



SILVICULTURE FIELD TIP

Field tested ideas.
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Division of Forestry

Field Tip #13

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PROTECT OAK TREE SEEDLINGS FROM BROWSING USING PAPER BUD CAPS

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Depredation by deer on planted and natural oak tree seedlings can be a severe problem. Repeated browsing will restrict growth dramatically, creating very deformed seedlings and saplings, repeated dieback and re-sprouting, and even mortality. After many years of effort to control browsing using balloons, tree shelters, repellants, fencing, and dry wall joint tape, a successful technique, using 4" x 4" bud cap paper, was developed to protect hardwood seedlings.

Although effective 65 to 75% of the time, balloons can have negative effects on about one-third of the trees, causing dieback on the terminal bud. A lateral bud then takes over as the new terminal bud, sometimes deforming the shape of the tree.

Balloons need to be applied only when conditions are dry. If they are applied after a rain or even a heavy morning dew, the terminal bud can rot, and die back.

Oak should be bud capped in October, after the leaves have started to senesce; at the point where the leaf starts to turn red, before dropping, or easily pulls off without damaging the leaf cuticle or stem of the tree. This period is usually during the first three weeks of October, before the leaves drop. The seedlings can be capped after leaf drop, however it is easier for crews to identify oak seedlings while the leaves are still on.

Oaks tend to retain their leaves even after they change color and become dormant. The leaves will need to be pulled off before applying a paper bud cap over the leader. No leaves should be left attached.

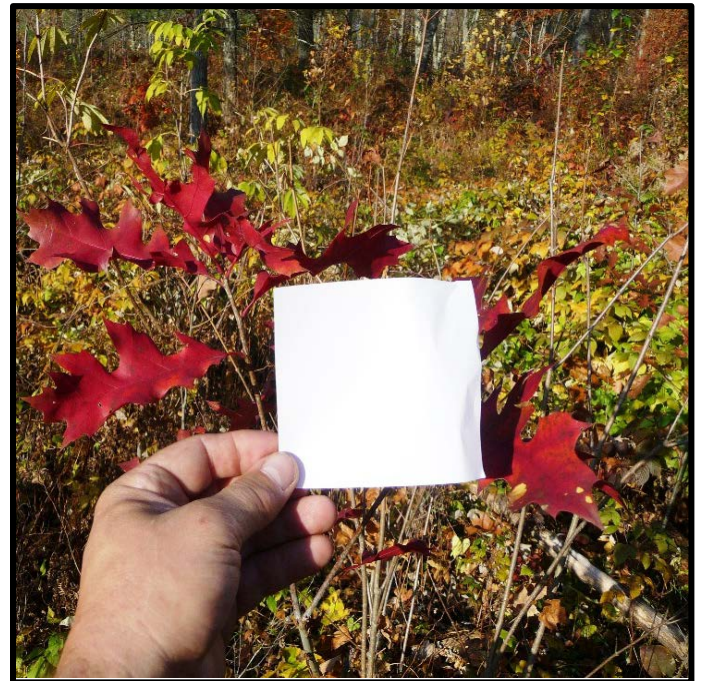
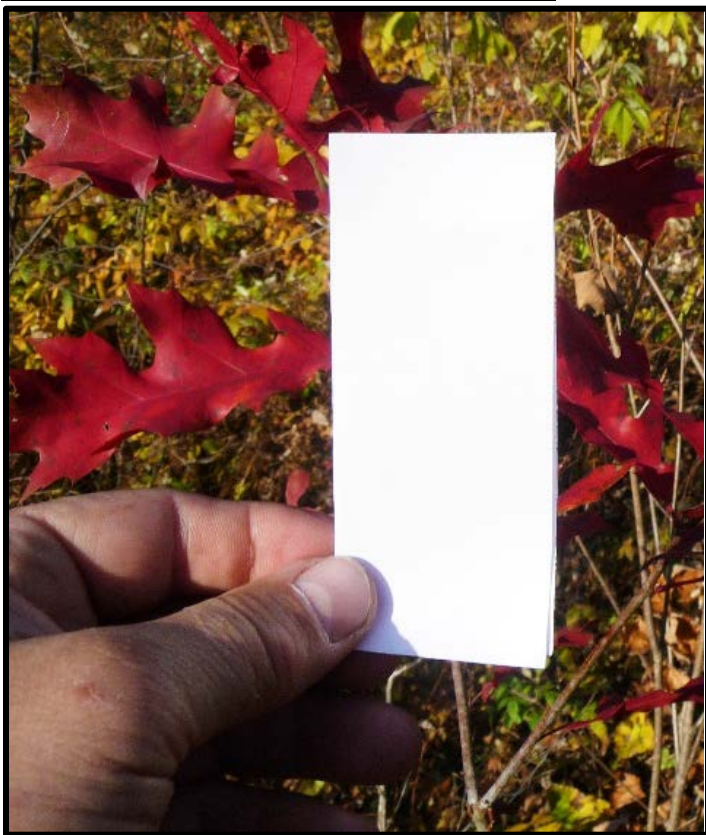


