STOP 8

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Sampling Turfgrass Soils

Soil testing is a valuable tool in planning a turfgrass fertilization program. Sampling every 5 years on lawns will help to determine if any nutrient imbalance is developing. On more intensively managed turfs, such as golf greens, sampling every 2 to 3 years is useful. When establishing new turf or renovating a turfgrass area, soil testing is important for determining the need for lime and phosphorus which should be worked into the soil before establishment. As a turf manager becomes familiar with the soil, turfgrass conditions and fertilization program he can adjust this schedule accordingly.

The soil test can be no better than the soil sample. Thus, it is important to obtain a representative sample. Soil can be sampled at any time the ground is not frozen, but care must be taken to avoid the first 2 or 3 weeks after fertilizing. The following steps are suggested for sampling turfgrass soils:

1. Use clean equipment to prevent contamination of the soil sample.
2. Use a soil probe or small garden tool to obtain 15 or 20 subsamples from the 0-2 inch depth. Combine these into one composite sample. If a problem area is to be tested, collect one composite sample from the problem area and a separate one from a normal area.
3. Mix each composite sample well. Allow to air-dry.
4. Record information as to the location of the sample (especially if more than one sample is to be tested).
5. Send about 1/2 pint of soil in a suitable container (preferably not glass) to your soil testing lab. Include any pertinent information which would help in interpretation, especially if a problem exists.
6. Keep the soil test results. They should be helpful in determining the success of your phosphorus and potassium fertilization program, especially for the professional turfman.

Phosphorus and potassium fertilization should be based upon soil tests to avoid both inadequate and excessive applications. When soil test results are determined by the procedures used in the Michigan State University Soil Testing Laboratory, Tables 9 and 10 will serve as guides for determination of the desired rates of application. If more than 2 pounds of P_2O_5 is suggested per 1000 square feet on established turf, the fertilizer should be split into two or more applications. This is especially important for potassium fertilizers.

TABLE 9. PHOSPHATE (P_2O_5) APPLICATIONS BASED ON M. S. U. SOIL TEST.

Soil Test (lbs P/Acre)	General Turf (lbs/M)	General Turf (lbs/Acre)	Intensely Cultured Turfs* (lbs/M)
Less than 25 (low)	2	80	4
25-40 (medium)	1	40	2
40-70 (high)	0	0	1
Over 70 (very high)	0	0	0

*Includes golf greens.

TABLE 10. POTASH (K_2O) APPLICATION BASED ON M. S. U. SOIL TEST.

Soil Test (lbs K/Acre)	General Turf (lbs/M)	General Turf (lbs/Acre)	Intensely Cultured Turfs* (lbs/M)
Less than 50 (low)	3	120	5
50-150 (medium)	1	40	3
150-250 (high)	0	0	2
Over 250 (very high)	0	0	0

*Including golf greens and similar turf, especially on sandy soils with high irrigation rates.