POTASSIUM - The Lacking Element

In reviewing soil tests it becomes quite evident that most turf areas are low in potassium. This has been mainly due to the continuous use of descending ratio fertilizers like 10-6-4 or 6-4-0.

Potassium is an essential element for plant growth. It is second only to nitrogen in the amount required for a plant. And yet it is usually the most neglected when it comes to fertilization.

A potassium deficient plant has a lower disease resistance, is more susceptible to winterkill and may be more susceptible to insect damage. Potassium deficient plants have high water losses, thus require more water than those not deficient in potassium.

Potassium is the most active of the essential plant nutrients. It is easily leached from the soil and may even be leached from plant leaves during a rain or during irrigation.

It is because of its leachability and normally low availability in our soils that, in general, fertilizers should be used which contain high amounts of nitrogen (N) and potassium (K). Suggested fertilizer ratios are 3-1-2, 4-1-2, 2-1-2, etc. If pH is controlled, soil phosphorus supply is usually adequate and thus not as much as required.

Potassium is commonly available as muriate of potash (0-0-60). When a soil test indicates the soil potassium supply is low, muriate of potash may be added at the rate of 2 pounds per 1000 square feet or use a fertilizer of the ratios listed above to supply the equivalent of 1 pound potash per 1000/sq. ft. Potassium sulfate may also be used at the rate of 1.5 pounds per 1000/sq. ft.

When high amounts of nitrogen in relation to potassium are supplied to a plant the plant produces a lush succulent type of growth. This type of growth is easily winterkilled, more susceptible to insect and disease and requires more water to keep it alive. Even though this is a fast growth rate it is not a desirable growth rate.

Potassium tempers the adverse effects of a high nitrogen supply when it is supplied in large enough quantities. The value of a good potassium level in the soil and plant cannot be over emphasized.

FALL FERTILIZATION

This is the time of year to get the most for your fertilizer dollar. Fall is the time that cool-season grasses, especially Kentucky bluegrass, develop new tillers, healthy rhizomes and sturdy roots. A complete fertilizer containing a slowly available source of nitrogen (ureaformaldehyde, IBDU, or natural organic) is preferred because sufficient nitrogen can be applied with a single application. Coated nitrogen materials are questionable at this time as some will imbibe water, split open from freezing and release soluble nitrogen. Lawns should receive 2 to 3 pounds of nitrogen per 1,000 square feet at this time of year. You may wish to try a dormant or winter fertilization. Turf fertilized in mid-November attained an attractive green color as much as four weeks earlier than turf fertilized the previous summer. Timing of fall fertilizer applications will vary from one area to another. In studies in 1974-75, the mid-November application worked very well at U.N.H. However, as you live further inland, you may want to move the date up to the first of November.

Credit - New Hampshire Turf Grower
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