



North Carolina  
Forest Service

# FORESTRY

## Leaflets

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### Thinning Pine Stands

Thinning removes a portion of the overall stand of pine trees. Thinning can greatly improve the health, vigor and financial value of your pine trees. When pine trees grow too closely together in thick, dense stands of trees, then the risk of loss from disease, insects and wildfire greatly increases. Thinning reduces these risks and also promotes enhanced tree growth on the remaining higher-quality trees. In addition, thinning will allow the ground to receive additional sunlight which will stimulate growth of grass, shrubs and other plants that may be beneficial to wildlife.

#### **How to Assess Your Pine Trees for Thinning**

A careful balance must be achieved when thinning. Removing too many trees will leave the stand sparse and susceptible to wind or ice damage, while also 'wasting' space that could be used to grow timber. Remaining trees should be relatively evenly-distributed across the entire stand without clusters of tightly-packed trees or wide-open spaces with no trees. Seek the advice of a forester or the N.C. Forest Service to determine if your pine stand needs thinning and how to proceed.

#### **Trees to remove when thinning include those that are:**

- × Undersized and suppressed in diameter and/or height
- × Crooked, forked, or otherwise poorly formed
- × Excessively knotty or limby
- × Diseased or infested with harmful insects
- × Damaged, with a broken-out treetop or leaning

#### **Trees to keep intact when thinning include those that are:**

- ✓ The tallest dominant or co-dominant in height
- ✓ Larger diameter
- ✓ Straight and relatively free of low-hanging limbs
- ✓ Free from obvious signs of disease or insects
- ✓ Upright and not leaning

#### **Thinning in Plantations**

When thinning in plantations, it is acceptable to thin the stand in a way that takes advantage of their layout in rows. In these situations, an entire row is cut and removed for every 3<sup>rd</sup>, 4<sup>th</sup>, or 5<sup>th</sup> row across the whole stand. Then, individual trees are selected and removed from between these newly-opened corridors. This method of 'row thinning' has proven to work in plantations and can allow the logger to more efficiently and effectively thin the stand.

## **Revenue from Thinning**

A forest owner may or may not receive any money from a thinning. When the thinning is done on smaller or non-merchantable timber, the thinning is called a ‘precommercial thinning’ and usually requires the landowner to pay for this service. When the thinning removes trees that are a suitable size for use at a processing mill, then the forest owner should receive payment for the removed trees. However, timber prices have fluctuated greatly in recent years and the long-term future of some local timber markets is difficult to forecast. Nonetheless, the added growth on the remaining high-quality trees and improvement in overall forest health usually provide enhanced financial gains from future harvests of pine stand that has been properly thinned.



*<<<< Photo at left shows an overstocked, stagnant pine stand that needs thinning. Note the high number of small, suppressed trees that could be removed to allow the bigger trees more room to grow. If a wildfire or insect outbreak occurs, this pine stand will likely receive catastrophic damage.*

*Photo at right shows a pine stand that has just been thinned. >>>> Note the increased amount of sunlight available for the remaining high-quality, evenly-distributed trees. This sunlight will be transformed into increased timber growth. If a wildfire occurs, the fire should be easier to control and likely will be less intense in this stand of trees. This pine stand should be less susceptible to damage from Southern Pine Beetle and other insects for well into the future.*



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