

BROWN PATCH AND PYTHIUM DISEASE RESISTANCE
IN BENTGRASS AND ZOYSIAGRASS

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This project was initiated on April 1, 1987. The period from April 1 to November 1 has been spent assembling isolates of Rhizoctonia spp. and Pythium spp. for pathogenicity studies on the Bentgrass and Zoysiagrass Breeding and Genetics Project germplasm lines.

The efforts in this area have yielded some 40 isolates of Rhizoctonia spp. and 28 isolates of Pythium spp. from various grasses and environmental regimens throughout the U.S. A few isolates of Rhizoctonia and several isolates of Pythium spp. are due to arrive from other turfgrass pathology laboratories for a full representation of fungal species in each group. With the exception of a few fungal isolates from other University Laboratories, the pathogenic potential of isolates within the collection largely remains to be determined. Pathogenic isolates of Pythium spp. and Rhizoctonia spp. will be identified in laboratory and green house inoculation studies during the upcoming winter months (November - February).

Modified greenhouse benches with bentgrass and zoysiagrass and some incubation dishes containing plugs of field-grown turf will be used to assess pathogenicity of all isolates we have collected. Construction of special greenhouse benches is in progress for support of the pathology project with bentgrass and zoysiagrass. Some preliminary greenhouse inoculation studies we conducted with Rhizoctonia spp. isolates collected during the spring varied considerably in pathogenicity on Raleigh St. Augustinegrass.

Other diseases noted on bentgrass and zoysiagrass during the past spring, summer and fall seasons included an unidentified soil-borne fungal disease of zoysiagrass on the TAMU-Dallas field plots and on samples from St. Louis, Missouri. The disease appears to be very damaging during the spring and early summer and is presumed to be a Leptosphaeria type of soil-borne disease. Dollarspot disease was also noted to be very severe on the fine-leaved "Emerald" Zoysiagrass but not on the thicker leaved variety "Meyer" during the spring and fall growing seasons. Fungicide tests we conducted in the spring indicated the disease could be easily controlled with one or two applications of iprodione or chlorothalonil and recommended use rates.

The first set of notes were taken during October on the experimental varieties of zoysiagrass. These observations, although preliminary, suggest that most of the elite collection of 25 Zoysiagrass selections were apparently not dollar spot susceptible. More detailed data will be collected on these experimental lines during the 1988 growing season.