

South Dakota State University

Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange

SDSU Extension Fact Sheets

SDSU Extension

1964

Thinning Black Hills Pine

E. K. Ferrell

James A. Brown

Follow this and additional works at: https://openprairie.sdstate.edu/extension_fact

Recommended Citation

Ferrell, E. K. and Brown, James A., "Thinning Black Hills Pine" (1964). *SDSU Extension Fact Sheets*. 1265. https://openprairie.sdstate.edu/extension_fact/1265

This Fact Sheet is brought to you for free and open access by the SDSU Extension at Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. It has been accepted for inclusion in SDSU Extension Fact Sheets by an authorized administrator of Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. For more information, please contact michael.biondo@sdstate.edu.

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.



For current policies and practices, contact SDSU Extension

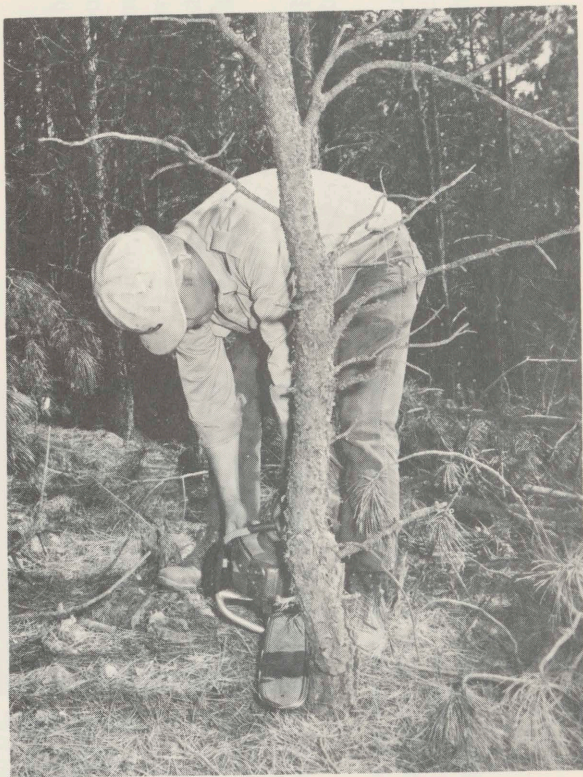
Website: extension.sdstate.edu

Phone: 605-688-4792

Email: sdsu.extension@sdstate.edu

SDSU Extension is an equal opportunity provider and employer in accordance with the nondiscrimination policies of South Dakota State University, the South Dakota Board of Regents and the United States Department of Agriculture.

Thinning Black Hills Pine



E. K. FERRELL, Extension Forester,
and
JAMES A. BROWN, Farm Forester,
Department of Game, Fish and Parks

Published and distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914, by the Cooperative Extension Service of the South Dakota State College of Agriculture and Mechanic Arts, Brookings, John T. Stone, U. S. Department of Agriculture cooperating.

5M—2-6 —File: 5. 136—816

Thinning Black Hills Pine

Thinning your trees can be compared to culling your cattle herd or spacing the carrot plants in your garden. The aim is to get rid of the least productive, low quality trees. This gives the trees that are left more room and speeds up their growth rate.

Few land management practices will give you as many benefits as proper thinning. Within 2 years you can expect the following benefits:

1. Increased grass coverage
2. Increased timber growth
3. Increased ground water
4. Improvement in wildlife habitat
5. Reduced danger of crown fires
6. Easier to locate livestock in the woods



Figure 1. This typical "doghair" stand of pine has been thinned at the right but not at the left.

Thick stands of trees, often called "doghair" stands, produce very little wood. There is no grass growth under these stands. In the Black Hills, up to half of the water that would otherwise reach the ground is caught in the tree tops and lost back into the air. Thinning these stands will increase timber and grass growth and build up the ground water supply. Thinning will make productive acres out of land that now costs money to own.

WHY NOT CLEAR-CUT?

If you look at open ground you will find young pine seedlings coming in thick and fast. The only way to control pine reproduction in the Black Hills is to keep the ground shaded with larger trees. These should be dense enough to control germination of pine seeds and still allow enough sunlight to grow grass. "Grow timber where you can't control it," is an old saying that fits in the Black Hills. Aim to grow it as fast as possible and with as high a grade as possible.



Figure 2. Dense shade causes a lack of grass on the forest floor under a "doghair" stand.

TYPES OF THINNING

"Commercial" and "non-commercial" are the two main types of thinning in the Black Hills. Commercial thinning is done in stands where there is a market for small products such as posts and poles. A commercial stand has trees that average more than 4 inches DBH (diameter breast high). DBH is measured 4.5 feet above the ground. Some of the trees cut in a commercial thinning may be marketed as posts and poles. Undesirable trees are also cut and scattered on the ground.

Non-commercial stands are those that average less than 4 inches DBH. No products are harvested in a non-commercial stand. Thinning in these stands is called "non-commercial thinning."

