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TECHNICAL NOTES

MAR 16 1959

LAKE STATES FOREST EXPERIMENT STATION U.S. DEPARTMENT OF AGRICULTURE · · FOREST SERVICE

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Hypoxylon Infection Not Greatly Influenced by Sex of Aspen Trees

The results of a survey taken in northern Minnesota indicate that the occurrence of Hypoxylon canker on aspen has little or no correlation with the sex of the tree. This survey was made during the flowering seasons of 1957 and 1958.

This was an exploratory study in that no work has been reported on this phase of the Hypoxylon problem. While a difference in disease resistance between sexes of the same species is unusual, some situations of this type do exist. One example is Ribes alpinum, in which the female is susceptible to white pine blister rust and the male is resistant. The survey reported here was made on the chance that such a situation might exist with regard to Hypoxylon canker of aspen.

Because male and female aspen trees do not occur in equal numbers under normal conditions, any sampling confined to infected trees in a localized area might not give a true picture of susceptibility unless the actual ratio of male and female trees were known. Therefore, the first attempt at sampling consisted of determining the sex of infected trees on existing plots located throughout the northern part of the State. With this wide distribution, it was felt that a satisfactory sample of the natural sex ratio would be obtained. This approach, however, yielded very little information because trees in closed stands tended to produce few flowers, which are the means of distinguishing the sexes. Thus it became necessary to conduct the survey by random sampling of diseased and healthy trees in areas where flowers were being produced.

Results of the survey are shown in table 1.

Table 1.--Hypoxylon infection as related to sex in aspen

Tree condition	Male trees		Female trees	
	Number	Percent	Number	Percent
Cankered	71	26.6	72	31.6
Uncankered	196	73.4	156	68.4
Total	267	100.0	228	100.0

While these results showed a somewhat higher level of infection for the female trees, the difference was not excessive; the important thing is that both sexes were commonly found to be infected with the disease.