

MIDWEST REGIONAL TURF FOUNDATION RESEARCH OBJECTIVES FOR 1983

There is a continued interest in the development of new products or the re-development of old products that have had some success as controls for **Poa annua**. We have two years of test data using many compounds on a **Poa annua** - bent fairway at Highland C.C., Indianapolis, Indiana. We have looked at growth regulators as well as various pre- and post-emergent controls on **Poa annua**.

One concept that continues to be of interest in the growth regulator control of **Poa annua** is a combination of two growth regulators, EL500 and Embark. We made two applications in 1982 and one in 83. Rates have ranged from 0.25 to 1.0 lbs. of EL500 plus 0.12 to 0.25 lbs. ai/A Embark. We have found that a range of rates of 0.25 to 0.5 EL500 plus 0.25 Embark gave a gradual change in population from that or predominantly **Poa annua** to predominant bent in one and one-half years.

Preemergent herbicides that we have looked at include Prograss, Ronstar, Balan, Dacthal, Devrinol, Machete, PreSan and Prowl. Though all have shown some moderate successes, none have met our objectives.

An old product, recently redeveloped, that looks very good is the TurfCal, tricalcium arsenate, in a flowable form. This has been quite successful in selectively eliminating **Poa annua** in our test plots. We have TurfCal on a pitching green, on bentgrass, at low cut maintenance at Highland C.C., on our Purdue experimental green, and the Elks C.C., Lafayette, IN, on bluegrass fairways and at several other sites in the Midwest. We have been able to eliminate the **Poa annua** from the bent without damage to the bentgrass. Fairway work with the TurfCal in Indianapolis and Lafayette has been most successful in the elimination of **Poa annua**. It is anticipated that this product will be available beginning in the fall of 1983. The Lafayette test site also includes the application of sulfur for **Poa annua** control as well as sulfur in combination with the TurfCal. The sulfur treatments were first applied in spring of 1982. We will continue to add sulfur to observe **Poa annua** responses.

Rubigan continues to be of interest as a selective control of **Poa annua**. We have observed treatments with this product at Highland C.C. for two years. Continued treatment, a 0.4 oz. of formulation/1,000 sq. ft. at 14 day intervals in 1982 has reduced **Poa annua** populations on the bentgrass green test site. Treatments at this rate are continuing in 1983.

Fertilizer application studies include the evaluation of late fall, spring and summer, summer and fall treatments. This program was initiated in the fall of 1982 and is expected to continue for some years. The test is in cooperation with six other Midwest universities who are using the same grasses and fertilizers. Our intent is to evaluate the density and turf performance.

The evaluation of new liquid sources of nitrogen as opposed to granular was begun in 1981. There are several liquid ureaformaldehydes as well as those with slow release potential that look promising. Among these are Nitro 26, an experimental with a 21-0-0 analysis, Fluf, Fluf plus urea, Formolene, a Georgia Pacific ureaformaldehyde, 30-0-0, Powder Blue plus urea, and flowable aldehyde nitrogen, 20-0-0.

Several other new experimental sources of nitrogen with potential for slow release are included in another test. We are also evaluating the potential for nitrification inhibition in turf. Several nitrification inhibitors look encouraging.

There is an extensive series of pre-emergent crabgrass

controls including the old standards as well as new experimental compounds that have some potential. The future may bring other flowable or liquid forms of preemergent herbicides to supplement those already on the market.

We are evaluating bentgrass response to applications of oxidiazon, Ronstar, a preemergent control of annual grass to observe responses to this herbicide under putting green conditions.

Another series of tests that appears promising is that of pre- and post-emergent application for control of crabgrass. Tandem from Dow, and experimentals from Union Carbide and American Hoecht are good postemergents. The American Hoecht product has also given excellent control of goosegrass. We anticipate seeing this on the market soon for your use.

A good part of our effort is in the evaluation of growth regulators to reduce maintenance time costs. A new growth regulator from Monsanto was first made available in 1980. Since it is not restricted to foliar uptake, and has soil activity, it allows a broader time frame in which to make applications. It is also a good inhibitor of seedhead development. Currently evaluation of this growth regulator is extensive throughout the United States.

Other growth regulators that we are continuing to evaluate either alone or in combination include Embark, EL500 (Cutless) from Elanco, PP333 from ICI, Eptam, three experimental products from 3M, Glean, and ethrel. Combinations of Embark with either EL500 or PP333 have some potential. Both EL500 and PP333 are excellent growth regulators but neither has potential for seedhead inhibition, whereas the combination with low rates of Embark has given us good seedhead inhibition.

The fungicide program with Don Scott continues on our Penncross nursery here at Purdue. The test site has a good infestation of dollarspot so it serves as an excellent site to evaluate fungicides to control both Helminthosporium and Fusarium blight on bluegrasses in fairways on the Purdue South Course.

Purdue is participating in the National Bluegrass Test with 140 entries planted in 1980 and the National Ryegrass Test with 160 entries planted in 1982.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Midwest Field Day, Tuesday, September 27, 1983, dual program - golf and lawn care.

Turf & Ornamental Seminar, November 7-11, 1983.

Chemicals For Turf Use Seminar, January 16-20, 1984.

SUPPORT YOUR ADVERTISERS



TimberLine, Inc.

WE OFFER FAST, DEPENDABLE SERVICE — EXPERIENCED IN EXPANSION & RENOVATION OF TEES & SAND TRAPS, IMPROVEMENT OF PATHS, EXCAVATING, BACKHOE WORK, DIRT HANDLING & LEVELING.

IF YOU HAVE ANY QUESTIONS OR NEED REFERENCE OR TESTIMONIALS PLEASE CALL BUSINESS AND ANSWERING SERVICE 963-9088. HOME 963-4510.

Timberline, Inc., 1129 Jefferson, D.G. Ill. 60515, Bill Boyd