water collected. Damage varied from slight in some fields to very severe in others. Usually only small areas in a field were affected, but in several cases the stand in an entire field was severely thinned by the disease.

Table 1. Phytophthora root rot of alfalfa observed in Ontario and southern Quebec in 1969

Province and county	Incidence of P. megasperma
Ontario	
Carleton	22/26*
Durham	5/5
Frontenac	5/5
Grenville	3/3
Halton	8/8
Hastings	1/3
Lanark	5/7
Leeds	5/5
Northumberland	3/3
Ontario	3/5
Oxford	1/3
Peel	7/7
Perth	2/2
Peterborough	2/5
Renfrew	11/11
Victoria	3/3
Waterloo	4/5
Wellington	8/9
York	5/6
Quebec	
Argenteuil	7/9
Papineau	8/12

* No. of fields from which the fungus was isolated/no. of fields sampled.

Pathogenicity tests of the Phytophthora isolates obtained revealed that all are very pathogenic to 'Vernal' alfalfa. The fungus killed 2-month-old plants in 2 weeks at 28C in a greenhouse under wet soil conditions.

The present survey indicated that phytophthora root rot is present in most of the soils in Ontario where alfalfa is grown. The disease becomes epidemic when the soil remains excessively wet during periods of prolonged heavy rainfall. Under favorable moisture conditions, the fungus may invade alfalfa plants and cause damage in a very short time. It is a potentially serious alfalfa problem in some areas, especially where the soils are poorly drained.

Literature cited

1. Chi, C.C. 1966. Phytophthora root rot of alfalfa in Canada. Plant Dis. Rep. 50:451-453.

2. Eckert, J.W., and P.H. Tsao 1962. A selective antibiotic medium for isolation of Phytophthora and Pythium from plant roots. Phytopathology 52:771-777.

3. Irwin, D.C. 1954. Root rot of alfalfa caused by Phytophthora cryptogea. Phytopathology 44:700-704.

4. Frosheiser, F.I. 1967. Phytophthora root rot of alfalfa in Minnesota. Plant Dis. Rep. 51:679-681.

FIRST RECORD OF WHITE ROT OF ONION IN COASTAL BRITISH COLUMBIA

D.J. Ormrod and J.F. Conroy[1]

White rot caused by Sclerotium cepivorum Berk. has not previously been observed on onions in coastal British Columbia, although it was seen in a small planting of garlic (Allium sativum L.) in 1951 (2) and has more recently been observed on onions (Allium cepa L.) in the southern Interior of the province (1,3). It occurs commonly in the onion growing regions of the western United States.

In June 1970 a grower in the Cloverdale muck vegetable growing area observed a disease in one field of bulb onions (Allium cepa L.) which proved to be white rot. Examination of the field showed the disease to be apparent in two small patches totalling approximately 1/4 acre.

Inquiries relative to the possible source of inoculum revealed that the field was also seeded to onions in 1969 but had not grown onions before that. Prior to 1967, the farm was used for livestock and hay production for many years. In 1965, fruit and vegetable waste and trimmings from a major Vancouver supermarket chain were used on the farm as a source of feed for cattle. Green bunching and bulb onions grown in the western United States were included in this refuse and it appears likely that some white rot infected onions were present.

The field in which the disease was detected in 1970 is the same field which received the majority of the refuse as evidenced by the presence of elastic bands and other non-decomposed packaging material.

Seed has been ruled out as a possible source of inoculum as other fields planted with the same seed in 1969 and 1970 were not affected.

Literature cited

1. British Columbia Department of Agriculture. 1970. Vegetable production recommendations, 1970. Victoria, B.C. 41p.

[1] Plant Pathologist and Horticulturist, respectively, British Columbia Department of Agriculture, Surrey, B.C.

2. Conners, I.L. 1967. An annotated index of plant diseases in Canada. Can. Dep. Agr. Pub. 1251. 381p.

3. Creelman, D.W. 1967. Summary of the prevalence of plant diseases in Canada in 1965 [1966]. Can. Plant Dis. Surv. 47: 31–67.

