

## **CONTROL THE SIZE OF YOUR FRUIT TREES!**

Keeping home orchard trees small will allow more trees to be planted in a given space, which in turn allows more kinds of fruit over a longer season. Small trees are easier to thin, prune, harvest and keep maintained in small spaces. Keeping trees small and compact is easy if a few important principles are understood.

### **ROOTSTOCKS FOR SIZE CONTROL**

When adding to a home orchard, or planning a new one, it is necessary to understand the limitations of rootstocks in controlling tree size. The degree of size control provided by the rootstocks sold today as dwarfing or semi-dwarfing is generally less than expected by the homeowner. If not properly pruned, especially in the first two to three years, semi-dwarf trees can grow as tall as 15-20 feet tall and out of control before the homeowner recognizes the problem. It is difficult to make these trees small again. See our "Basic Pruning of Fruit Trees" handout on how to get an out of control fruit tree under control.

Rootstocks are selected to satisfy specific requirements. Some of these requirements are: tolerance of soil and climate conditions, resistance to pests and diseases, heavy bearing in early years (precocity), tree longevity, and ease of propagation. To date, no rootstocks have been developed which do all these things, plus fully dwarf the scion. Controlling tree size is primarily the responsibility of the grower.

### **SUMMER PRUNING FOR SIZE CONTROL**

Most kinds of deciduous fruit trees require pruning to stimulate new fruiting wood, remove broken or diseased wood, space the fruiting wood, and to allow good air circulation and sunlight penetration in the canopy.

Pruning at the same time as thinning the crop is strongly recommended. By pruning when there is fruit on the tree, the kind of wood on which the tree sets fruit (one year, two year, spurs, etc.) is apparent, which helps you make a better pruning decision. Reducing the canopy by pruning in summer reduces photosynthesis (how a plant manufactures food), thereby reducing the capacity for new growth. Summer pruning reduces the total amount of food materials and energy available to be stored in the root system in late summer and fall. This controls vigor the following spring because spring growth is supported solely by stored foods and energy. Pruned trees channel more nutrients into fruit production, rather than excessive foliage. The fruit grows larger, and blushed or red types develop better color. Pruning also opens up the tree and improves air circulation, which helps prevent diseases. Fruit trees may be maintained at virtually any size by summer pruning thus eliminating dangerous ladder work.

Starting at planting, the object is to get the fruit bearing limbs as low as possible. To accomplish this, start with a bare root fruit tree and cut the tree at knee height after planting (or when leaving the nursery). After the spring flush has occurred, in late May or so, cut back the spring flush by half. A summer flush of growth will follow and in August or early September. Cut back the summer flush of growth by half. You now should have somewhat of a bush at the end of the first year. Except for cherries, starting the 2<sup>nd</sup> season, thin all fruit by 50-75%, leaving plenty of space between the remaining fruit (at least the width of your fist or more). In the 2<sup>nd</sup> year, cut back the spring flush by half. Sometime after harvest, it may take two cuts after harvest to control the summer flush. Apples should have the 2<sup>nd</sup> cut any time in August or September with or without fruit on the tree. Beginning the 3<sup>rd</sup> season, follow the recommendations for the 2<sup>nd</sup> season with one exception; during the spring cut, when you encounter multi-limbed growth occurring at the

very top of the tree, cut just below this growth to remove it. This is also the time to start thinking about how tall you would like the tree to grow. The recommendation is no taller than you can reach standing on the ground. Short people should have shorter trees; tall people should have taller trees.

When starting with container trees, choose a tree with good low scaffold limbs that are well distributed around the tree. Start your summer pruning with the next recommended pruning from the time you plant.

Heading back or renovating an older tree can be a dangerous task and is recommended that you contact a professional. If a tree is over 10 years old it is too old to be cut back hard. Lowering an overgrown tree should be done over three seasons. Look at removing 1/3 of the canopy each season followed by removing all the spring flush sometime in May. Repeat this for the next two seasons. Remember 1/3 of the canopy means 1/3 of the fruiting body of the tree, not 1/3 of the total tree.

We hold pruning seminars two times a year, in summer and fall, to educate about pruning. Ask a Nursery Employee about future dates.

### **TRAINING FOR SIZE CONTROL**

Many classic fruit tree forms such as the fan, cordon, and espalier take advantage of the fact that directing growth toward the horizontal reduces vigor and encourages fruitfulness. The direction of growth is managed by pruning to a bud that points in a desired direction, and by pulling down and tying limbs to a supporting framework. For example, espalier is an old method for adapting a fruit tree to a virtually two-dimensional space against a wall or fence.

### **CLOSE PLANTING FOR SIZE CONTROL**

Close (high density) planting can accomplish several things at once. More trees planted in a given space allows a greater variety of fruit to be harvested over a longer period of time. Close planting also has the effect of restricting the trees' vigor, a great aid in size control.

The simplest form of close planting is three or four trees in one hole. The trees are planted 18-24" apart, in a triangle pattern for three trees or a square pattern for four. The trees should be slanted out slightly. Each tree constitutes a scaffold limb. Pruning is the same as for a single tree, except that the more vigorous varieties may need to be pruned more heavily to prevent them from dominating and shading out the other varieties. The trees may need to be strapped together for support.

A hedgerow allows the maximum possible number of trees in a given space. Spacing can be anywhere from say seven feet between trees to three feet for more aggressive plantings. For all spacings, the pruning strategy is essentially the same: prune to maintain size and shape by cutting back vigorous growth once or twice each growing season. Hedgerows must be kept wider at the bottom than the top to prevent the lower limbs from shading out.