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Aspen roots have the same potential for suckering whether logging is done in winter or summer

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There has been a long discussion of whether or not logging aspen in winter increases the potential for suckering of aspen compared to summer logging. It has long been viewed that aspen logged in winter will have higher levels of root carbohydrate at the time of suckering. Unfortunately all of the previous studies have had confounding effects; the difference in phenology of aspen could not be isolated from the difference in soil and root damage associated with frozen soils in winter or unfrozen soils in summer.. In this study we determined if there is an inherent difference in suckering associated with winter logging compared to summer logging, when soil and root damage are not a factor.

Methods: In the Western Manitoba (near Roblin) 6 blocks of plots were located in aspen stands. In each location 4 (50 x 50m) plots were established and one was logged in mid summer, one in fall and the third in winter – using hand felling by chain saw. Skidding was done using a line skidder and as a result there was no machine traffic over the plots. An unlogged control was also retained.

Photo showing three of the six aspen blocks after logging. In each block there were 4 treatment plots.

In the same locations, the summer-logged plots were compared to adjacent areas that were logged using a feller-buncher and grapple skidder.

Results: There was no difference in stem density, size or leaf area of suckers between the three different seasons of logging.

There was also very little difference in root carbohydrates for the three seasons of cut - at the time of suckering.

There was however, a 20-30% reduction in sucker height and leaf area on the summer-logged sites that were conventionally harvested compared to the sites that were hand-felled at the same time.

Implications: There is little difference in the potential for aspen to sucker when cutting is done at different times of the year, provided that machine traffic is taken out of the equation.

Logging on unfrozen ground, however, can have large implications on suckering and must be done in dry conditions when the soils can support the weight of the machines without causing significant soil compaction and/or excessive damage to roots.

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Further Information:

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