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## Backyard Fruit Growing For the Beginner

By Theresa Knutsen

When asked, most people say they want to grow their own fruit because it tastes better, saves money, and is healthier with fewer or no chemicals. They can let the children, or grandchildren, freely browse, or grow the variety they remember from their childhood. Some people want quantities of fruit for canning or drying, making jams, or pressing cider. Others prefer to be able to graze from their landscape throughout the growing season. So what do you want?

Before we dig in and start planting I feel it is important to understand where we are and what we have to work with. For instance, here in the Northwest we have a long rainy season extending from October or November to July 4<sup>th</sup> most years. Then in most years we have an extended dry period from summer into fall that most others across the temperate part of the country do not enjoy. Winter and spring play games, going back and forth, until it is finally (we're pretty sure) summer. As you travel across western Washington you go from foggy coastal to rainforest climates, rain shadow dry, alpine, inland maritime, broad river valleys, foothills, and mountain environments. Why does all this matter? The long cool rainy season supports many kinds of fungal organisms, the playful back and forth between winter and spring can encourage early flowering followed by cold or wet weather damage. You may have to irrigate every summer because of the extended summer dry spells. And both maritime and mountain locations will have shorter growing seasons and lower heat units for ripening fruit. Our climate is different from most of the rest of the temperate part of the country, from the Cascades east to the east coast. And most of the fruit and berry varieties are selected and produced for that bigger share of the market east of the Cascades.

What is the story in your own back yard? How many hours of direct sun does your yard get? Most fruit bearing plants require a minimum of 8 hours of direct sun in the leaf canopy, measured in July, to initiate flower buds for the next years fruit crop. When do your first and last frosts usually occur? How cold or hot can you get? Some fruits might not ripen properly if your location is not warm enough for a long enough period of time, or maybe you have a spot that accumulates a lot of reflected heat that would ripen that fruit. Do you have enough elbow room for that semi-dwarf tree that might grow to 30' to spread out in? Or do you need to select less vigorous plants so you can squeeze in more variety.

The soil you will put your plants in, and their soil requirements, are every bit as important as the environment you are growing in. It is valuable to know what your soils characteristics are, such as heavy clay, sandy, high or low level of organic matter, pH, soil depth, and nutrient levels. Have your soil tested professionally (ask your local co-operative extension office for recommendations in your area), or explore it yourself. Wet soil that is high in clay tends to be sticky, silt soils tend to feel smooth, and sandy soils tend to feel gritty. Organic matter tends to darken the color of the soil, bind a sandy soil, or lighten a clay soil. A simple test kit will help you determine the pH and primary nutrient levels in your soil (nitrogen [N], phosphorous [P], and potassium [K]). Some plants evolved in and are best adapted to certain soil conditions; others have been selected to perform best in particular soil conditions. A cactus planted in heavy wet clay would start suffocating from lack of oxygen to the roots immediately; an acid loving blueberry planted in typical garden soil pH of 6.5-6.8 would be unable to absorb nutrients, leading to unhealthy yellow or red foliage color, lack of vigor, and eventual death. An apple tree planted in a soil with pH below 5 that tends to hold a lot of water in winter and spring will tend to just sit there, or die, because the root system is in such a hostile location. A blueberry planted in the same location may thrive.

You can count on insects and diseases to be present, which means you can select for resistance (assuming the variety you are considering has been tested) or make a management plan before you plant. Your local WSU extension Master Gardeners will have a good idea of what the major issues in your area might be. Some of the more common include: scab disease, powdery mildew, bacterial canker, and brown rot. Common insect pests include apple maggot, codling moth, pear slug, aphid, Spotted Wing fruit fly, and leaf hoppers. Other challenges include deer, rabbits, mice, raccoon, squirrels, cats, dogs, children, and string trimmers.

