



## SEEDING FOREST CUTBLOCKS IN NORTHWEST B.C.

### Purpose

To establish guidelines for seeding of forage species on cutblocks within the Prince Rupert Forest Region. These guidelines are intended to assist the forest industry and silviculturists to provide grazing within our forests and yet to minimize livestock damage to newly planted conifer seedlings.

### Cutblock Seeding

Seeding of selected blocks for the production of forage for wildlife and livestock or as part of an integrated vegetation management plan shall be authorized by the District Manager subject to the consideration of the following conditions:

- a) The proposal is within the area defined in the Timber Supply Area Plan as having established range usage or is within an area of the T.S.A. that is defined as a potential range area (Silviculture Regulation 2 (1) (H)).
- b) The prescribed treatment is part of the approved Preharvest Silviculture Prescription (PHSP) for the cutting authority.
- c) The forest regeneration portion of the PHSP addresses the impact of forage seeding and/or the presence of livestock in the selection of:
  - i) The site preparation method(s) that minimizes cattle travel on the plantable spots. (Certain site preparation methods such as planting trails and disc trenching concentrate cattle movement onto the plantable spots.)
  - ii) The planting prescription incorporates measures to further protect planted stock from livestock scuffing and trampling
- damage. This procedure recommends that the planting prescription require that the seedling be planted within 10 cm of debris or rocks and/or on mounds elevated at least 10 cm above the surrounding area.
- iii) The stock type and species that maximizes establishment and growth of seedlings in the first three growing seasons to outgrow competing vegetation (ie. P1 313 rather than 1.0 S).
- iv) The scheduling of planting should be concurrent with the season of forage seeding.
- v) The use of selected domestic forage species to inhibit competitive native vegetation and/or improve the long term productivity of the site. The use of certain lower growing grasses will inhibit the establishment and spread of native shrubs or herbs. Legumes and their rhizobium will fix atmospheric nitrogen and therefore improve the long term productivity of the site.
- vi) The site preparation method should attempt to minimize future needs for "brushing and weeding" so that the longevity of the forage stand is enhanced and the dependence of the livestock industry for the domestic forage is recognized.
- d) The forage seeding plan has considered the following:
  - i) The percent of the proposed area with a suitable seedbed.

can be planted. Burn all piled debris. If windrows and piles are left, they affect cattle movement patterns and can result in localized areas of livestock concentration and the potential exists for damage to seedlings.

- d. Leno or brakke - no restrictions.
- e. Planting trails - follow contour of block and plant on edges of planting trail where obstacles exist to protect tree. This is the worst site preparation method, as it actually concentrates cattle on plantable spots, and can result in high levels of damage.
- f. No site preparation - screef 30 cm<sup>2</sup> area and follow 10 cm rule.

#### Inoculant Procedure \*

For the legume-*Rhizobium* symbiosis to work, the *Rhizobium* bacteria must be present in the soil, and it must be able to infect the specific legume and be capable of effectively fixing nitrogen. To ensure this, all legume seed should be inoculated with the correct bacteria with the use of a proper method. Several methods of inoculation are available; we have provided one sticker solution method that has proven successful in our recent experimental trials and has subsequently been used by several range managers in the Prince Rupert Forest Region.

Throughout the storage, inoculation, and seeding, remember that you are caring for a population of living organisms. Excessive heat, drying, or other extreme environmental conditions will damage or kill the bacteria.

#### Powdered Milk Sticker Solution Method

##### Material needed:

- 1 bag (25kg) seed
- 300 mesh lime<sup>1</sup> (amount depends on seed size)
- one (weight will vary depending on source) appropriate package of inoculant specific to legume seed
- 50 g powdered milk mixed in 500 ml water (10% weight/volume)
- cake mixer or blender
- cement mixer

<sup>1</sup> Using coarser lime (smaller mesh size) will not coat the seed as required. This lime (300 mesh) must usually be ordered from a wholesaler, as it is not commonly available at local garden/farm suppliers.

##### Procedure:

Keep inoculant refrigerated or frozen until needed, then thaw if necessary and combine with powdered milk solution. Mix thoroughly with an electric cake mixer or blender. The latter implement should be used in short bursts (up to 15 sec.) to avoid localized heating or physical damage to the bacteria. Empty the bag of seeds into the cement mixer, pour the sticker/inoculant solution onto the seed, and mix until all the seed is covered and slightly wet (approximately 10 min.). In the cement mixer, begin to add the lime until all seeds are coated and resemble small granular pellets (about 4 - 375 g coffee tins of lime for alsike clover). This step will take approximately 10 more minutes. Use the inoculated seed within 2 days, preferably just before sufficient precipitation to wash the inoculant into the soil and moisten the seed for germination.

\* (Procedures follow Trowbridge and Holl  
RRDA 88003-PR)

#### References:

Range Act, Forest Act, Ministry of Forest Act,  
Silviculture Regulation, Silviculture Manual, Range  
Manual, Provincial Forage Seeding Policy.

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