Guidelines for Successful Fruit Tree Growing in Northwestern Montana

Home fruit gardening offers many benefits--exercise, enjoyment, a supply of delicious fruits, enhancement of the home landscape, and a truly educational experience. However, there is more to growing fruit than simply planting the crop and harvesting the fruit. Backyard growers and hobbyists must consider cultural requirements and solve pest and disease problems throughout the year for successful crops. There are also many challenges relatively unique to the Flathead Valley and NW Montana for those interested in growing fruit. Yet, even with the extra care and challenges there is nothing more satisfying or tastes better than growing your own food.

There are a wide variety of fruit trees that can be grown here in NW Montana. Apples, Applecrabs, Cherries, Pears, Peaches, Apricots, Plums, and Walnuts are all fruit varieties that may grow for you. Which trees are right for you is dependent upon your personal tastes and several other contributing factors.

Before we get started, it is important to understand the challenges that fruit gardener's face in the Flathead Valley and throughout Montana.

What Makes the Flathead Valley and NW Montana Unique For Growing Fruit Trees?

First – Short Growing Season

We average approximately 90 growing days (Frost Free Days) here in the Flathead (June 1 - September 1) . However, the number of growing days varies greatly depending on your location. Areas on or around Flathead Lake, Eureka, or Kalispell proper will have a longer growing season, while Columbia Falls, Kila/Marion, Olney, West Glacier, and Whitefish will have a shorter growing season. Elevation also needs to be taken into account. If you are located at a higher elevation, this too will create fewer growing days. Being in a mountain valley also creates microclimates that can cause dramatic environmental changes within a relatively short distance between growing locations.

Second - Cool Evening Temperatures

Nighttime temperatures from June through August average 46.7 degrees. Cool evening temperatures cause a slowing down of plant growth limiting our plants growth potential even further.

Third - Elevated pH in our Soils and Water

Years ago our valley was sculpted by glaciers creating the landscape we have today. These glaciers left behind deposits of calcium carbonate creating what is known as Calcareous Soil. This Calcareous Soil is highly alkaline creating soil pH's typically between 7.5 and 8.0. The calcium carbonate also effects our water creating not only a high pH (7.6 - 8.8), but also very high alkalinity levels. This means that every time you water your plants you are accumulating even more calcium carbonate, thereby increasing soil pH levels even more. Alkalinity and pH in

this elevated range causes severe nutrient deficiencies resulting in plants with stunted growth, yellowing of leaves, poor flower and fruit production, lowered ability to combat disease and insects, and even death. These alkalinity related deficiencies have a widespread detrimental effect on all types of gardening in our landscapes including annuals (bedding plants), perennials, vegetables, lawns, trees and shrubs, fruit trees, berries and even house plants.

So what does all this information mean to you and the growing of your plants? pH directly effects a plants ability to absorb and utilize both Macro and Micro Nutrients. Most plants prefer/require a pH between 6.0 and 6.5 (slightly acid) to thrive. Consequently, to make our plants reach their growing potential we need to find a way to reduce our pH.

Last - The Remedy

Fortunately, there is a simple and inexpensive way to remedy this pH problem: Elemental Sulfur. Annual amending of your soil with Sulfur is the key to unlocking your soil and obtaining maximum plant growth potential. By applying Sulfur to the soil either in beds or containers, pH is lowered resulting in optimum nutrient absorption by the plant and maximum plant performance.

The following are some general guidelines to get you started with growing fruit trees.

Selection

Most people know what kind of fruit they would like to grow, but determining which variety to choose can be confusing.

First of all, you need to make sure that the fruit trees you choose are cold hardy enough for your particular location. Zone 4 fruit trees will grow just about anywhere in the Flathead Valley. If you live in a colder area of the valley choose Zone 3 varieties. Zone 5 fruit varieties such as Apricots, Peaches, and Sweet Cherries generally due best around Flathead Lake and more temperate areas of the Flathead Valley. Please refer to our *Zone Hardiness Information Sheet* for additional information on plant zones. Please keep in mind, not everyone sells fruit trees that are hardy for our area. Be careful what you purchase.

The second thing to consider is making sure that you have enough growing days for your particular fruit to ripen. Late variety Apples and Pears are not good choices for colder areas or if you are at a higher elevation as the tree will grow, but the fruit will not ripen.

One must also consider pollination requirements. Many fruit tree varieties cannot set fruit with their own pollen, so it is necessary to select and plant two different varieties to insure proper pollination. Self-fertile fruit trees will set fruit with their own pollen, and therefore require you to plant only one variety or plant. In general, however, all plants produce more fruit when two or more varieties are planted close to each other. For best pollination, fruit trees varieties should be planted within 100 feet of each other. Please see the *Pollination Requirements for Fruit Sheet* for more specific information regarding fruit tree pollination needs.

Another thing to consider is what size tree do you want your fruit tree to mature to. The mature size of a fruit tree is determined by rootstocks. Rootstock influences hardiness, when fruit is

produced and how well a tree is anchored in the soil. Apple rootstocks vary in susceptibility to collar rot and fireblight.

