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Stem Cubic-Foot Volume Tables for Tree Species in the Piedmont

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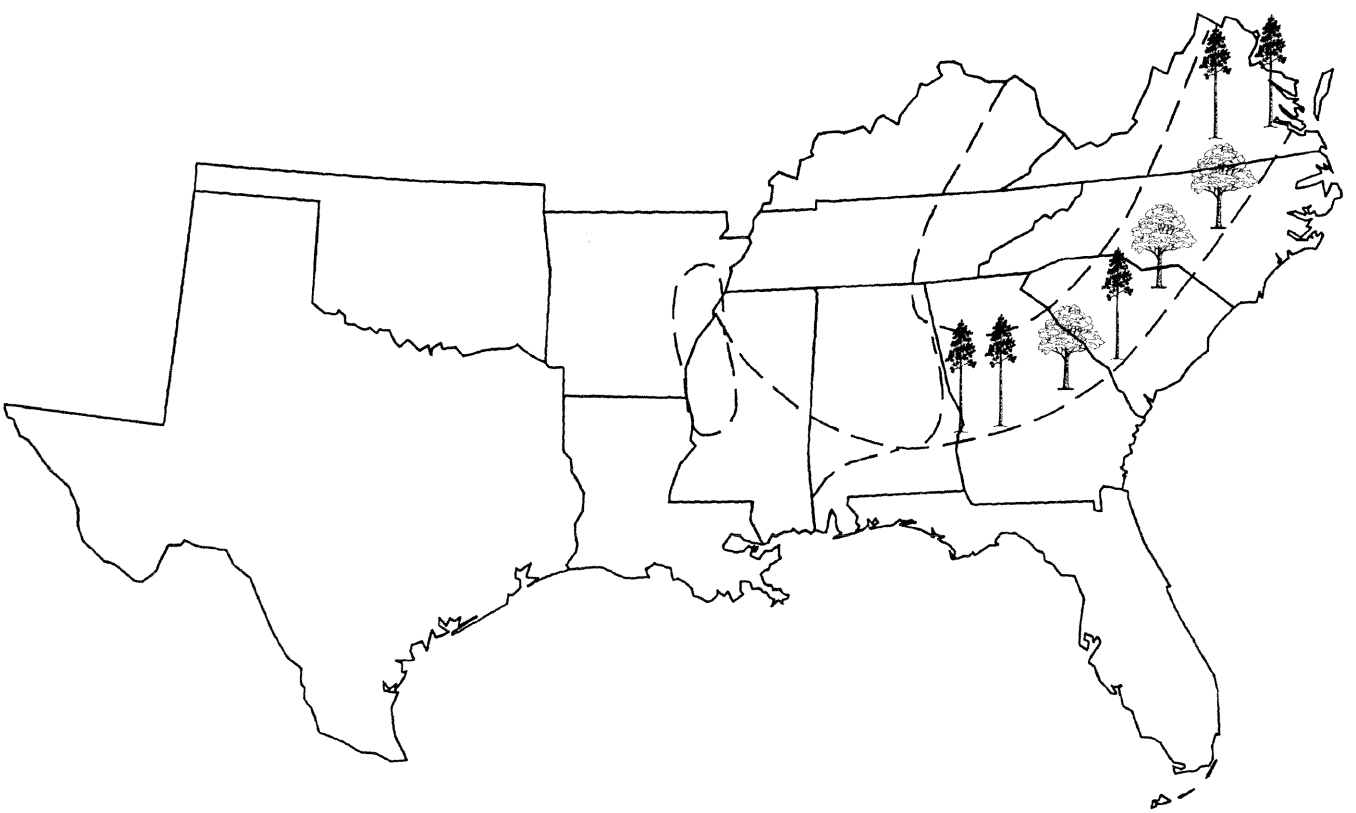

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Abstract

Stemwood cubic-foot volume inside bark tables are presented for 16 species and 8 species groups based on equations used to estimate timber sale volumes on national forests in the Piedmont. Tables are based on form class measurement data for 2,753 trees sampled in the Piedmont and taper data collected across the South. A series of tables is presented for each species based on diameter at breast height (d.b.h.) in combination with total height and height to a 4-inch diameter outside bark (d.o.b.) top. Volume tables are also presented based on d.b.h. in combination with height to a 7-inch d.o.b. top for softwoods and height to a 9-inch d.o.b. top for hardwoods. Sawtimber tables display saw-log stem volume by log (16-foot) and half-log (8-foot) intervals and also show stemwood volume to a 7-inch d.o.b. top for softwoods, to a 9-inch d.o.b. top for hardwoods, and to a 4-inch d.o.b. top for all species. Pulpwood tables show stemwood volume to a 4-inch d.o.b. top in 5-feet height intervals.

Keywords: Saw-log volume, pulpwood volume, form class.

Introduction

Purpose and Scope

Starting in 1995, the standard unit of measure for Federal timber inventories and sales will be the cubic foot rather than the board foot. This change is necessary to provide uniform inventory, accounting, and statistical reporting for all national forests. To accommodate this change in the Southern Region of the USDA Forest Service, Clark and others (1991) developed new equations for converting height and diameter measurements into cubic-foot volume estimates. Because they reflect variations in tree form and taper, the new equations are awkward to solve without a computer. For those who lack the time to solve the equations manually and the equipment expertise for electronic processing, conversion tables have been developed to provide volume estimates for 16 individual species and for 8 species groups that have similar stem form. The tables are based on form class measurement data collected on trees sampled in the Piedmont and taper data collected on trees sampled across the South.

The Southern Region consists of seven geographic areas (fig. i) based on physiographic region, species form and distribution, and Forest Service administrative units (table i). Table ii lists the species and geographic areas for which volume tables are available, and table iii summarizes measurement characteristics of the trees sampled.

A separate set of volume tables is available for many of the species and species groups in other geographic areas of the Southern Region (Clark and Souter 1996a, 1996b, 1996c, 1996d, 1996e, 1996f). When a species volume table for a species measured in the Piedmont is not available the Southwide tables should be used (Clark and Souter 1994).

Development of Equations

The volume tables in this paper are based on profile equations developed from taper data collected on 13,469 trees sampled in natural stands across the South. Most of the trees measured were on national forests. All were growing in fully stocked stands. The taper data used to develop and verify the profile equations were collected on 11,472 trees by contractors working for the Southern Region and on 1,997 trees by employees of the Forest Service, Southeastern Forest Experiment Station[1], SE-4701, Utilization of Southern Timber.

Sample trees were felled and their diameter at breast height (d.b.h.) and total height recorded. The contractors measured diameter outside bark (d.o.b.) and bark thickness at stump height and at 1-inch taper intervals from the stump to the tip of the tree. Diameters were measured with a diameter tape and bark thickness determined at two points with a bark gauge at each measurement height. Trees sampled by the Southeastern Station were measured at groundline, 1 and 2 feet, breast height, and at intervals of approximately 4 feet above breast height. Bark thickness was determined from cross-sectional disks cut from the boles.

[1] Now called the Southern Research Station.

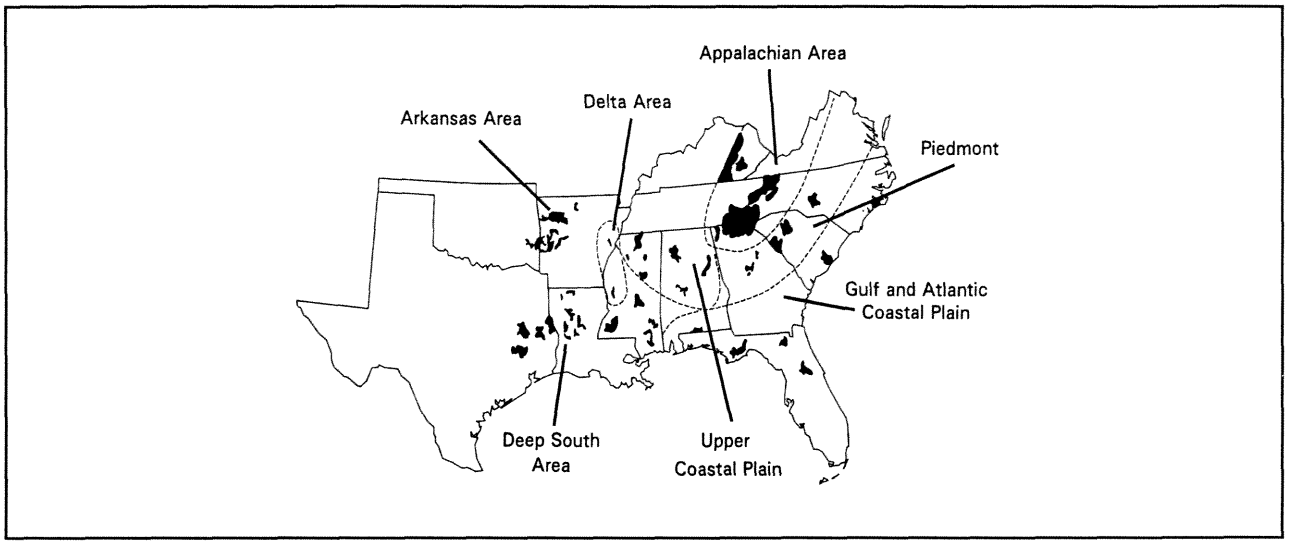

Figure i--Seven geographic areas on which trees were sampled for equation development and verification.

