Change in Soil Test Reporting Format

Important Information from Spectrum Analytic

Unless you tell us that you want a different reporting format, all customers will receive soil test results reported as unadjusted Mehlich 3 (M3) values in parts per million (ppm), beginning July 1, 2005.

This change means that the numerical values on many soil test reports will be different, even though the status level and recommendations will not change.

The majority of our agricultural customers are receiving soil test results reported in pounds per acre. Additionally, while samples have been extracted with the Mehlich 3 solution, the results have been mathematically converted to their equivalents in the older tests of Bray P1 for soil P, and 1Normal ammonium acetate (1NAoAc) for K, Ca, and Mg.

As many of you know from our conversations, lab instruments (ICP in this case) determine nutrient levels in ppm. Labs that report in lb/a simply multiply the ppm by 2 and call it lb/a. This is because the "typical" loam soil weighs about 2 million pounds per acre (6.67" deep). Therefore, equivalent results in ppm are 50% of the identical results in lb/a.

When we combine these two conversions from ppm to lb/a and from M3 extraction to the similar older methods, we get the formulas shown in Table 1, which we have been using for many years.

Table 1: Correlation Formulas

Nutrient	Formula		Correlation
M3-P	(ICP ppm x 0.7) x 2	=	Bray P1 in lb./a
M3-K	(ICP ppm x 0.84) x 2	=	1NAoAc K in lb./a
M3-Ca	(ICP ppm x 0.75) x 2	=	1NAoAc Ca in lb./a
M3-Mg	(ICP ppm x 0.88) x 2	=	1NAoAc Mg in lb./a

When we remove these conversions, the reported soil test results will change, even though they will mean the same nutrient quantity as before. Examples of the differences between the two reporting systems are shown in Table 2.

Of course, we will adjust all of our interpretations of Low and High, plus all of our recommendations to these new reporting values, so that there will be no agronomic change in the system.

Table 2: Examples of the differences between the two reporting systems described in the article

Soil P		Soil K		Soil Ca		Soil Mg	
Present Method (lb/a)	Mehlich-3 (ppm)	Present Method (lb/a)	Mehlich-3 (ppm)	Present Method (lb/a)	Mehlich-3 (ppm)	Present Method (lb/a)	Mehlich-3 (ppm)
10	7	100	60	500	333	150	85
30	21	200	119	1500	1000	300	170
60	43	300	179	2000	1333	450	256
90	64	400	238	2500	1667	600	341
120	86	500	298	3000	2000	750	426