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PEST REPORT

Pacific Forest Research Centre • 506 West Burnside Rd. • Victoria, B.C. • V8Z 1M5

December 16, 1980

Assessment of Pest Damage in Managed Lodgepole Pine Regeneration
 near Spillimacheen, Nelson Forest Region

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Spacing and fertilization trials are being conducted in lodgepole pine regeneration near Spillimacheen in the East Kootenay. On November 19, 1980 an examination was made in the area to determine the type and incidence of pest damage. Probe lines were established randomly in stands spaced at 1.8, 3.04 and 3.6 meter intervals and in an unspaced control stand. Pest damage was assessed on each of 25 trees in each spacing unit (Table 1). Tree diameters ranged from 5 to 10 cm and height ranged from 3 to 5 meters.

Table 1. Status of 25 trees examined and the damaging pests in spacing units at the Drift Fire, Spillimacheen.

Tree Condition	Percent of trees by condition:			Unspaced
	Spacing intervals			
	1.8 m	3 m	3.6 m	
Healthy	32	40	36	52
Pine terminal weevil	8	20	24	4
Pitch nodule moth	4	4	-	-
Western gall rust	8	4	4	12
Stalactiform canker	-	4	-	-
Root collar weevil	-	-	4	4
Twig moth	-	4	-	4
Rabbit damage	44	24	28	24
Animal browsing	4	-	4	-
Dead	-	-	8	-

In the spacing trials, 9.4% of the trees were attacked by more than one pest. In every case recorded, rabbit damage was one factor and terminal weevil, gall rust or pitch nodule maker the other. The percentage of healthy trees was less in the spaced stands than in the control area (Table 1).

The most significant damage was the removal of bark and partial girdling by rabbits near the base of the trees. However the damage appeared to have been done in 1978-79 and the wounds were calloused over with pitch. If no further rabbit damage occurs this winter the trees should continue to recover.

Insect damage occurred in all areas examined. The lodgepole terminal weevil, Pissodes terminalis had caused top kill and multiple leader growth. Attack frequency apparently increased as stocking decreased, but sample size was too small to be certain of the relationship. In two of the spaced stands, branches were weakened at the axils by pitch nodules formed by Petrova albicapitana. Twig moth larvae, Dioryctria sp. weakened tree stems in one spacing unit and root collar weevils, Hylobius warreni girdled trees in another.

Western gall rust, Endocronartium harknessii girdled and weakened stems in all stands examined, and spores that disseminate each summer are likely to directly cause infections on other trees. Although stalactiform cankers caused by Cronartium coleosporiodes were generally light, this disease can spread to alternate hosts, which may increase with spacing and fertilization, and ultimately to other trees.

Browsing by moose or deer was generally light in two spaced units.

Tree mortality, caused by complete basal girdling by rabbits, was recorded on 8% of the trees in the 3.6 m spacing unit.

Without some recognition and elimination of tree pests in the initial selection of designated crop trees, spaced stands will continue to deteriorate and tree mortality will result in reduced stocking. Examination of the natural stands prior to thinning and training of spacing crews could assist in the selection of pest free crop trees.