THINNING

When you start thinning you will constantly be faced with the question of which trees to cut and which ones to leave. Here are some pointers that will help you decide. Examine the trees and cut those that show deformities or damage such as:

1. Twisted trunks
2. Forked tops
3. Wind or frost split trunks
4. Stunted or overtopped
5. Excessively large branches or large numbers of branches (more than normally found in the stand)

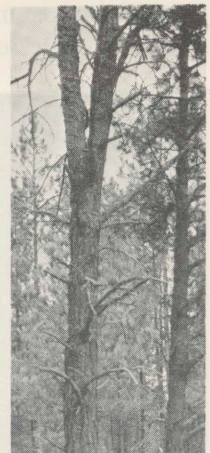


Figure 3. Remove forked top trees like this one in the thinning operation.

- 6. Disease
- 7. Insects
- 8. Animal damage

Remove disease and insect damaged trees during the thinning operation to prevent spread of the infection to trees that are left. Remove trees showing signs of bark beetle attack before the young hatch and fly to other trees.



Figure 4. Evidence of a beetle attack is indicated by boring dust around the base of the trees or by "pitch tubes" (arrow) on the tree trunk. Finger points to beetle entry hole and egg gallery cut by adult beetle.

Porcupines cause serious damage by girdling an area 8 or 10 inches wide on the trunks of trees. This girdling may be done near the ground or up higher on the trunk. When the damage is done near the ground the tree may be killed. Girdling higher in the tree may cause forks or crooks.



Figure 5. The picture on the left shows a trunk canker caused by western gall rust. Cut trees infected by this disease during the thinning operation. The right picture shows branch galls caused by western gall rust.

Be on the lookout for porcupine damage after you have finished thinning. The trees you have left are your high value crop trees and should be protected from this pest. Bait known porcupine dens and some slash piles with a salt and strychnine mixture.



Figure 6. Porcupine damage.

SPACING GUIDE

Space trees you are leaving in the stand to give them the right amount of growing room. The guide below will help you to get the proper spacing between the trees you are leaving. Measure the DBH (diameter breast high) of the trees to be left. Look this diameter up in the spacing guide. Opposite this is the proper distance in feet between trees after the thinning is completed.

Spacing Guide

Diameter of tree breast high (DBH) inches	Distance apart in feet
4 and below	10
5	12
6	13
7	14
8	15
9	16
10	17

SLASH DISPOSAL

Several methods can be used to take care of the slash that results from your thinning operation:

1. Pile and burn. If the ground must be cleared as soon as possible, pile and burn the slash. As the thinning progresses drag the slash to openings where it can be piled and burned later when a fire permit is secured.
2. Lop and scatter. Cut up the slash so the branches and trunks lie close to the ground to speed up decay.
3. Gully fill. Piling slash in gullies and weighting it down with rocks will help solve an erosion problem and at the same time get rid of some of the slash.

4. Fell and lay. Drop the trees in such a way that they lie parallel to each other rather than like jackstraws.
5. Chip the slash with a power chipper.

EQUIPMENT NEEDED FOR THINNING

Most any cutting tool can be used to thin trees. Many landowners use an axe, and chain saws are widely used. In recent years several companies have developed "brush cutters." These consist of a power driven circular saw mounted on a long shaft. If the acreage to be thinned is large enough, it will pay to check on tools designed for the job.

GOVERNMENT COST-SHARE

The Federal Government has a cost-share program to assist landowners in meeting part of the cost of thinning. This program is administered by the Agricultural Stabilization and Conservation Service. State Farm Foresters provide technical assistance in carrying out the program. The cost-share practice must be signed for *before* the thinning operation is started.

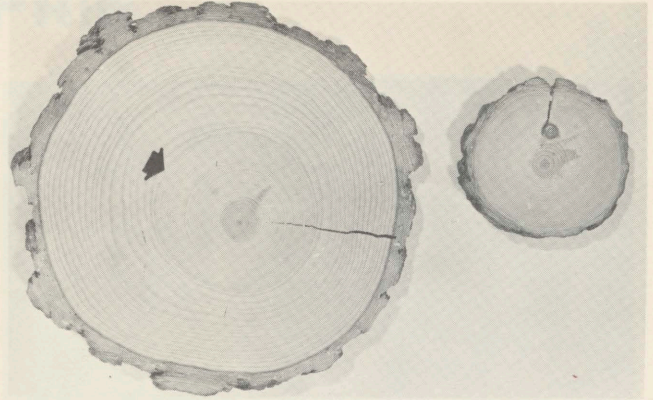


Figure 7. These Black Hills pine trees were the same age when cut. The large tree on the left was cut from a stand thinned in 1933. The smaller one was cut from an unthinned stand. Note how thinning increased the growth rate. If cut for posts, the larger tree would be worth 42 cents; the small one, 7 cents.

For additional information about thinning, timber harvesting and management contact:

Figure 1. This typical "cottonwood" stand of pine has been thinned at the right but not at the left.

Thick stands of young pines called "doghair" stands, produce very little wood. There is no good growth under these trees in the Black Hills up to half of the way they stand on some such the ground is unproductive.

By thinning these stands with brush cutters

Black Hills Pine



Black Hills Pine

Black Hills Pine