Table i--Geographic areas in the Southern Region with a listing of National Forest System units in each[1]

Gulf and Atlantic Coastal Plain	Piedmont	Appalachian Area	Upper Coastal Plain	Deep South Area	Arkansas Area	Delta Area
Croatan	Uwharrie	George Washington	Talladega	DeSoto	Ozark	Delta
Francis Marion	Sumter[2]	Jefferson	William B. Bankhead	Bienville	Ouachita	St. Francis
Osceola	Oconee	Cherokee	Holly Springs	Kisatchie		
Ocala		Nantahala	Tuskegee	Angelina		
Apalachicola		Chattahoochee	Tombigbee	Davy Crockett		
Conecuh		Sumter[3]		Sam Houston		
Savannah River Site		Daniel Boone		Homochitto		
		Pisgah		Sabine		

[1] All units except the Savannah River Forest Station on the Savannah River Site are public-access national forests.
[2] All districts except Andrew Pickens.
[3] Andrew Pickens District.

Table ii--Species and geographic areas for which volume tables are available

Species/group	Code	Geographic area						
		Gulf and Atlantic Coastal Plain	Piedmont	Appalachian	Upper Coastal Plain	Deep South	Arkansas	Delta
Ash, green	544					Y		Y
White	541			Y				
Baldcypress	221	Y						
Basswood	950			Y				
Beech	531					Y		
Birch	370			Y				
Blackgum, lowland	694	Y						
Upland	693			Y		Y	Y	
Buckeye	330			Y				
Cypress, all	12	Y						
Elm	970		Y			Y		Y
Hackberry	460							Y
Hardwoods, hard	500	Y	Y	Y	Y	Y	Y	Y
Soft	300	Y	Y	Y	Y	Y		Y
All	90	Y	Y	Y	Y	Y	Y	Y
Hemlock	261			Y				
Hickory	400		Y	Y	Y	Y	Y	Y
Locust, black	901			Y				
Magnolia	652					Y		
Maple, red	316			Y		Y		
Oak, all	800	Y	Y	Y	Y	Y	Y	Y
All red	83	Y	Y	Y	Y	Y	Y	Y
All white	82		Y	Y	Y	Y	Y	Y
Black	837		Y	Y			Y	Y
Cherrybark	813					Y		
Chestnut	832		Y	Y	Y			
Northern red	833			Y			Y	
Nuttall	828							Y
Overcup	822							Y
Post	835		Y		Y	Y	Y	Y
Scarlet	806		Y	Y	Y			
Southern red	812		Y	Y	Y	Y	Y	Y
Water	827	Y	Y			Y		
White	802	Y	Y	Y	Y	Y	Y	Y
Willow	831	Y						
Pecan	404							Y
Pine, all	100	Y	Y	Y	Y	Y	Y	
Eastern white	129			Y				
Loblolly	131	Y	Y		Y	Y	Y	
Longleaf	121	Y	Y			Y		
All major	11	Y	Y		Y	Y		
All others	13	Y		Y				
Pitch	126			Y				
Pond	128	Y						
Sand	107	Y						
Shortleaf	110		Y	Y	Y	Y	Y	
Slash	111	Y				Y		
Spruce	115					Y		
Virginia	132		Y	Y	Y			
Pondcypress	222	Y						
Sweetbay	653	Y				Y		
Sweetgum	611	Y	Y		Y	Y		Y
Sycamore	731		Y			Y		
Yellow-poplar	621	Y	Y	Y	Y	Y		Y

Table iii--Trees measured for development of Piedmont volume tables by species and species groups

Species or species group	All trees							Sawtimber trees					
	Sample trees	D.b.h.		Total height		Height to 4-inch d.o.b top		Sample trees	D.b.h.		Height to 7- or 9-inch d.o.b. top		Girard Form Class
		Mean	Range	Mean	Range	Mean	Range		Mean	Range	Mean	Range	Mean
	Number[a]	Inches		Feet		Feet		Number[b]	Inches		Feet		%
All pines	1,221	12.8	5.1-24.7	70	32-125	57	13-110	1,022	14.0	9.0-24.7	50	17-104	79
Shortleaf pine	431	12.4	5.1-20.8	68	35-111	55	13- 98	351	13.6	9.0-20.8	50	21- 93	80
Longleaf pine	69	14.0	9.2-19.3	72	52- 98	60	42- 85	69	14.0	9.2-19.3	49	20- 77	80
Loblolly pine	603	13.3	5.3-24.7	73	32-125	59	16-110	501	14.6	9.0-24.7	53	17-104	78
All major pines	1,103	13.0	5.1-24.7	71	32-125	57	13-110	921	14.2	9.0-24.7	51	17-104	79
Virginia pine	118	11.2	5.1-16.9	65	40- 96	50	17- 73	101	11.9	9.0-16.9	40	18- 67	80
All soft hardwoods	639	12.6	5.0-24.9	82	38-124	60	10-105	406	15.4	11.0-24.9	48	18- 85	78
Sweetgum	294	11.6	5.0-24.9	79	38-122	56	10-105	151	15.5	11.0-24.9	48	18- 81	78
Sycamore	59	14.2	5.1-20.4	93	48-115	72	16- 93	48	15.6	11.0-20.4	53	18- 76	81
Yellow-poplar	207	13.8	5.2-23.9	84	42-124	64	17-103	153	15.8	11.1-23.9	50	19- 85	78
Elm	46	13.2	9.2-17.3	78	59-102	58	35- 83	41	13.6	11.2-17.3	37	18- 62	79
All hard hardwoods	893	13.1	5.0-21.5	72	29-113	52	10- 90	676	14.6	11.0-21.5	39	17- 70	79
Hickory	88	13.1	5.2-18.9	78	45-113	57	15- 90	69	14.3	11.3-18.9	40	20- 65	80
White oak	220	13.0	5.1-21.5	73	47-103	52	17- 85	147	15.5	11.1-21.5	42	22- 70	80
Chestnut oak	105	14.0	5.1-20.3	70	29- 91	52	13- 75	94	14.7	11.2-20.3	38	23- 59	80
Post oak	64	12.9	6.2-17.0	66	49- 84	48	23- 66	52	13.6	11.0-17.0	32	20- 52	77
All white oaks	389	13.3	5.1-21.5	71	29-103	51	13- 85	293	14.9	11.0-21.5	39	20- 70	79
Scarlet oak	108	13.6	5.1-20.9	72	48- 94	52	19- 77	92	14.6	11.1-20.9	38	17- 66	81
Southern red oak	150	13.3	5.1-19.0	71	41- 93	51	98- 74	120	14.7	11.0-19.0	37	18- 58	76
Water oak	79	12.2	5.0-18.3	80	43-100	58	15- 81	56	14.0	11.0-18.3	40	21- 62	81
Black oak	59	12.9	5.3-17.1	71	46- 89	51	19- 72	45	14.1	11.0-17.1	37	19- 53	77
All red oaks	402	13.0	5.0-20.9	73	41-100	52	10- 81	314	14.4	11.0-20.9	38	17- 66	78
All oaks	791	13.1	5.0-21.5	72	29-103	52	10- 85	607	14.7	11.0-21.5	38	17- 70	79
All hardwoods	1,532	12.9	5.0-24.9	76	29-124	55	10-105	1,082	14.9	11.0-24.9	42	17- 85	79

[a] [b] Number of sample trees do not add to species group totals because some species are included in the total but were not sampled sufficiently to develop individual species equations.

Clark and others (1991) compared available segmented-profile polynomial models (Max and Burkhart 1976; Cao and others 1980; Schlaegel 1983) as potential volume estimators for southern tree species. Because no one model was best for estimating stem volume from the diameter and height of standing trees, they developed a form-class segmented-profile model that uses d.b.h., diameter at 17.3 feet, and total height as independent variables and that combines the better attributes of Schlaegel's form-class model and Max and Burkhart's segmented-profile model. The new model divides the stem into four segments—butt (groundline up to 4.5 feet), lower stem (4.5 up to 17.3 feet), middle stem (17.3 to 40 up to 70 percent of total height), and upper stem (40 to 70 percent of total height up to stem tip)—and uses different equation form to estimate diameter, height, and volume for each segment. The segment equations are conditioned so that the joins between segments are continuous. Separate profile equations incorporate height to a 4-inch d.o.b. top for all species, and height to a 7-inch d.o.b. top for softwoods, or height to a 9-inch d.o.b. top for hardwoods.

The form-class segmented-profile model can be used to predict diameter at a known height, height to a known diameter, and volume between any two heights. The equation forms and coefficients for estimating diameters, heights, and volumes are presented in Clark and others (1991).

The profile equations account for differences in stem taper by including a measure of diameter inside bark (d.i.b.) at 17.3 feet or Girard Form Class[2] in each volume estimate, thus, allowing a single form-class segmented-profile equation to serve for a species across the South. However, analysis of the form-class data showed geographic differences in the form class of sawtimber trees with the same d.b.h. and height. Thus, linear equations for estimating d.i.b. at 17.3 feet were developed for each species and species group by geographic region. Equations were developed to estimate d.i.b. at 17.3 feet from d.b.h. and total height, from d.b.h. and height to a 4-inch d.o.b. top, and from d.b.h. and height to a 7-inch or 9-inch d.o.b. top. Because few short pulpwood trees were sampled, an average form class by species group and d.b.h. and height class was used when predicting stemwood volume of pulpwood trees $\leq$ 45 feet in total height or $\leq$ 30 feet in height to a 4-inch d.o.b. top.

Although the profile equations based on total height can be applied to any trees having both d.b.h. $\geq$ 5.0 inches and total height $>$ 17.3 feet, the total height tables in this book start at 30 feet. The profile model based on d.b.h. and height to a 4-inch d.o.b. top can be applied to any tree with d.b.h. $\geq$ 5.0 inches and height to a 4-inch d.o.b. top $>$ 17.3 feet, but the tables based on height to a 4-inch d.o.b. top start at 20 feet.

The softwood profile equation based on d.b.h. and height to a 7-inch d.o.b. top is only useful if the trees have a d.b.h. $\geq$ 9.0 inches, and their height to a 7-inch d.o.b. top $>$ 17.3 feet. The hardwood equation based on d.b.h. and height to a 9-inch d.o.b. top can only be applied to trees with d.b.h. $\geq$ 11.0 inches, whose height to a 9-inch d.o.b. top $>$ 17.3 feet. However, the softwood and hardwood tables based on height to a 7-inch or 9-inch d.o.b. top, respectively, start at 20 feet.

