

of the field being under-fertilized.

Identifying the variability that occurs in fields through grid sampling and mapping specific management units are key elements of site-specific management and variable rate fertilizer application. Avoiding over fertilization in areas of high nutrient content will become an increasingly important benefit of variable rate technology. Recognition of the

variability and the inherent systematic error associated with composite sampling will also allow us to better refine fertilizer recommendations for use with constant rate fertilization.



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**TABLE 1.** Statistical characteristics of soil test K (ppm) from a 220 x 220 ft. sampling grid for Alberta sites.

Site	Year	Sample no.	Min.	Max.	Mean	Mode
1	1993	60	175	613	326	208
	1994	58	220	880	425	371
2	1993	59	162	604	323	260
	1994	60	165	839	410	247
3	1993	58	119	618	293	159
	1994	55	127	598	276	155
	1995	53	112	499	265	183
4	1993	40	59	310	135	108
	1994	40	84	418	177	137
	1995	40	69	414	162	129

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