

MEASURE AND MANAGE

Top Soil Testing

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Testing and Soil Modification.

Agri-Food Laboratories is a private laboratory accredited by the Ontario Ministry of Agriculture and Food and offers many options for soil testing. We are primarily an Agricultural testing laboratory. Many of our clients are trained Agricultural Professionals possessing a Certified Crop Advisor status whom have acquired the knowledge and skill to successfully interpret our analytical results. We do offer a Home Lawn and Garden testing package which is designed to provide basic fertilizer and soil amendment recommendations to home gardeners it is not intended to be used commercially for troubleshooting or making recommendations for amending non conforming materials to specifications.

We have been using our Agricultural packages to assess topsoil samples sent to us by Landscapers, Architects, and Topsoil Suppliers. Our testing protocols are sound and the reporting format is geared to trained Ag Professionals. In the past we have offered separate letters, upon customer request, to explain results and recommend amendments. We will be discontinuing this practice immediately.

In an effort to better meet the needs of Landscapers and Contractor clients Agri-Food Laboratories is introducing a **TopSoil Testing Package**. We will be using Guidelines that characterize the attributes of sandy loam to loam topsoil. Our Topsoil package is the one used by the Ministry of Transportation for Ontario. The package contains the necessary test components to allow us to truly assess the merits of the submitted sample, the modifications necessary to meet the desirable levels of nutrients and other components of quality topsoil can be determined from these test results. The report will list the analytical results, the guidelines and fertility/amendment recommendations on a single page.

The test package includes;

pH, BpH, Total Salts, Organic Matter, Plant Available Phosphorous, Potassium, Magnesium, Calcium, Sodium, Chloride, Cation Exchange Capacity (CEC) , %Sand, %Silt, %Clay and state the Textural Class and Sodium Adsorption Ratio (SAR).

The report will compare the test results to the guidelines, list the appropriate fertility and soil physical amendments necessary to meet the ranges in the guidelines for the establishment of turf grass and perennial nursery stock.

Allow 10 days for completion.

Policy Statement

This package will be used for Topsoil Testing. Selecting other packages for testing will result in the assumption that further interpretation is not required and will not be forthcoming.

Soil Modification

Soil Modification refers to altering soil properties by the addition of soil amendments. These amendments are largely materials that add organic matter or sand to change the physical nature of the soil. Amendments also refer to fertilizers and limestone. Soil modification is used to improve a soils suitability to meet certain specifications that result in an enhanced soil-plant relationship. Various organic amendments are used to modify soils. Their effectiveness depends on the individual properties, the amount added, the initial soil properties and uniformity of mixing.

The end result of better growing conditions should also alter management requirements and increase the quality of use of a recreational field or enhance the aesthetics. Soil modification can improve soil structure allowing for better drainage and aeration, better root development and reduce soil compaction. Improved drainage and compaction alleviation can reduce standing water and saturated soil conditions that limit the utility of a site for its intended use such as sport fields. Well drained fields offer more hours of play and less maintenance, due to better drainage, a better environment to encourage grass growth and recovery. When poor soil quality limits growth it increases the maintenance requirements, limits the use of a facility and programs must be designed around the management of a poor site to cope with the problems of a low quality compacted soil.

This package will focus on topsoil and the modifications and recommendations necessary to meet the guidelines to support acceptable growth of plants. This service does not offer advice on site preparation or long term management requirements. The suitability of subsurface materials is the responsibility of the site supervisor. This package of tests does not include the determination of contaminants, such as heavy metals or other in-organics or organic materials. The submitter must satisfy their requirements for contamination by either using reputable suppliers or request the appropriate tests.

Additional Tests

Heavy Metal Scan

Atrazine

PCBs

The Agri-Food Laboratories Topsoil Test package is designed to meet the requirements of Landscape Professionals interested in determining topsoil quality and the recommendations for amendments to achieve those requirements.

Sample Report is attached

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1 - Topsoil Site #1

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pH	7.8	5.5 - 7.5	N	<p>This soil requires additional organic matter, apply sphagnum peat moss at 40kg per cubic meter. This will also adjust the pH.</p> <p>Calcium is high due to the presence of free lime, a normal feature of Ontario topsoil.</p> <p>General fertility:</p> <p>Before seeding or sodding apply 6-24-24 at 9 lbs per 1000 sq feet and incorporate. After establishment, starting in the spring and concluding in the fall apply 21-7-7 in four separate applications of 4 lbs per 1000 sq feet. For lower maintenance, reduce frequency of application or reduce the rate.</p>
Total Salts (mmhos/cm)	0.56	< 1.5	Y	
Organic Matter %	1.7	4 - 15	N	
Phosphorus (ppm)	32	10 - 60	Y	
Potassium (ppm)	69	80 - 250	N	
Magnesium (ppm)	160	100 - 300	Y	
Calcium (ppm)	4321	1000 - 4000	N	
Sodium (ppm)	52.0	< 200	Y	
Chloride (ppm)	26.0	< 100	Y	
Sodium Absorption Ratio	0.2	< 15	Y	
CEC (MEQ/100g)	24			
Base Sat. K (%)	0.7			
Base Sat. Mg (%)	5			
Base Sat. Ca (%)	89			
Base Sat. H (%)	5			
Sand Fraction %	58	20 - 75	Y	
Silt Fraction %	31	5 - 50	Y	
Clay Fraction %	11	5 - 30	Y	
Texture	Sandy Loam	Loam/Sandy Loam	Y	
turf grass				
	60	20	134	
	1.40	0.47	3.12	
	0.67	0.23	1.50	

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