The form-class segmented-profile equation based on height to a 7-inch or 9-inch d.o.b. top can only estimate diameters, heights, or volumes from the groundline to these top heights. Therefore, Clark and others (1991) developed nonlinear ratio equations for estimating volume between the 7-inch or 9-inch d.o.b. top and the 4-inch d.o.b. top. They developed topwood ratio equations for each commercially important species by geographic area and for each species Southwide.[3]

[2] Girard Form Class is the ratio of d.i.b. at 17.3 feet from d.b.h.

[3] ASCII data files containing the coefficients used to generate the volume tables presented are available on floppy disk from the Utilization of Southern Timber RWU, Southern Research Station, Forestry Sciences Laboratory, 320 Green Street, Athens, GA 30602-2044.

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How To Use Volume Tables

Content and Organization

For each species or species group, this book presents stemwood volume in a series of five tables based on varying combinations of d.b.h. and height. The first shows volume for sawtimber trees based on d.b.h. and total height. The second shows volume for sawtimber trees based on d.b.h. and height to a 4-inch d.o.b. top. The third shows volume for sawtimber trees based on d.b.h. and height to a 7-inch d.o.b. top for softwoods or height to a 9-inch d.o.b. top for hardwoods. The fourth shows volume for pulpwood trees based on d.b.h. and total height. The fifth shows pulpwood volume based on d.b.h. and height to a 4-inch d.o.b. top. Each sawtimber table displays volume for softwoods (10-inches to 24-inches d.b.h.) and hardwoods (12-inches to 26-inches d.b.h.) in 16-foot log or in 8-foot half-log intervals in 2-inch d.b.h. classes. The saw-log volume tables also show average form class and volume to a 4-inch d.o.b. top, and to a 7-inch d.o.b. top for softwoods or to a 9-inch d.o.b. top for hardwoods. The pulpwood tables show volume to a 4-inch d.o.b. top for trees 5-inches to 16-inches d.b.h in 5-foot height intervals and in 1-inch d.b.h. classes.

Finding Volume Estimates

To use these tables you must know the species or species group, d.b.h., and an expression of height. You can look up stem volume based on total height or height to a 4-inch d.o.b. top for pulpwood; based on total height, or height to a 4-inch d.o.b. top for sawtimber; or based on height to a 7-inch d.o.b. top for softwood sawtimber or height to a 9-inch d.o.b. top for hardwood sawtimber. For sawtimber trees, you must also know the height to the saw-log merchantable[4] top in logs and in half logs. For example, to determine the saw-log and topwood volume for an 18-inch, 3-log loblolly pine with a height to a 7-inch d.o.b. top of 60 feet, refer to the Index of Volume Tables (page 3) for the table number of the loblolly pine volume table based on d.b.h. and height to a 7-inch d.o.b. top (table 18). In table 18 locate the volume data for an 18-inch d.b.h. tree with a height to 7-inch top of 60 feet. If you look across this row you will find the saw-log volume under a 3-log merchantable stem (48.2 cubic feet). This same row also shows stem volume to a 7-inch and a 4-inch d.o.b. top and the estimated Girard Form Class of the tree. To estimate the volume of topwood between the saw-log merchantable top and 4-inch d.o.b. top, subtract the saw-log volume (48.2 cubic feet) from the volume to a 4-inch d.o.b. top (53.4 cubic feet) for a result of 5.2 cubic feet.

If you do not know the height to a given top (total height, height to a 4-inch top, or height to a 7-inch or 9-inch top) for a sawtimber tree, you can use the total height tables for a rough estimate of volume, but only if you know the d.b.h. and saw-log merchantable height and have an estimate of Girard Form Class. Form class can be the species average for the geographic area from table iii or the species average for the area in which the tree is growing. For example, to determine the saw-log volume of a 14-inch shortleaf pine with a saw-log merchantable height of 2.5 logs, refer to the Index of Volume Tables to find the table number for shortleaf pine based on d.b.h. and total height (table 6).

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[4] Saw-log merchantable height is (1) the height to local minimum d.o.b. top, or (2) the height where a whorl of three or more branches—whose diameters are equal to or greater than the diameter of the stem—occurs within a 1-foot stem section if there is not a minimum of 8 feet of clear stem above the whorl.

Assume the average form class for shortleaf pine in the area the tree was growing is 80. In table 6, locate the volume data for merchantable stem and find the tree's saw-log merchantable volume for a 14-inch d.b.h. tree with a form class of 80. Look across the row for the saw-log volume under a merchantable 2.5-log stem (26.2 cubic feet).

To determine the stem pulpwood volume of an 8-inch d.b.h. southern red oak with a height to a 4-inch d.o.b. top of 50 feet, refer to the Index of Volume Tables for the table number based on d.b.h. and height to a 4-inch top (table 95). In table 95, locate the volume data for an 8-inch d.b.h. tree with a height to a 4-inch top of 50 feet and find the tree's volume (8.7 cubic feet).

Index of Volume Tables

Tables available for estimating stemwood cubic-foot volume of sawtimber and pulpwood trees in the Piedmont by species and tree dimensions measured.

Species/group	Code	Tree dimensions measured: D.b.h. and total height — Sawtimber	D.b.h. and total height — Pulpwood	D.b.h. and height to 4-inch d.o.b. top — Sawtimber	D.b.h. and height to 4-inch d.o.b. top — Pulpwood	D.b.h. and height to 7- or 9-inch d.o.b. top — Sawtimber
		Table number				
Elm	970	51	54	52	55	53
Hardwoods, hard	500	56	59	57	60	58
Soft	300	31	34	32	35	33
All	90	116	119	117	120	118
Hickory	400	61	64	62	65	63
Oak, all	800	111	114	112	115	113
All red	83	106	109	107	110	108
All white	82	81	84	82	85	83
Black	837	101	104	102	105	103
Chestnut	832	71	74	72	75	73
Post	835	76	79	77	80	78
Scarlet	806	86	89	87	90	88
Southern red	812	91	94	92	95	93
Water	827	96	99	97	100	98
White	802	66	69	67	70	68
Pine, all	100	1	4	2	5	3
Loblolly	131	16	19	17	20	18
Longleaf	121	11	14	12	15	13
All major	11	21	24	22	25	23
Shortleaf	110	6	9	7	10	8
Virginia	132	26	29	27	30	28
Sweetgum	611	36	39	37	40	38
Sycamore	731	46	49	47	50	48
Yellow-poplar	621	41	44	42	45	43

Table 1--Predicted stemwood volume to a saw-log merchantable top, and to 7-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for all pine species combined (species 100) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40	5.3									5.9	7.7	66
	50	5.8	7.9								8.1	10.1	73
	60	6.1	8.5								10.1	12.4	76
10	70	6.3	8.8	11.0							11.9	14.5	79
	80	6.4	9.1	11.5	13.4						13.6	16.5	80
	90	6.5	9.3	11.8	13.9						15.2	18.5	81
	40	7.6	10.0								10.1	11.2	66
	50	8.4	11.4								13.5	14.8	73
	60	8.8	12.3	15.0							16.6	18.0	76
12	70	9.1	12.8	15.9	18.4						19.4	21.1	79
	80	9.3	13.1	16.5	19.4	21.7					22.2	24.1	80
	90	9.4	13.4	17.0	20.1	22.7	24.8				24.8	27.0	81
	100	9.5	13.6	17.3	20.6	23.5	25.9				27.4	29.8	82
	40	10.4	13.6								14.6	15.4	66
	50	11.5	15.6	18.6							19.4	20.3	73
	60	12.1	16.7	20.5	23.2						23.6	24.7	76
14	70	12.4	17.4	21.7	25.1	27.5					27.7	28.9	79
	80	12.7	17.9	22.6	26.5	29.6					31.6	33.0	80
	90	12.8	18.3	23.1	27.4	31.0	33.8				35.4	37.0	81
	100	13.0	18.5	23.6	28.1	32.1	35.4	37.9			39.1	40.9	82
	50	15.1	20.4	24.3							25.9	26.6	73
	60	15.8	21.9	26.8	30.3						31.6	32.4	76
	70	16.3	22.8	28.4	32.9	36.0					36.9	38.0	79
16	80	16.6	23.5	29.5	34.6	38.7	41.5				42.1	43.3	80
	90	16.8	23.9	30.3	35.9	40.5	44.2	46.8			47.2	48.5	81
	100	17.0	24.2	30.8	36.8	41.9	46.2	49.6	51.9		52.1	53.6	82
	110	17.1	24.5	31.3	37.5	43.0	47.8	51.8	54.9		57.0	58.7	82
	50	19.1	25.9	30.8							33.1	33.7	73
	60	20.1	27.8	34.0	38.4						40.4	41.2	76
	70	20.7	29.0	36.0	41.7	45.6					47.3	48.2	79
18	80	21.1	29.8	37.4	43.9	49.0	52.5				53.9	55.0	80
	90	21.4	30.3	38.4	45.4	51.4	56.0	59.2			60.4	61.6	81
	100	21.5	30.7	39.1	46.6	53.1	58.6	62.8	65.8		66.7	68.1	82
	110	21.7	31.0	39.6	47.5	54.5	60.5	65.6	69.5	72.2	73.0	74.5	82
	60	24.9	34.4	42.0	47.5						50.2	50.9	76
	70	25.6	35.8	44.5	51.5	56.4					58.8	59.6	79
	80	26.1	36.8	46.2	54.2	60.5	64.9				67.0	68.0	80
20	90	26.4	37.5	47.4	56.1	63.5	69.2	73.2			75.1	76.2	81
	100	26.7	38.0	48.3	57.6	65.6	72.4	77.6	81.3		83.0	84.2	82
	110	26.8	38.3	49.0	58.7	67.3	74.8	81.0	85.9	89.3	90.7	92.1	82
	60	30.1	41.6	50.9	57.5	61.0					61.1	61.7	76
	70	31.0	43.4	54.0	62.4	68.3	71.4				71.5	72.2	79
	80	31.6	44.6	56.0	65.7	73.3	78.6	81.5			81.5	82.4	80
22	90	32.0	45.4	57.4	68.0	76.8	83.8	88.6			91.3	92.3	81
	100	32.3	46.0	58.5	69.7	79.5	87.6	94.0	98.4		100.9	102.0	82
	110	32.5	46.4	59.3	71.1	81.5	90.6	98.1	104.0	108.1	110.4	111.6	82
	60	35.9	49.6	60.7	68.5	72.7					73.0	73.5	76
	70	37.0	51.7	64.3	74.3	81.3	85.1				85.4	86.1	79
	80	37.7	53.1	66.7	78.2	87.3	93.6	97.0			97.4	98.2	80
24	90	38.2	54.1	68.4	81.0	91.5	99.8	105.5	108.7		109.0	110.0	81
	100	38.5	54.8	69.7	83.0	94.6	104.3	111.9	117.2	120.2	120.5	121.5	82
	110	38.8	55.3	70.7	84.6	97.1	107.8	116.8	123.8	128.7	131.8	133.0	82

[a] Includes 1.0-foot stump allowance.

