

Growth Factor Worksheet

How old is that tree? If you don't want to cut it down to count the annual rings of growth, or if you don't have an increment borer, you can get a fairly good estimate of a tree's age by using a simple technique developed by the International Society of Arboriculture.

Instructions

1. Determine the tree's diameter (inches) at a height of 4.5 feet from the ground.

Diameter = circumference / 3.14 inches

2. Use the table below. The table assigns a growth factor to various tree species.

Multiply the diameter (inches) by the appropriate growth factor.

Example: Your cottonwood tree has a diameter of 18 inches at 4.5 feet from the ground.

18 inches x 2 = 36 years (estimate)

Note: Growth factor numbers are most accurate for trees grown in healthy forests. Street and urban trees often are exposed to stressors such as poor soils, damage from machines and equipment, restricted growing areas, etc. Street and urban trees have different growth factors and they tend to grow more slowly and be weaker than healthy forest-grown trees.

Tree species and related growth factors

| Species | Growth Factor |
|----------------------|---------------|
| Aspen <i>spp.</i> | 2 |
| American elm | 4 |
| Austrian pine | 4.5 |
| Basswood | 3 |
| Birch, paper | 5 |
| Black cherry | 5 |
| Black maple | 5 |
| Black walnut | 4.5 |
| Colorado blue spruce | 4.5 |
| Cottonwood | 2 |
| Green ash | 4 |
| Ironwood | 7 |
| Kentucky coffee tree | 3 |
| Northern red oak | 4 |
| Norway maple | 4.5 |
| Red maple | 4.5 |
| Red pine | 5.5 |
| River birch | 3.5 |
| Scotch pine | 3.5 |
| Shagbark hickory | 7.5 |
| Silver maple | 3 |
| Sugar maple | 5.5 |
| White oak | 5 |
| White pine | 5 |