

SHEARING

Purpose

Shearing, raking, and windrowing prepares sites for planting by disposing of debris and reducing competition from competition.



Suitable Site Conditions

Sites conducive to shearing can be described as follows:

1. Winter operations on frozen soil with a snow depth of less than one foot. If done during summer or fall, there is a chance of stripping the top soil.
2. Deep, well drained soils rather than shallow or coarse soils.
3. The area to be sheared should be relatively rock free to prevent dulling or chipping of the shear blade cutting edge which would increase operating costs and reduce efficiency.
4. Organic soil where there isn't an adequate sphagnum moss seedbed, or in black spruce stands infested with mistletoe. (Prescribed burning may be necessary after shearing to control mistletoe). The shearing is done after the ground is sufficiently frozen to support a wide-pad crawler tractor. Removing surface debris and standing stems creates a favorable planting or seeding site.

Equipment Specifications

Shearing is done with a Rome K/G or other blade attached to a crawler-tractor of 150 horsepower or more. The K/G blade can easily handle trees 5 inches DBH or less and a maximum of eighty square feet of basal area per acre. Above these limits larger equipment is required and shearing becomes more difficult and costly.

Maintenance of the cutting edge is extremely important for efficient and effective shearing.

On lowland sites, always specify a wide (pad 36"+) dozer for two reasons: 1) access to and on the site, and 2) to reduce surface damage to the planting or seeding micro-sites.

Operational Techniques

Pile sheared material into windrows 150-200 feet apart. Leave openings in the windrows every 300 feet to allow travelways for wildlife and planting crews. Do not pile windrows in marshes, potholes, or wet depressions because this can damage the wetland. Avoid shearing within 50-80' of water courses since it can have significant negative effects on water quality and interfere with drainage patterns.

Random piling of the slash looks more natural and does not screen vision or form visual corridors. Slash piles should be easier to burn than windrowed slash because the volume is concentrated in smaller units than windrowed slash. On irregular shaped areas, random piling may make operating easier and reduce costs.

Mini-windrowing is windrowing which is accomplished as the shearing operation progresses.

The operator moves from the center of an area outward, using an angled blade, and moves back and forth over the area in a gradually widening circular fashion. Debris is pushed to the side as the operator progresses until windrows are formed. The windrows will be no more than 150 feet apart. Mini-windrowing is less expensive than conventional windrowing because the dozer is moving forward continuously rather than backing up and piling. Suitable sites must have a lighter vegetative cover than for regular shearing.

Summary

Advantages:

1. Less topsoil disturbance
2. Less soil in windrows
3. Windrows burn easier
4. Easier planting
5. Plantation boundaries well-defined
6. Cleaner cuts on frozen brush
7. Excellent for dwarf mistletoe control on sites with infested regeneration or residuals

8. Produces browse for moose and deer

Disadvantages

1. Costly
2. May encourage vigorous sprouting
3. Produces rabbit habitat, encouraging animal damage