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ORIGINAL

THE USE OF DOMESTIC SHEEP FOR
VEGETATION CONTROL ON FOREST PLANTATIONS
IN THE
INTERIOR OF BRITISH COLUMBIA

by

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A study involving the grazing of domestic sheep on Engelmann spruce, *Picea engelmannii* and lodgepole pine, *Pinus contorta* plantations was initiated in June 1985 near Hendrix Lake, British Columbia. Specific areas investigated included vegetation removal and seedling damage as a result of grazing, animal weight gains, and forage quality. The impact of such grazing on site nutrient cycling and on soil quality were also investigated in less detail.

The results of this trial suggest that grazing on Engelmann spruce plantations can lead to a considerable reduction in competing vegetation, and that damage to these seedlings can be kept to a minimum provided grazing is avoided in spring, the movement of sheep is controlled and the utilization of forage on cutblocks does not exceed about 75 percent. Grazing on lodgepole pine plantations should be avoided, however, because sheep appear to have a preference for this species.

Although not measured quantitatively, it is evident from observation during the trial that the amount of urea deposited on plantations can be considerable. The impact of such nitrogenous inputs is probably not as significant as reported in the literature, however, because the sheep tend to spend much of the day at a central landing, rather than in the cutblock.

Soil compaction was not a problem during grazing primarily because of the medium to coarse-textured quality of soil on most of the areas grazed.

Weight gains were considered "acceptable" for the first month of the grazing trial, approximately, but declined to less acceptable levels as the trial proceeded because of aggravation by predators and declining forage palatability. Forage quality was

not, however, limiting the growth of animals prior to August, according to foliar analyses. Minerals such as phosphorus were possibly limiting growth later in the summer and in early fall.

The findings of this study complement those of previous studies which also support the use of domestic sheep in silvicultural programs. Further research is required, however, to better correlate seedling damage with forage utilization and animal stocking levels, as well as to investigate the impact of sheep grazing on long term plantation performance and success. Vegetation preferences of sheep and nutrient cycling during grazing are two specific areas that also require further investigation.

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