

SOIL TEST INFORMATION SHEET NO. F-560

Prepared by Extension Fruit and Nut Specialist Dr. Michael Polozola

Grapes and Muscadines (Homeowners)

1. Grape plants grow best in soils with pH between 5.5 and 6.5. Muscadines plants grow best in soils with pH between 6.0 and 6.5.
2. Soil sampling should be performed at the depth of 6 to 8 inches in the root zone.
3. Nitrogen (N) supports shoot growth and fruit development. Slow-release fertilizers may be used to reduce leaching and improve uptake, especially in sandy soils.

Crop	Timing	Rate	Notes
Muscadine	Early spring (bud break)	½ to 1 lb of 10-10-10 per vine	Apply in a circle 12–18 inches from trunk. Avoid late-season applications.
Bunch Grapes	Split: early spring and post-bloom	½ to 1 lb of 10-10-10 per vine	Adjust based on vigor. Excess N can reduce fruit quality.

4. Apply phosphorus (P) and potassium (K) only if recommended by a soil test. Potassium is especially important for fruit quality and winter hardiness.
 - Use balanced fertilizers (e.g., 10-10-10) or targeted products like muriate of potash or triple superphosphate as needed.
5. Magnesium (Mg): use Epsom salt if older leaves show interveinal chlorosis.
6. Micronutrients:
 - Zinc (Zn): apply zinc sulfate if deficiency symptoms appear (small leaves, poor shoot growth). Foliar sprays (2 to 3 lbs per 100 gallons of water) are effective for correction.
 - Iron (Fe): Iron deficiency may occur in high-pH soils. Use chelated iron products such as: Fe-EDDHA (best for high pH), and Fe-DTPA or Fe-EDTA (for neutral to slightly acidic soils).
 - Boron (B): apply 1 tablespoon of 20 Mule Team Borax per vine per year only if deficiency is confirmed. Avoid overapplication.
7. Additional tips: fertilize when soil is moist and water thoroughly after application. Keep fertilizer 12 to 18 inches away from the trunk or crown. Avoid fertilizing after August to prevent delayed dormancy and winter injury. Mulching with composted organic matter can improve soil health and nutrient retention.
8. 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.

Grapes and Muscadines (Commercial Orchards)

1. Grape plants grow best in soils with pH between 5.5 and 6.5. Muscadines plants grow best in soils with pH between 6.0 and 6.5.
2. Soil sampling should be performed at the depth of 6 to 8 inches in the root zone every 2 to 3 years to monitor pH and base nutrient levels.
3. Nitrogen (N) supports shoot growth and fruit development. Slow-release fertilizers may be used to reduce leaching and improve uptake, especially in sandy soils.
 - Use split applications or fertigation where possible.
 - Monitor shoot growth: 3 to 4 ft of new growth per season is ideal.

Crop	Timing	Rate	Notes
Muscadine	Early spring (bud break)	60–80 lbs N/acre	Apply in a 3–4 ft band along the row. Avoid late-season N to reduce winter injury.
Bunch Grapes	Split: early spring and post-bloom	30–60 lbs N/acre	Adjust based on vine vigor and pruning weights. Excess N can reduce fruit quality.

4. Apply phosphorus (P) and potassium (K) only if recommended by a soil or foliar test. Potassium is especially critical for fruit development and cold hardiness. Apply in late winter or early spring before bud break. In sandy soils or high-yielding systems, split potassium applications may improve uptake. Typical annual rates if needed are:
 - Phosphorus (P_2O_5): 40–60 lbs/acre.
 - Potassium (K_2O): 60–100 lbs/acre.
5. Micronutrients:
 - Zinc (Zn): apply zinc sulfate to soil (10 to 15 lbs/acre) or use foliar sprays (2 to 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.
6. Magnesium (Mg): apply dolomitic lime if soil pH is low and magnesium is deficient. If soil pH is ideal and magnesium is deficient, apply Epsom salts (magnesium sulfate).
7. Foliar analysis: conduct annually during bloom or early fruit set to fine-tune nutrient programs.
8. Additional tips: avoid fertilizing after mid-July to prevent delayed dormancy and winter injury. Maintain clean weed-free strips in the vine row to reduce nutrient competition. Use pruning weights and shoot growth as indicators of vine balance and nutrient

sufficiency. In high-yielding systems, consider petiole analysis at bloom for more precise nutrient management.

9. 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.