Fruit Tree rootstocks come in three sizes: Standard, Semi-Dwarf, and Dwarf. Generally speaking, the more dwarfing the rootstock, the sooner after planting the tree will bear fruit. Size ranges include dwarf trees that are 8 to 12 feet fall, semi-dwarf trees 12 to 18 feet tall, and full-size trees up to 25 feet. Because of their hardiness, resistance to fireblight, and ability to grow without staking, Hooper's recommends Standard and Semi-Dwarf fruit stocks. One special note. If you co-exist with deer, Hooper's highly recommends planting with Standard trees if available. Standard trees grow faster and are easier to prune to a height where the branches and fruit are out of reach of the deer.

The last note on tree selection would be to choose varieties that are disease resistant. Newer cultivars have been developed that are far superior to some of the older varieties. These improved varieties offer greatly improved disease resistance meaning less maintenance for the grower.

Planting Information

Fruit trees are most often sold as container grown plants and can be planted throughout the growing season. All fruit trees must be in full sun to set a maximum fruit crop. Orient rows of trees on a north-south axis for maximum exposure as sun travels east to west. If full sun is not possible, choose a southern or western exposure. Spacing for fruit trees is generally 25 feet apart. This allows adequate room for growth, and maintains good air circulation for the trees.

Fruit trees prefer well-drained soils, but will grow with less than perfect soil conditions. Good internal water drainage in the soil is a more important consideration than soil fertility. Avoid soils and sites that are not well drained. If water stands for more than 24 hours after a spring rain, the soil is probably not drained well enough for fruit production. Wet soils result in oxygen-starved roots and a microenvironment conducive to disease development.

General Care

The following are some category breakdowns for maximizing your fruit production with the least amount of effort. These proactive cultural practices help to minimize problems and keep maintenance at a minimum.

- **Water**

  Proper watering is essential to the proper growth and potential of your fruit trees. The key to effective watering is simple: *Less frequent deep and thorough watering instead of frequent shallow watering*. Each watering should saturate the soil that your fruit trees are growing in. Since fruit trees produce fruit that is mostly made up of water, they require more water than other trees and plants. Consistent watering maintains proper fruit growth and creates a healthier tree. This is especially true for newly planted and younger fruit trees. All trees like one last drink of water before winter sets in and fruit trees are no exception. Just before the ground freezes for the winter give one last deep watering to your fruit trees. It is also a good idea to give a thorough watering first thing in the spring.

- **Fertilizing**
  Besides the pH adjustments that need to be made with an annual fall application of Sulfur, proper fertilization is an absolute necessity for achieving maximum fruit production and proper growth. Although the total amount of nutrients in the soil is important, the balance among them can be even more critical. Too much of a nutrient can be just as bad as too little. Hooper's recommends an early spring application of a well-balanced slow release fertilizer listed for fruit trees. Slow release is a key to proper growth, as too rapid of growth greatly increases your risk of insect and disease problems. Hooper's also recommends twice a year application of Magnesium in the form of Epsom Salts. Magnesium will help in developing larger fruit and should be applied in early May and then again in mid to late June

- **Thinning**
  Fruit set may be too heavy on some trees in some years. If fruit is not thinned, size, color and quality of the entire crop is reduced. Peaches and certain plums usually have excess fruit. Remove excess fruit by hand around mid June, when fruit is 3/4 inch in diameter. Thin to 4 to 6 inches between peaches and 2 to 3 inches between plums.

  Thin apples in early June to 6 inches apart when a heavy crop sets. This should be done no later than 50 days from bloom time to ensure a more even cropping from year to year. Trees will naturally drop excess fruit, but not as evenly as hand-thinning will do. Some cultivars tend to set a heavy crop every other year. This is a natural cycle for these cultivars.

- **Harvest**
  One of the great benefits of growing fruit in the home garden is the ability to harvest the fruit according to individual taste. One grower might consider a fruit to be ripe, whereas another believes it to be immature. The time to harvest is when it tastes good! As the fruits enlarge, change color, or simply begin to look ripe, try one--if it suits your taste, it's ready to be harvested. It's best, however, to be a little discriminating--don't pick too soon. Immature fruit spoils quickly and never develops full flavor. Pears should be picked at a green-ripe stage and "ripened" at a temperature of 72°F for approximately one week. A particularly effective way to ripen fruit is to place it in a brown paper bag on top of your counter at room temperature. The bag helps to seal in some of the naturally occurring ripening volatiles to promote faster ripening. In some instances this process can be enhanced by including a ripe banana in the bag.

  Fruit should be harvested regularly throughout the harvest season. Most fruits will rot in the garden when overripe. In addition to causing the loss of the rotten fruit, the rots can spread to unripe fruit before it is harvested. Regular harvesting can be used to reduce the buildup of insects and disease organisms that cause fruit loss through molds and rots.

- **Weed Control**
  Keep the area under the fruit trees canopies free of weeds and grass. This practice reduces competition for nutrients and water. Laying down an organic mulch 2-3 inches thick is also highly recommended. Mulching helps retain an even soil temperature and moisture level; as well as, limiting weed growth and feeding your soil.

