



Growing Fruit Trees

Home tree fruit production can be a rewarding venture. Your success in growing fruit will depend on site selection, proper cultural and pest management, choice of fruit types and varieties adapted to your location.

Site Selection

Deep, well-drained sandy loams with good moisture and nutrient-holding capacity are the best soils for fruit growing.

Full sunlight nearly all day long is essential. Trees that do not receive at least 6-8 hours of direct sunlight each day will be "leggy" and will produce few flowers and fruits.

Plant fruit trees on a slope that allows cold air to drain down to lower levels. Plantings nearer the top of a slope will suffer less spring frost injury than those at the bottom.

Soil Preparation

Prepare soil thoroughly by plowing, tilling or spading before planting. Incorporate lime and organic matter such as well rotted manure, wet peat moss, or compost into the top 8 to 10 inches of soil before planting. Apply lime as recommended by soil test. If soil test results are not available, apply 10 pounds lime per 100 square feet.

Table 1 Climatic Limitations of Various Tree Fruits in New Hampshire

| | |
|---------------------|--|
| <i>Apple</i> | Adapted throughout New Hampshire |
| <i>Pear</i> | Adapted to southern New Hampshire and warmer sites in northern New Hampshire. |
| <i>Peach</i> | Hardy to -10 to -15°F. Generally restricted to frost-free sites in extreme southern New Hampshire only. |
| <i>Plum</i> | Plums are hardy in southern and central New Hampshire on frost free sites. Hybrid plums may be hardier. |
| <i>Sweet Cherry</i> | Sweet cherries are hardy to -10 to -15°F and require a very frost free site. |
| <i>Tart Cherry</i> | Generally hardy throughout N.H.; however, they do bloom in early spring and require a frost-free site. |
| <i>Apricot</i> | Same climatic limitations as sweet cherry. |

Purchasing Trees

Purchase trees from a reputable garden dealer or nursery. Most fruit trees come in two parts: a particular variety (such as McIntosh) and the rootstock onto which it is grafted. Home garden catalogs use the terms "dwarf," "semidwarf," and "standard" to describe tree size.

Dwarf and semidwarf trees generally make more sense for home gardeners than standard or full sized trees, which can grow to 30 feet tall and spread their branches 30 feet in diameter. Dwarf trees take up less space, bear fruit at an earlier age, and are easier to spray and prune. However, though dwarf pear trees also produce fruit at an earlier age than standard trees, they lack winter hardiness and may be short-lived. Standard or full-sized pear trees are preferred except where space is limited.

Varieties

There are hundreds of tree fruit varieties that will grow well in New Hampshire. The varieties below grow well over a wide range of sites. Varieties are listed in the approximate order of their ripening:

Apple (Apple Scab Resistant) - Redfree, Prima, Liberty, Freedom, Nova Easygrow (many others)

Apple - Gravenstein, Paulared, McIntosh, Gala, Cortland, Macoun, Delicious, Baldwin, Northern Spy¹ (many others)

Pear - Bartlett, Seckel, Bosc¹ (others)

Peach - Red Haven, Reliance², Madison (others)

Nectarine - Hardired, Merricrest¹

Sweet Cherry - Sam, Hedelfingen, Kristin, Black Tartarian (others)

Sour Cherry - Montmorency, North Star, Meteor

European Plum - Earliblue, Stanley¹ (others)

Japanese Plum - Methley, Shiro, Ozark Premier, Burbank (others)

Hybrid Plum - Underwood, Pipestone, Superior, Toka

Apricot - Goldcot, Goldrich (others)

¹--Will ripen crop in southern half of New Hampshire only.

²--While most peach and nectarine cultivars are only hardy to -10 to -15°F, Reliance, Merricrest may be hardy to -25°F.

Cross-pollination

Apples, pears, plums (except European plums, many of which are generally self-fruitful) and sweet cherries all require cross-pollination to set fruit. For cross-pollination to occur, two different varieties of the same fruit must be grown (i.e. McIntosh and Delicious apples). Sour cherries will not cross-pollinate sweet cherries and European plums will not cross-pollinate Japanese plums. Not all combinations of varieties are compatible. These limitations are generally noted in catalog descriptions of the individual varieties. Bees are required to effect cross-pollination.

Planting

Fruit trees should be planted in early spring. Dig a hole large enough to accommodate the entire root system. Set dwarf trees so that the graft union between the variety and rootstock is 3 to 4 inches above ground. For standard or full-sized trees, set trees 2 to 3 inches deeper than they were set in the nursery. When planting, fill the hole 1/2 with backfill soil. Add enough water to thoroughly soak the root zone. Finish backfilling the planting hole, firming the soil. Fill to ground level to prevent winter ice damage.

