Cottonwood Injection Trial - Prince George

WORKING PLAN

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Working Plan 5X84709 Q

Cottonwood Injection Trial - Prince George

Objectives

1. To provide information on the problems and limitations of the "Punch and Fill" injection system, when treating mature cottonwood.

2. To obtain efficacy information for Roundup, when applied by "Punch and Fill" injection, on mature cottonwood trees.

Introduction

Hack and Squirt chemical injection is the usual method for treating mature trees. However, cottonwood is difficult to treat using conventional Hack and Squirt equipment because of its thick, ribbed bark. Cottonwood should be easier to treat using the "Punch and Fill" system as the cores can be precisely placed between the ribs of bark.

Methods

Approximately 25 mature cottonwood trees will be injected with Roundup at a 50% product to water mix. The number of injections will vary with stem diameter according to the recommended rate of application of 1 ml product/5 cm DBH. Injections will be placed between the ribs of bark which should correspond to 1 ml product/5 cm DBH. Another 25 untreated trees will be the control.

Equipment

All herbicide applications will be made using the "Punch and Fill" hatchet and modified Hyvar Spot gun.

Assessment

All stems will be assessed for diameter, number of injections and mortality in the summer of 1985.

Equipment suitability (ease of operation, problems and downtime) will be recorded.
Assessment

Data will be analysed by chi square testing of contingency tables.

1. effect of treatment level on mortality

   treatment level
   control  Roundup
   # alive
   # dead

2. effect of DBH on mortality within treatment level

   DBH
   # alive  14  15  16  17 ...
   # dead

Site Information

SE of Prince George - 32 km on Pelican Forest Road
Original Standing Label - P1 532 M
Logging History - logged 1979
               mechanically site prepared 1980

TSL - 07784
Opening - 10
Latitude - 53°32'
Longitude - 123°18'
Land District - Cariboo
Cottonwood Injection Trial
Pelican Forest Road
Sx 84709 Q

On August 9, 1984 approximately 25 mature cottonwood stems in TSL 07784 C.P.I. at 32 km on the Pelican Forest Road were injected using the 'Punch & Fill' system. Only one herbicide, Roundup at a 50% product to water mix, was used for all stems. Injections were placed between the ribs of bark which on the average would account for an injection (1 ml) every 5 cm. on the circumference.

Problems encountered with injecting cottonwood stems by the 'Punch & Fill' system include:

1. If the operator successively misses the groove and hits the thick rib of bark this can result in bending of the punch. Case hardening should reduce or eliminate this problem but a short period of practice by the worker appears to result in near perfect aim.

2. On some stems a minor problem was encountered in placing the nozzle of the filling system into the core due to lack of space.

During the summer of 1985, all stems will be assessed for diameter, number of injections and success of treatment.

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cc: M. Kyeth