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SOIL TESTING LABORATORY
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SOIL TEST NOTES

NOTE 12: Fertilizing Fruit Crops

The best soils for growing fruit trees are medium textured, well drained, fairly deep, and relatively high in organic matter. They have good structure and have been adequately limed and fertilized for the past few years. Sandy loam and loam soils are best suited to peach tree production, while apples can be grown successfully on sandy loam, loam, and silt loam soils. Very coarse-textured soils, such as loamy sands, or very fine-textured soils, such as clay loams, are not well adapted to tree fruits. Loamy sand soils should be avoided especially where adequate irrigation is not feasible. Winter injury problems in peach trees appear to be more severe on soils having very sandy subsoils.

Good subsoil aeration and drainage are essential for the growth and longevity of fruit trees. Soils that have high water tables or poor internal drainage resulting from compacted soil layers should not be used as planting sites. Avoid planting trees in areas where surface or subsoil water accumulates and remains for several days following heavy rains or irrigations. It is difficult or impossible to establish and maintain a good orchard on poorly drained soils.

SOIL PREPARATION FOR NEW PLANTINGS

Soils to be used for new plantings of tree fruits should be adequately limed and fertilized on the basis of soil tests. Apply 0.5 to 2 pounds of calcitic limestone mixed thoroughly with soil in the base of planting hole before planting apple and peach trees. Use lower rates on coarse-textured sand

and sandy loam soils. Use higher rates on loam and silt loam soils. This practice helps increase calcium levels in the trees, reduces cork and bitter pit in apples and increases cold hardiness in peaches. Lime and fertilizer recommendations will accompany your soil test results.

Permanent sod covers in new orchard middles help prevent soil compaction, decrease surface water runoff, increase soil-water infiltration rates, minimize wind and water erosion, maintain or increase soil organic matter content, conserve plant nutrients, and make it easier to move sprayer and other equipment in the orchard during wet periods. Sod middles should be mowed frequently during the growing season to prevent the grass cover from competing with the trees for moisture during drought periods.

The Commercial Tree Fruit Production Recommendations Book offers the proper seeding and fertilizer rates for sod establishment in orchards. This publication (Extension Bulletin No. 40) is available from your county extension office.

SOIL MANAGEMENT FOR ESTABLISHED PLANTINGS

Soil management in established plantings of apples and peaches can be divided into two distinctly different programs:

1. Soil management for tree-row middles - The Commercial Tree Fruit Production Recommendations Book offers information on management of the middles. A permanent sod cover is more applicable in apples, although it is still a possibility in peaches.

2. Soil management under drip area of fruit trees - Keep soil areas under trees as free of vegetation as possible to eliminate weed competition with the trees for moisture and nutrients. This is the area from which the trees derive most of their water and nutrient requirements for growth and production. Adequate lime and fertilizer should be provided in this area based on the results of soil AND plant analyses.

PLANT ANALYSIS

Plant tissue testing is a good way to monitor the nutritional status of the orchard. Information on this and foliar sprays for fruit can be obtained from the Commercial Tree Fruit Production Recommendations Book available in your county office.

ADDITIONAL INFORMATION

Additional information may be obtained from University of Delaware Cooperative Extension Service offices in Newark, Dover, and Georgetown.