AgSource Laboratories
A Subsidiary of Cooperative Resources International

P.O. Box 7
Bonduel, WI 54107

Tel: (715) 758-2178
Fax: (715) 758-2620

Soil Analysis

Submitted By: AgSource Bonduel Test Account
106 N Cecil Street
Bonduel, WI 54107

Submitted For: AgSource Report Sample

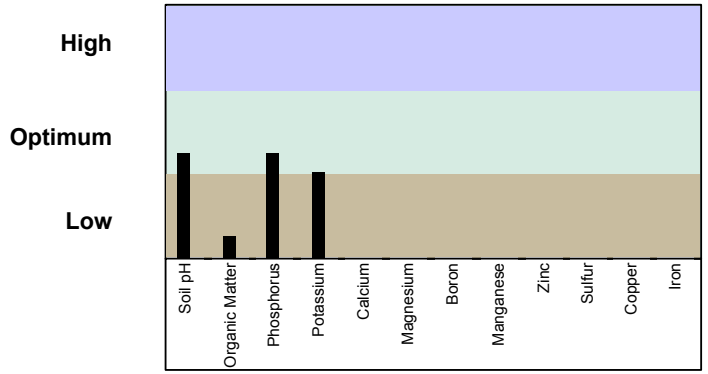
Date Processed: 5-Dec-2013

Info Sheet #: 1

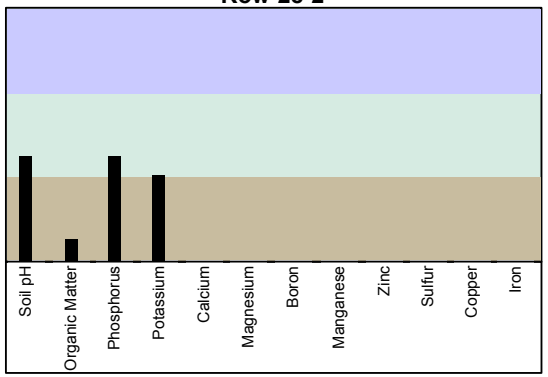
Account #: BN10000
Crop Type: Grapes
Variety: Millot

Field Id:	Sample Id	Soil pH	Buffer pH	OM %	Total CEC	Bray 1 P	K	Ca	Mg	B	Mn	Zn	S	Cu	Fe	Granular Application Recomendations (LBS/ACRE) Nitrogen	Lime T/Acre	P_2O_5	K_2O	Ca	Mg	B	Mn	Zn	S
						ppm																			
Row-27	1	6.2	7.0	3.8		38	78										---	101.0							
Row-28	2	6.4	6.8	4.0		39	74										---	110.0							
Row-29	3	6.0	6.5	4.1		36	71										---	118.0							
Row-30	4	6.9	5.9	2.9		40	69										---	122.0							
Row-31	5	7.0	6.1	3.5		41	80										---	96.0							