Table 2--Predicted stemwood volume to a saw-log merchantable top, and to 7-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for all pine species combined (species 100) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	5.5									6.6	7.9	71
	40	6.0	8.3								8.8	10.7	76
	50	6.3	8.8	10.8							10.8	13.3	79
10	60	6.4	9.0	11.3							12.8	15.8	80
	70	6.5	9.2	11.6	13.7						14.6	18.3	81
	80	6.5	9.3	11.8	14.1	16.0					16.4	20.7	81
	90	6.6	9.4	12.0	14.3	16.4					18.2	23.1	82
	30	8.0									10.4	11.2	71
	40	8.7	11.9								14.0	15.1	76
	50	9.1	12.6	15.4							17.2	18.7	79
12	60	9.3	13.0	16.2	18.8						20.3	22.2	80
	70	9.4	13.3	16.7	19.6	22.0					23.4	25.6	81
	80	9.5	13.4	17.0	20.2	22.9	25.1				26.3	29.0	81
	90	9.5	13.6	17.2	20.6	23.5	26.1	28.2			29.3	32.3	82
	40	11.9	16.3	19.1							19.6	20.3	76
	50	12.4	17.2	21.0	23.6						24.2	25.2	79
	60	12.6	17.8	22.0	25.4	28.0					28.5	29.8	80
14	70	12.8	18.1	22.7	26.6	29.8	32.2				32.8	34.3	81
	80	12.9	18.3	23.1	27.4	31.0	34.0	36.3			37.0	38.8	81
	90	13.0	18.5	23.5	27.9	31.9	35.3	38.1	40.4		41.1	43.2	82
	100	13.0	18.6	23.7	28.4	32.6	36.3	39.5	42.3	44.5	45.3	47.6	82
	40	15.6	21.3	24.9							25.8	26.4	76
	50	16.2	22.5	27.4	30.8						31.9	32.6	79
	60	16.6	23.2	28.8	33.2	36.3					37.6	38.6	80
16	70	16.8	23.7	29.7	34.7	38.7	41.8				43.3	44.4	81
	80	16.9	24.0	30.2	35.7	40.4	44.2	47.1			48.8	50.1	81
	90	17.0	24.2	30.7	36.5	41.6	45.9	49.6	52.4		54.3	55.8	82
	100	17.1	24.3	31.0	37.0	42.5	47.3	51.4	54.9	57.7	59.7	61.4	82
	40	19.8	26.9	31.5							32.9	33.3	76
	50	20.6	28.5	34.7	38.8						40.5	41.0	79
	60	21.0	29.4	36.4	41.9	45.9					47.8	48.5	80
18	70	21.3	30.0	37.5	43.9	48.9	52.7				54.9	55.8	81
	80	21.5	30.4	38.3	45.2	51.0	55.8	59.4	61.9		62.0	62.9	81
	90	21.6	30.7	38.8	46.2	52.6	58.0	62.5	66.1	68.6	68.9	70.0	82
	100	21.7	30.8	39.3	46.9	53.7	59.7	64.9	69.2	72.7	75.8	77.1	82
	50	25.5	35.3	42.8	47.9						50.1	50.5	79
	60	26.0	36.4	45.0	51.7	56.5					59.1	59.6	80
	70	26.3	37.1	46.4	54.1	60.3	64.9	67.7			67.9	68.5	81
20	80	26.5	37.6	47.3	55.8	62.9	68.8	73.2	76.1		76.5	77.3	81
	90	26.7	37.9	48.0	57.0	64.8	71.5	77.1	81.3	84.3	85.1	86.0	82
	100	26.8	38.1	48.5	57.9	66.3	73.6	80.0	85.3	89.4	93.6	94.6	82
	50	30.9	42.7	51.8	57.9						60.6	60.9	79
	60	31.5	44.1	54.5	62.5	68.3	71.5				71.5	71.9	80
	70	31.9	44.9	56.1	65.5	72.9	78.4	81.7			82.1	82.6	81
22	80	32.2	45.5	57.3	67.5	76.1	83.1	88.3	91.8		92.6	93.2	81
	90	32.4	45.9	58.1	69.0	78.4	86.5	93.1	98.2	101.7	102.9	103.6	82
	100	32.5	46.2	58.7	70.0	80.2	89.0	96.7	103.0	108.0	113.2	114.0	82
	50	36.8	50.9	61.6	68.9						72.1	72.4	79
	60	37.6	52.5	64.8	74.4	81.2	84.9				85.0	85.4	80
	70	38.0	53.5	66.8	77.9	86.7	93.2	97.1			97.7	98.1	81
24	80	38.4	54.2	68.2	80.3	90.6	98.8	105.0	109.0		110.1	110.6	81
	90	38.6	54.7	69.2	82.1	93.3	102.9	110.7	116.7	120.8	122.4	123.0	82
	100	38.7	55.0	69.9	83.4	95.4	105.9	114.9	122.4	128.3	134.6	135.2	82

[a] Includes 1.0-foot stump allowance.

Table 3--Predicted stemwood volume to a saw-log merchantable top, and to 7-inch and 4-inch d.o.b. tops based on d.b.h., height to a 7-inch d.o.b. top and height to a saw-log top for all pine species combined (species 100) in the Piedmont.[a]

D.b.h. class	Height to 7-inch d.o.b. top	Volume to: Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	5.2									6.0	8.6	69
	30	6.0	8.4								9.6	12.0	76
	40	6.3	8.9	11.2							12.9	15.6	79
10	50	6.5	9.2	11.7	13.9	15.9					16.1	19.1	80
	60	6.5	9.3	11.9	14.4	16.6	18.6				19.3	22.6	81
	70	6.6	9.4	12.1	14.6	17.0	19.2	21.2			22.4	26.1	81
	20	7.6									8.5	10.1	69
	30	8.7	11.9								13.3	14.8	76
	40	9.1	12.8	15.7							17.6	19.3	79
12	50	9.3	13.2	16.5	19.3	21.6					21.8	23.6	80
	60	9.4	13.4	17.0	20.1	22.9	25.2				25.9	27.9	81
	70	9.5	13.5	17.2	20.6	23.7	26.4	28.7			30.0	32.2	81
	80	9.5	13.6	17.4	21.0	24.2	27.2	29.9	32.2		34.0	36.4	82
	40	12.4	17.3	21.0							23.2	24.3	79
	50	12.7	17.9	22.2	25.8	28.3					28.6	29.8	80
	60	12.8	18.2	22.9	27.0	30.4	33.0				33.8	35.1	81
14	70	12.9	18.4	23.3	27.8	31.7	35.0	37.7			38.9	40.4	81
	80	13.0	18.5	23.6	28.3	32.5	36.2	39.5	42.2		44.1	45.7	82
	90	13.0	18.6	23.8	28.6	33.1	37.2	40.8	44.0	46.7	49.2	51.0	82
	100	13.1	18.7	24.0	28.9	33.5	37.8	41.8	45.3	48.5	54.2	56.2	82
	40	16.3	22.5	27.2							29.7	30.5	79
	50	16.6	23.3	28.9	33.2	36.1					36.4	37.3	80
	60	16.8	23.7	29.8	34.9	39.1	42.1				42.9	43.9	81
16	70	16.9	24.0	30.4	36.0	40.8	44.9	48.0			49.3	50.4	81
	80	17.0	24.2	30.8	36.7	42.0	46.7	50.6	53.7		55.7	56.9	82
	90	17.1	24.3	31.0	37.2	42.9	48.0	52.4	56.3	59.5	62.1	63.4	82
	100	17.1	24.4	31.2	37.6	43.5	48.9	53.8	58.2	62.0	68.4	69.8	82
	40	20.6	28.5	34.2							37.1	37.7	79
	50	21.1	29.5	36.4	41.7	45.0					45.3	45.9	80
	60	21.3	30.0	37.6	43.9	48.9	52.4				53.2	54.0	81
18	70	21.5	30.4	38.4	45.3	51.3	56.1	59.7			61.1	61.9	81
	80	21.6	30.6	38.9	46.3	52.8	58.5	63.2	66.8		69.0	69.9	82
	90	21.6	30.8	39.2	47.0	54.0	60.2	65.6	70.2	73.9	76.8	77.7	82
	100	21.7	30.9	39.5	47.5	54.8	61.5	67.5	72.7	77.3	84.5	85.6	82
	50	26.0	36.4	44.8	51.1	54.9					55.2	55.7	80
	60	26.3	37.1	46.3	54.0	59.9	63.9				64.8	65.4	81
	70	26.5	37.5	47.3	55.8	62.9	68.6	72.7			74.3	75.0	81
20	80	26.7	37.8	47.9	57.0	64.9	71.7	77.2	81.4		83.8	84.5	82
	90	26.7	38.0	48.4	57.9	66.4	73.9	80.4	85.8	90.1	93.2	93.9	82
	100	26.8	38.2	48.8	58.5	67.5	75.5	82.8	89.0	94.4	102.5	103.3	82
	50	31.5	44.1	54.1	61.5	65.9					66.1	66.6	80
	60	31.9	44.9	56.0	65.1	72.1	76.7				77.6	78.1	81
	70	32.1	45.4	57.2	67.3	75.8	82.5	87.2			88.9	89.4	81
22	80	32.3	45.8	58.0	68.8	78.3	86.3	92.8	97.6		100.2	100.7	82
	90	32.4	46.0	58.6	69.9	80.1	89.1	96.7	103.1	107.9	111.3	111.9	82
	100	32.5	46.2	59.0	70.7	81.4	91.1	99.7	107.1	113.3	122.4	123.1	82
	50	37.6	52.5	64.4	73.0	77.9					78.2	78.5	80
	60	38.0	53.5	66.6	77.3	85.4	90.6				91.6	92.0	81
	70	38.3	54.1	68.0	80.0	90.0	97.7	103.0			104.9	105.3	81
24	80	38.5	54.5	69.0	81.8	93.0	102.4	109.9	115.3		118.1	118.5	82
	90	38.6	54.8	69.7	83.1	95.1	105.7	114.6	121.9	127.5	131.2	131.7	82
	100	38.7	55.1	70.2	84.1	96.8	108.1	118.2	126.8	134.0	144.2	144.8	82

