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NEW SLOW RELEASE NITROGEN FERTILIZERS FOR TURF

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Management of the amount of nitrogen which is available to a turf at a given point in time is one of the most important tools the turf manager controls. The heat and humidity this year have demonstrated clearly the importance a nitrogen fertilizer program which permits maintaining control of the nitrogen. One means of achieving control is with slow release N fertilizers. During the past few years there have been a number of new slow release nitrogen fertilizers which are either being tested or are already commercially available.

A number of these new products are coated fertilizer products. They have coatings which represent a range in technologies. The objective is to improve the uniformity and predictability of release of nitrogen while keeping the cost competitive with alternative products. Currently, the standard against which new coated product are compared is sulfur-coated urea while the coating on the new materials is usually a type of polymer. For these materials to work effectively, adequate soil moisture is necessary to enhance the N release. The rate of N release is greatest with higher soil moisture and is enhanced at higher temperatures. The effect of moisture and temperature varies with the product. In general, the coated products are providing excellent results. Some companies have products which will provide short and/or long term response, with claims for certain products as long as 5 months. This is accomplished by varying the thickness and technology of the coating. Smaller diameter particles require more coating, entail greater cost and are used more typically on shorter mowed grasses.

The other area of new N fertilizer development is with natural organics. The source of organic matter may vary considerably, including poultry waste, sewage, or composted materials. Some of these are augmented with other N sources to increase the N content. Because there is such a range of products which can have different release patterns, it is important to know how a product will respond on turf. Soil temperature is the most important factor in predicting the rate of N release because soil microbes convert the complex organic N to available forms. Adequate soil moisture is also necessary.

This study was initiated July 12. Each N carrier was applied at the rate of 2 lbs. N per 1000 sq. ft. Some sources gave quick response, others were slow. Note the differences in particle size, shape and coating for the different carriers, particularly when viewed under the microscope.

These new products can be used alone or can be blended to provide some faster acting N which can make the price more competitive. The result is that are many fertilizer choices available to the turf manager.