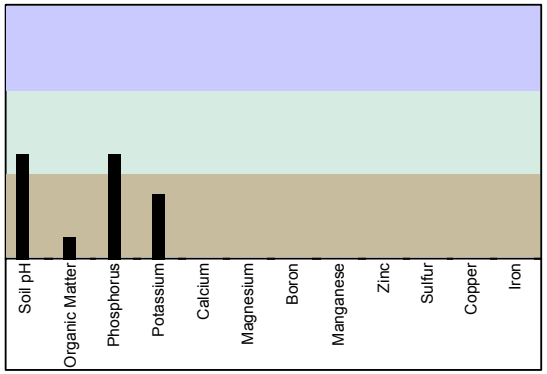
Row-27-1



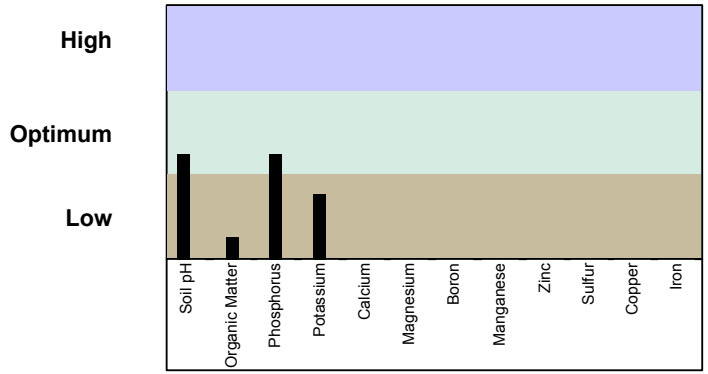
Row-28-2



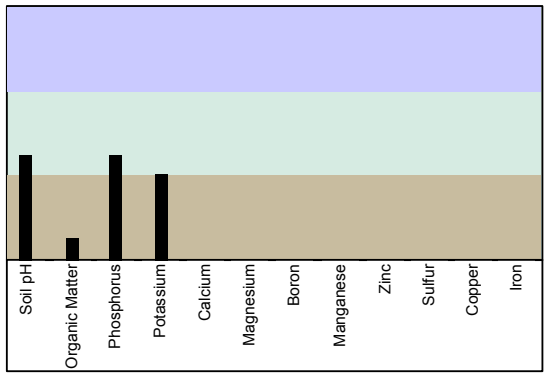
Row-29-3

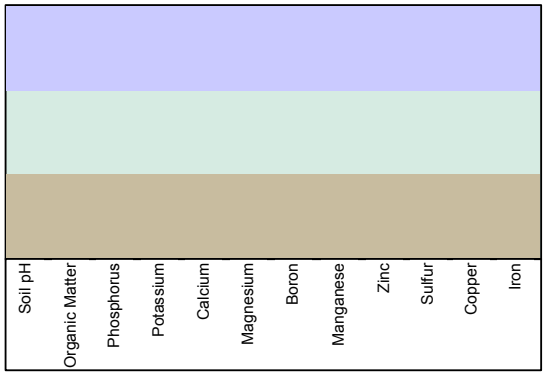


Row-30-4



Row-31-5





AgSource Laboratories
A Subsidiary of Cooperative Resources International

P.O. Box 7
Bonduel, WI 54107

Tel: (715) 758-2178
Fax: (715) 758-2620

Soil Analysis

* IT IS HIGHLY RECOMMENDED TO CONFIRM NEED FOR MICRONUTRIENT APPLICATIONS WITH PLANT TISSUE ANALYSIS PRIOR TO APPLICATION

Nitrogen

Nitrogen Rates for Vineyards

The nutrient element that is often low or deficient in a vineyard is nitrogen. Grape leaves will exhibit a light-green to yellowish-green color as nitrogen in the vine drops to low or deficient levels. Leaf discoloration will appear in the older leaves as the nitrogen is translocated from older to new emerging leaves. Vines will have poor vegetative growth and reduced fruit set where nitrogen is deficient.

Nitrogen is generally applied in split applications at budbreak or post-budbreak and during bloom. Application rates vary with vine vigor and other factors. In general, most vineyards should receive between 40 and 80 pounds actual nitrogen per acre each year. If ammonium nitrate (33-1/2% nitrogen) is used, 120 to 240 pounds of the material will be broadcast per acre over the vineyard row area. Less-vigorous vines should receive higher rates. In small vineyards, nitrogen fertilizer can be applied annually at the rate of 1/2 to 1/3 pound of a 33-1/3% nitrogen carrier, or its equivalent, around each vine. Do not concentrate the fertilizer at the base or allow fertilizer to touch the vine.

High application rates can stimulate excessive growth, which may result in the appearance of deficiency symptoms of other nutrients. For example, if supplies of potassium, magnesium, or other nutrients are low in a given vineyard soil, excessive nitrogen application rates could result in the appearance of deficiency symptoms of one or more of these elements.

Potassium

Potassium for Vineyards

Grapevines will often show signs of potassium (K) deficiency when heavily cropped and little or no additional K has been added. A dull, dark green color will appear on the leaves. In mid-to late summer, leaves may have a bronze color, especially on the west-facing side of the trellis. Some leaves may have dark spots or blotches. This symptom often has been characterized as black leaf of grapes (Figure 110).

Marginal chlorosis, browning, and dying may occur as the deficiency becomes more severe. Other possible symptoms include brown dead spots or areas throughout the leaf. In severe cases, more than half of the leaves on a vine may show these symptoms. Severe potassium deficiency greatly reduces vine vigor, berry size, and crop yield.

Symptoms of potassium deficiency generally develop in mid-shoot leaves followed by older basal leaves. Potassium carriers include potassium sulfate (sulfate of potash), containing about 50% K_2O; potassium chloride (muriate of potash), containing about 60% K_2O; and potassium nitrate, with 44% K_2O.

Foliar sprays of potassium sulfate or potassium nitrate can be effective to temporarily reduce a severe K deficiency. Potassium compounds tend to be fixed in the soil surface, although less than phosphate. This fixation, which makes potassium unavailable to plant roots, generally is greater in a clay soil with pH near 7.0 than in a sandy soil with a pH near 5.0. Therefore, potash application rates may need to be greater and more frequent on clay than on sandy loam soils, especially if the pH is above 6.5.

Response to potash fertilizers is greatest when applications are made in 2-foot bands beneath the trellis. Broadcasting potash over the entire vineyard is less efficient and less economical.

If foliar sprays are indicated, use a solution containing 6 to 10 pounds of either carrier per 100 gallons. Apply at a rate of 200 to 300 gallons per acre of mature vineyard. Foliage applications are of primary value, but they provide only a temporary solution to a potassium problem. Soil applications have a more lasting effect. Make one or more applications as soon as the need is determined. Avoid excessive rates of potash, which can lead to magnesium deficiencies in the vineyard and high pH must and wine.