UNIVERSITY OF ARKANSAS
DIVISION OF AGRICULTURE
Cooperative Extension Service

Agriculture and Natural Resources

# Stone Fruit Production in the Home Garden

## (Nectarines, Plums and Peaches)

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Stone fruits are a welcome addition to the home fruit orchard. However, success in growing fruit trees and in producing quality fruit doesn't just happen; careful attention must be given to basic management practices including site selection, variety selection, weed control and water and pest management.

## Soil and Site Requirements

Good soil drainage is essential for growing healthy, productive trees. Soils with standing water or those that remain saturated for even a day or two following a heavy rain are unsuitable for stone fruit trees. If this describes your soil, you can still grow fruit by planting trees in well-drained, raised beds. Prepare beds by bringing in or scraping up topsoil into a 6- to 12-inch-high mound at least 8 to 10 feet across. High organic potting soil mixes are less desirable because they encourage continual fall growth and make young trees more vulnerable to winter freeze injury. A raised bed can be framed with railroad ties or edging timbers for a more attractive appearance.

A soil fertility test before planting helps avoid undesirable sites, and minerals such as phosphorus and potassium can be added before planting if needed. Most soils in Arkansas are acidic and must be altered to suit the intended crop. Additional information on soil testing is available from your local county Extension office.

Plentiful sunlight is a key to maximizing fruit production. Choose an area that is sunny most or all of the day. Early morning sunshine is particularly important to dry dew from the plants, thereby reducing the incidence of diseases. If the planting site does not receive sufficient sunlight, expect reduced performance from the trees.

## Purchasing Trees

Purchase trees from a reliable source. Bargain plants may not be healthy or may be a variety that is not adapted to your area. Ideally, purchase 3- to 4-foot trees with good root systems which are free of apparent disease problems. A smaller tree with a good root system is more desirable than a larger tree with a poor root system. Specify that you want trees that are budded onto Lovell rootstock. This rootstock has performed best in research trials. Most fruit trees are sold "bare root." Purchase and plant bare root trees while fully dormant. Spring planting is advised for northern Arkansas, while both spring and fall planting are acceptable for the rest of the state.

## Soil Preparation and Planting

Thoroughly prepare the soil before planting by cultivating deeply and making any recommended adjustments to the soil. In general, soil preparation should occur in the summer preceding fall or spring planting.

When the fruit trees arrive from the nursery, open the bundles immediately to inspect for damage and check the general condition of the trees. Do not accept trees if the roots appear to have dried out. This is also true for trees purchased from your local nursery or garden center. “Heel in” the trees if you are not ready to plant them. Simply dig a shallow trench in which tree roots or a bundle of trees can be covered with moist soil to protect them until planting.

Plant in the winter, preferably before March l to allow for root development before spring growth. Before planting, soak the roots for no more than 1 hour to ensure they are not under any moisture stress.

Dig the planting hole just large enough for the tree's root system to be spread in a natural position. Avoid digging a hole deeper than the root system as loose soil beneath the roots usually causes trees to sink too deeply. Larger holes filled with topsoil are of no benefit unless the soil at the planting site is extremely poor (rocky, calcareous, etc.). In such cases, use raised beds.

Stone fruit trees will develop at least a 15-foot diameter limbspread at maturity. So plant them at least 10 feet apart to avoid excessive competition.

Set plants at approximately the same depth that they grew in the nursery. Using the soil taken out of the hole, firm it around the roots and do not add fertilizer to the hole. Water the trees thoroughly soon after they are set; be sure that air pockets in the hole are filled and that the soil is at the proper level on the base of the tree after watering.

## Pruning and Training

Pruning a young tree controls its shape by developing a strong, well-balanced framework of scaffold branches. The open center pruning system is best suited for stone fruit trees in the home fruit planting. Since most fruit trees bear fruit on wood that grew the previous year, this wood is regrown from year to year. New growth needs full light or it will shade out and die with all the production occurring on the outer perimeter of the tree. The open center system outlined below maximizes light penetration to all parts of the tree, resulting in fruit production over the entire tree (Figures 1-4).