NEWLY RECORDED FUNGI FROM COLONIAL BENTGRASS IN COASTAL BRITISH COLUMBIA

D.J. Ormrod, E.C. Hughes[1], and R.A. Shoemaker[2]

During a routine laboratory examination of a turf disease specimen some difficulty was experienced in detecting a known pathogen which might account for the visual symptoms of damage.

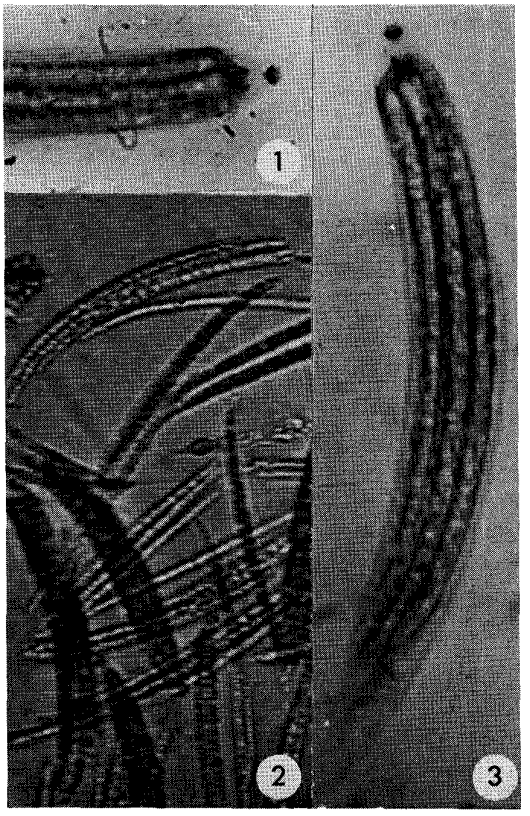
The over–all appearance of the disease, in a home lawn in Delta, B.C., corresponded to ophiobolus patch (Gaeumannomyces graminis (Sacc.) v. Arx & Olivier ≡ Ophiobolus graminis Sacc.), a disease which is common in Western Washinqton and which is believed to be common in the Fraser Valley of British Columbia, although not officially recorded (1,4). The symptoms of the disease were the same as Ophiobolus patch, namely depressed, circular areas of straw colored grass ranging from a few inches to several feet in diameter with the centres of the larger patches eventually filling in with coarse grasses and broad–leaved weeds (2).

Detailed laboratory examination of the samples received in June, 1970 failed to reveal the presence of G. graminis. As a result, further samples were o tained in July and August, at which times information on the history of the lawn was obtained.

The lawn was established as part of a new landscape project in the spring of 1969. A mixture of Kentucky bluegrass (Poa pratensis L.), creeping red fescue (Festuca rubra L.), and 'Highland' colonial bentgrass (Agrostis tenuis Sibth.) was used. Balanced fertilizer, hydrated lime, and sugar beet seed cleanings, as a mulch, were added and the lawn grew well until September of 1969 when the disease first appeared. No fungicides were applied and by the summer of 1970 large areas of the lawn were virtually destroyed.

During the laboratory examination, it was found that bentgrass comprised over 90% of the turf, the other grasses having been decimated by the close–mowing regime. Thus, the disease was primarily affecting Highland colonial bentgrass (Agrostis tenuis Sibth). Kentucky bluegrass and creeping red fescue were among the species which recolonized the centers of the patches.

In the last sample, after many fruitless searches, G. graminis was found. It matched the description given by Dickson (3) (Figs. 1–3).



Figures 1–3. Gaeumannomyces graminis. Figures 1 and 3. Asci stained with ink to show apical ring, DAOM 19596, X1000. Figure 2. Asci and ascospores, DAOM 133679, X ca. 450.

Various other fungi were found in the samples. Two, in particular, were noted because they had not been seen previously in numerous investigations of this kind over the past few years. These have been identified as Leptosphaerulina australis McAlpine, DAOM

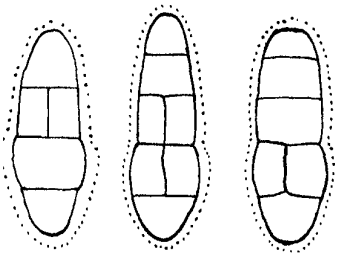


Figure 4. Leptosphaerulina *australis*, DAOM 116550, ascospores, X1000.

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