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FERTILIZING FRUIT IN SMALL AREAS

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For vigorous growth and good fruit production, fruit plants need proper nutrition. Well drained soils are important, as are both correct soil pH and adequate organic matter. Fertilizers can be and are applied during the time the fruit plants are in the ground. However, good soil drainage, pH and organic matter content can only be provided adequately before the planting is established.

Drainage: Soil drainage and subsurface drainage should be corrected before the plants are set. Tile drainage and land contouring will help to improve both internal and surface drainage. If water stands for any appreciable length of time, either within the soil profile or on the soil surface, do not attempt to grow fruit plants.

Organic matter: Organic matter can be increased by incorporating well-rotted manure or other composted material, or by growing crops such as rye or sudex and working these into the soil. Additional nitrogen should be supplied to aid in decomposition of the organic matter.

Soil pH: Soil pH is a measure of soil acidity. A pH of 7.0 is neutral, while pH levels of 6.0 or 5.0 are more acid. A pH of 8.0 is alkaline. For most fruit plants, pH levels of 6.0 to 6.5 are ideal, and levels from 5.5 to 7.0 are acceptable. The blueberry requires a pH of 4.5 to 5.2 for best growth.

Most soils that require pH correction will need applications of agricultural limestone. A soil test is needed to determine the soil pH and levels of nutrients present. Suggestions for lime applications will be included with the soil test results that you receive. You will also receive information on amounts of nutrients in the soil. See HO-71 for information on how to take a soil sample. Do not apply lime if the soil test does not call for it.

Fertilizers: Fertilizer materials come in many analyses. The numbers on the bag indicate the percentage of nitrogen (N), phosphate (P₂O₅), and Potash (K₂O). For example, if the bag reads "10-6-4," this means that each

100 pounds of the 10-6-4 fertilizer contains 10 pounds of N, 6 pounds of P₂O₅, and 4 pounds of K₂O. Where different formulations must be used than those suggested, the equivalent amounts can be calculated. Usually the amount of fertilizer is based on the amount of nitrogen required, so when the amount of P₂O₅ and K₂O in the fertilizer is different the equivalent amount of nitrogen should be maintained.

Sometimes only N is needed when the soil test indicates that levels of P₂O₅ and K₂O are adequate. Fertilizers containing only N include ammonium nitrate (33-0-0), urea (46-0-0), and others. These should be used at rates to give equivalent amounts of N.

General fertilizer applications suggested are presented here. These suggestions should be modified by the recommendations on the soil test results.

The following recommendations are based on the amount of nitrogen (N) needed. Where substitutions of different analysis fertilizer are desired, the quantities should be changed so as to provide the approximate amount of nitrogen suggested. For example, 16-8-8 might be substituted for 12-12-12, but the amount to be applied should be reduced to 3/4 that suggested for 12-12-12. In many situations phosphate or potash will be adequate according to a soil test, and applications of these elements can be reduced or omitted.

Apples and Pears

Apply one pound of a 12-12-12 fertilizer (or equivalent) for each year of tree age or each inch of trunk diameter, up to a maximum application of 8 to 12 pounds per tree. Apply in early spring. Mature trees should have 9-15 inches of shoot growth annually. Adjust application of fertilizers to obtain this amount of growth. Where trees are making adequate growth and fruiting regularly, no fertilizer application may be required.

Peaches and Apricots

Apply one pound of a 12-12-12 fertilizer (or equivalent) for each year of tree age or each inch of trunk diameter, up to a maximum of about 8 pounds per tree. Apply in early spring. Mature trees should produce 12-24 inches of shoot growth. Adjust application accordingly. Peaches must produce good annual terminal growth to fruit well. Annual applications of a nitrogenous fertilizer are suggested.

Strawberries

First year. Apply 5 pounds of 6-24-24 fertilizer per 100 feet of row area. Apply prior to planting and work into soil. Make a sidedress application of 3 pounds of 12-12-12 fertilizer per 100 feet of row several weeks after planting if plants lack vigor or area was not fertilized prior to planting. An additional side dressing in late June may be advisable depending on plant growth. An August application of nitrogen may be helpful in increasing fruit bud formation.

Second year and subsequent years. Apply 4 to 6 pounds of 12-12-12 fertilizer per 100 feet of row immediately after harvest. A late summer application of 1 pound ammonium nitrate or 3 pounds of 12-12-12 per 100 feet of row may be helpful in increasing fruit bud formation. This application should be made in late August.

Raspberries and Blackberries

First year. Apply 2 ounces of 12-12-12 fertilizer (or equivalent) per plant 10 to 14 days after plants are set out.

Following seasons. Apply 4 to 6 pounds of 12-12-12 fertilizer (or equivalent) for each 100 feet of row. Apply in early spring before growth begins.

Grapes

Apply about 1 pound of 12-12-12 fertilizer (or equivalent) per mature vine (3 years and older). Make application as growth begins in the spring. A 12-ounce soft drink can holds about 12 ounces of 12-12-12 fertilizer.

Mulches

Mulches and manure can also be used to good advantage in fruit plantings. Mulches aid in weed control, conserve moisture, and add nutrients to the soil as they decompose. However, some types of mulch decompose very slowly, and the micro-organisms which decompose the mulch may rob the soil of available nitrogen during the early period of decomposition. Sawdust is such a mulch. Apply additional nitrogen with a sawdust mulch to avoid a nitrogen deficiency. Fresh sawdust should receive about 2/3 cup of ammonium nitrate or its equivalent per bushel of sawdust.

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For more information on the subject discussed in this publication, consult your local office of the Purdue University Cooperative Extension Service.
