UPDATE: OSU Pythium blight research

For the past three years research has been under way on Pythium blight in the department of plant pathology at Ohio State, primarily through graduate student research. Dr. John L. Saladini completed his doctoral studies under the direction of Drs. P. O. Larsen and A. F. Schmitthenner on various aspects of this disease.

He surveyed approximately 50 Ohio golf courses for the presence of Pythium spp. in 1974 and 1975. At least 16 different species of Pythium were isolated, only three of which proved capable of causing disease. This observation suggests the need for proper identification of isolated Pythium fungi, since many of them are simply soil residents and usually do not cause disease.

Pythium aphanidermatum is the primary species associated with Pythium blight on courses sampled. Pythium ultimum, previously thought to be an important causal organism was never isolated. Pythium graminicola was occasionally isolated and suggested the possibility of a root rot type of Pythium disease typical of symptoms caused by this organism on other nonturfgrass plants. Laboratory and greenhouse investigations supported this hypothesis. When roots of Pennlawn red fescue were inoculated with P. graminicola, severe root rot and subsequent foliar death occurred.

Tom Hall, another graduate student working with Larsen and Schmitthenner, will soon complete a study in which he is critically following the development of Pythium blight on golf course sites having an extensive history of Pythium blight.

He has been sampling roots, shoots, thatch and soil from these sites and is correlating presence of Pythium with temperature and relative humidity to learn more about the effects of environment on the disease outbreaks to enable turfgrass managers to forecast the incidence of Pythium blight. This type of disease forecast may enable a golf course superintendent to apply fungicides early enough to avoid any damage from this explosive disease or to avoid unnecessary and expensive applications of fungicides when they are not needed.

Fungicidal control studies in field and laboratory are also under

way concerning Pythium blight. Dr. Larsen is in charge of this program. Prepared by P.O. Larsen, associate professor, OSU department of plant pathology.and Ohio Agricultural Research and Development Center.