Figure 1: 4 x 4 inch piece of bud cap paper



Figure 1: A plier stapler is recommended for all bud capping.

Applying Hardwood Bud Caps with Paper:



Step 1: Fold 4"x 4" budcap paper in half



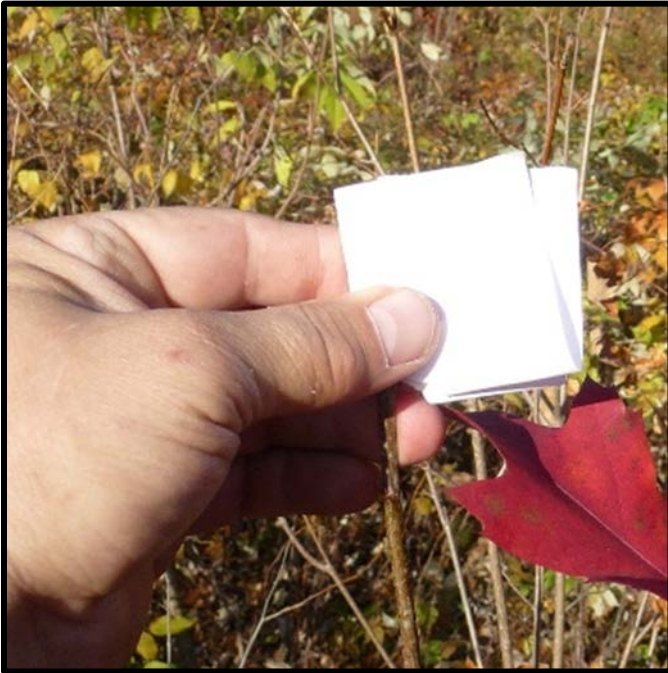
Step 3: Gently pull the leaves off the stem of the tree without damaging the stem. Apply cap over bud/stem, sliding hole over the bud.



Step 2: Fold in half again, rip out corner with your teeth.



Step 4: Fold bud cap paper back into corners, two times (first fold).



Step 5: Second Fold. Pull closed cap side edge tight, close to stem. Bud should be at least $\frac{1}{4}$ inch below top of paper.



Step 6b: Staple once close to the stem nearly vertical, then a second time, forming an X or a crossed V.



Step 6a: Holding the paper bud cap in place with your forefinger & thumb. Bud should be at least $\frac{1}{4}$ inch below top of paper.



Step 7: Give the cap a tug. If it holds, it is good. If it doesn't, make another attempt with another piece of paper. If it doesn't hold a second or third time, attempt to cap the seedling more traditionally like a conifer, without the needles, placing the staples vertically.

- **A third staple can be applied out towards the upper right hand corner of the cap.** This might help to deter browsing, giving the deer a taste of metal. **Remember, the bud cap needs to be open enough so the new leaf can emerge from the cap in the spring.**