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R.L. Ticknor
Professor of Horticulture,
Aurora OSU
J.L. Long
Nurseryman, Silverton OR

CALCIUM AND RHODODENDRON GROWTH

Many growers of rhododendrons, both nurserymen and home gardeners, avoid using calcium (limestone or dolomite) for fear of causing nutritional problems. Sampling of rhododendron leaves in Oregon and Washington nurseries in January of 1977 and 1978 indicated that calcium is the nutrient element present in next to the largest amounts - exceeded only by nitrogen.

In 1977, both leaf and soil samples were collected from and around 5 cultivars in 15 nurseries. In 1978 only leaf samples were collected from 4 cultivars in 24 nurseries. As the leaves were being collected, the plants were rated on a 1- poor to 5 - excellent scale for leaf and plant quality and for flower bud formation. Calcium levels were higher in good plants of 'Blue Ensign', 'Jean Marie de Montague', 'Roseum Elegans', and 'Vulcan' than in poor plants. Only in 'Unique' were they about the same in good and poor plants.

Another observation was that the good plants tended to have more calcium in relation to magnesium than the poor plants. The soil test results from around good and poor plants showed the same trend. This could be important because if any liming material is suggested for use around rhododendrons it is usually Dolomite which often has a ratio of calcium to magnesium of 1 to 1. Soil test around good plants often showed a percent base saturation ratio of about 4 calcium to 1 magnesium. The percent base saturation is determined by having the Cation Exchange Capacity run then finding the percent of the total for a particular element such as calcium.

Two instances of poor rhododendron growth were found where the growers were advised to apply Dolomite. Dolomite may be needed to supply magnesium but it should be used so that the ratio of calcium to magnesium in the soil stays close to 4 to 1.

More complete discussions of the results of these surveys will appear in the Summer 1978 issue of the Quarterly Bulletin of the American Rhododendron Society and in the Proceedings of the 29th Annual Conference Northwest Plant Food Association.

AVERAGE CALCIUM AND MAGNESIUM LEVELS IN THE LEAVES AND SOIL FROM GOOD AND POOR RHODODENDRON PLANTINGS IN JANUARY 1977.

Cultivar and Quality	Tissue Analyses: Percent Dry Weight N	Ca	Mg	Soil Analyses: pH	Percent Base Saturation Ca	Mg
Blue Ensign Average	1.79	.99	.22			
Good	1.65	1.06	.22	5.2	51.5	14.6
Poor	1.73	.94	.22	5.0	35.5	5.9
Jean Marie Average	1.84	.92	.25			
Good	2.07	.93	.27	5.3	51.3	11.0
Poor	1.72	.75	.27	5.0	31.1	15.3
Roseum Elegans Average	1.73	1.03	.22			
Good	1.90	1.03	.19	5.4	45.1	17.2
Poor	1.68	.90	.23	5.6	51.6	20.3
Unique Average	1.64	.88	.27			
Good	1.59	.82	.25	5.4	49.2	13.9
Poor	1.48	.82	.30	4.9	32.6	13.6
Vulcan Average	1.91	1.33	.23			
Good	1.84	1.39	.19	5.4	51.8	13.6
Poor	1.78	1.15	.27	5.3	44.0	18.4