[a] Includes 1.0-foot stump allowance.

Table 4--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for all pine species combined (species 100) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.7	0.9	1.0	1.2	1.7	2.0											
6	1.4	2.2	2.4	2.6	3.2	3.6	4.0	4.3									
7	2.5	3.2	3.6	4.0	4.8	5.3	5.8	6.3	6.8	7.3							
8	3.5	4.4	4.9	5.4	6.5	7.2	7.9	8.6	9.2	9.8	10.5	11.1					
9	4.5	5.7	6.4	7.0	8.3	9.3	10.1	11.0	11.8	12.7	13.5	14.3	15.1	15.9			
10	5.7	7.1	8.0	8.7	10.4	11.6	12.7	13.7	14.8	15.8	16.8	17.8	18.8	19.8	20.8	21.7	
11			9.7	10.7	12.7	14.1	15.4	16.7	18.0	19.3	20.5	21.7	22.9	24.1	25.3	26.5	27.7
12			11.7	12.8	15.2	16.8	18.4	20.0	21.5	23.0	24.5	26.0	27.4	28.8	30.3	31.7	33.1
13			13.7	15.1	17.9	19.8	21.7	23.6	25.4	27.1	28.9	30.6	32.3	34.0	35.7	37.3	39.0
14					20.8	23.1	25.3	27.4	29.5	31.6	33.6	35.6	37.6	39.5	41.5	43.4	45.3
15					23.9	26.6	29.1	31.5	33.9	36.3	38.6	40.9	43.2	45.5	47.7	49.9	52.1
16					27.3	30.3	33.2	36.0	38.7	41.4	44.0	46.7	49.3	51.8	54.4	56.9	59.4

[a] Includes 0.5-foot stump allowance.

Table 5--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for all pine species combined (species 100) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.6	2.1	2.7	2.9	3.3	3.8											
6	2.1	2.7	3.3	3.8	4.4	5.0	5.6	6.1									
7	2.6	3.4	4.3	5.0	5.7	6.5	7.2	7.9	8.6	9.3							
8	3.5	4.4	5.2	6.3	7.3	8.2	9.1	9.9	10.8	11.6	12.5	13.3					
9	4.1	5.5	6.5	7.9	9.0	10.1	11.2	12.3	13.3	14.3	15.4	16.4	17.4	18.4			
10	5.1	6.7	7.9	9.6	11.0	12.3	13.6	14.9	16.1	17.3	18.6	19.8	21.0	22.2	23.4	24.6	
11			9.5	11.5	13.1	14.7	16.2	17.7	19.2	20.7	22.1	23.6	25.0	26.4	27.9	29.3	30.7
12			11.3	13.6	15.5	17.4	19.1	20.9	22.6	24.3	26.0	27.7	29.4	31.1	32.7	34.4	36.0
13			13.2	15.9	18.1	20.2	22.3	24.3	26.3	28.3	30.3	32.2	34.2	36.1	38.0	40.0	41.9
14					20.9	23.3	25.7	28.1	30.4	32.6	34.9	37.1	39.4	41.6	43.8	46.0	48.2
15					23.9	26.7	29.4	32.1	34.7	37.3	39.8	42.4	44.9	47.4	49.9	52.4	54.9
16					27.1	30.3	33.3	36.3	39.3	42.2	45.1	48.0	50.9	53.7	56.5	59.3	62.2

[a] Includes 0.5-foot stump allowance.

Table 6--Predicted stemwood volume to a saw-log merchantable top, and to 7-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for shortleaf pine (species 110) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40	5.1									5.3	7.5	64
	50	5.8	7.9								8.3	10.3	72
	60	6.1	8.6	10.6							10.8	12.9	77
10	70	6.4	9.0	11.4							13.0	15.4	80
	80	6.5	9.3	11.9	14.0						15.1	17.8	82
	90	6.6	9.5	12.2	14.6	16.6					17.1	20.1	83
	40	7.4	9.6								9.8	11.0	64
	50	8.4	11.4	13.7							13.9	15.1	72
	60	8.9	12.4	15.4							17.5	18.9	77
12	70	9.3	13.1	16.5	19.2						20.9	22.5	80
	80	9.5	13.5	17.2	20.3	22.9					24.2	25.9	82
	90	9.6	13.8	17.7	21.1	24.0	26.4				27.3	29.3	83
	100	9.8	14.1	18.1	21.7	24.9	27.7	29.9			30.4	32.6	84
	40	10.1	13.2								14.3	15.1	64
	50	11.5	15.6	18.7							19.8	20.7	72
	60	12.3	17.0	21.0	24.0						24.9	25.9	77
14	70	12.7	17.9	22.5	26.2	29.0					29.7	30.8	80
	80	13.0	18.5	23.5	27.7	31.2	33.8				34.3	35.6	82
	90	13.2	18.9	24.2	28.8	32.8	36.0	38.4			38.7	40.2	83
	100	13.4	19.2	24.7	29.6	34.0	37.7	40.7	43.0		43.1	44.7	84
	50	15.1	20.5	24.5							26.5	27.2	72
	60	16.1	22.3	27.6	31.4						33.2	34.0	77
	70	16.7	23.5	29.5	34.3	37.9					39.6	40.5	80
16	80	17.1	24.3	30.8	36.3	40.9	44.2				45.6	46.7	82
	90	17.4	24.8	31.7	37.8	43.0	47.2	50.3			51.5	52.7	83
	100	17.6	25.2	32.3	38.8	44.5	49.4	53.3	56.2		57.3	58.6	84
	110	17.7	25.5	32.8	39.6	45.7	51.1	55.7	59.3	62.0	63.0	64.4	85
	50	19.2	26.0	31.2							34.0	34.6	72
	60	20.5	28.4	35.0	39.8						42.5	43.2	77
	70	21.2	29.9	37.4	43.6	48.1					50.6	51.4	80
18	80	21.7	30.8	39.0	46.1	51.8	56.0				58.3	59.2	82
	90	22.1	31.5	40.2	47.9	54.5	59.8	63.7			65.9	66.9	83
	100	22.3	32.0	41.0	49.2	56.4	62.6	67.6	71.2		73.2	74.4	84
	110	22.5	32.4	41.7	50.2	57.9	64.8	70.5	75.2	78.6	80.5	81.8	85
	60	25.4	35.1	43.3	49.3	52.7					52.9	53.5	77
	70	26.3	37.0	46.3	53.9	59.5	62.7				62.9	63.6	80
	80	26.9	38.2	48.3	57.0	64.1	69.3	72.3			72.5	73.3	82
20	90	27.4	39.0	49.7	59.2	67.4	73.9	78.8	81.6		81.8	82.8	83
	100	27.7	39.7	50.8	60.9	69.8	77.4	83.5	88.1	90.8	91.0	92.0	84
	110	27.9	40.1	51.6	62.1	71.6	80.0	87.2	92.9	97.2	100.0	101.1	85
	60	30.8	42.6	52.4	59.7	63.9					64.3	64.8	77
	70	31.9	44.8	56.1	65.3	72.1	75.9				76.4	77.1	80
	80	32.7	46.3	58.5	69.1	77.6	83.9	87.6			88.1	88.8	82
22	90	33.2	47.3	60.3	71.8	81.6	89.6	95.4	98.9		99.4	100.3	83
	100	33.6	48.1	61.5	73.7	84.6	93.8	101.2	106.6	110.0	110.6	111.5	84
	110	33.9	48.6	62.5	75.3	86.8	97.0	105.6	112.6	117.7	121.5	122.6	85
	60	36.7	50.8	62.5	71.2	76.1					76.8	77.3	77
	70	38.1	53.4	66.8	77.8	85.8	90.5				91.3	91.9	80
	80	39.0	55.2	69.7	82.3	92.5	99.9	104.3			105.2	105.9	82
24	90	39.6	56.4	71.8	85.5	97.2	106.7	113.6	117.8		118.7	119.5	83
	100	40.1	57.3	73.3	87.9	100.7	111.7	120.5	127.0	131.0	132.0	132.9	84
	110	40.4	58.0	74.5	89.7	103.4	115.5	125.8	134.1	140.2	145.1	146.0	85

[a] Includes 1.0-foot stump allowance.

