

4-H FORESTRY FACT SHEET

Extension Forestry



How Old Is That Tree?

All trees grow each year. Some grow very rapidly, some very slowly. The annual growth is made not only in height, but also in diameter. We can count the growth rings on a stump of a tree to tell the age of tree when it was cut. Many times foresters want to know the age of standing trees, the rate of growth, or if the wood is rotten inside. Here are three ways to tell the age of trees or tree stumps:

How old was this tree when it was cut?

Just inside the bark is a layer of cells called the cambium. In the growth process, the cells divide and form both wood and bark. Rapid spring growth is lighter colored than growth made in the summer. One light and dark colored ring equals one year's growth.

These rings are easily counted on the stumps of cut trees.



A

B

A = 35 years and B = 16 years growth

How old was the tree when it was cut?

___ The dark rings are summer wood and the light rings are spring wood. One light and one dark ring makes one year's growth.

Find a tree stump in the forest and answer the following questions.

Was this tree growing fast when it was cut?

How old was it? (Note: you'll need to add 3 years to account for tree growth to stump height.)

What was the diameter of the tree when cut?

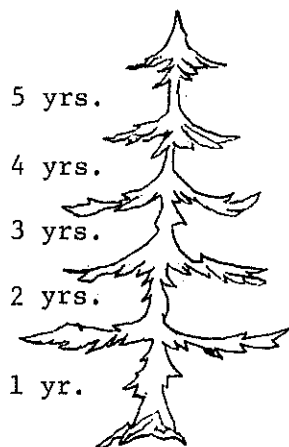


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How tall was it? You can compare the size with living trees nearby or find the top of the cut tree and measure the distance from the stump to the top.

How old are young trees?

Living trees always have a cluster of buds at the top of the tree. As growth begins, the center bud sends up vertical growth and the buds around the center send out a series of horizontal branches. This is repeated each year. The age of young conifer trees can be determined by counting the number of sets of whorls of these annual horizontal branches. Thus, if we count 25 whorls of branches, the age of the tree is about 25 years. As the tree gets older, it is difficult to count the whorls.



Young conifer tree

Problems:

If young conifer trees are growing in an area that was logged, can you tell how long ago it was logged?

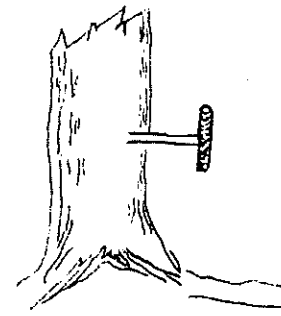
The farther apart the branches are on the trees, the faster the trees are growing. Study young trees in different areas and compare growth rates.

How old are the large standing trees?

The most accurate method of determining the age of older trees is to use an increment borer. This instrument is a hollow wood-boring bit that cuts a core instead of shavings, as with a regular wood-boring bit.

To determine the age of the tree, the instrument is bored into the center of the tree at diameter breast height; the core is removed from the hollow stem of the borer and the growth rings from the cambium layer to the center of the tree, as shown in the core, are counted to determine the age of the tree.

Estimate number of years it took this tree to grow to d.b.h. Be careful not to chip the sharp bit of the borer; it must be cleaned and oiled daily so it doesn't rust.



1 2 3 4 5 years
core

Problems:

Did the tree grow faster when it was young or older? \

How old is the tree? Should it be cut for lumber? What other uses does it have in the forest?

Did the borer go in easily? Why do some trees have harder wood than others?

What are hardwoods and softwoods?

How can you tell when you have bored to the center of the tree?

Practice with these tree tools until you can become proficient in their use.

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