Light pruning can be done any time of the year. However, perform major pruning only during the dormant season or late winter just before budbreak.

In northern areas it is better to delay pruning until after the coldest days of winter to avoid cold injury to the trees.

**Figure 1. At planting – Top the tree approximately 2 feet above the ground and remove all the side branches regardless of tree size.**

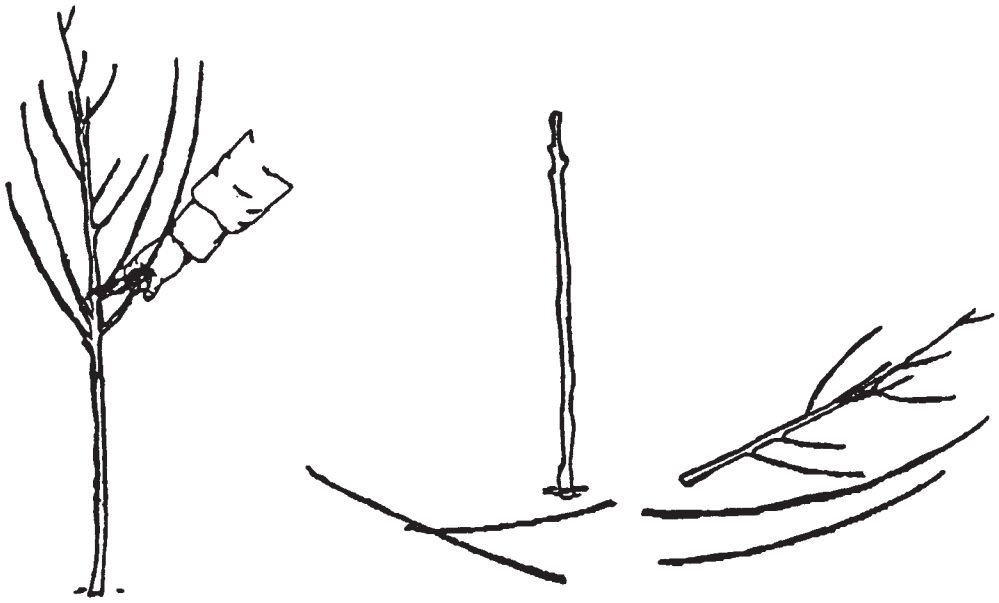


**Figure 2. Training during year 1 or 2 depends on rate of growth. Clip the tips on main branches 18 to 24 inches from main trunk to force side shoots to develop (see a). Remove suckers regularly (see b). Leave three or four well-spaced, wide-angled branches to form a bowl-shaped framework or scaffold system.**

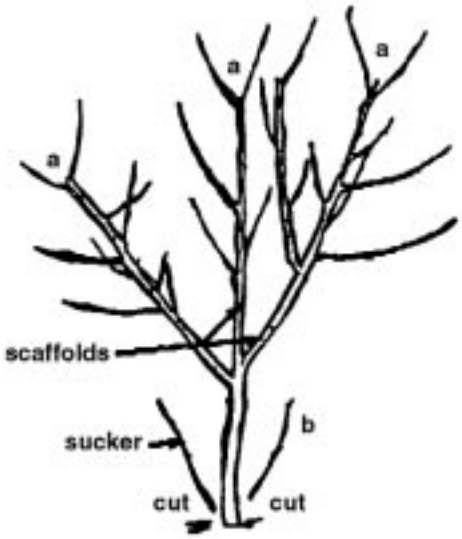



**Figure 3. Training during year 1, 2 or 3 depends on rate of growth. Remove watersprouts (vigorous upright shoots) (see a). "Subscaffolds" develop after clipping the tips from the scaffolds. Remove suckers regularly (see b). Remove larger branches that usually fill the bowl-shaped center of tree but leave sufficient short leafy growth in the center to provide shade protection for the scaffolds.**

