Turfgrass Maintenance Fertilization

Continued from September

Ureaform compounds are synthetic materials made by the chemical union of urea and formaldehyde. Within a given ureaform material there is a series of chemical compounds with varying degrees of solubility and resistance to decomposition. As the soil bacteria decompose these materials, the more easily decomposed materials break down first, followed by each successive compound. Thus, a small amount of nitrogen is constantly being released over a relatively long period of time. This permits the user to apply heavy applications of these materials at rather infrequent intervals. *Care must be taken not to confuse urea (quickly available nitrogen) with ureaform (slowly available nitrogen).*

IBDU (isobutylidene diurea) is an example of a synthetic material that is dependent upon hydrolysis to release its nitrogen. IBDU has extremely low solubility in water. As it is relatively unaffected by temperature, it has the advantage of releasing nitrogen, provided adequate moisture is available, during periods of cool weather when microbial activity is limited. IBDU has also been shown to be more efficient (more of the nitrogen applied is recovered by the plant) than natural organic or ureaform nitrogen sources.

Recommended Fertilizer Programs

Again it must be emphasized that a soil test to determine fertilizer requirements provides the best guide for proper fertilization. When complete soil tests are not used, one of the following recommendations should be followed. Recommendations are based on the use of a complete fertilizer having an approximate 2-1-1 ratio or a straight nitrogen carrying material and a fertilizer application rate of four to five pounds of nitrogen per 1000 square feet per season. These recommendations are for average soil conditions and must be supplemented with additional fertilizer where soils are extremely deficient in phosphorus and/or potash. Where Merion bluegrass predominates in a mixture, increase the rate of nitrogen application by one-half over the quantities listed in the following recommendations.

Proper liming is essential to a sound fertilization program. Lime should be applied in accordance with a soil test. Proper liming creates a favourable soil environment for plant growth and keeps plant nutrients available for plant use. Liming, therefore, provides the most efficient use of applied fertilizer materials.

Program I—Where the fertilizer used contains 35% or more of the total nitrogen as water insoluble nitrogen:

Apply in the spring 15 pounds of a 10-5-5 (1 1/2 pounds of nitrogen) or the equivalent per 1000 square feet.

Apply in the fall 25-30 pounds of a 10-5-5 (2 1/2 to 3 pounds of nitrogen) or the equivalent per 1000 square feet.

Program II—Where the fertilizer used contains 15-34% of the total nitrogen as water insoluble nitrogen:

Apply in the spring 10 pounds of a 10-5-5 (1 pound of nitrogen) or the equivalent per 1000 square feet.

Apply in mid to late August and *again* in late September to early October, 15 pounds of a 10-5-5 (1 1/2 pounds of nitrogen) or the equivalent per 1000 square feet.

Program III—Where the fertilizer used contains less than 15% of the total nitrogen as water insoluble nitrogen:

Apply in late April and *again* in late May to early June, 7 1/2 pounds of 10-5-5 (304 pounds of nitrogen) or the equivalent per 1000 square feet.

Apply in late August to early September and *again* in late September to early October 12 to 15 pounds of a 10-5-5 (1 1/5 to 1 1/2 pounds of nitrogen) or the equivalent per 1000 square feet.

Program IV—Where soil tests shows oils to be high in phosphorus and potassium, nitrogen alone may be applied:

Apply two applications per year in mid spring and mid to late August of 6 to 8 pounds of a ureaform compound (38-0-0) (2 1/4 to 3 pounds of nitrogen) per 1000 square feet.

or

Apply in late April and *again* in June, 20 pounds of a natural organic nitrogen material (5 to 7%) 1 pound of nitrogen) per 1000 square feet.

Apply in mid to late August 40 pounds (2 1/2 pounds of nitrogen) of the same material per 1000 square feet.

or

Apply two applications per year in mid spring and mid to late August of 7 to 9 pounds (2 to 2 3/4 pounds of nitrogen) of IBDU per 1000 square feet.

Precautions

All fertilizer may burn if improperly applied. Fertilizers containing high amounts of quickly available nitrogen will burn more severely than those containing slowly available nitrogen. Natural organic nitrogen materials, IBDU, and ureaform compounds applied alone have very little tendency to burn. However, complete fertilizers containing slowly available nitrogen may burn because of the potash content.

Always apply fertilizers when the grass leaves are completely dry, and water thoroughly immediately after application.

NEWS

Elvin Pennants Ltd. exhibited their range of golf and other sports equipment at Motspur Park for the first time, many new items for golf and football were on show.

The 6 ft. and 8 ft. PVC flagpoles are now widely used in golf, football, and rugby, and indeed the Football Association, and Referees and Linesmens Associations have accepted the Elvin Pennants designs for equipment.

The ball washer (golf) is interesting as the greenkeepers can see the level of the water through the perspex front without leaving the tractor during their ground inspections.

The range of equipment includes:—golf green pitchforks, caddie jackets, timber and traffolite tee plaques, signs, pitch and putt equipment, golf score cards, identi-tags, bag labels, instant barriers.