FRUIT TREE SPACING IN THE HOME GARDEN

| Crop | Rootstock | Spacing in Rows | Spacing Between Rows |
|--------------------|-----------|-----------------|----------------------|
| Apple | Dwarf | 8 ft. | 12 ft. |
| | Semidwarf | 12 ft. | 20 ft. |
| | Standard | 25 ft. | 30 ft. |
| Peach Nectarine | Standard | 15 ft. | 20 ft. |
| | Semidwarf | 10 ft. | 15 ft. |
| | Dwarf | | |

Pruning and training

Pruning fruit trees at planting and during the first 4 or 5 years is very important in defining the future form and structure of the tree. Apple, pear, cherry, plum and apricot trees are usually trained and pruned in the central leader system. In this system, a single central leader (or trunk) is developed and lateral branches are developed with wide crotch angles (almost, but not quite flat). Branches that form narrow crotch angles with the leader or trunk tend to split out while those with wide crotch angles are very strong.

Pruning Central Leader Trees at Planting

When pruning at planting leave as many well-positioned branches as possible. If all but 3 or 4 are removed, those left will be vigorous and upright (and less fruitful). Low limbs will be removed in later years, but in the first year they will contribute leaf surface, increasing growth. The use of a tree training stake that extends above ground up to 6 to 8 ft. will help tree growth and development. Commercial growers often use electrical conduit pipe, 3/4 in. diameter by 10 ft. long, for this purpose, but wooden stakes work well also. Ties trees to stakes with soft twine or plastic electrical tape.

Do not tip or head laterals (tipping is the removal of several inches from the end of a branch) as tipping will result in excessive regrowth and delay fruiting. Instead, use limb spreaders or tiedown to position laterals almost, but not quite level. This will increase early fruitfulness of these laterals. There are many ways to spread lateral limbs. You can hang weights on limbs to pull them down or, using soft twine, tie them down to stakes driven into the ground. The tree leader or trunk may be headed at 39 inches or 12 inches above the highest branch.

Pruning Central Leader Trees in Future Years

Always identify the central leader and eliminate any strong, upright shoots that are competing with the leader. Pruning to a single leader or trunk is important. Multiple trunks will shade fruiting wood and reduce future production, particularly in the lower parts of the tree. Select the straightest upright leader and tie it or tape it (using plastic electrical tape) to a stake. If the tree is not trained to a stake, head the leader by removing 1/3 of last year's growth to strengthen the leader and induce lateral branching.

Eliminate oversized laterals (excessively large when compared to other laterals). Balance is very important. Oversized laterals within any part of the tree can create shading of other laterals and compete with the central leader. Complete removal of these oversized laterals is almost always the best course of action. Thin remaining strong laterals, leaving 4-5 that are evenly distributed around the tree. Leave as much twiggy, weak wood as possible. Removing this weak wood and fruiting spurs (very short branches bearing large flower buds) will reduce the fruit producing potential of the tree.

Control the height of the tree by actively pruning the top portion of the tree. Prune out vigorous laterals and leave weaker wood. If the leader is too tall, reduce height by cutting back to a less vigorous upright shoot. If a lateral is too long reduce its length by cutting back to a side branch.

The use of limb spreaders or tiedowns should be used to spread upright growing, vigorous laterals. Do not spread them to a complete horizontal position as this will stimulate sucker development.

Pruning Peaches and Nectarines

Peaches and nectarines are generally trained in an open center system. Consult the UNH Extension fact sheet *Growing Peaches* for information on pruning these trees.

Mouse (vole) protection

Fruit tree trunks should be protected from mouse damage (girdling). Plastic wrap-around guards are available from garden supply dealers. Wire guards (preferred) can be made from 1/4 inch mesh hardware cloth. Mouse guards should be set about 2 inches deep in the ground and be 18 to 20 inches tall. If snow becomes deep enough to cover the top of the guard, shovel it out to below the top of the guard. Remove all weeds out to a distance of 3 feet from the trunk. This will encourage tree growth and discourage mouse activity. Mow the remaining orchard floor regularly to eliminate the cover of tall grass that mice prefer.

Fertilizer

Three weeks after planting, apply 1 pound 10-10-10 garden fertilizer (or its equivalent) in a circle 18-24 inches from the trunk. In succeeding years, fertilize in early spring with 10-10-10 at the rate of 1/2 pound per 1 inch of trunk diameter measured 1 foot above the ground (i.e., a 5 inch-diameter tree would need 2 1/2 pounds 10-10-10). Do not exceed 3 lb. 10-10-10 per tree.

Mulch

Mulches are generally not desirable for tree fruits since they provide an ideal home for orchard voles. In a very sandy or gravelly soil, however, a mulch of bark, sawdust, or wood chips could be used help conserve soil moisture and nutrients and control weeds.

Winter Sun Protection

Injury to the south and west side of trunks of young fruit trees (Southwest Injury) can occur on cold, clear winter days. The dark bark traps the sun's heat. To prevent southwest injury apply a very light coat of a mixture of equal amounts of water and white interior latex paint to the south and west sides of the trunk from the ground up to the first branch. Apply this paint/water mixture in late autumn.

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