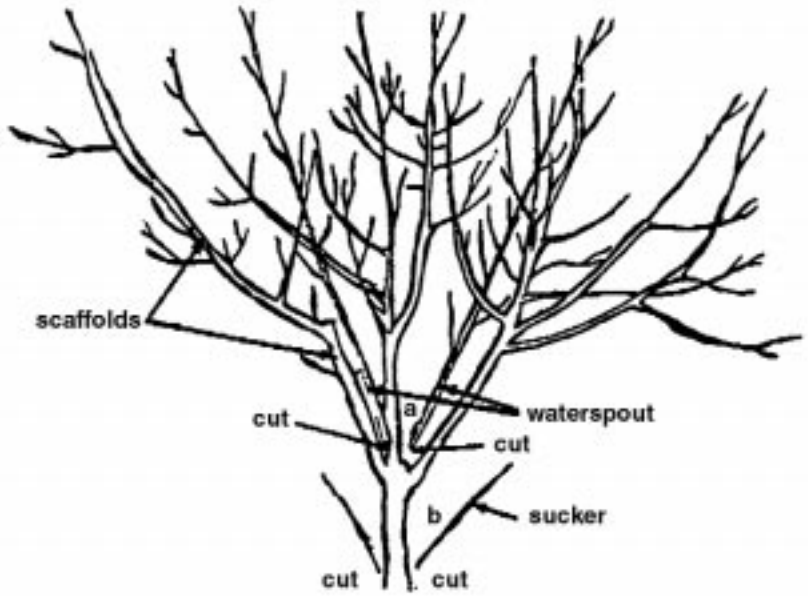
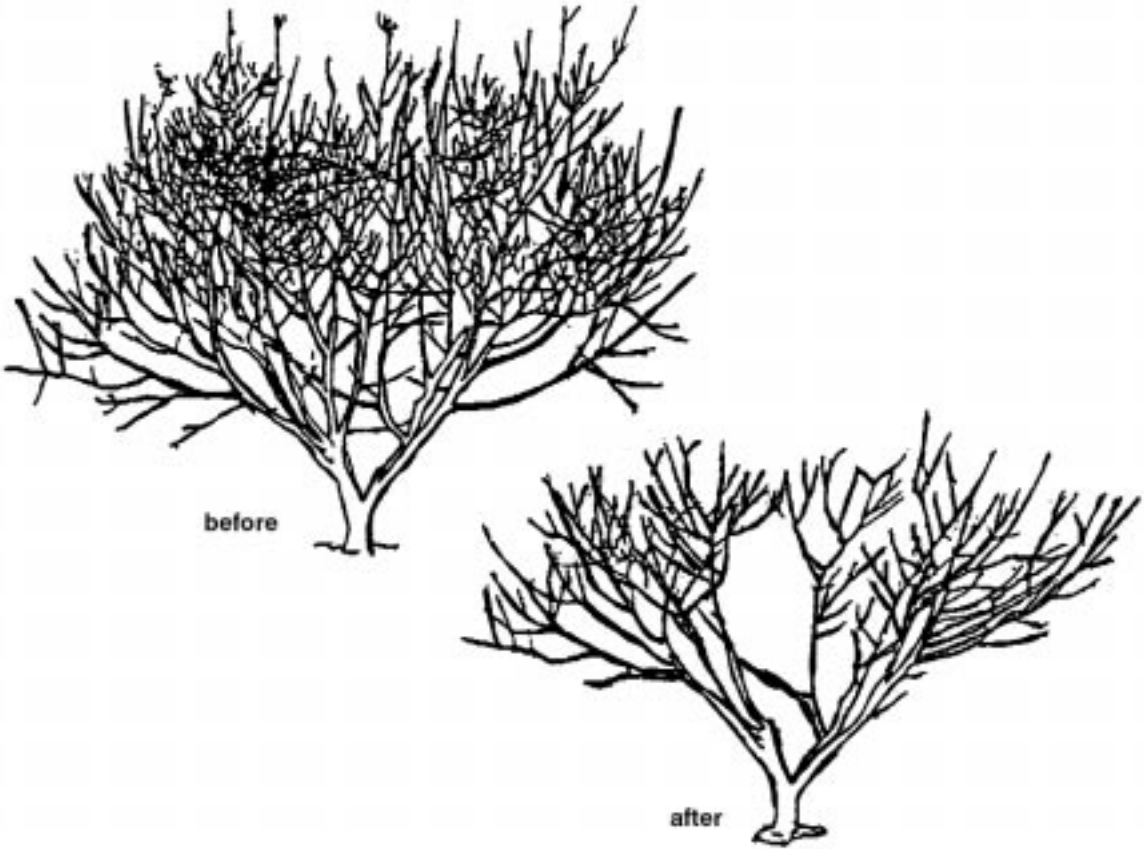



