

## NUTRITIONAL REQUIREMENTS OF ASHTON BITTER[DABINETT]

### Summary

Observations of nutrient leaf analysis indicate the variety Ashton Bitter may be subject to incipient nutritional deficiencies which may be affecting its performance, especially self fertility and fruit set. Extra foliar applications of potash and other nutrients may be necessary as routine to young trees of Dabinett and Ashton Bitter, especially for the establishment of early and regular cropping. .[99/1.2]

### Trial records

Six orchards of Ashton Bitter of different ages and with varying growing conditions were chosen for observation.

Although fruit set was reasonable on all sites, blossom quality and this year's crop was reduced in two orchards with chronic magnesium deficiency. Powdery mildew was also worse in these trees. Leaf mineral analysis in August showed that N, P and Mn levels were all within the guidelines, but that potash [K] levels were well below, two at deficiency level and the rest at incipient deficiency levels. Leaf boron concentrations were all well below the guidelines and into deficiency levels, being especially low on two of the sites. leaf potash was found to correlate with the age of the tree, improving with maturity.

Orchard	N%	P%	K%	Mg%	B ppm
Sandford	2.38	0.16	0.83	0.21	13.4
Ashill	2.45	0.19	0.66	0.29	12.9
The Hill	2.06	0.14	1.09	0.25	10.6
Hawthorn H	2.12	0.19	0.95	0.19	12.4
Watergore	2.35	0.16	1.03	0.14	8.5
Kinnersley	2.04	0.17	0.95	0.20	13.9
Guidelines	2.50	0.20	1.20	0.20	35.0
Low level	2.40	0.15	1.20	0.20	20.0
Deficiency	2.00	0.10	0.75	0.15	15.0

Extra K, Mn and Mg were applied as a post blossom foliar feed to Ashton Bitter trees on a nutrient deficient site in addition to standard nutrient sprays. Fruit set was not affected but leaf area was increased by nearly 5%

It is possible that Ashton Bitter and its parent Dabinett both have difficulty in potash uptake and mobilization. Extra foliar applications of this and other nutrients may be necessary as routine, especially for the establishment of early and regular cropping.