

Diggin' in the Dirt: Improving Clay Soils

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Master Gardener Spring Fair coming soon

Columbia County Master Gardeners Spring Garden Fair at St. Helens High School Commons, 2375 Gable Rd, St Helens, OR 97051, on April 27 from 9:00AM – 3:00 PM. Certified Master Gardeners offer 5,000 tomatoes in more than 30 varieties for only \$1.50 per plant, tomato and general gardening information, raffle tickets, hourly prizes and displays. Dozens of local vendors will be offering other plants and garden related products. Please carpool.

Improving clay soils

Most of Columbia County soils have significant amounts of clay. While these soils can be quite fertile, they also drain slowly. The list of vegetables, fruit trees, and landscape plants that can tolerate poor drainage is small indeed. Heavy soils can be improved by installing drain tiles (actually rolls of corrugated black perforated tubing) that discharge water to a lower ditch. These can be complex to install and are usually buried three feet or more in the soil.

It is possible to improve soil drainage by adding organic matter. One application will help but if continued each year for a number of years, it can make a big difference. When you combine that by creating berms or raised beds, you can dramatically improve the root environment for your plants.

So how much organic matter

should you add each year and what type of organic matter should it be? Generally, adding two inches of organic matter each year and working it into the top 6-10 inches of soil will start improving soil texture and drainage.

But the type of organic matter can have a big impact on the immediate performance of vegetables and annual flowers. Fresh sawdust, wood, chips, or shavings will start composting once they are added to soil. The organisms that do the heavy lifting in the compost process (i.e. fungi, bacteria, teeny insects, etc.) will start capturing the free soil nitrogen in their bodies as their numbers explode. Your plant roots just can't compete with them. So you have one of two choices: either only use compost that is already fully composted (by that I mean that you can't see any distinguishable plant parts and it all smells sweet) or add extra nitrogen to both feed your plants and your very hungry fungi.

So how much nitrogen should you add to feed both your plants and the composting crew? I normally recommend that the vegetable garden have about 3 pounds of actual nitrogen per 1000 square feet for the vegetables alone. So if you are applying well-composted organic matter, that is all the nitrogen you need. But if you are adding lots of uncomposted or partly composted material, you will need about 5-6 pounds of actual nitrogen/1000 sq. feet.

When you read a fertilizer bag, the first number is the nitrogen number and it is a percentage of actual nitrogen in the bag (whether it is an organic or conventional fertilizer). So a 7-10 -10

fertilizer would have 7% N and 10% of both phosphorus and potassium. To get the right amount of N (let's say 6 pounds of actual N/1000) you would need to add about 85 pounds of the fertilizer per 1000 feet to keep everyone happy. The calculation goes: $6/.07 = 85$. Blood meal is basically about 12% N so you would need $6/.12 = 50$ pounds to get the same amount of nitrogen.

Nitrogen short vegetables generally have greenish yellow leaves (as compared to deep green) and are not as vigorous as well-fertilized plants.

Other garden topics

Don't plant more garden than you can take care of. A 1,000 square foot garden after initial tillage and planting will require about two hours of care of each week. Early weeding is especially important. This does not count harvesting and replanting. Start small and grow as your skills grow.

Consider painting the trunks of young trees with white latex paint to protect them from sunburn in the summer and freeze injury in the winter. Both problems often show up on the southwest side of the trees but paint the whole trunk. Keep vegetation mowed tight around new trees to reduce the damage from field mice (more properly called "voles"). Vole numbers have been very high throughout the Willamette Valley and Columbia County the last 5-6 years. Your cat can only eat so many.

Slugs will be showing up in droves soon. (FYI: a group of snails is called a "rout", nothing for slugs, yet. Here is your chance. Suggestions

welcome.) Treat with baits. Iron phosphate baits like "Sluggo" and others are safest around pets.

Keep your garlic weeded this time of year and fertilize it now during this period of rapid growth. Remember to remove the flower stalks that appear in May so that you get bigger bulbs.

Don't apply either insecticides or fungicides to fruit trees during the flowering period.

The Extension Service offers its programs and materials equally to all people.

Free newsletter

The Oregon State University Extension office in Columbia County publishes a monthly newsletter on gardening and farming topics (called County Living) written/edited by yours truly. All you need to do is ask for it and it will be mailed to you. Call 503 397-3462 to be put on the list. Alternatively, you can find it on the web at <http://extension.oregonstate.edu/columbia/> and click on newsletters.

Contact information for the Extension office

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Sierra Service Students Back at Work in Vernonia

About sixty students and ten adults were in Vernonia during the weekend of April 6-7 working on several projects to help the community.

The students were part of the Sierra Service Project and were all high school and middle school aged. They came from all over the western United States to spend their spring break doing service work. A handful of local Vernonia school students and citizens joined the Sierra Service students as well.

The students worked at the Vernonia Pioneer Museum where they did landscaping work, planted trees at the new Vernonia Schools campus, cleaned bricks from the old high



They provide life-changing experiences for youth of all denominations through acts of service.

school that will be used to build pathways in the Community Garden, painted at the American Legion Hall, cleaned up some City owned properties and did yard work for several senior citizens.

The students camped out for the weekend in the Vernonia Schools Campus where they were able to use the showers and the kitchen.

Sierra Service Project is an independent, interdenominational Christian 501 (c)(3) nonprofit organization affiliated with the United Methodist Church.

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