Some types of fruiting plants are self-fertile (they do not need another variety near by to set a good crop of fruit), others are not and require another variety that blooms at about the same time. Sometimes within a type of fruit, such as plums, some varieties will be self fertile, others will require a pollenizer, and some will flower earlier or later than others. Be aware, you need the same type of fruit for the pollenizer, apples and plums, or pears, for example, do not pollenize each other. Some apple varieties do not produce viable pollen, but require a pollenizer to set fruit. In that case you will need 3 trees, 2 with viable pollen, whose bloom times overlap so all can produce fruit. If you are looking at pollination charts of companies in other parts of the country you may see they list a variety as self fertile that we say requires a pollenizer in the Northwest. That is due to our long cold wet springs. As you are making your choices plan also for when the fruit will be ripening, you might not want everything ripening at once! Unless you are planning to process and store the fruits of your labor. Early bloom does not always mean early ripening, and you can have a late blooming variety that ripens early in the season too. I usually recommend people purchase three varieties of blueberries, one each of early, mid, and late ripeners, to allow for the longest picking season of fresh blueberries. In our region blueberry bloom periods tend to overlap well enough for good fruit set, and they set larger crops with two or more varieties.

Fruit trees are grafted onto a root stock, primarily because that is the most time and money efficient way to produce that tree. It may also be the only way to reproduce that named variety. Root stocks are selected for more than just providing roots though, they are used to reduce the mature size of the tree, improve quantity of fruit set, reduce years to first fruit, and improve tolerance to particular soil conditions. (Hint: a grafted tree labeled dwarf will grow to 1/2 the size it would have if on it's own roots. It is not possible to give a specific height range for all dwarf trees, as some on their own roots might grow to 15', and others to 50'.) Root stock sizes are standard (on their own roots), mini-dwarf, 25-30% of standard, dwarf 45-60% of standard, and semi-dwarf 70-80% of standard. You can prune to reduce the mature size of a tree up to 25%, more than that is more challenging and may require both summer and winter pruning.

What does a good plant look like? Bare root plants should have a good root system (not too small compared to the diameter of the trunk) and a straight trunk or main leader. The top should be healthy, and it's nice if it has a reasonable shape, but don't be too picky. You can fix most issues in the top with your pruner, what you can't fix is a weak root system or crooked trunk. There is no advantage to selecting extra large bare root trees, medium sized trees establish in the same amount of time as the extra large and may even start bearing fruit earlier. Potted plants mostly hide their roots, though we can sometimes see roots peaking out of the drain holes. Strong previous seasons growth (look at stem diameter and height) tells us the root system has good vigor.

The planting hole should be dug just deep enough for the roots, and up to twice as wide. You can mix some organic matter (compost, peat moss, coconut coir) into the soil you removed from the ground, but no more than 20% ( a couple shovels full for a 3' diameter hole). Other beneficial amendments include bone meal or rock phosphate, kelp meal for micro nutrients, and symbiotic fungal organisms for tree roots. Soaking tree roots in water an hour or so before planting ensures they are well hydrated. Any other fertilizing or pH adjustment is best done from the surface after planting, or better, broadly across the area before planting.

Trim any broken or extra long roots from bare root plants, cut away circling and matted roots from potted plants. Place the plant in the hole so the top of the roots are at, or an inch or two above, the existing soil. As you back fill the hole make sure graft unions remain 2-4" above the soil, roots extend out and somewhat down with no circling or touching the sides of the planting hole, and you aren't leaving any large air pockets. (Hint: if the soil is sandy or silty you can firm in with your foot or hands, if the soil is heavy clay use water to firm in and not your foot).

After planting water in well and top the soil with a couple inches of mulch; straw works well for clay soils, finished compost for sandy soils under some straw or leaves. Decomposition in place supports a variety of organisms that will benefit the root health of your plants. If your location tends to have a prevailing wind stake trees to keep them from bending, otherwise staking is not usually recommended. Make sure you have a tag on the plant, and consider making a map as well (raccoons like to play with shiny tags). Lightly prune, if needed, to start shaping your new addition to your landscape. Plan on it taking 2-3 years to enjoy the fruits of your labor, except for strawberries and primocane blackberries.