151.pdf>

Landscaping: Water-wise Wyoming Gardens— <http://www.uwyo.edu/CES/PUBS/b1143.pdf>



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