# THE OCCURRENCE OF PYRENOPHORA TERES ON BARLEY STRAW IN ALBERTA

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In July, 1961, mature ascocarps of Pyrenophora teres (Died.) Drechs., the perfect stage of Drechslera teres (Sacc.) Shoemaker (Heminthosporium teres Sacc.), were found on straw of Olli barley which had been lying in the field since the harvest of 1960. Subsequently they have been found on barley straw from many fields in the Calgary and Edmonton regions indicating their general occurrence. Crowell (1) reported the finding of perithecia of **P.** teres in the field in Quebec in 1940.

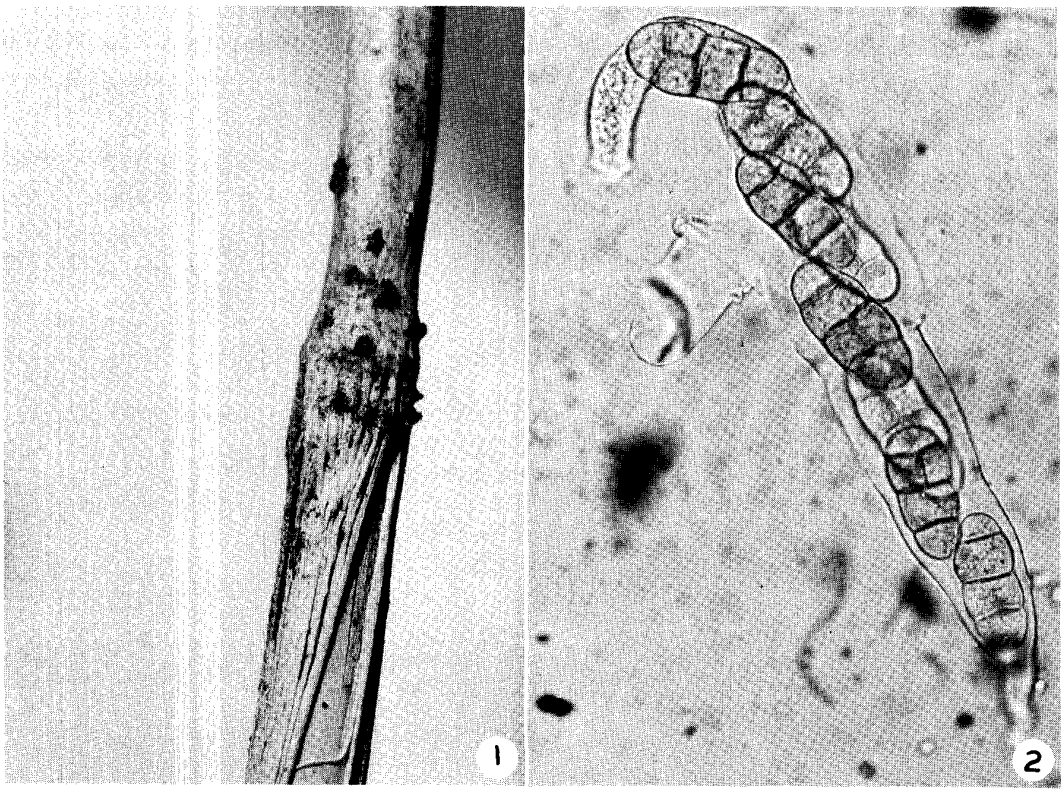


**Figure 1. Mature oscocarps on over wintered barley straw.**

**Figure 2. Mature eight-spored ascus of Pyrenophora teres**

The setose ascocarps, which are 1-2 mm in diameter, are found on the culm, sheath and nodes of exposed barley straw (Fig. 1). Asci in the fertile fruiting structures normally contain eight multicelled ascospores, though fewer than eight are evident in some asci. The hyaline asci are approxi-

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mately 200-240 μ long and 30-40 μ wide with tough, elastic walls that are difficult to rupture. The multicellular ascospores are light brown in color and measure 44-60 x 16-24μ. (Fig. 2) After four hours on a suitable medium, one or more cells of the ascospore germinate, Conidia typical of D. teres are produced in five days on the mycelium from the germinating ascospores. These conidia incite net blotch lesions on susceptible barley and the conidia produced in these lesions are in turn typical of D. teres.

On V-8 agar some of the monoascosporic cultures differed from others in the number of conidia produced, color of the culture, and in the numbers of sterile ascocarps produced.

Mature ascocarps were also found in 1961 on barley straw grown in 1959. The ascocarps successfully resist weathering and it is possible that spores produced in such ascocarps can cause primary infection of barley grown on a field several years after an infected barley crop was produced.

## Literature Cited

1. CROWELL, I.H. 1941. In 20th Ann. Rept. Can. Plant Disease Survey. p. 15. 1940.

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