SOIL TEST INFORMATION SHEET NO. F-510

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Blackberries

1. Blackberry plants grow best in soils with a pH between 6.0 and 6.5.

2. Nitrogen (N) is the most important nutrient for blackberry growth and fruit production.
   - First-year plants: apply 0.1 pound of actual nitrogen per plant about 4–6 weeks after planting. Use a balanced fertilizer like 13-13-13, urea (46-0-0), or a slow-release formulation labeled for fruit crops.
   - Established plants: apply 0.2 to 0.3 pounds of actual nitrogen per plant per year, split into two applications:
     - Early spring (bud break).
     - Immediately after harvest.
   - Slow-release fertilizers (e.g., sulfur-coated urea or polymer-coated blends) can reduce leaching and improve nutrient uptake, especially in sandy soils or areas with irregular watering.

3. Phosphorus (P) and potassium (K): Apply only if recommended by a soil test.
   - If needed, apply in late winter or early spring before new growth begins.
   - Potassium is especially important for fruit development and winter hardiness.
   - Slow-release NPK blends (e.g., 10-10-10 or 14-14-14) may be used if soil tests indicate a need for all three nutrients.

4. Magnesium (Mg): use Epsom salts (magnesium sulfate) if deficiency symptoms appear (interveinal chlorosis on older leaves).

5. Micronutrients: apply only if plant deficiencies are noticed or if the soil test report indicates the need.
   - Zinc (Zn): if deficiency symptoms appear (small leaves, poor shoot growth), apply **zinc sulfate** at a rate of **1 to 2 pounds per 100 feet of row** in early spring. Foliar sprays (e.g., 2 to 3 pounds zinc sulfate per 100 gallons of water) may be used for rapid correction.
   - Iron (Fe): iron deficiency (yellowing between leaf veins) is more common on high-pH soils. Use chelated iron products such as:
     - **Fe-EDDHA** (effective in high pH soils).
     - **Fe-DTPA** or **Fe-EDTA** (for neutral to slightly acidic soils).
     - Apply as a soil drench or foliar spray according to label directions.
   - **Boron**: apply **1 tablespoon of 20 Mule Team Borax per 100 feet of row** in early spring if soil or tissue tests indicate deficiency.

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6. Additional tips:
    - Apply fertilizer when the soil is moist, and water thoroughly after application.
    - Keep fertilizer at least 6 inches away from the crown of the plant.
    - Avoid fertilizing late in the season (after August), as this can delay dormancy and increase risk of winter injury.
    - Mulching with composted organic matter can help retain moisture and improve nutrient availability.

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.

Blackberry Fertilization Guide for Commercial Orchards

Blackberries require a balanced and responsive fertilization program to support vigorous cane growth, high yields, and consistent fruit quality. These recommendations are intended for small to mid-sized commercial plantings in Louisiana and are based primarily on University of Arkansas guidelines.

Soil and Foliar Testing

- **Soil tests**: Sample every 2–3 years to monitor pH and base nutrient levels.
- **Foliar analysis**: Conduct during early bloom or early fruit set to fine-tune nutrient management.
- Maintain soil pH between **6.0 and 6.5** for optimal nutrient availability.

Nitrogen (N)

Nitrogen is the most critical nutrient for blackberry production.

Year	Timing	Rate	Notes
Establishment year	4–6 weeks after planting	50–60 lbs N/acre	Apply in a band 12–18 inches from the row.
Established plantings	Split: early spring and post-harvest	60–80 lbs N/acre total	Adjust based on vigor and yield. Avoid late-season N to reduce winter injury.

- Excess nitrogen can lead to excessive vegetative growth and poor fruit quality.
- In sandy soils or high rainfall areas, consider **split applications** or **slow-release formulations**.

Phosphorus (P_2O_5) and Potassium (K_2O)

- Apply based on soil and foliar test results.
- Typical annual rates (if needed):
    - **P_2O_5**: 40–60 lbs/acre
    - **K_2O**: 60–100 lbs/acre

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- Potassium is especially important for fruit size, sweetness, and winter hardiness.
- Apply in early spring before bud break. In sandy soils, split potassium applications may improve uptake.

Micronutrients

- **Zinc (Zn)**:
  Apply **zinc sulfate** to soil (10–15 lbs/acre) or use foliar sprays (2–3 lbs per 100 gallons of water) at pre-bloom and post-bloom.
- **Iron (Fe)**:
  Use **Fe-EDDHA** for high-pH soils or **Fe-DTPA** for neutral soils. Apply as a soil drench or foliar spray if deficiency symptoms appear.
- **Boron (B)**:
  Apply **0.5–1.0 lb B/acre/year** if needed. Foliar sprays are preferred. Avoid overapplication—boron toxicity is a risk.
- **Magnesium (Mg)**:
  Apply **Epsom salts** (magnesium sulfate) or **dolomitic lime** if soil pH is low and magnesium is deficient.

Additional Notes

- Avoid fertilizing after mid-July to prevent delayed dormancy and winter injury.
- Maintain weed-free strips in the row to reduce nutrient competition.
- Monitor cane growth: 3–5 feet of new primocane growth per season is ideal.
- Use pruning weights and foliar nutrient levels to guide adjustments in fertilization.

Using Pruning Weights to Guide Fertilization

Pruning weight is a valuable indicator of vine vigor and nutrient status in commercial blackberry systems. It refers to the total weight of canes removed during dormant pruning and can help fine-tune nitrogen applications.

How to Measure Pruning Weight

- After winter pruning, collect and weigh all canes removed from a representative sample of plants (e.g., 5–10 vines per block).
- Record the total weight and divide by the number of plants to calculate **average pruning weight per plant**.

Target Ranges

Vine Age	Ideal Pruning Weight
2nd year and older	**0.5 to 1.0 lb per plant**
>1.0 lb/plant	May indicate excessive nitrogen or overly vigorous growth
<0.25 lb/plant	May suggest under-fertilization or poor plant health

How to Use This Information

- If pruning weights are consistently **above 1.0 lb/plant**, consider reducing nitrogen rates the following season.
- If weights are **below 0.5 lb/plant**, evaluate for nutrient deficiencies, water stress, or disease, and consider increasing nitrogen slightly if other factors are ruled out.

This approach helps maintain a balance between vegetative growth and fruit production, improving both yield and fruit quality over time.