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## Sampling

The nutritional status of this flower is monitored using soil tests and plant analysis. Monitoring regularly 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:** Prior to flowering.

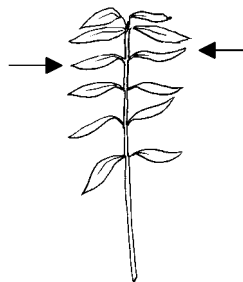
**Plant Part:** Youngest mature leaf.

**Collect From:** Mid portion of stems not yet showing flower buds.

**Quantity per Sample:** 25 - 30 leaves.

**Recommended Tests:** Basic Plant (BP).

**Comments:** Just prior to flowering or during early flowering is considered to be the appropriate time to sample. However, regular leaf analyses should be obtained through the growing season (e.g. 6 - 8 weekly intervals) in order to monitor the effect of liquid feeding programmes being used.



### Soil

**Sampling Time:** Prior to crop establishment.

**Core Depth:** 15 cm.

**Collect From:** From the root zone of the plants.

**Quantity per Sample:** 12 - 20 cores.

**Recommended Tests:** Basic Soil (BS), Soluble Salts (SG).

**Comments:** If a problem is suspected during the growing season, then a sample should be taken from the rooting zone immediately adjacent to the plant. Collecting a second sample from an unaffected area may help identify the cause of the problem.

## 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	(%)	3.7 - 5.6	pH	-	5.8 - 6.5
Phosphorus	(%)	0.30 - 0.75	Olsen P	(ug/ml)	40 - 120
Potassium	(%)	3.7 - 4.8	Potassium	(me/100g)	0.70 - 1.50
Sulphur	(%)	0.30 - 0.75	Calcium	(me/100g)	6.0 - 12.0
Calcium	(%)	0.60 - 1.50	Magnesium	(me/100g)	1.50 - 3.00
Magnesium	(%)	0.20 - 0.50	Sodium	(me/100g)	0.10 - 0.60
Sodium	(%)	0.00 - 0.30	CEC	(me/100g)	15.0 - 30.0
Iron	(ug/g)	150 - 300	Volume Weight	(g/ml)	0.60 - 1.00
Manganese	(ug/g)	50 - 200	Sol.Salts (G/H)	(%)	0.00 - 0.20
Zinc	(ug/g)	30 - 60			
Copper	(ug/g)	4 - 50			
Boron	(ug/g)	13 - 50			

### Comments:

Results for copper, zinc and manganese in leaves sprayed with fungicides will not be reliable due to adhering spray residues on the leaves.

Iron deficiency symptoms may exist even when leaf levels appear satisfactory. This may be due to the presence of physiologically inactive forms of iron within the tissue. Also, soil contamination of leaves growing near the ground may elevate total iron results.

### References

Soil and Plant Laboratory, Inc. Santa Ana, California. Pers. Comm.

Cresswell, G.C. and Weir, R.G. 1997. Plant nutrient disorders 5. Ornamental plants and shrubs. Inkata Press.

### 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.*