# Soil Nutrient Analysis Laboratory

*Soil Nutrient Analysis Laboratory; 6 Sherman Place, Unit 5102, Storrs, CT 06269-5102 • Phone: 860-486-4274*
*Fax: 860-486-4562 Location: Union Cottage, Depot Campus, Mansfield*

# SUGGESTED FERTILIZER PRACTICES FOR GRAPES

*Adapted By Dawn Pettinelli, Manager, Soil Nutrient Analysis Laboratory*

Grape varieties suitable for cultivation by home gardeners in Connecticut include American, European and French-American hybrids. American grapes that are hardy in Connecticut are mainly derived from the fox grape *(Vitis labrusca)*.Concord, Catawba, Reliance and Niagara are popular American varieties.

French-American hybrids are crosses between the Old World viniferas and Native American grape species. Both these hybrids and the European vinifera grapes *(V. vinifera)* are primarily grown for wine-making purposes. Grape varieties of European origin may not be reliably winter hardy throughout the state. Several French- American hybrids like Seyval Blanc and Vidal Blanc exhibit greater cold tolerance.

All grape cultivars have similar phosphorus and potassium requirements. American varieties may need greater amounts of nitrogen to perform well, but soil pH preferences differ considerably. American grape varieties require an acidic soil with an ideal pH of 5.5.They have a relatively high iron requirement, and iron solubility increases under acidic conditions. European vinifera varieties prefer the soil pH to be about 6.5. European-American hybrids vary in their pH preference depending on which parent they resemble most.

Once established, grapevines can be productive for 40 years or more. Adequate soil preparation before planting will contribute to successful vine establishment.

### 6 MONTHS TO ONE YEAR BEFORE PLANTING

Add limestone at the rate recommended on the soil test results. Liming to a pH higher than 5.5 for American varieties or 6.5 for European varieties is not recommended. If soil test magnesium values are **below optimum** and the pH needs to be raised, use a dolomitic limestone. This type of limestone contains both calcium and magnesium. In situations where the soil pH level is optimum but soil magnesium levels are **below optimum**, incorporate 1 pound of Epsom salts (MgSO4) per 100 square feet. Retest soil every 3 years to monitor pH levels.

If soil test phosphorus is **below optimum,** apply triple phosphate (0-45-0) at the rate of 1/2 pound (1 cup), superphosphate (0-20-0) at the rate of 1 1/4 lbs. (2 1/2 cups) or bonemeal (1-11-0) at the rate of 2 1/4 lbs. (6 3/4 cups) per 100 square feet. If soil test potassium is **below optimum**, add potassium sulfate (0-0-43) at a rate of 3/4 lb. (1 1/2 cups) or greensand (0-0-7) at the rate of 10 lbs. (14 cups) per 100 square feet. Incorporate all necessary amendments to a depth of 6 to 8 inches.

### FERTILIZERS

**Year of planting**: Apply 4 ounces (1/2 cup) of 10-10-10 per vine soon after growth begins, and repeat about 4 weeks later. Spread evenly over an area 4 to 5 feet in diameter.

**Second year:** Apply 8 ounces (1 cup) of 10-10-10 per vine soon after growth begins, and again about 4 weeks later. Spread evenly over an area 4 to 5 feet in diameter.

**Third year and older:** Apply 1/2 lb. (1 cup) of 10-10-10 per each European grapevine or 1 pound (2 cups) of 10-10-10 per each American grapevine at budbreak. Spread evenly over an area 3 to 5 feet wide on each side of vine.

If soil test potassium and phosphorus are **above optimum**, apply only a source of nitrogen to the vines. Urea (46-0-0) at 2 to 3 ounces (1/2 cup), ammonium nitrate (33-0-0) at 3 to 6 ounces (1/2 to 1 cup), or bloodmeal (12-0-0) at 8 ounces (1 1/2 cups) per vine will supply the desired amounts of nitrogen. Excessive vegetative growth indicates the need to reduce the amount of nitrogen by one half or omit entirely for one to two years.

Once every 3 years a borax application may be beneficial. Borax (10 to 12% boron) should be applied at not more than 3/4 ounce per 100 square feet. Excess boron can cause plant injury. Borax can be dissolved in water and sprayed onto the ground. In order to prevent damage to the sprayer, strain out sediments after borax has dissolved.

University of Connecticut
*College of Agriculture & Natural Resources*
COOPERATIVE EXTENSION SYSTEM
*Department of Plant Science*