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THE OCCURRENCE OF *Pycnidiophora dispersa* IN SOIL OF A PASTURE IN NOVA SCOTIA

During the course of a study of the fungal flora of soil from a permanent pasture at the Agriculture Canada Experimental Farm at Nappan, Nova Scotia, during the grazing seasons 1973 to 1975, a number of isolates of *Pycnidiophora dispersa* Clum (= *Westerdykella dispersa* (Clum) Cejp & Milko; *Preussia dispersa* (Clum) Cain) were obtained. The location of the plots is given in Fig 1, the total area of the plots 1 to 7 being 1.9 hectares. The methods of collection of the soil samples and isolation of the fungi have been described (Brewer and Taylor, 1980).

A total of 1078 soil samples were taken from these 7 plots during the grazing seasons 1973, 1974 and 1975. The organism, *Pycnidiophora dispersa,* was isolated from 53 of these soil samples. That this organism was isolated from soil is not surprising, as it has been isolated from soils in Cambodia, Nigeria, South Africa, U.S.A., Pakistan (Cain, 1961; von Arx & Storn, 1967), Hawaii (Lee and Baker, 1972) and Honduras (Goos, 1963). Additionally isolates from soils in India, Armenia and Holland are given in the catalogue of the International Mycological Institute (10th Edition, 1992). Thus this species is a common, world-wide, constituent of soils.

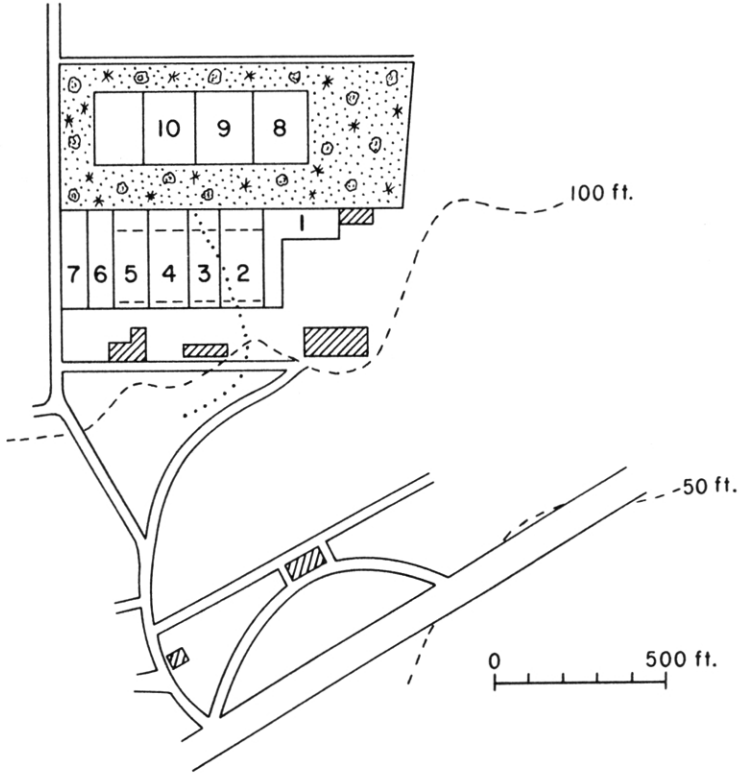

Fig 1. Location of experimental plots at Nappan, Cumberland County, Nova Scotia; the road at the 50' contour is route 302.

However, an interesting point that emerged from the collections at Nappan was that this organism was only isolated from soil samples from plots 6 and 7, comprising approximately 4800 m^2, from which 267 samples had been collected. Fifty two of these samples (19.5%) yielded this fungus. The number of samples collected from each sector and the number from which the fungus was isolated are given in Fig 2. The 10 sectors of each plot were of equal size. There appears to be a concentration of isolations of *P. dispersa* in sectors 6,8 and 10 of plot 6 and sectors 5,7,8,9 and 10 of plot 7. The area of the sectors 6, 8 and 10 of plot 6 and 5, 7 and 9 of plot 7 corresponds approximately to the location where grass silage had been made for a number of years prior to ploughing and re-seeding in 1972. The area covered by sectors 8 and 10 of plot 7 includes the route taken by the vehicles transporting the grass to the pile and removal of the silage.

Over the years from 1967 to 1971, 567 samples were collected from an area delimited by plots 2, 3, 4, and 5 to the broken lines in Fig 1. There were no isolates identified as *P. dispersa* amongst the fungi isolated. Soil samples were collected in the years: 1971 (21 samples), 1974 (150) and 1975 (156) from the area depicted as plots 8, 9 and 10 in Fig 1. and again no isolates identifiable as *P. dispersa* were obtained from these samples. Similarly, no isolate of this fungus was obtained from 430 soil samples obtained over the years 1967-69 and 1971 from a permanent pasture somewhat removed from Plots 6 and 7 (Plot R3, Brewer *et al.* 1971), nor from samples collected in 1971 from a corn field (28 samples) and a hayfield (28) on the Experimental Farm.

It appears that the fungus *Pycnidiophora dispersa* is limited to the location of plots 6 and 7 and particularly concentrated in the area where grass silage was made previous to ploughing and re-seeding. It is possible that some of the isolates collected elsewhere, that failed to either sporulate or produce a teleomorph in culture were non-fruiting non-sporulating isolates of *P. dispersa*, but that would in no way detract from the interesting observation of the apparent influence of the grass silage pile on the possibility of obtaining identifiable isolates of the fungus from the underlying soil.

PLOT 7	2 0/5	4 0/11	6 2/12	8 2/8	10 3/7
	1 0/12	3 0/14	5 2/5	7 7/14	9 6/13
PLOT 6	2 1/10	4 3/19	6 5/21	8 11/17	10 5/11
	1 0/17	3 0/17	5 0/12	7 3/22	9 2/20

Fig 2. Sectors of plots 6 and 7. The numbers in the upper left hand corner of the segments in the diagram are used for reference in the text. In the centre (x/y) are given the number of soil samples from which *Pycnidiophora dispersa* was isolated (x) and the total number of samples collected from the sector (y).

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This note is dedicated to the memory of K.A.Harrison.

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