- **Pests & Diseases**
  Unfortunately, fruit trees can be hosts for many pests and diseases. A pest is any organism that compromises the production and/or quality of the crop being grown. The first step toward pest and disease resistance is planting disease resistant varieties in a sunny location with good air circulation. Healthy trees are your best defense against pests so ensure your fruit trees are being watered and fertilized properly. Controlling pests outside of good cultural practices can be broken down into Dormant Strategies and In-Season Strategies.

  Dormant Strategies include proper pruning and good sanitation. Cleaning up debris helps to reduce the number of spores that overwinter to infect trees the following season. Removing and destroying insect-infested fruit and leaves prevents larvae from maturing to produce offspring and causing further damage. Dormant applications of Lime-Sulfur and Oil sprays is also a great way to prevent pest and disease problems. These proactive approaches can significantly reduce problems associated with pests and disease.

  In-Season Strategies tend to be a more reactive approach to pests and disease. The conditions for insect and disease development vary from year to year and among crops. Sprays used to combat specific pest and disease problems will vary depending on what problems your fruit trees are encountering. Both organic and synthetic sprays, beneficial insects, baits, and traps can all be effective means of controlling in-season pests and disease.

  Careful observation of the biological system that surrounds your fruit trees is one of the most educational and challenging aspects of growing fruit. Regularly evaluate your fruit trees paying attention to the blossoms, fruit, upper and lower surfaces of the leaves, new shoot growth, and general color and angle of the leaves. A great way to monitor in-season problems is to use yellow sticky traps. These traps attract and trap flying insects so you can monitor what insects are present at any given time. This eliminates any unnecessary spraying of pesticides.

- **Pruning and Training**
  The goals in pruning and training are to maximize light penetration into the tree and to maintain healthy fruiting wood. At planting, fruits trees may require pruning to begin shaping them to the “Modified Leader” system. At planting, choose four to six branches, about 3 feet from the ground and spaced as equally as possible around the tree, to form

the first-tier or scaffold branches. These branches should not all be at the same height on the trunk. Prune out all remaining branches. If the leader extends more than 12 inches above the tips of the scaffold branches, prune the leader as well. (Figure A.) Note: Hooper's sells fruit trees where this pruning has already been done for you.

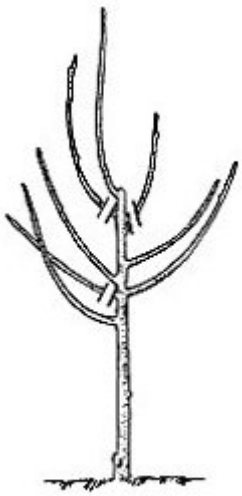

Figure A

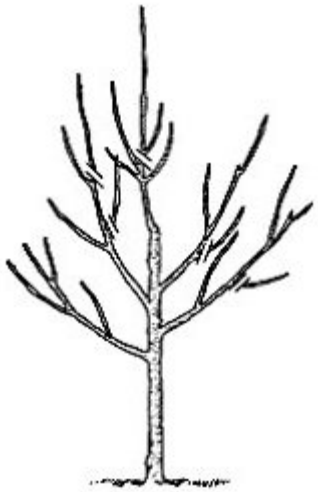

Figure B

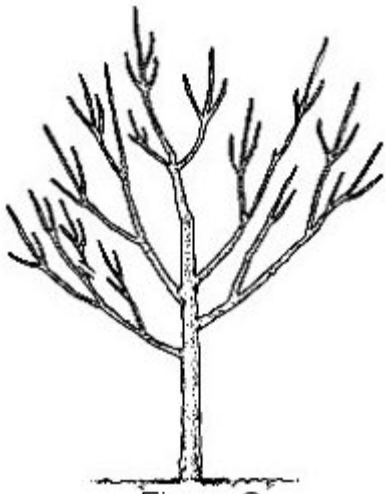

Figure C

- In the second year and thereafter, prune in late winter to early spring (usually March and April). If you were able to select first-tier branches in the previous year, you may select four to six second-tier branches. These should begin about 18-20 inches above the first tier and should again be spaced as equally as possible around the trunk and at different heights from one another. Remove all other branches not belonging to the first or second tiers and prune the leader as in the first year. (Figure B).

  Prune sparingly in subsequent years, removing weak or crossing branches and those growing inward or down. Prune late winter to early in spring. (Figure C.)

- **Winter Care**

  Fruit trees are highly susceptible to trunk cracking in winter. Often, this is caused by fluctuating temperatures as the winter sun warms the bark on very cold days. To prevent this, wrap the trunk with a Vinyl trunk protector in late fall, and remove it from the tree in spring. The trunk protector should extend from the ground to just beyond the first scaffold branch base.

  Rodents are also a threat to fruit trees in winter, chewing the bark and the living tissue beneath it. Vinyl trunk protectors and keeping mulch a few inches from the trunk will protect the trunk from rodent damage.