



Association of
American Plant
Food Control
Officials

Magruder Certificate of Analysis

Magruder Sample #191111 Turf fertilizer w/Si

Analyte	Value	± Standard Uncertainty	# Labs
Acid Soluble Calcium (24%)	24.41	0.18	59
Acid Soluble Magnesium (5%)	5.027	0.047	61
Acid Soluble Chromium (ppm)	1774	253	16
Acid Soluble Cobalt (ppm)	46.37	3.66	17
Acid Soluble Copper (%)	0.00764	0.00127	38
Acid Soluble Iron (%)	3.703	0.055	58
Acid Soluble Manganese (%)	0.6020	0.0064	53
Acid Soluble Molybdenum (30ppm)	52.36	3.98	29
Acid Soluble Nickel (ppm)	276.7	21.7	18
Acid Soluble Zinc (%)	0.00360	0.00058	30

1. Data obtained from participant results in the Magruder Check Sample Program.
2. Guaranteed concentrations noted by the value preceding the unit in Analyte name.
3. Values are robust means. Standard uncertainty determined as $1.25 \times \text{robust standard deviation} / \sqrt{\text{#Labs}}$. Results only shown for analytes tested by 16 or more labs. Values and uncertainties for analytes tested by less than 16 labs are available in Analyte Reports.
4. Technical information on Certificate of Analysis available at www.magruderchecksample.org/prod/Articles.html