

Studies also involved the use of tap and sea water to germinate seed of several grasses including Lemmon alkaligrass, Weeping alkaligrass, Merion bluegrass, Seaside bentgrass, Pennfine perennial ryegrass and Dawson red fescue. No germination was obtained with sea water unless it was diluted with 25% or more of fresh tap water.

The use of poorer quality water in the future is a definite prospect on golf courses and these tests make a contribution to our knowledge in that direction. It is possible that alkaligrass and other salt tolerant grasses will be used more for turf purposes in the future.

CORNELL UNIVERSITY - Dr. Richard W. Smiley, Project Leader

Funds Granted - \$2,000 — Influence of Fungicides on Non-Target Organisms.

The objectives of this turfgrass research program are to 1) evaluate the influence of fungicides on numbers of various soil microorganisms, 2) determine if specific microbial groups are antagonistic toward pathogenic species of Fusarium, 3) determine the effects of fungicides on accumulation of thatch, and 4) determine whether the knowledge of fungicidal effects on antagonists of fusaria could be used to develop integrated control programs which offer performance superior to the current target pathogen-oriented chemical control programs.

The appropriate fungicides were applied to the turfgrass plots according to the proposed procedure. Plugs were removed from each treated plot for enumeration of microorganisms three times during the 1977 season.

Two graduate students are identifying numbers and kinds of organisms present at various times of sampling. This may help predict optimal times for fungicide applications for better control of some of our more difficult turfgrass diseases.

UNIVERSITY OF FLORIDA - Dr. A. E. Dudeck, Project Leader

Funds Granted - \$5,000 -- Three Years' Support

First Year of Support — The Effects of Heavy Metals Supplied by Effluent Water on Bermudagrass and St. Augustinegrass.

Field trips were made to inspect golf courses using effluents. Samples were taken of soils and tissues and heavy metal analysis will begin shortly. A laboratory-greenhouse study on Tifway bermudagrass is under way to determine phytotoxic levels of five heavy metals: cadmium, copper, lead, nickel and zinc. A similar test will be made on St. Augustinegrass. A thorough study of the literature has been completed and is being summarized.