Technical Notes

Mouse damage in an 8-year-old plantation

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During the winter of 1967-68, many young forest plantations in southern Ontario suffered severe mouse damage. Trees were either partially or completely girdled by field mice (*Microtus* spp.) feeding on the stems beneath a snow cover of average depth. Because of previous losses caused by mice in recent years, mouse poison had been distributed annually in forest plantations in this area. However, the treatment evidently failed to provide the necessary protection as damage continued to be widespread and severe.

Previous reports of mouse damage (Littlefield *et al.* 1946, Anon. 1966, Cayford and Haig 1961) have noted heavier feeding on some tree species than on others. In the study reported

here, a detailed evaluation of the mouse damage in a 10-acre, 8-year-old plantation of alternate rows of white pine (*Pinus strobus* L.), white spruce (*Picea glauca* (Moench) Voss), white ash (*Fraxinus americana* L.) and basswood (*Tilia americana* L.) revealed significant differences among tree species (Table 1).

White pine was very severely attacked with many trees being completely girdled and bark removal extending into the lower branch whorls (Figure 1). Trees of small diameter were more frequently attacked and more severely damaged than larger trees.

White spruce was by far the most resistant species in the plantation. Not only were fewer trees attacked, but the damage was generally restricted to a small area on the stem (Figure 2). At the end of April, most feeding scars were already covered with a thick layer of resin which appeared to seal off the scar effectively against fungal attack. No feeding scars were found on branches, but exposed roots were always attacked, even on

Fig. 1. Completely girdled white pine.

Fig. 2. Scar on partially girdled white spruce showing heavy resin flow.

Fig. 3. Completely girdled white ash. Notice new bud on lower right side of tree.

Fig. 4. Feeding scar on basswood. In the white spot the bark has been removed with a knife to show the depth of feeding. Tree was classified as partially girdled.

TABLE 1. Mouse damage by species and severity of attack

Species	Number of trees examined	Trees healthy, not attacked %	Trees partially ^a girdled %	Trees completely ^b girdled %
White spruce....	500	81	16	3
White pine.....	500	18	36	46
Basswood.....	500	17	39	44
White ash.....	500	0	1	99

^aBark removed in patches or only outer bark removed.

^bBark removed to cambium around the total circumference of the tree.