Table 7--Predicted stemwood volume to a saw-log merchantable top, and to 7-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for shortleaf pine (species 110) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	5.5									6.6	7.9	71
	40	6.1	8.4								9.2	10.9	77
	50	6.3	8.9	11.0							11.6	13.8	80
10	60	6.5	9.2	11.6	13.6						13.8	16.5	82
	70	6.6	9.4	11.9	14.2						16.0	19.2	82
	80	6.6	9.5	12.2	14.6	16.7					18.1	21.8	83
	90	6.7	9.6	12.3	14.8	17.1	19.1				20.2	24.4	84
	30	8.0	10.5								10.5	11.2	71
	40	8.8	12.1	14.5							14.6	15.5	77
	50	9.2	12.9	15.9	18.1						18.3	19.5	80
12	60	9.4	13.4	16.7	19.5	21.6					21.8	23.3	82
	70	9.6	13.6	17.2	20.4	23.0	25.1				25.2	27.1	82
	80	9.7	13.8	17.6	21.0	23.9	26.4	28.4			28.6	30.7	83
	90	9.7	13.9	17.8	21.4	24.6	27.4	29.8	31.7		31.9	34.4	84
	40	12.1	16.6	19.7							20.4	21.0	77
	50	12.6	17.7	21.7	24.6						25.5	26.3	80
	60	12.9	18.3	22.8	26.5	29.3					30.4	31.4	82
14	70	13.1	18.7	23.5	27.7	31.2	33.9				35.2	36.4	82
	80	13.2	18.9	24.0	28.5	32.5	35.8	38.4			39.9	41.3	83
	90	13.3	19.1	24.3	29.1	33.4	37.1	40.3	42.9		44.5	46.1	84
	100	13.4	19.2	24.6	29.6	34.1	38.1	41.7	44.8	47.3	49.1	50.9	84
	40	15.9	21.7	25.7							26.9	27.3	77
	50	16.6	23.1	28.3	32.1						33.6	34.2	80
	60	17.0	24.0	29.8	34.6	38.2					40.1	40.7	82
16	70	17.2	24.5	30.8	36.2	40.7	44.1				46.3	47.1	82
	80	17.4	24.8	31.4	37.3	42.4	46.6	50.0	52.3		52.5	53.4	83
	90	17.5	25.0	31.9	38.1	43.6	48.4	52.5	55.7	58.2	58.6	59.7	84
	100	17.6	25.2	32.2	38.7	44.5	49.7	54.3	58.3	61.5	64.6	65.8	84
	40	20.2	27.5	32.5							34.2	34.5	77
	50	21.1	29.4	35.9	40.5						42.7	43.1	80
	60	21.6	30.4	37.8	43.8	48.2					50.8	51.3	82
18	70	21.9	31.0	39.0	45.9	51.5	55.7	58.5			58.8	59.4	82
	80	22.1	31.5	39.8	47.2	53.6	58.9	63.1	66.0		66.5	67.2	83
	90	22.3	31.8	40.4	48.2	55.2	61.2	66.3	70.3	73.3	74.2	75.0	84
	100	22.4	32.0	40.9	49.0	56.4	62.9	68.7	73.6	77.5	81.9	82.8	84
	50	26.2	36.3	44.4	50.0						52.8	53.1	80
	60	26.8	37.6	46.8	54.1	59.5	62.7				62.8	63.2	82
	70	27.2	38.4	48.3	56.6	63.5	68.7	72.1			72.6	73.0	82
20	80	27.4	38.9	49.3	58.4	66.2	72.7	77.7	81.2		82.2	82.7	83
	90	27.6	39.3	50.0	59.6	68.1	75.5	81.7	86.7	90.2	91.6	92.2	84
	100	27.7	39.6	50.5	60.5	69.6	77.7	84.7	90.7	95.5	101.0	101.7	84
	50	31.7	44.1	53.7	60.5						63.9	64.1	80
	60	32.5	45.6	56.6	65.5	72.0	75.7				76.0	76.3	82
	70	33.0	46.6	58.5	68.6	76.8	83.0	87.0			87.8	88.1	82
22	80	33.3	47.2	59.7	70.7	80.1	87.9	93.9	98.1		99.4	99.8	83
	90	33.5	47.7	60.6	72.2	82.5	91.4	98.8	104.7	108.9	110.8	111.3	84
	100	33.7	48.0	61.2	73.3	84.3	94.0	102.5	109.6	115.4	122.2	122.7	84
	50	37.9	52.5	64.0	72.1						76.0	76.2	80
	60	38.8	54.4	67.5	78.0	85.6	90.0				90.4	90.6	82
	70	39.4	55.5	69.7	81.7	91.4	98.8	103.4			104.4	104.7	82
24	80	39.7	56.3	71.1	84.2	95.4	104.6	111.7	116.5		118.2	118.5	83
	90	40.0	56.8	72.2	86.0	98.2	108.7	117.5	124.5	129.4	131.8	132.1	84
	100	40.2	57.2	73.0	87.3	100.3	111.9	121.9	130.4	137.2	145.2	145.6	84

[a] Includes 1.0-foot stump allowance.

Table 8--Predicted stemwood volume to a saw-log merchantable top, and to 7-inch and 4-inch d.o.b. tops based on d.b.h., height to a 7-inch d.o.b. top and height to a saw-log top for shortleaf pine (species 110) in the Piedmont.[a]

D.b.h. class	Height to 7-inch d.o.b. top	Volume to: Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	5.1									5.8	8.4	67
	30	6.0	8.4								9.6	11.8	77
	40	6.3	9.0	11.4							13.1	15.5	80
10	50	6.5	9.3	11.9	14.2	16.3					16.5	19.3	82
	60	6.6	9.5	12.2	14.7	17.0	19.1				19.8	23.0	82
	70	6.6	9.6	12.4	15.0	17.5	19.8	21.9			23.0	26.6	83
	20	7.3									8.3	9.7	67
	30	8.7	12.0								13.4	14.6	77
	40	9.2	13.0	16.1							18.1	19.4	80
12	50	9.4	13.4	16.9	19.9	22.3					22.5	24.1	82
	60	9.6	13.7	17.4	20.8	23.7	26.1				26.9	28.6	82
	70	9.7	13.9	17.7	21.3	24.6	27.5	29.9			31.2	33.2	83
	80	9.7	14.0	18.0	21.7	25.1	28.3	31.2	33.6		35.4	37.7	83
	40	12.6	17.7	21.6							23.9	24.8	80
	50	13.0	18.3	22.9	26.7	29.4					29.7	30.7	82
	60	13.1	18.7	23.7	28.0	31.7	34.5				35.3	36.4	82
14	70	13.2	18.9	24.1	28.8	33.0	36.5	39.4			40.8	42.0	83
	80	13.3	19.1	24.4	29.4	33.9	37.9	41.4	44.3		46.3	47.7	83
	90	13.4	19.2	24.6	29.7	34.5	38.8	42.7	46.2	49.1	51.7	53.3	84
	100	13.4	19.3	24.8	30.0	34.9	39.5	43.7	47.5	51.0	57.1	58.8	84
	40	16.6	23.1	28.0							30.7	31.3	80
	50	17.0	24.0	29.9	34.5	37.7					37.9	38.6	82
	60	17.2	24.5	30.9	36.3	40.8	44.1				45.0	45.7	82
16	70	17.4	24.8	31.5	37.5	42.7	47.0	50.4			51.9	52.8	83
	80	17.5	25.0	31.9	38.2	43.9	48.9	53.2	56.6		58.8	59.7	83
	90	17.6	25.1	32.2	38.8	44.8	50.2	55.1	59.3	62.8	65.6	66.7	84
	100	17.6	25.2	32.4	39.2	45.4	51.2	56.5	61.2	65.4	72.4	73.6	84
	40	21.1	29.3	35.3							38.4	38.9	80
	50	21.6	30.4	37.7	43.4	47.1					47.3	47.8	82
	60	21.9	31.0	39.0	45.8	51.2	55.1				56.0	56.5	82
18	70	22.1	31.4	39.8	47.3	53.7	59.0	62.9			64.5	65.1	83
	80	22.2	31.7	40.4	48.3	55.3	61.5	66.6	70.6		73.0	73.7	83
	90	22.3	31.9	40.8	49.0	56.5	63.2	69.1	74.2	78.3	81.4	82.2	84
	100	22.4	32.0	41.1	49.5	57.4	64.5	71.0	76.8	81.7	89.8	90.6	84
	50	26.8	37.6	46.5	53.3	57.6					57.8	58.2	82
	60	27.2	38.4	48.2	56.4	62.9	67.4				68.3	68.7	82
	70	27.4	38.9	49.2	58.3	66.0	72.3	76.9			78.7	79.1	83
20	80	27.6	39.2	49.9	59.5	68.1	75.5	81.6	86.3		88.9	89.4	83
	90	27.7	39.5	50.4	60.4	69.6	77.7	84.8	90.8	95.6	99.1	99.6	84
	100	27.8	39.6	50.8	61.1	70.7	79.4	87.2	94.1	100.0	109.2	109.8	84
	50	32.5	45.6	56.2	64.3	69.2					69.5	69.7	82
	60	33.0	46.5	58.3	68.1	75.8	80.9				82.0	82.3	82
	70	33.3	47.1	59.6	70.4	79.6	87.0	92.3			94.3	94.6	83
22	80	33.5	47.5	60.4	72.0	82.2	91.0	98.2	103.6		106.5	106.9	83
	90	33.6	47.8	61.0	73.1	84.0	93.8	102.2	109.3	114.7	118.6	119.0	84
	100	33.7	48.1	61.5	73.9	85.4	95.8	105.2	113.3	120.3	130.6	131.1	84
	50	38.8	54.3	66.9	76.4	81.9					82.2	82.4	82
	60	39.3	55.5	69.4	80.9	89.9	95.8				96.9	97.1	82
	70	39.7	56.2	70.9	83.8	94.6	103.2	109.3			111.4	111.7	83
24	80	39.9	56.7	71.9	85.6	97.7	108.0	116.4	122.6		125.7	126.0	83
	90	40.1	57.0	72.7	87.0	99.9	111.4	121.2	129.4	135.7	140.0	140.3	84
	100	40.2	57.3	73.2	88.0	101.6	113.9	124.8	134.4	142.4	154.2	154.5	84

[a] Includes 1.0-foot stump allowance.

