

Wine Grapes (Code #WGP)

Soil Test Rating	Potassium			
	Low K	Medium K	High K	Very High K
	Coast: 0-70 lbs/A Pied: 0-120 lbs/A	Coast: 71-170 lbs/A Pied: 121-250 lbs/A	Coast: 171-275 lbs/A Pied: 251-400 lbs/A	Coast: 275+ lbs/A Pied: 400+ lbs/A
Phosphorus	<i>Recommended Pounds N-P₂O₅-K₂O per Acre</i>			
Low P Coast: 0-30 lbs/A Pied: 0-20 lbs/A	*-200-165	*-200-50	*-200-0	*-200-0
Medium P Coast: 31-60 lbs/A Pied: 21-40 lbs/A	*-80-165	*-80-50	*-80-0	*-80-0
High P Coast: 61-100 lbs/A Pied: 41-75 lbs/A	*-0-165	*-0-50	*-0-0	*-0-0
Very High P Coast: 100+ lbs/A Pied: 75+ lbs/A	*-0-165	*-0-50	*-0-0	*-0-0

Coast = Coastal Plain Pied = Piedmont, Mountain, and Limestone Valley

Recommendations:

Recommended pH:	6.0 to 6.5. If the pH is less than 6.0, see Lime Table B.								
Magnesium:	If soil test Mg level is low and lime is recommended, use dolomitic limestone; if soil test Mg is low and lime is not recommended, apply 25 pounds of Mg/Acre.								
	<table border="1"> <tr> <td>Coastal Plain</td> <td>Low: 0 - 60 lbs/acre</td> <td>Medium: 61 - 120 lbs/acre</td> <td>High: >120 lbs/acre</td> </tr> <tr> <td>Piedmont</td> <td>Low: 0 - 120 lbs/acre</td> <td>Medium: 121 - 240 lbs/acre</td> <td>High: >240 lbs/acre</td> </tr> </table>	Coastal Plain	Low: 0 - 60 lbs/acre	Medium: 61 - 120 lbs/acre	High: >120 lbs/acre	Piedmont	Low: 0 - 120 lbs/acre	Medium: 121 - 240 lbs/acre	High: >240 lbs/acre
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Fact Sheet:

Comments

Soil Sampling Depth - Sample the top 6 to 8 inches or the depth of tillage prior to establishing the vineyard. Sample the top 4 inches in later years.

Proper soil preparation prior to planting is essential to protect the investment in vines. Because phosphorus (P) and ag lime are especially slow to move in the soil, it will benefit the vines to incorporate any recommended lime and P with tillage to a depth of at least 6 to 8 inches prior to planting. If soil test P is very low, large amounts of P fertilizer will be recommended to supply P for future years. Although potassium (K) is a bit more mobile, it too should be incorporated along with the P and lime prior to planting. Dolomitic lime is recommended so that adequate magnesium (Mg) is also supplied. The P and K recommendations provided are primarily for land preparation prior to establishment. After the vines are established, use petiole analysis for P and K, as well as other nutrient recommendations. If P, K, and lime are applied prior to planting and according to a soil test, then nitrogen (N) is recommended as follows for the first three years and for mature vineyards.

***Nitrogen (N) recommendation:**

First year vines – Apply one-fourth ($\frac{1}{4}$) ounce of 46-0-0 fertilizer or its equivalent per vine starting after growth begins in the spring and repeat at four to six week intervals if at least four inches of rain or overhead irrigation have been received since the last fertilization. Apply the fertilizer fairly evenly in a circle 18 inches in diameter with the vine in the center. Reduce the rate or frequency of fertilizations if you see any fertilizer burn. The total number of fertilizer applications for the year will probably be four to five in South Georgia and three to four in North Georgia. Do not fertilize the vines after late August in South Georgia and late July in North Georgia. Slow release nursery fertilizers also give good results with fewer fertilizer applications. Follow the manufacturer's directions on the bag.

Second year vines - Timing and method of applications should be similar to the first year. However, the rate should be increased to one ounce of 46-0-0 or its equivalent and the diameter of the broadcast circle should be increased to three and one half to four feet. During the second year and thereafter, petiole analysis is recommended to determine if any additional P and K or other nutrients may be needed.

Third year vines - If the vines have grown off well, apply one-half pound of 46-0-0 fertilizer or its equivalent per vine in March, plus one-fourth pound of 46-0-0 fertilizer per vine in May. Evenly spread these applications along the row in a three-foot wide band or apply them in a six-foot diameter circle around each vine.

Mature vineyards - To fertilize an established vineyard, wine grapes usually need 45 to 50 pounds of N per acre annually, with $\frac{2}{3}$ (30 pounds of N per acre) applied between bud break and bloom, and the remaining $\frac{1}{3}$ applied after fruit set. The N can be applied in a 4 to 5 foot wide band under the trellis or injected through the irrigation system. A petiole test at full bloom can help determine if additional N, and how much, may be needed after fruit set. Adequate N is essential, but too much N can result in excessive vegetative growth, which may cause more disease pressure and may require extra pruning. Any P, K, or lime and micronutrients should be applied according to the soil test and petiole test results. The desired amount of vegetative growth per year is about three feet. If growth exceeds four feet, reduce the amount of N applied in future years.

Magnesium deficiency, which shows up later in the season, is of concern to wine grape producers since in severe cases the fruit may shatter prematurely. Symptoms are a yellowing between the veins of older leaves. The yellowing progresses up the shoots as the leaves grow older. If Mg in the soil is low, follow the recommendation provided. If plant analysis indicates a Mg deficiency, apply 25 pounds Mg per acre as magnesium sulfate or other forms of soluble Mg. For more immediate correction, spray foliage with 5 to 10 pounds of magnesium sulfate in 100 gallons of water per acre.

