

Fruit Culture in Alabama
**Fertilization and Weed
Control**

Maintaining optimum soil and crop fertility through the use of inorganic fertilizers as well as organic materials is essential in maintaining fruit plantings. Weeds compete adversely with fruit plants, especially during the early developmental period, and must be controlled.

Fertilizers

Fruit trees and vines, like other crops, need the correct kinds and amounts of plant nutrients to produce good crops. The best way to determine fertilizer needs is to send a soil sample to the Soil Testing Laboratory at Auburn University or another certified laboratory for testing.

In general, nitrogen is the most essential element for fruits. Nitrogen is needed annually to develop new shoot growth, to maintain healthy green foliage, and for proper growth, maturity, and optimum production of quality fruit. The length of new shoot growth can be used as a guide to determine how much nitrogen to use. Too little nitrogen results in:

- Short growth
- Yellowing foliage
- Small, well-colored, early maturing fruit

Too much nitrogen causes:

- Excessive growth
- Dark green foliage
- Late-maturing, poorly colored fruit

Most fruits need only moderate levels of phosphorus and moderate to high levels of potassium in the soil, as determined by soil tests. One of the problems that can develop in home plantings is the excessive buildup of phosphorus in the soil. This occurs because of the constant use of fertilizers (such as 8-8-8, 10-10-10, or 13-13-13) that have high amounts of phosphorus. The soil should be analyzed every 2 or 3 years to check the phosphorus level. When it becomes high, phosphorus should be omitted from the fertilizer and only added periodically as needed.

When to Apply Fertilizer

February is a good time to apply fertilizer to most fruit plants in Alabama. Applying fertilizer in February allows the plants to take up the plant nutrients through the roots and into the trunk and branches so that these nutrients are available when new shoot

growth occurs in the spring. Depending on the crop load and leaching losses, commercial peach and nectarine growers sometimes supplement the February application with a smaller application in April. Tree fruits such as peaches and plums benefit from an application of fertilizer, usually nitrogen, shortly after harvest. This keeps the trees in optimum vigor and ensures having healthy fruit bud development for next year's crop.

Where to Apply Fertilizer

Apply fertilizer completely around fruit trees in an area beginning about 1 to 2 feet from the trunk to 1 to 3 feet beyond the leaf drip (ends of branches). Fertilizer may be applied to within 6 inches of the trunk or canes of small fruit plants such as blackberry and blueberry. In commercial plantings, concentrate the fertilizer along the herbicide strips on both sides of the tree (Figure 1).

How Much Fertilizer to Apply

Blackberries and matted-row strawberries need two applications of fertilizer during the year—one in February and another in June or July after harvest. Strawberries usually benefit from a third application in October or up to within 90 days of harvest.



Figure 1. Proper placement of fertilizer is indicated by shaded area.

Strawberries grown on black plastic require fall fertilization during bed preparation. Fall fertilization may include use of a slow-release nitrogen source such as sulfur-coated urea. Commercial producers supply additional nitrogen and potassium in the spring through a trickle irrigation system on a weekly basis. Home gardeners can also supply additional nitrogen and potassium through their irrigation system, but it may be easier to apply adequate slow-release nitrogen in the fall to make the spring crop. Details of special fertilization for plasticulture strawberries grown commercially can be found in Extension publication ANR-633, "Commercial Strawberry Production Guide."

Blueberries respond quite well to two or three applications of fertilizer in February or March, in April, and in July after harvest. Use only ammonium sources of nitrogen without nitrates for blueberries. Use ammonium forms of nitrogen, such as ammonium sulfate, or organic forms, such as cottonseed meal. Do not use straight nitrate forms. Work in Alabama in recent years has resulted in the development and recommendation of a 12-4-8 blueberry special blend containing one-third of the nitrogen in slowly soluble forms. If readily available, this is the preferred fertilizer. When nitrogen only is needed in late-season applications, ammonium sulfate works well. For specific commercial blueberry recommendations, refer to Extension publication ANR-904 "Commercial Blueberry Production Guide."

Recommendations for fertilization of home fruit gardens are presented in Table 1. Recommendations for fertilization of commercial acreage of fruits can be found in Alabama Cooperative Extension System publications, many of which are listed in Extension publication ANR-53-R, "Additional Sources of Information on Fruit Culture."

Weed Control

Control of weeds and grasses is especially important in overall management of fruit plantings, especially young plantings. In commercial plantings, management of weeds and grasses on the orchard floor generally involves the use of herbicides (weed killers) and mowing. Home gardeners can achieve reasonable weed control by mowing middles and hoeing around plants and by mulching around some fruit plants such as figs, blueberries, and strawberries. Some herbicides are available to home producers, but these must be used carefully around fruit plants because of potential plant damage. Larger hobby producers may find

Table 1. General Yearly Fertilizer Recommendations for Home Fruit Gardens and Hobby Production

Fruit Type	Amount and Type of Fertilizer*	Number of Applications
Tree Fruit		
Apple	1 pound of 8-8-8/tree /year of age (up to maximum of 4 pounds /large tree)	split in 1 or 2 applications
Pear	¾ pound of 8-8-8/tree /year of age (up to maximum of 4 pounds /large tree)	split in 1 or 2 applications
Peach	2 pounds of 8-8-8/tree /year of age (up to maximum of 10 pounds /tree)	split in 2 or 3 applications
Plum	2 pounds of 8-8-8/tree /year of age (up to maximum of 9 pounds /tree)	split in 2 or 3 applications
Fig	½ pound 8-8-8/plant /year of age (up to maximum of 7 pounds /plant)	split in 2 or 3 applications
Small Fruit		
Grape	½ pound 8-8-8/plant /year of age (up to maximum of 7 pounds /plant)	split in 2 or 3 applications
Blueberry	¼ pound of 8-8-8/plant /year of age (up to maximum of 1½ pounds /plant)	split into 2 or 3 applications
Strawberry (matted row)	4 pounds of 8-8-8 /100-foot row	split into 2 or 3 applications
Strawberry (black plastic)	8 to 11 pounds of 8-8-8/100-foot row during fall bed preparation	as single application; supplemental fertilizer needed in spring

*Semidwarf and dwarf apple trees only require ½ or less of maximum amount indicated for large trees.

preemergence and postemergence herbicides of some value. For more specific recommendations, refer to Extension publications IPM-8, "Peach IPM," IPM-11, "Apple IPM," and IPM-478, "Small Fruit IPM." These publications are available from your county Extension office.



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For more information, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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