Table 9--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for shortleaf pine (species 110) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.6	0.8	0.9	1.1	1.7	2.0											
6	1.3	2.2	2.4	2.6	3.3	3.7	4.1	4.6									
7	2.5	3.2	3.7	4.0	4.8	5.5	6.1	6.7	7.2	7.8							
8	3.5	4.4	5.0	5.5	6.6	7.4	8.2	9.0	9.8	10.5	11.3	12.0					
9	4.5	5.7	6.5	7.1	8.5	9.6	10.6	11.6	12.6	13.6	14.5	15.4	16.4	17.3			
10	5.7	7.2	8.1	8.9	10.6	11.9	13.2	14.5	15.7	16.9	18.1	19.3	20.4	21.5	22.7	23.8	
11			9.9	10.9	12.9	14.6	16.1	17.6	19.1	20.6	22.0	23.5	24.9	26.2	27.6	29.0	30.3
12			11.9	13.1	15.5	17.4	19.3	21.1	22.9	24.6	26.4	28.1	29.7	31.4	33.0	34.7	36.3
13			14.0	15.4	18.3	20.5	22.7	24.9	27.0	29.0	31.1	33.1	35.0	37.0	38.9	40.8	42.7
14					21.3	23.9	26.5	29.0	31.4	33.8	36.1	38.5	40.7	43.0	45.3	47.5	49.7
15					24.5	27.5	30.5	33.3	36.1	38.9	41.6	44.3	46.9	49.5	52.1	54.6	57.2
16					27.9	31.4	34.8	38.0	41.2	44.3	47.4	50.4	53.4	56.4	59.4	62.3	65.2

[a] Includes 0.5-foot stump allowance.

Table 10--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for shortleaf pine (species 110) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.5	2.0	2.6	2.7	3.2	3.7											
6	2.0	2.6	3.3	3.8	4.4	5.0	5.6	6.2									
7	2.5	3.3	4.2	5.0	5.8	6.5	7.3	8.1	8.8	9.5							
8	3.5	4.3	5.2	6.3	7.4	8.3	9.3	10.2	11.1	12.1	13.0	13.9					
9	4.1	5.5	6.5	7.9	9.2	10.4	11.5	12.7	13.8	14.9	16.0	17.1	18.2	19.3			
10	5.1	6.7	7.9	9.7	11.2	12.7	14.1	15.4	16.8	18.2	19.5	20.8	22.1	23.4	24.7	26.0	
11			9.5	11.7	13.5	15.2	16.9	18.5	20.1	21.7	23.3	24.9	26.4	28.0	29.5	31.1	32.6
12			11.3	13.8	15.9	18.0	19.9	21.9	23.8	25.6	27.5	29.3	31.1	33.0	34.8	36.6	38.4
13			13.3	16.2	18.6	21.0	23.3	25.5	27.7	29.9	32.0	34.2	36.3	38.4	40.5	42.6	44.7
14					21.6	24.3	26.9	29.5	32.0	34.5	37.0	39.4	41.8	44.3	46.7	49.1	51.5
15					24.7	27.8	30.8	33.7	36.6	39.4	42.2	45.0	47.8	50.6	53.3	56.0	58.8
16					28.1	31.5	34.9	38.2	41.5	44.7	47.9	51.1	54.2	57.3	60.4	63.5	66.6

[a] Includes 0.5-foot stump allowance.

Table 11--Predicted stemwood volume to a saw-log merchantable top, and to 7-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for longleaf pine (species 121) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40	5.4									5.9	7.6	65
	50	5.9	7.9								8.1	10.0	73
	60	6.2	8.5								10.0	12.2	77
10	70	6.3	8.9	11.0							11.8	14.3	80
	80	6.4	9.2	11.5	13.4						13.5	16.3	81
	90	6.5	9.3	11.8	14.0						15.2	18.3	82
	40	7.8	10.0								10.0	11.1	65
	50	8.5	11.5								13.3	14.6	73
	60	8.9	12.3	15.0							16.4	17.8	77
12	70	9.2	12.9	16.0	18.4						19.2	20.8	80
	80	9.3	13.2	16.6	19.4	21.6					21.9	23.8	81
	90	9.4	13.5	17.1	20.2	22.7					24.6	26.7	82
	100	9.5	13.7	17.4	20.7	23.6	25.9				27.2	29.5	83
	40	10.7	13.7								14.5	15.3	65
	50	11.6	15.7	18.5							19.1	20.0	73
	60	12.2	16.8	20.5	23.0						23.3	24.4	77
14	70	12.5	17.6	21.8	25.1	27.3					27.4	28.6	80
	80	12.8	18.1	22.7	26.5	29.4					31.2	32.6	81
	90	12.9	18.4	23.3	27.5	31.0	33.6				35.0	36.6	82
	100	13.0	18.7	23.8	28.3	32.1	35.3	37.7			38.7	40.5	83
	50	15.3	20.5	24.2							25.5	26.2	73
	60	16.0	22.0	26.8	30.1						31.1	32.0	77
	70	16.4	23.0	28.5	32.8	35.7					36.5	37.5	80
16	80	16.7	23.7	29.7	34.6	38.5	41.1				41.6	42.8	81
	90	16.9	24.1	30.5	36.0	40.5	44.0	46.4			46.7	48.0	82
	100	17.1	24.5	31.1	37.0	42.0	46.2	49.4	51.6		51.6	53.1	83
	110	17.2	24.7	31.6	37.8	43.2	47.9	51.7	54.6		56.5	58.1	84
	50	19.4	26.0	30.7							32.7	33.3	73
	60	20.3	28.0	34.0	38.1						39.9	40.6	77
	70	20.8	29.2	36.1	41.5	45.3					46.7	47.6	80
18	80	21.2	30.0	37.6	43.9	48.8	52.1				53.3	54.3	81
	90	21.5	30.6	38.7	45.6	51.3	55.7	58.8			59.7	60.9	82
	100	21.7	31.0	39.5	46.9	53.3	58.5	62.5	65.3		66.1	67.4	83
	110	21.8	31.4	40.1	47.9	54.8	60.6	65.4	69.2	71.7	72.3	73.8	84
	60	25.1	34.6	42.0	47.1						49.6	50.2	77
	70	25.8	36.1	44.7	51.3	55.9					58.1	58.9	80
	80	26.3	37.1	46.5	54.3	60.3	64.4				66.3	67.2	81
20	90	26.6	37.8	47.8	56.4	63.4	68.9	72.6			74.3	75.3	82
	100	26.8	38.4	48.8	58.0	65.8	72.3	77.3	80.7		82.1	83.3	83
	110	27.0	38.8	49.5	59.2	67.7	74.9	80.9	85.4	88.6	89.9	91.2	84
	60	30.4	41.9	50.9	57.1	60.3					60.3	60.9	77
	70	31.3	43.7	54.1	62.2	67.7					70.6	71.3	80
	80	31.8	45.0	56.3	65.7	73.0	78.0				80.6	81.4	81
22	90	32.2	45.8	57.9	68.3	76.8	83.4	87.9			90.3	91.3	82
	100	32.5	46.5	59.1	70.2	79.7	87.5	93.5	97.7		99.9	101.0	83
	110	32.7	47.0	60.0	71.7	81.9	90.7	97.9	103.4	107.3	109.3	110.5	84
	60	36.3	49.9	60.6	68.0	71.8					72.0	72.6	77
	70	37.3	52.1	64.4	74.1	80.7	84.1				84.3	85.0	80
	80	37.9	53.6	67.1	78.3	86.9	92.8	96.0			96.2	97.0	81
24	90	38.4	54.6	69.0	81.3	91.5	99.3	104.7	107.6		107.9	108.8	82
	100	38.7	55.4	70.4	83.6	94.9	104.2	111.4	116.3	119.1	119.3	120.3	83
	110	39.0	56.0	71.4	85.3	97.6	108.0	116.6	123.2	127.7	130.6	131.7	84

[a] Includes 1.0-foot stump allowance.

