

Managing Nutrients for Turf Grass and Lawns



Wisconsin Turf Nutrient Management

In Wisconsin, nutrient management plans are now required by the Wisconsin Department of Natural Resources (WDNR) administrative rule NR-151 for fertilized turf grass areas over five acres in size. A nutrient management plan is a document that identifies the appropriate timing, amount, and form of nitrogen and phosphorus that can be applied to an area based on the properties of the soil, topography, and the proximity of the fertilized areas to surface and groundwater resources. Nutrient

management plans are used as tools to meet goals such as maintaining healthy, aesthetically pleasing turf grass while minimizing nonpoint source pollution of water resources. Nutrient management plans can also be useful tools for managing costs and documenting past practices. Many turf grass managers already implement many practices meant to minimize the environmental impact of their operations. However, having a nutrient management plan is a good way to demonstrate these efforts through documentation, which can be useful when accusations of environmental pollution are put forth against your operation. Nutrient management plans make sense from an environmental, economic, and risk management point of view.



Technical Standard #1100 – Interim Turf Nutrient Management

- Available on DNR's website at: <http://dnr.wi.gov/runoff/stormwater/techstds.htm>
- Additional information available at: <http://www.turf.wisc.edu>
- DNR Requirement
- Applies where nutrients are applied on 5 or more acres,
- Must fertilize according to a nutrient management plan,
- With the goal of achieving optimal health of the lawn or garden vegetation.

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Soil Sampling for an NMP...Identifying Representative Areas

A common question is “How many soil samples do I need to take?” The answer is “it depends on how many representative areas you have”. NR 151 states that fertilizers should be applied based on “appropriate” soil tests. According to the WDNR technical standard (download a copy at www.turf.wisc.edu) “appropriate” means a soil test for areas that are managed differently. This might mean a single sample for general grounds and a sample for each individual athletic field. However, you may decide to break the general grounds into more than one sample if you suspect differences exist among the sites. Combining soil cores from areas low in soil phosphorus with those that are high in soil phosphorus will lead to a meaningless average. Taking too many samples will lead to a situation where it will not be practical to manage all the different areas separately. In general, it is a good idea to take separate samples for turf grass areas with substantially different soil compositions, or that have received different fertilizer programs in the past.

Who We Are & How We Can Help You

AgSource Laboratories specialize in soil, plant tissue, manure, forage, and water testing. For 40 years, AgSource has provided fast, reliable, comprehensive, and effective services for analytical testing. This includes having a variety of professionals on staff with many years of experience in agronomy, chemistry, and environmental science.

AgSource-Bonduel is a Wisconsin DATCP, Agricultural Laboratory Proficiency (ALP) and North American Proficiency Testing (NAPT) certified soil testing laboratory. We also participate in the NAPT plant tissue testing program which is set up to help labs monitor plant tissue results. We are extremely proud of our QA/QC (Quality Assurance & Quality Control) program and consistently score at or near the top of the certification programs that we participate in.

Unlike the rules for agricultural nutrient management plans in Wisconsin, turf grass soil samples do not need to be analyzed by a soil testing lab with certification from the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP). However, using AgSource Laboratories ensures soil test results and recommendations will be generated through analytical procedures approved by the University of Wisconsin with consistent results because laboratories must continually perform with a certain level of success to remain certified.

STANDARD SOIL-SAMPLING PROCEDURES

- Equipment should be such that sampling depth can be monitored and controlled. A stainless steel sampling probe works the best.
- Composite samples should be collected in a plastic bucket for thorough mixing. Metal buckets can contain traces of some micronutrients (particularly zinc), which can contaminate samples.
- Soil sample bags should be either plastic or plastic-lined. These can be supplied by AgSource Laboratories.

<u>PROBE</u>	<u>PLASTIC BUCKET</u>	<u>SOIL SAMPLE BAG</u>
		

SAMPLING PROCEDURES

- Determine which areas are to be sampled. Note for future reference, this is particularly important for fairways. It is best not to mix sub-samples from different greens or fairways; sample separately.
- Each sample should consist of a composite of many sub-samples. About 10 to 15 sub-samples are needed to supply the laboratory with enough soil for a nutrient analysis. The volume of soil needed is roughly one cup (or approximately one pound).
- Most important, “Keep sampling depth consistent.” Golf greens should be sampled to a depth of four inches. For other turf samples, four-six inches is adequate.
- It is advisable to include the thatch layer in your sample, since it is a biological active site. Keep in mind that this residue may contain fertilizer granules not yet dissolved or other materials that will affect the nutrient levels. Therefore, wait a minimum of two weeks after an application to collect soil samples.
- Avoid any unusual areas in your routine sampling. These should be analyzed separately. An example would be poorly drained areas.
- Clearly mark the sample identification (example: GRN#1) on each bag and laboratory input sheet.

PAPERWORK AND SHIPPING INSTRUCTIONS

- Laboratory input sheets will be provided to you by AgSource Laboratories.. Please be sure all essential information is completed.