Hill Laboratories
BETTER TESTING BETTER RESULTS

Crop Guide
Asparagus

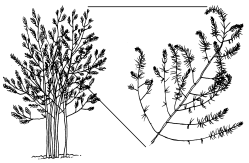
KB Item: 3428v2

Sampling Notes

Asparagus leaf samples can be collected just as the spears are emerging, or later when they are in fern. The latter growth stage is the preferred sampling period.

Fern

Sampling Time:	February to March.
Plant Part	Fern.
Collect From:	Upper 30 cm portion of the fern.
Quantity per Sample:	10 - 15 ferns.
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.

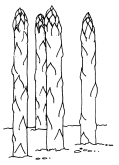


Soil

Sampling Time:	Prior to crop establishment and annually at any time of the year, although autumn to early winter is recommended.
Core Depth	15cm.
Collect From:	Throughout the asparagus beds.
Quantity per Sample:	12 - 20 cores.
Recommended Tests:	Basic Soil (BS), Available Nitrogen (AN).
Comments:	When sampling prior to orchard establishment, a 15 - 40 cm depth sample should also be taken, primarily to check the sub-soil pH. 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 healthy plants may be useful.

Spear

Sampling Time:	At spear emergence.
Plant Part	Spear.
Collect From:	Upper 9 cm of the spear tips.
Quantity per Sample:	20 - 30 spears.
Recommended Tests:	Basic Plant (BP).
Comments:	This is not the recommended sampling time, but samples can be taken if a problem is suspected.



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Interpretation

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

Fern

Analyte	Unit	Range
Nitrogen	%	2.4 - 3.8
Phosphorus	%	0.21 - 0.35
Potassium	%	1.5 - 2.4
Sulphur	%	0.25 - 0.40
Calcium	%	0.40 - 0.80
Magnesium	%	0.15 - 0.20
Sodium	%	0.020 - 0.10
Iron	mg/kg	40 - 150
Manganese	mg/kg	25 - 100
Zinc	mg/kg	10 - 60
Copper	mg/kg	6.0 - 12
Boron	mg/kg	50 - 100

Soil

Analyte	Unit	Range
pH	pH	6.0 - 6.7
Olsen Phosphorus	mg/L	30 - 50
Potassium	me/100	0.60 - 1.0
Calcium	me/100	6.0 - 12
Magnesium	me/100	1.0 - 3.0
Sodium	me/100	0.0 - 0.50
CEC	me/100	12 - 25
Volume Weight	g/mL	0.60 - 1.0
Available Nitrogen	kg/ha	100 - 150

Spear

Analyte	Unit	Range
Nitrogen	%	6.5 - 9.0
Phosphorus	%	0.60 - 0.90
Potassium	%	3.0 - 4.6
Sulphur	%	0.70 - 0.90
Calcium	%	0.30 - 0.40
Magnesium	%	0.15 - 0.20
Sodium	%	0.010 - 0.050
Iron	mg/kg	50 - 150
Manganese	mg/kg	20 - 40
Zinc	mg/kg	80 - 120
Copper	mg/kg	7.0 - 20
Boron	mg/kg	50 - 100

Comments

Asparagus is a lime loving crop, preferring a soil pH above 6.0.

Asparagus is considered to have low phosphorus requirement, compared to other vegetable crops. It is, however, considered susceptible to boron deficiency.

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

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Weir, R.G. and Cresswell, G.C. 1995. Plant nutrient disorders 3. Vegetable crops. Inkata Press.

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Disclaimer

Normal Range levels quoted 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.