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Sampling

The nutritional status of blackcurrants is monitored using soil tests and plant analysis. Regular monitoring is important to help sustain optimum levels and avoid nutritional disorders. If disorders do occur, rapid diagnosis is necessary to assist correction.

Leaf

Sampling Time: During the 2 - 3 weeks prior to fruit ripening.

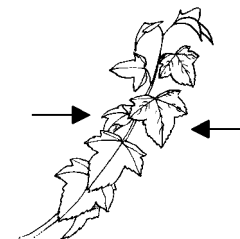
Plant Part: Youngest mature leaf (blade & petiole).

Collect From: Mid portion of the current season's extension growth.

Quantity per Sample: 5 representative leaves from each of 10 vines.

Recommended Tests: Basic Plant (BP).

Comments: To help diagnose an obvious problem, leaves showing the first signs of the distinctive symptoms should be collected as soon as abnormalities appear. If sampling outside the normal sampling time it is useful to take a second sample of similar, healthy leaves from nearby unaffected plants for analysis as a comparative standard.



Soil

Sampling Time: Prior to crop establishment and annually at any time of the year, although autumn to early winter is recommended.

Core Depth: 15 cm.

Collect From: From the rooting zone of the plants.

Quantity per Sample: 12 - 20 cores.

Recommended Tests: Basic Soil (BS).

Comments: Soil samples are usually collected for analysis prior to planting the crop.



If trickle irrigation is used, the wetted zones of the soil should be sampled separately, as minerals in the water may produce abnormal test levels.

If trying to diagnose a problem with crop growth and yield, samples should be collected from the rooting zones of the worst affected plants. In these circumstances, a second sample taken for comparative purposes from the rooting zones of normal plants may be useful.

Interpretation

Interpretation of the laboratory's results is possible by comparison with normal levels expected for the crop in question. The interpretation given here are based on the best information available and relate specifically to the sampling instructions given.

Leaf			Soil		
<i>Element</i>	<i>Unit</i>	<i>Normal Range</i>	<i>Element</i>	<i>Unit</i>	<i>Normal Range</i>
Nitrogen	(%)	2.9 - 3.0	pH	-	5.8 - 6.5
Phosphorus	(%)	0.26 - 0.30	Olsen P	(ug/ml)	15 - 30
Potassium	(%)	1.5 - 2.0	Potassium	(me/100g)	0.60 - 1.20
Sulphur	(%)	0.20 - 0.40	Calcium	(me/100g)	6.0 - 12.0
Calcium	(%)	1.30 - 2.50	Magnesium	(me/100g)	1.00 - 3.00
Magnesium	(%)	0.15 - 0.60	Sodium	(me/100g)	0.00 - 0.40
Sodium	(%)	0.00 - 0.05	CEC	(me/100g)	12.0 - 25.0
Iron	(ug/g)	50 - 100	Volume Weight	(g/ml)	0.60 - 1.00
Manganese	(ug/g)	30 - 100			
Zinc	(ug/g)	20 - 40			
Copper	(ug/g)	5 - 10			
Boron	(ug/g)	20 - 40			

Comments:

Most nutritional work on blackcurrants has been done in Britain and Eastern Europe, with little local information being available.

Foliar deficiency symptoms are rare in New Zealand, the most likely one being for nitrogen. Symptoms are bright orange, red or purplish red leaves.

Potassium deficiency symptoms start as red purplish leaves gradually going to necrotic marginal scorching.

Calcium and magnesium requirements are low.

Blackcurrants are sensitive to high levels of chloride, so chloride forms of fertiliser should be minimised.

Crop performance is best with a soil pH above 5.8.

References

Mills, H. A. and Jones, Jr, J B 1996. Plant analysis handbook II.

Reuter, D. J. and Robinson, J. B. (Eds) 1997. Plant analysis. An interpretation manual. Second edition.

Blackmore, L.C; Searle, P.L and Daly, B.K. 1987. Methods for chemical analysis of soils. NZ Soil Bureau Scientific Report 80. NZ Soil Bureau, DSIR. Fertiliser recommendation for horticultural crops. HortResearch HortNET, 1997.

Ballinger, W.E.and Goldstone, E.F. 1967. North Carolina, Agric. Expt. Tech. Bulletin, No. 178.

Doughty, C. Horticulturist, Washington State University. Pers Comm.

Disclaimer:

Normal Range levels quotes relate specifically to the sampling procedure given. The Normal Range levels and Comments provided are the most up to date levels available but may be altered without notification. Such alterations are implemented immediately in the laboratory histogram reports. It is recommended that a consultant or crop specialist be involved with interpretations and recommendations.