Turfgrass / Gazon

Crop / Culture: Kentucky bluegrass (Poa pratensis)

Location / Emplacement: Ontario

Title / Titre: Incidence of Necrotic Ring Spot Disease of Turfgrass in Southern Ontario.

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METHODS:

Surveys and Field Specimens

A survey was drawn up and sent to turfgrass industry associations for distribution to Golf Course Superintendents, Park Supervisors, Sod Farm Managers, and Lawn Care Companies. Information was requested on their dealings with turfgrass patch diseases, especially necrotic ring spot. The survey also solicited specimens of patch diseases to be sent to the University of Guelph for isolation. Other isolates were obtained from the Pest Diagnostic Advisory Clinic at the University of Guelph, and from Annette Anderson, the Turf Extension Specialist of the Ontario Ministry of Agriculture and Food. Confirmed specimens were obtained from Leslie MacDonald of the British Columbia Ministry of Agriculture and Fisheries for comparisons with our isolates.

Isolations

Numerous isolations were made of fungi from roots in diseased patches. The technique involved root washes of up to 24 hours, followed by 1 min surface sterilization in 1% silver nitrate, a 30 sec rinse in 5% NaCl and then a final wash in autoclaved distilled water. The root pieces were then blotted dry and placed on 1/5 strength potato dextrose in 2% agar amended with 30 ppm streptomycin. After a week, hyphal tips were transferred to full strength potato dextrose agar (PDA) and incubated at 20°C. In attempts to fruit the fungus, plugs from isolates which resembled Leptosphaeria korrae Walker & Smith, the causal agent of necrotic ring spot, were then inoculated onto autoclaved hard fescue seeds on 2% water agar, and the petri plates sealed with parafilm. Excess condensation was removed periodically from the petri plates.

RESULTS:

We currently have 42 isolates that resemble L. korrae. These characteristics include a relatively slow radial growth rate (3.0 mm/day) on potato dextrose agar, and a grey floccose mycelium which is very dark on the underside. Such isolates have frequently come from samples of Kentucky bluegrass with abundant dark runner hyphae on discoloured roots. By growing the pure isolates on tall fescue seed, we have managed to induce ascospore production of 9 of these cultures (including 4 of the 6 B.C. isolates), and have made positive identification of these isolates as L. korrae.

In conclusion, the fungus L. korrae is present in Ontario. Prior confirmed reports of this fungus in Canada come from B.C. (Can. Plant Dis. Surv. 70:35 & 71:128), but as far as we know, this is the first published report of L. korrae in Ontario. Necrotic ring spot disease on Kentucky bluegrass lawns, which has in the past been called "Fusarium blight" or "Frog-eye", is likely caused by this fungus in Ontario. From the distribution of survey respondents and verified isolates, this disease and thus the fungus is common throughout southern Ontario.