**Figure 4. Bearing trees – Clip subscaffolds and other branches to maintain a practical tree height (usually 6 1/2 to 7 feet above the ground). Fruit are set on 1-year-old shoots so these must be regrown from year to year. Thin out crowded shoots that will receive little sunlight. Remove low "in-the-way" branches that may sag to the ground under a crop loac**



## Irrigation

Water is essential for producing large fruit and maintaining healthy trees. Whether trees are watered by drip irrigation, sprinklers, the garden hose or rainfall makes little difference as long as the trees receive sufficient water. Normally trees need water at least every three weeks. In summer heat, provide a deep soaking irrigation at least weekly to maintain healthy trees. Overwatering can damage or drown trees. Sticky clay soils are especially vulnerable to water saturation and should be allowed to dry for a few days between each watering.

## Weed Control

Eliminating weed competition around young trees is critical for survival and rapid growth. Heavy weed or grass competition results in severe nitrogen deficiency (yellow foliage with red spots); trees will produce little or no growth and often may die. Ideally, the soil surface should be kept weed-free in an area at least as wide as the limb spread of the tree. The safest way to do this is with a hoe. Chemicals are available that will do a good job, but they are hazardous if used carelessly. Do not attempt chemical weed control unless all aspects of safety and sprayer calibration are well understood.

## Fertilization

Fruit trees can be fertilized the first year after they leaf out in the spring. Place the fertilizer slightly beyond the canopy edge of the tree but never against the trunk. General recommendations for regularly watered trees are as follows:

| | March | April | May | June | July |
|---|---|---|---|---|---|
| **Year 1** | | 1 cup balanced | 1 cup 21-0-0 | 1 cup 21-0-0 | 1 cup 21-0-0 |
| **Year 2** | 2 cups balanced | 2 cups 21-0-0 | 2 cups 21-0-0 | 2 cups 21-0-0 | |

**NOTE:** 21-0-0 is ammonium sulfate. If pH is low (as in much of Arkansas) continued use will acidify soil too much. May want to use Urea or ammonium nitrate for most soils.

**Bearing Trees**

February – 2 cups balanced fertilizer per inch of trunk diameter.

May – 2-6 cups 21-0-0 per tree depending on vigor of shoot growth.

August – No fertilizer if trees are making vigorous growth; 1 1/2 cups 21-0-0 per tree if there is no new growth but healthy leaves; 3 cups 21-0-0 per tree if there is no new growth and leaves yellow.

**NOTE:** One cup of granular fertilizer is equivalent to approximately 1/2 pound.

Apply balanced fertilizer according to soil test recommendations, or use a common mix such as 12-12-12 or 13-13-13.

If your soil pH is above 7.5, do not apply phosphorus fertilizer.

## Fruit Thinning

Fruit trees grown under favorable conditions set more fruit than can be properly developed. Removing excess fruit is necessary to ensure satisfactory development of the remaining fruit and to prevent limb breakage and shortened tree life from over-cropping. Remove the fruit by hand approximately 4 weeks after bloom. Space fruit about one every 6 to 8 inches on a branch.

