SOIL TEST INFORMATION SHEET NO. F-500

Prepared by Extension Fruit and Nut Specialist Dr. Michael Polozola

Apples

1. Apple trees grow best in soils with a pH between 6.0 and 6.5.

2. Nitrogen (N) Fertilization for Home Orchards:
   - Apply 1 lb of 8-8-8 fertilizer per year of tree age, up to 5 lbs per tree annually. Example: A 3-year-old tree gets 3 lbs of 8-8-8.
   - Equivalent rates:
     - 0.8 lb of 10-10-10.
     - 0.6 lb of 13-13-13.
     - 0.5 lb of 17-17-17.
   - Timing: First application in late winter (February–early March).
     - Optional light second application in June or July.
   - Application Tips:
     - Spread fertilizer around the drip line, not near the trunk.
     - In lawns, consider dibbling (placing fertilizer in small holes ~6 inches deep).

3. Nitrogen (N) Fertilization for Mature or Commercial Orchards:
   - Apply 0–50 lbs of actual nitrogen per acre annually (or 0–0.5 lbs/tree).
     - Use lower rates after heavy pruning or when shoot growth was excessive
     - Do not exceed: 0.6 lbs N/tree for semi-dwarf trees and 1.0 lb N/tree for standard trees.
   - Split Applications:
     - Apply half in March.
     - Apply second half after fruit set (omit if frost reduces the crop).

4. Nitrogen for Young Trees
   - Apply 0.05–0.15 lbs actual N/tree in March, April, and May.
     - Example: ⅓ to 1 lb of calcium nitrate per tree per month.
     - Stop fertilizing after June.
   - As trees begin bearing (typically years 4–6), reduce or omit nitrogen to avoid excessive vegetative growth and cork spot.

5. Boron (B)
   - Apply Solubor at 1–2 lbs per 100 gallons (or 2–4 lbs per acre) at petal fall or first cover spray.
   - If boron is low (based on soil or tissue tests), repeat at both timings.
   - Do not mix Solubor with calcium chloride.

Revised 7/2025

6. Calcium (Ca):
    - Helps prevent bitter pit and cork spot.
    - Apply calcium chloride at 2 lbs per 100 gallons (max 3–6 lbs/acre per spray).
    - Alternative: Use calcium nitrate at 3 lbs per 100 gallons (max 4.5–9 lbs/acre per spray).
    - Important:
        - Avoid spraying when temperatures exceed 90°F.
        - If leaf burn occurs, reduce to half rate in the next spray.
        - Late-season sprays (2–4 before harvest) are most effective for bitter pit control.

7. Contact your county agent for additional information and help in your fertilization program. The agent also receives a copy of this report for the parish office files.

Pears

1. Pear trees grow best in soils with a pH between 6.0 and 6.5.

2. Nitrogen (N) Fertilization for Home Orchards:
    - Apply ½ lb of 8-8-8 fertilizer per year of tree age, up to 5 lbs per tree annually.
        - Example: A 4-year-old tree gets 2 lbs of 8-8-8.
    - Timing:
        - First application in late winter (February–early March).
        - Optional light second application in June or July, but only if needed.
    - Application Tips:
        - Apply around the drip line, not near the trunk.
        - Use dibbling in lawns to reduce competition.

3. Nitrogen (N) Fertilization for Mature or Commercial Orchards:
    - Apply 0–40 lbs of actual nitrogen per acre annually (or 0–0.4 lbs/tree). Use lower rates if:
        - Trees were heavily pruned.
        - There was excessive shoot growth.
        - Fire blight pressure is high.
    - Split Applications:
        - Apply half in March.
        - Apply second half after fruit set, but omit if crop is light or fire blight risk is elevated.

4. Contact your county agent for additional information and help in your fertilization program. The agent also receives a copy of this report for the parish office files.

Fire Blight Management (Apples & Pears)

1. Fire blight is a serious bacterial disease that affects apples, pears, and mayhaws in Louisiana. It is especially severe in pears and can kill entire trees in one season if not managed properly.

2. Key Prevention Strategies
   - Avoid overfertilizing with nitrogen, especially in spring and summer. Excessive nitrogen promotes lush, tender growth that is highly susceptible to infection.
   - Use balanced or mild fertilizers, such as 8-8-8, rather than high-nitrogen blends. These provide essential nutrients without overstimulating vegetative growth.
   - Prune out infected branches during dormancy or dry weather, cutting at least 12 inches below visible symptoms. Disinfect pruning tools between cuts.
   - Choose resistant varieties when possible.
   - Avoid excessive pruning that encourages rapid, succulent shoot growth.

3. Chemical Control Options
   - Bactericide sprays can help reduce infection during bloom, the most critical period for fire blight spread.
     - Streptomycin sulfate is effective and commonly used.
     - Copper-based products (e.g., copper octanoate or copper diammonia diacetate) can also be used, but may cause fruit russeting if applied too late.
   - Timing is critical: Apply sprays during bloom, not before or after, and avoid spraying when pollinators are active.

4. For detailed spray schedules and product options, refer to the LSU AgCenter's publication: The Louisiana Home Orchard: Deciduous Tree Fruits (Pub. 1884). This guide includes tables of recommended bactericides, application timings, and safety notes for home orchardists.

5. Contact your county agent for additional information and help in your fertilization program. The agent also receives a copy of this report for the parish office files.