

**LEAF NUTRIENT CONTENT OF WILD BLUEBERRY  
RESPONDS QUICKLY TO GYPSUM APPLIED IN THE CROP YEAR**

Wild lowbush blueberry production in Prince Edward Island (P.E.I.) is rapidly expanding. Production has steadily increased in recent years especially from newly developed acreage combined with many improvements in weed control, fertility programs, and mechanization. Although positive results are often absent, fertilizer applications have become a regular part of commercial wild blueberry management. Due to the variability of the clones, soil conditions, soil types and the biennial cropping system, responses to fertilizers have not always been apparent. Past research in P.E.I. has demonstrated that gypsum applied at 4 t ha<sup>-1</sup> in the spring of the sprout year significantly increased wild blueberry yield. Leaf nutrient content, sampled at tip dieback of the sprout year, was also greatly enhanced. This study was conducted to determine the effect of gypsum applied in the spring of the crop year on yield and nutrient content.

Four sites were evaluated over a two year period. All experimental sites were representative of commercial producing fields in P.E.I. Treatments were an untreated control and four rates of gypsum (CaSO<sub>4</sub>·2H<sub>2</sub>O) at 1, 2, 3, and 4 t ha<sup>-1</sup>. The gypsum was broadcast on the soil surface in early-mid May of the crop year. The experimental design was a randomized complete block with four replications of each treatment. Tissue samples were taken from all plots at full bloom approximately 4 to 6 weeks after application and soil samples were taken at harvest in late August.

Averaged over four sites, yield was not significantly increased ( Table 1 ). Mean berry weight was not affected by treatment.

Soil pH was significantly decreased while soil Ca was increased ( Table 2). Leaf nutrient content of P, K, S, B, Cu and Mn was significantly increased ( Table 3 ). Fe was decreased while Ca, Mg, and Zn were not affected by treatment.

**Based on the results of this study, leaf nutrient content of wild blueberry responds very quickly ( 4-6 weeks ) to applications of gypsum in the crop year. Gypsum appears to provide a favorable environment for uptake of some nutrients but had no effect on yield or mean berry weight.**

**K.R. Sanderson and J.A. Ivany**

**Table 1: Effect of gypsum applied in the crop year on yield of wild blueberry in Prince Edward Island (mean of four sites).**

Treatment	Yield kg ha <sup>-1</sup>	Weight of 50 berries g
Control	6020	0.36
Gypsum @ 1 t ha <sup>-1</sup>	6379	0.40
Gypsum @ 2 t ha <sup>-1</sup>	6657	0.38
Gypsum @ 3 t ha <sup>-1</sup>	6455	0.38
Gypsum @ 4 t ha <sup>-1</sup>	6437	0.40
LSD (P=0.05)	NS	NS

NS indicates means are not significantly different.

**Table 2: Effect of gypsum applied in the crop year on pH and mineral content of test site soil in Prince Edward Island (mean of four sites).**

Treatment	pH	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Ca	Mg
		----- ppm -----			
Control	4.72	78	44	147	30
Gypsum @ 1 t ha <sup>-1</sup>	4.49	68	41	259	26
Gypsum @ 2 t ha <sup>-1</sup>	4.43	71	42	336	27
Gypsum @ 3 t ha <sup>-1</sup>	4.38	76	42	428	29
Gypsum @ 4 t ha <sup>-1</sup>	4.42	74	39	430	26
LSD (P=0.05)	0.01	NS	NS	68	NS

NS indicates means are not significantly different.

**Table 3: Effect of gypsum applied in the crop year on leaf nutrient content of wild blueberry in Prince Edward Island (mean of four sites).**

Treatment	P	K	Ca	Mg	S	B	Cu	Zn	Mn	Fe
	----- % -----					----- ppm -----				
Control	.153	.52	.44	.16	.10	20	4.4	12	406	11
Gypsum @ 1 t ha <sup>-1</sup>	.160	.59	.43	.15	.20	20	5.1	11	462	10
Gypsum @ 2 t ha <sup>-1</sup>	.159	.59	.45	.15	.24	20	4.8	12	493	9
Gypsum @ 3 t ha <sup>-1</sup>	.161	.59	.46	.15	.25	22	5.2	12	561	9
Gypsum @ 4 t ha <sup>-1</sup>	.162	.60	.45	.15	.25	22	5.2	12	550	10
LSD (P=0.05)	.005	.02	NS	NS	.01	2	0.6	NS	54	1

NS indicates means are not significantly different.