

Instructions for Using this Form to Monitor Crop Tree Growth

Trees grow during the summer while they are in leaf. In autumn, when all the leaves have fallen, growth stops and does not begin again until new leaves appear the following spring. This form is designed so that the growth of your crop trees is recorded during the growing season in which it occurred. It doesn't matter exactly when during the dormant season you do your remeasurements, as long as you do it sometime between October and April while there are no leaves on the trees. If you remeasure once each year, you can track the growth of your crop trees one growing season at a time and establish a record of consecutive growth data that can be valuable in helping you make future management decisions for your property.

1. Select 10 similar crop trees in relatively close proximity to each other that will be easy to relocate and remeasure. Choose trees of the same species with about the same free-to-grow rating.* The trees should be similar in diameter (for example, from 10" to 14" DBH).

Note: You can monitor the growth of several groups of crop trees, depending upon how many sets of 10 similar crop trees you may have on your property. It is interesting to observe how factors like location, species, weather, and freedom to grow affect growth among various groups of trees.

2. Paint a horizontal line on each tree at approximately 4.5 ft. above the ground, and number the trees consecutively from 1 to 10. Tube paint works well. See photo below.

Note: If you have more than one group of 10 crop trees, do not renumber 1-10 for each group; continue consecutive numbering so that each tree is uniquely identified and there is no duplication of numbers.

3. During the initial dormant season, measure the diameters of all 10 crop trees at the established paint line and record in the first DBH column. See example below.
4. During the following dormant season, measure the diameters of the 10 trees again and record in the next column. Repeat measurements once each year, and always be sure to measure at the paint line each time you check your crop trees.
5. Calculate the growth for each growing season for every tree by subtracting the previous year's recorded DBH from the current DBH. Sum the annual growth for the 10 trees to obtain yearly growth in inches/decade.

Numbered crop tree



IMPORTANT NOTE

To accurately record growth during year it occurred, label DBH column according to the year in which dormant season began.

Example:

DBH measurement taken between October 1993 and April 1994,
Label as 1993 DBH

Example

DBH 19 93	DBH 19 94	GRO
18.4	18.8	.4
14.5	15.0	.5
17.8	18.1	.3
15.4	15.8	.4
14.8	15.3	.5
12.8	13.0	.2
12.8	13.1	.3
17.4	17.6	.2
16.0	16.3	.3
17.5	17.8	.3

TOTAL

Growth in inches/decade

3.4

* Free-to-grow information is contained in [Crop Tree Management Quick Reference](#) available from USDA-Forest Service, 180 Canfield Street, Morgantown, WV 26505.

TIMBER CROP TREE INVESTMENT ANALYSIS SHEET

LANDOWNER: _____

STAND NUMBER: _____ ACRES: _____ TYPE: _____ AGE: _____

STAND HISTORY: _____

Tree	Sp.		DBH	Ht.	Free* Grow	Vol.**	Price	Value	Time Prd.	Growth	Income	ROR
□	□	Initial:							□	□	□	□
		Subsequent:										
□	□	Initial:							□	□	□	□
		Subsequent:										
□	□	Initial:							□	□	□	□
		Subsequent:										
□	□	Initial:							□	□	□	□
		Subsequent:										
□	□	Initial:							□	□	□	□
		Subsequent:										
□	□	Initial:							□	□	□	□
		Subsequent:										
□	□	Initial:							□	□	□	□
		Subsequent:										
□	□	Initial:							□	□	□	□
		Subsequent:										
□	□	Initial:							□	□	□	□
		Subsequent:										
Average	□	Initial:							□	□	□	□
		Subsequent:										

Tree	Sp.		DBH	Ht.	Free* Grow	Vol.**	Price	Value	Time Prd.	Growth	Income	ROR
		Initial:										
		Subsequent:										
		Initial:										
		Subsequent:										
		Initial:										
		Subsequent:										
		Initial:										
		Subsequent:										
		Initial:										
		Subsequent:										
		Initial:										
		Subsequent:										
		Initial:										
		Subsequent:										
Average		Initial:										
		Subsequent:										

Average Income/tree: _____

Average ROR/tree: _____

Number of crop trees/acre: _____

Income/acre: _____ (no. of crop trees x average income/tree)

Income/acre/year: _____ (Income/acre/time period)

* Free-to-Grow: A rating (from 0 to 4) indicating how many of the four sides are free from competition from neighboring crowns. A "0" classification means the crown has no room to grow. In contrast, a rating of "4" means the crop tree is free to grow on all of its four sides.

** Volume = $.16 \times D^2H + D$ for trees 11.0-14.9" dbh

** Volume = $.16 \times D^2H + 1.5D$ for trees 15.0-19.9" dbh

** Volume = $.16 \times D^2H + 2D$ for trees 20.0+" dbh where D=dbh in inches and H=height in 8-ft. bolts