



# Thinning Benefits

## DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES RESOURCE CONSERVATION AND FORESTRY DIVISION



Sustainable forest management is about nurturing the long-term health of the forest ecosystem while providing present and future generations with environmental, economic, and social opportunities. Thinning is one approach to managing a forest sustainably.

### Why thin?

One of the key benefits of pre-commercial thinning is that trees mature sooner. This means they can be harvested sooner giving forest managers more flexibility in management, but the benefits of thinning goes beyond timber production. Other benefits include:

1. **Increased tolerance to environmental pressures.** The tree's vigor is enhanced through reduced competition. This improves the ability of the tree to withstand insect and disease, and periods of drought.
2. **Increased plant diversity.** Thinning creates openings in the forest canopy allowing sunlight to reach the understory, which stimulate growth of more grasses, forbs, and shrubs. The greater abundance of native plants species closely resembles historical forest conditions.
3. **Improved wildlife habitat.** The increased number of plant species in the understory creates a richer source of food and cover for many wildlife species.
4. **Reduced wildfire threat.** Wider tree spacing can slow the spread of fire, help keep fire on the ground surface rather than in the tree canopies, and reduce fire intensity by reducing the amount of available fuel.
5. **Improve aesthetics.** A more open, park like forest is generally perceived as visually more pleasing than a dense one.

Although some people consider cutting forest trees to be a harmful act, if done with care for the surrounding environment, it can improve the condition of the forest. The improvement of the forest's health and wildlife habitat, creation of more historical conditions, and reduction of wildfire threat are beneficial outcomes of forest thinning.

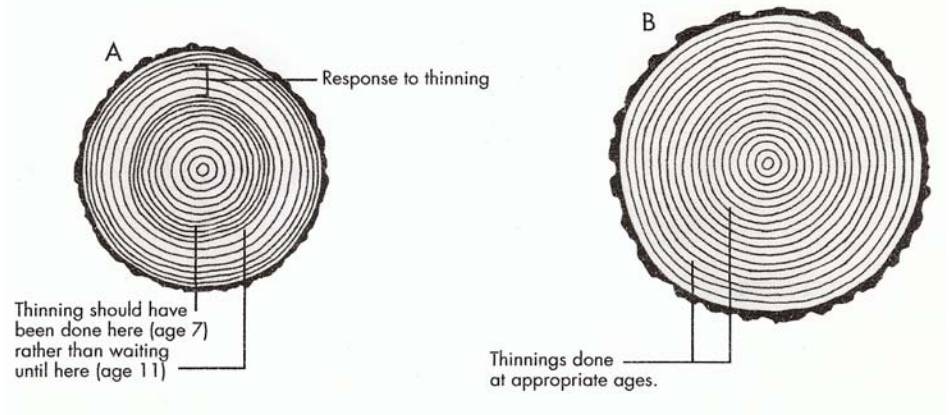
## How to thin

When deciding how to thin you must answer several questions: When should I thin? How many trees should I remove? Which trees should I remove? What method should I use? Who can do the work for me? What should I do with the tops and limbs (slash) that are left?

## When to thin

The density of the stand, the growing site, the age, and the size of the trees all dictate when thinning is effective. To get the most increase in usable fiber begin thinning when the stand is young.

Thinning before competition begins accomplishes little, but thinning when the crowns of adjacent trees begin to touch will reduce competition. The diagram to the right show how competition reduces tree growth.



## Thinning intensity

If the intensity of thinning is too light, the growth is spread over too many trees to achieve maximum benefits. If the intensity is too heavy, considerable amounts of nutrients, water, and light are outside the reach of the remaining trees, and the total productive capacity of the site is underused. Wind throw after thinning may be a problem for some species or on highly exposed sites depending on soil type. For these reasons, the intensity of thinning is an important management decision.

## Tree selection

The type of thinning you select depends on your objectives, on the age, the site (soil - moisture - aspect), size, condition, and species composition of the stand, and on the management history. A cardinal rule when thinning is to improve the stand's condition for future growth.

Thinning offers a means of controlling the species composition of a stand by leaving the more valuable or better growing species to mature.

## Slash treatment

The best method of handling slash is to utilize it for some product. If slash is not utilized, attention must be given to South Dakota Codified Laws (SDCL) 21-10-26 & 21-10-27. SDCL 21-10-26 defines logging slash as debris consisting of treetops, limbs, cull logs and other separate vegetation remaining after harvest and having no commercial value. Logging slash must be treated by lopping and scattering the vegetation, by removing from the site, or by piling and burning as defined pursuant to Administrative Rule 12:12:02. SDCL 21-10-27 defines abandonment as a public nuisance. Abandonment of untreated logging slash in a timber harvesting operation of ten acres or more is a Class 1 misdemeanor.

State service foresters, consulting and industrial foresters can give you valuable assistance in planning and conducting thinning operations. A list of contractors and consulting foresters is available from the SD Department of Agriculture and Natural Resources. Landowner should have a contract for thinning and slash disposal.

For more information contact your nearest Resource Conservation and Forestry Office Division office: Offices are located in Hot Springs 605-745-5820; Lead 605-584-2300; Mitchell 605-995-8189; Pierre 605-773-3623; Rapid City 605-394-2395; Sioux Falls 605-362-2830; and Watertown 605-882-5367.

Web Site: <http://www.danr.sd.gov/Conservation/Forestry>

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