



Association of  
American Plant  
Food Control  
Officials

# Magruder Certificate of Analysis

## Magruder Sample #180911 3-1-3 Organic

Analyte	Value	± Standard Uncertainty	# Labs
Total Nitrogen (3%)	3.812	0.028	70
Total Phosphorus as P2O5 (%)	2.787	0.043	44
Direct Available Phosphorus as P2O5 (1%)	2.728	0.039	38
Soluble Potassium as K2O (3%)	3.732	0.050	77
Acid Soluble Calcium (1%)	1.334	0.018	29
Acid Soluble Magnesium (0.5%)	0.6551	0.0117	37
Total Sulfur (2.5%)	2.503	0.061	31
Acid Soluble Boron (0.01%)	0.02440	0.0010	24
Acid Soluble Copper (%)	0.00280	0.00030	18
Acid Soluble Iron (0.05%)	0.09390	0.00250	36
Acid Soluble Manganese (0.03%)	0.04440	0.00110	36
Sodium (0.5%)	1.046	0.018	21
Acid Soluble Zinc (0.01%)	0.02780	0.00060	38

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](http://www.magruderchecksample.org/prod/Articles.html)