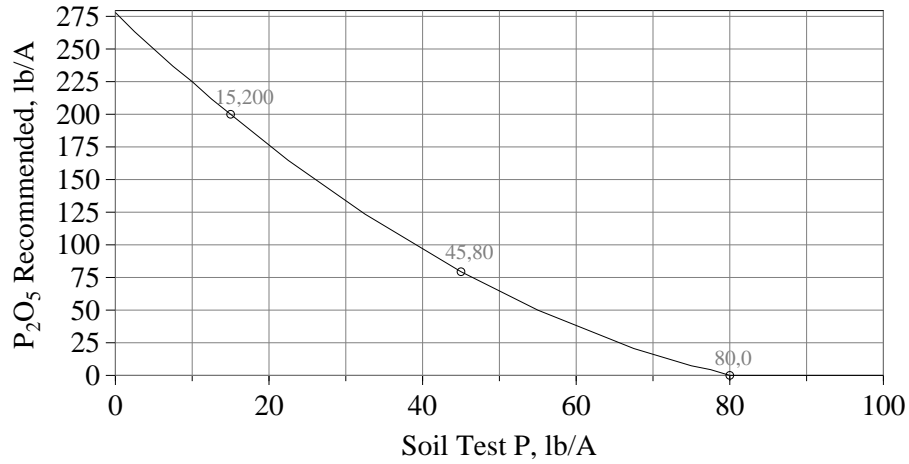
Low levels of boron (B) may occur on very sandy soils and soils low in organic matter (less than 1%). If B petiole level (samples collected at full bloom) is less than 30 ppm, apply $\frac{1}{4}$ to $\frac{1}{2}$ pound of actual B per acre in each of two foliar applications of soluble B fertilizer. Make the first application at 2 weeks prior to bloom and the second at bloom, but no earlier than 10 days after the first application. Apply no more than $\frac{1}{2}$ pound of actual B per acre in each spray using enough water to cover the flower clusters thoroughly. Do not exceed this rate of application and do not reduce the 10 day interval between applications as plant damage may occur. As an alternative to 2 spring foliar applications of soluble B, a single foliar application may be made in the fall, using no more than one pound of actual B in 150 gallons of water per acre. A postharvest foliar application in fall may be more effective and present less potential for plant damage than two half-rate foliar applications in spring. Broadcasting B at five pounds of borax (10% boron) per acre to the soil surface in a strip under vines in spring may be used as an option to foliar applications.

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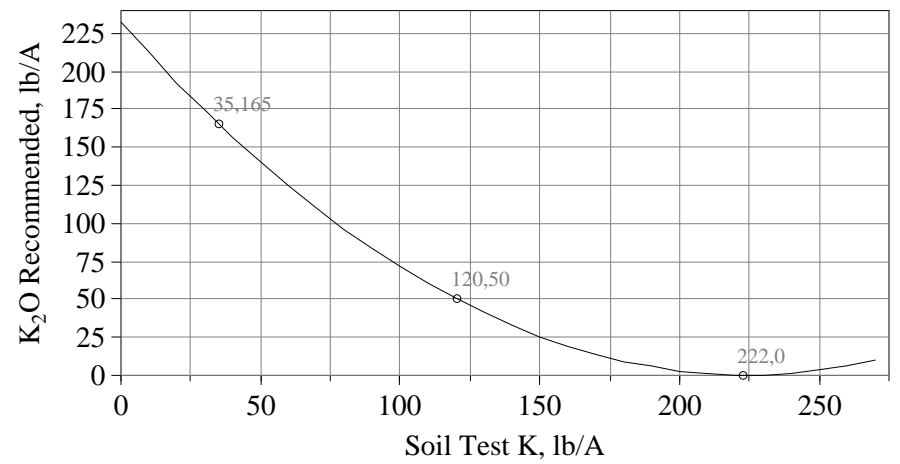
P Recommendations, Coastal Plain

$$P_2O_5 = 278 - 5.582P + 0.02637P^2$$



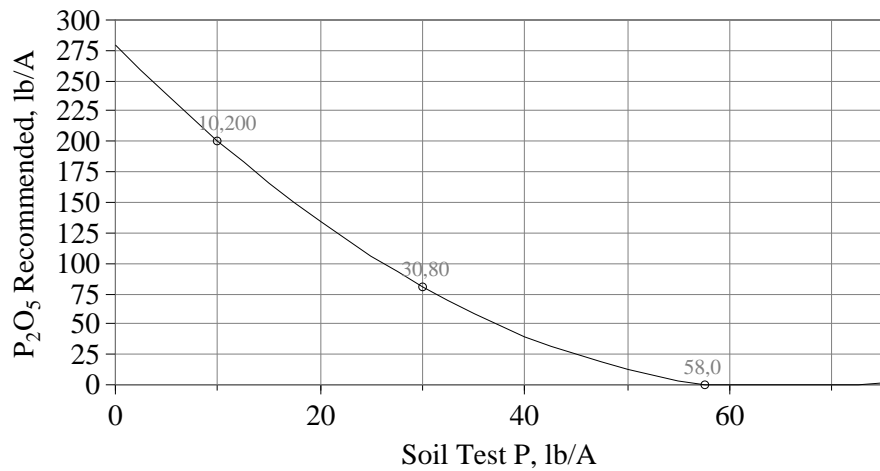
K Recommendations, Coastal Plain

$$K_2O = 232 - 2.067K + 0.00461K^2$$



P Recommendations, Piedmont

$$P_2O_5 = 280 - 8.603P + 0.06507P^2$$



K Recommendations, Piedmont

$$K_2O = 244 - 1.439K + 0.00212K^2$$