## Disease and Insect Control

The best quality fruit is produced when diseases and insects are controlled. Unless an efficient spray program is maintained, it is not advisable to plant stone fruit trees. The most serious diseases are brown rot, scab and leaf curl; insect problems include scale, plum curculio, catfacing insects and peach tree borer. The first line of defense is good sanitation. Remove old diseased fruit and wood as it appears on the tree. Your local county Extension office has information on timing, methods and materials to control diseases and insects. Many garden centers sell home orchard fruit tree sprays containing an insecticide and fungicide. Applying one of the products according to label directions usually controls most insect and disease pests.

## Nectarines

The nectarine is a fuzzless mutation of a peach. Nectarines are not generally well adapted because the smooth-skinned fruit is especially vulnerable to diseases and wind-scarring. Currently the recommended variety list is small (Table 1), but trials are under way by the University of Arkansas Fruit Substation to evaluate some of the new varieties. In addition, an active breeding program is being conducted to develop varieties adapted to Arkansas.

**Table 1.**
**Recommended Nectarine Varieties for Arkansas (in order of ripening[1])**

| | |
|---|---|
| Westbrook | June 9 |
| Arrington | June 24 |
| Bradley | June 29 |

[1]Date fruit ripens at Clarksville, AR.

## Plums

Plant at least two varieties to ensure pollination of certain varieties. The recommended varieties are Japanese or Japanese-hybrid plum varieties (Table 2). These are the traditional "Santa Rosa" types seen in supermarkets. The large-fruited European-type plums that are used for jellies, jams, canning and prunes are not as well adapted here because of greater disease susceptibility and lower production. A couple of varieties may be grown in Arkansas and are listed in the table.

**Table 2.**
**Recommended Plum Varieties for Arkansas**

| | Ripening Date (in Clarksville) |
|---|---|
| **European Type** | |
| Stanley (self-pollinating) | Late August |
| Damson (self-pollinating) | Late August |
| **Japanese Type (require cross-pollination)** | |
| A. U. Amber | Early July |
| Morris | Mid July |
| Methley | Mid July |
| A. U. Producer | Late July |
| A. U. Roadside | Early August |
| Ozark Premier | Mid August |
| Burbank Red Ace | Mid August |

## Peaches

Peaches are well-adapted to most parts of Arkansas (Table 3). Because all peaches are self-fruitful, it is not necessary to plant more than one variety. One tree normally supplies more peaches than one family can consume. The later ripening varieties are of better quality.

When ordering peaches from a catalog, do not order varieties that have chilling requirements of less than 750 hours. These trees will bloom too early resulting in loss of crop to spring freeze damage. Chilling hours information will be listed in the catalog.

**Table 3.**
**Recommended Peach Varieties for Arkansas (in order of ripening)**

| Variety | Flesh Color | Stone* | Ripe (in Clarksville) |
|---|---|---|---|
| Goldcrest | Yellow | Cling | June 3 |
| Derby | Yellow | Cling | June 13 |
| Sentry | Yellow | Cling | June 25 |
| Surecrop | Yellow | Cling | June 30 |
| Redhaven | Yellow | Semi-Free | July 5 |
| Bellaire | Yellow | Free | July 6 |
| Winblo | Yellow | Free | July 17 |
| Contender | Yellow | Free | July 18 |
| Jay Haven | Yellow | Free | July 21 |
| Loring | Yellow | Free | July 22 |
| Cresthaven | Yellow | Free | August 7 |
| Ouachita Gold | Yellow | Free | August 10 |
| Finale | Yellow | Free | August 15 |
| LaJewel | Yellow | Free | August 23 |
| LaWhite | White | Semi-Free | June 30 |
| White River | White | Free | July 20 |
| Summer Pearl | White | Free | August 4 |

*__Cling:__ Flesh adheres to the stone. Recommended for canning and freezing. __Free:__ Flesh does not adhere to the stone. Superior dessert quality.

Acknowledgment is given to Dr. J. N. Moore, John R. Clark and Curt R. Rom for their review and input on the manuscript.

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FSA6060-PD-7-03RV