



SILVICULTURE FIELD TIP

Field tested ideas.

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Forestry

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Protect Pine Tree Seedlings from Deer Browsing with Paper Bud Caps

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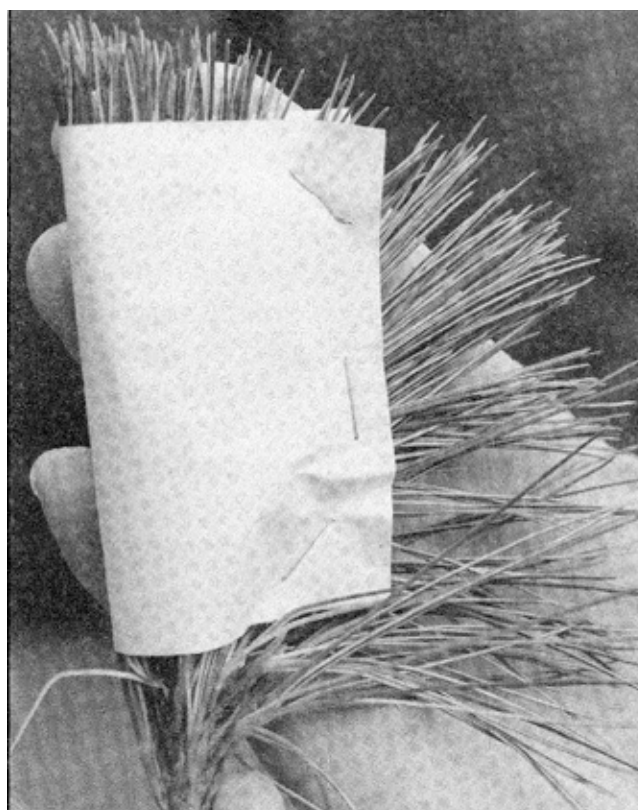
Brainerd Region Silviculturist

Depredation by deer on planted and natural pine tree seedlings can be a problem. A cheap and effective way of saving terminal buds (terminal bud is the bud, or cluster of buds, at the very top of, the tree) from browsing is using paper bud caps. A tree seedling will continue to grow in a vertical manner if the terminal bud is not damaged, even if most of the tree is browsed.

Paper bud caps have been used in state forests for many years. Paper bud caps are inexpensive, environmentally friendly, and easily applied. They offer one potential solution to a widespread seedling survival problem.

The idea behind the bud cap is to protect the terminal bud cluster by stapling a small piece of paper around it. Suitable paper products include common lightweight papers such as typing or photocopy paper. The paper should be cut to 4" x 6", folded around the terminal bud of the tree, and stapled to some needles near the top. However, for trees that tend to have very weak terminal shoots such as young white pine, pieces of paper as small as 3" x 4" are recommended. Wet snow can stick to the paper and cause the weak terminal to bend over. A smaller piece of paper will not catch as much snow as a larger one.

Bud caps should be applied with three staples catching needles. The staples have to be put on tight enough so they squeeze the needles and don't

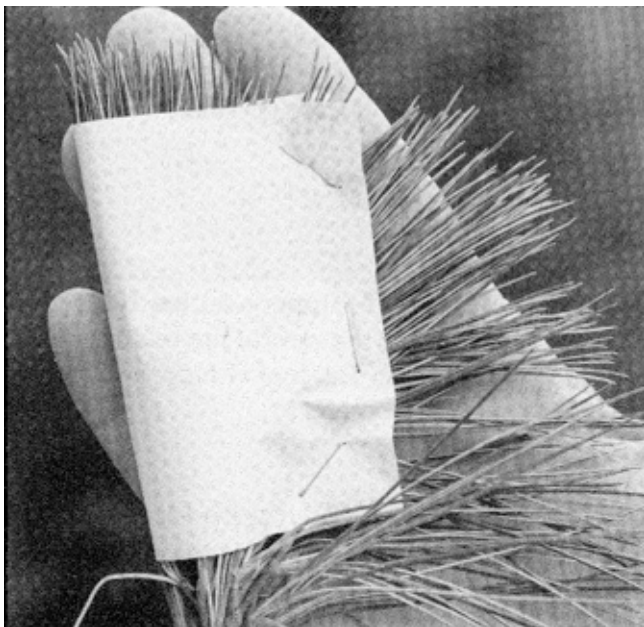


Three staples through some needles hold the paper bud cap in place. Be careful not to staple the terminal bud or leader. Top bud should be at least 1/2 inch below top of paper.

pull off in the wind. Use a common office-type desktop stapler or equivalent. The paper should be placed so that the bud cluster is at least 1/2 inch below the top of the paper but not lower than the midpoint. The proper stapling pattern is shown in the photo. The staples should be applied near the outside edge of the paper. The middle staple should

be parallel to the edge. The other two should be near the corners and at a 45-degree angle. All of the staples should be no more than 1 inch from the edge of the paper. Experience has shown that caps applied this way will result in over 90 percent of the caps surviving the winter in place.

The bud caps should be applied during October. Once the snow covers the ground the deer tend to start feeding on green things that are above the snow line. The bud caps do not have to be removed the following spring unless the owner wishes to remove them because of aesthetic reasons. In the spring, the terminal bud and the adjacent lateral buds will grow out the top opening of the folded paper. Trees should be protected this way each year until they are at least 4 feet tall and are out of reach of the deer.



Paper bud cap attached with three staples.



Bill Barnacle demonstrates how to attach a paper bud cap with a common office stapler.

Technical Tips

- Bud caps should be applied during October. Cold temperatures, however, will slow the application process.
- Lightweight paper such as typing or photocopy paper should be used. A bud cap only has to last a few months.
- Caps are normally 4" x 6" but may be smaller for weak terminals.
- The three staples used to hold the paper should each contain needles and should be tight.
- Caps should be applied to a tree every year until the tree is 4 feet tall until out of the reach of deer. But this may vary with species. Red pine tends to lose palatability for deer earlier and doesn't need capping as long as white pine.
- If bids are taken for this work, it should be on a per tree or per acre basis.
- About 200-300 bud caps can be applied per hour by an experienced person.
- Contracts for supplying and attaching bud caps have recently averaged about 5 cents per tree.
- In most cases, all planted pine seedlings on a site are bud capped.