

Supplementing Nitrogen with Iron

The succulent top growth caused by nitrogen (N) fertilizer is undesirable, especially during spring and summer. Can nitrogen rates be reduced, but quality maintained when iron is applied? Researchers at the University of Illinois are looking at this concept. They have tested three nitrogen sources (urea, Formolene, Fluf) applied at two rates (0.5 and 1 lb N/1000 sq. ft.) to Kentucky bluegrass. Iron (Fe) was applied at a rate of 6 ounces Fe where the lower rate of N was used. Turf color was judged acceptable on 78 to 85% of the rating dates where the higher rate nitrogen alone was applied, and 62 to 85% of the dates for the N + Fe treatments. The researchers concluded that it is feasible to substitute a portion of the N with iron when urea or Formolene are used. The half rate of Fluf with iron, however, did not perform nearly as well as the full rate of N.

(From: D.J. Wehner and J.E. Haley. 1989. "Iron fertilization of Kentucky bluegrass." *Agronomy Abstracts* p. 166.)

Bio-organic Thatch Decomposers

Researchers at Michigan State University looked at the effect of three bioorganic products on characteristics of thatch. Ringer's Lawn Restore, Lawn Rx and C-50 were applied at 2, 4 and 8 lb nitrogen per 1,000 sq. ft. per application 5 times during a year (no kidding). The thatch thickness decreased as the nitrogen rate increased for all three products. Likewise, earthworm populations increased as N rate increased with the Lawn Restore and the Lawn Rx. The researchers assumed that earthworm activity and the products both influenced thatch stability. They admitted that this work was preliminary and that more in-depth work was needed on these products at traditional N rates.

(From: W. L. Berndt, P. E. Reike, and J.M. Vargas. 1990. "Kentucky bluegrass thatch characteristics following application of bio-organic materials." *Hort. Science* 25:412-414.)

Golf Car Tire Design and Turfgrass Wear

Do you have responsibility for purchasing or maintaining a golf car fleet? If so, you may be interested in a study conducted at the University of Georgia. Researchers there ran turfgrass wear tests on 'Tifway' bermudagrass using several golf car tire designs (tread configurations, radial or non-radial), golf cars, and traffic patterns. Golf car traffic caused significant wear damage regardless of golf car, tire design, or traffic pattern. Differences in wear injury between tire designs did occur, but were minor in most instances. Whether a tire was radial or not did not make any difference in turfgrass wear. Golf car type had only a minor effect on wear. Therefore, the researchers concluded that management to minimize wear should concentrate on distributing traffic and avoiding sharp turns. The selection of pneumatic tire design or golf car is of minor relative importance.

(From: R.N. Carrow and B.J. Johnson. 1989. *J. Amer. Soc. Hort. Sci.* 114:240-246.)

Insecticide Mobility and Degradation

Public concern has intensified over the fate of pesticides applied to land and their potential to pollute groundwater. Researchers at the Wooster experiment station of the Ohio State University are answering many questions on persistence and movement of several pesticides applied to turf. Working with isofenphos (Oftanol), diazinon, trichlorfon (Dylox, Proxol), ethoprop (Mocap), chlorpyrifos (Dursban), isazofos (Triumph), carbaryl (Sevin), and bendiocarb (Turcam), the researchers found 98 to 99% of pesticide residues in the thatch 1 and 2 weeks after application. Residues in the top inch of soil did not exceed 0.8 ppm over 34 weeks of sampling. These preliminary results point out that insecticide movement is greatly inhibited where thatch is present. In related work, the researchers also reported enhanced degradation of isofenphos and carbaryl on areas where previous applications of isofenphos were made.

(From: H.D. Niemczyk and A. Krause. 1989. *Agronomy Abstracts* p. 162.)



Scanning the Journals

A review of current journal articles