Table 12--Predicted stemwood volume to a saw-log merchantable top, and to 7-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for longleaf pine (species 121) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30										5.0	7.0	61
	40	5.8	7.9								8.0	10.0	72
	50	6.2	8.6								10.4	12.9	77
10	60	6.4	9.0	11.2							12.7	15.6	80
	70	6.5	9.2	11.7	13.7						14.8	18.3	82
	80	6.6	9.4	12.0	14.2	16.2					16.9	20.9	83
	90	6.6	9.5	12.2	14.6	16.8	18.6				19.0	23.5	83
	30	7.4									8.8	9.9	61
	40	8.5	11.3								12.9	14.2	72
	50	8.9	12.4	15.0							16.6	18.1	77
12	60	9.2	13.0	16.1	18.6						20.1	21.9	80
	70	9.4	13.3	16.8	19.7	22.1					23.5	25.6	82
	80	9.5	13.6	17.2	20.4	23.2	25.4				26.7	29.2	83
	90	9.6	13.8	17.6	21.0	24.0	26.6	28.8			30.0	32.8	83
	40	11.6	15.4	18.0							18.2	19.1	72
	50	12.2	16.9	20.4	22.9						23.3	24.4	77
	60	12.6	17.7	21.9	25.2	27.6					28.1	29.4	80
14	70	12.8	18.2	22.8	26.7	29.9	32.2				32.8	34.3	82
	80	13.0	18.5	23.5	27.8	31.4	34.4	36.7			37.4	39.1	83
	90	13.1	18.8	23.9	28.5	32.5	36.0	38.9	41.1		41.9	43.9	83
	100	13.2	19.0	24.3	29.1	33.4	37.2	40.5	43.3	45.5	46.4	48.5	84
	40	15.1	20.2	23.4							24.1	24.7	72
	50	16.0	22.0	26.7	29.8						30.8	31.5	77
	60	16.5	23.1	28.6	32.9	35.9					37.1	38.0	80
16	70	16.8	23.8	29.8	34.8	38.9	41.9				43.3	44.4	82
	80	17.0	24.2	30.7	36.2	40.9	44.7	47.7			49.3	50.5	83
	90	17.1	24.6	31.3	37.2	42.4	46.8	50.5	53.4		55.2	56.6	83
	100	17.2	24.8	31.7	38.0	43.5	48.5	52.7	56.2	59.0	61.1	62.6	84
	40	19.2	25.6	29.6							30.7	31.1	72
	50	20.3	27.9	33.7	37.7						39.1	39.7	77
	60	20.9	29.3	36.2	41.5	45.3					47.1	47.8	80
18	70	21.3	30.2	37.7	44.1	49.1	52.8				54.9	55.7	82
	80	21.6	30.7	38.8	45.8	51.7	56.5	60.1	62.4		62.5	63.5	83
	90	21.7	31.1	39.6	47.1	53.6	59.2	63.7	67.2	69.7	70.0	71.1	83
	100	21.9	31.4	40.2	48.0	55.1	61.2	66.5	70.9	74.3	77.4	78.6	84
	50	25.1	34.5	41.6	46.4						48.3	48.8	77
	60	25.9	36.2	44.7	51.2	55.8					58.2	58.8	80
	70	26.4	37.3	46.6	54.4	60.5	65.0	67.7			67.8	68.5	82
20	80	26.7	38.0	48.0	56.6	63.8	69.6	73.9	76.8		77.2	77.9	83
	90	26.9	38.5	48.9	58.1	66.2	72.9	78.5	82.7	85.7	86.4	87.3	83
	100	27.0	38.9	49.6	59.3	68.0	75.5	81.9	87.3	91.4	95.6	96.5	84
	50	30.5	41.8	50.4	56.1						58.5	58.9	77
	60	31.4	43.9	54.1	62.0	67.5					70.5	70.9	80
	70	32.0	45.1	56.4	65.8	73.2	78.5	81.7			82.0	82.5	82
22	80	32.3	46.0	58.1	68.4	77.1	84.1	89.3	92.6		93.3	93.9	83
	90	32.6	46.6	59.2	70.3	80.0	88.2	94.8	99.9	103.3	104.5	105.2	83
	100	32.8	47.1	60.1	71.8	82.2	91.3	99.0	105.4	110.4	115.5	116.3	84
	50	36.3	49.8	60.0	66.7						69.6	69.9	77
	60	37.4	52.2	64.4	73.7	80.2	83.7				83.8	84.2	80
	70	38.1	53.8	67.2	78.3	87.0	93.3	97.0			97.5	98.0	82
24	80	38.5	54.8	69.1	81.4	91.7	100.0	106.1	110.0		111.0	111.5	83
	90	38.8	55.5	70.5	83.7	95.2	104.9	112.7	118.7	122.7	124.2	124.8	83
	100	39.1	56.1	71.5	85.4	97.8	108.6	117.7	125.3	131.1	137.3	137.9	84

[a] Includes 1.0-foot stump allowance.

Table 13--Predicted stemwood volume to a saw-log merchantable top, and to 7-inch and 4-inch d.o.b. tops based on d.b.h., height to a 7-inch d.o.b. top and height to a saw-log top for longleaf pine (species 121) in the Piedmont.[a]

D.b.h. class	Height to 7-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	5.2									5.9	9.6	66
	30	6.0	8.3								9.4	12.1	75
	40	6.3	8.8	11.0							12.7	15.4	79
10	50	6.4	9.1	11.5	13.7	15.6					15.8	18.8	80
	60	6.5	9.2	11.8	14.2	16.4	18.3				18.9	22.1	81
	70	6.5	9.3	12.0	14.5	16.8	19.0	20.9			22.0	25.4	81
	20	7.6									8.4	10.6	66
	30	8.7	11.8								13.1	14.7	75
	40	9.1	12.6	15.5							17.3	19.0	79
12	50	9.2	13.0	16.3	19.1	21.2					21.5	23.2	80
	60	9.3	13.3	16.8	19.9	22.6	24.8				25.5	27.4	81
	70	9.4	13.4	17.1	20.5	23.5	26.1	28.3			29.5	31.6	81
	80	9.5	13.5	17.3	20.8	24.0	26.9	29.5	31.8		33.5	35.7	82
	40	12.4	17.1	20.8							22.9	24.0	79
	50	12.6	17.7	22.0	25.4	27.9					28.1	29.3	80
	60	12.8	18.1	22.7	26.7	30.0	32.5				33.3	34.6	81
14	70	12.8	18.3	23.2	27.5	31.3	34.5	37.1			38.4	39.7	81
	80	12.9	18.4	23.5	28.1	32.2	35.9	39.0	41.6		43.4	44.9	82
	90	12.9	18.5	23.7	28.5	32.9	36.8	40.4	43.5	46.1	48.4	50.0	82
	100	13.0	18.6	23.8	28.8	33.3	37.6	41.4	44.9	47.9	53.4	55.1	82
	40	16.2	22.3	26.8							29.2	30.1	79
	50	16.5	23.1	28.6	32.8	35.6					35.8	36.7	80
	60	16.7	23.6	29.6	34.6	38.6	41.5				42.2	43.2	81
16	70	16.8	23.9	30.2	35.7	40.4	44.3	47.3			48.6	49.6	81
	80	16.9	24.0	30.6	36.5	41.7	46.2	50.0	53.0		54.9	56.0	82
	90	16.9	24.2	30.9	37.0	42.6	47.5	51.9	55.6	58.7	61.2	62.3	82
	100	17.0	24.3	31.1	37.4	43.2	48.6	53.3	57.6	61.2	67.4	68.6	82
	40	20.5	28.3	33.8							36.5	37.1	79
	50	20.9	29.3	36.0	41.1	44.3					44.5	45.2	80
	60	21.2	29.9	37.3	43.5	48.3	51.6				52.4	53.1	81
18	70	21.3	30.2	38.1	45.0	50.7	55.4	58.8			60.2	61.0	81
	80	21.4	30.5	38.6	46.0	52.4	57.9	62.4	65.9		67.9	68.7	82
	90	21.5	30.6	39.0	46.7	53.6	59.7	65.0	69.4	72.9	75.6	76.5	82
	100	21.5	30.8	39.3	47.2	54.5	61.0	66.9	72.0	76.3	83.3	84.2	82
	50	25.9	36.2	44.4	50.4	54.0					54.3	54.8	80
	60	26.2	36.9	46.0	53.4	59.2	62.9				63.8	64.3	81
	70	26.4	37.3	47.0	55.3	62.3	67.8	71.7			73.2	73.8	81
20	80	26.5	37.6	47.7	56.6	64.4	71.0	76.3	80.3		82.5	83.1	82
	90	26.6	37.8	48.2	57.5	65.9	73.3	79.6	84.8	88.8	91.7	92.4	82
	100	26.6	38.0	48.5	58.2	67.1	75.0	82.0	88.1	93.2	101.0	101.7	82
	50	31.4	43.8	53.6	60.7	64.8					65.1	65.5	80
	60	31.7	44.6	55.6	64.5	71.2	75.5				76.4	76.8	81
	70	31.9	45.2	56.8	66.8	75.0	81.5	85.9			87.5	88.0	81
22	80	32.1	45.6	57.7	68.4	77.7	85.4	91.7	96.2		98.6	99.1	82
	90	32.2	45.8	58.3	69.5	79.5	88.3	95.7	101.8	106.4	109.6	110.1	82
	100	32.3	46.0	58.7	70.4	81.0	90.4	98.8	105.9	111.9	120.6	121.1	82
	50	37.4	52.1	63.7	72.0	76.6					76.9	77.2	80
	60	37.8	53.2	66.1	76.5	84.3	89.2				90.1	90.5	81
	70	38.1	53.8	67.6	79.4	89.0	96.5	101.5			103.2	103.6	81
24	80	38.2	54.2	68.6	81.3	92.2	101.3	108.5	113.6		116.2	116.7	82
	90	38.4	54.6	69.3	82.6	94.5	104.7	113.4	120.4	125.7	129.2	129.6	82
	100	38.5	54.8	69.9	83.7	96.2	107.3	117.1	125.5	132.3	142.0	142.5	82

[a] Includes 1.0-foot stump allowance.

Table 14--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for longleaf pine (species 121) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.8	1.1	1.2	1.3	1.7	2.0											
6	1.7	2.2	2.4	2.6	3.2	3.5	3.9	4.2									
7	2.7	3.3	3.6	3.9	4.7	5.2	5.7	6.2	6.7	7.2							
8	3.7	4.5	5.0	5.4	6.3	7.1	7.7	8.4	9.1	9.7	10.3	10.9					
9	4.7	5.8	6.4	7.0	8.2	9.1	10.0	10.8	11.7	12.5	13.3	14.1	14.9	15.7			
10	6.0	7.3	8.0	8.7	10.3	11.4	12.5	13.5	14.6	15.6	16.6	17.6	18.6	19.6	20.5	21.5	
11			9.8	10.7	12.5	13.9	15.2	16.5	17.8	19.0	20.2	21.5	22.7	23.8	25.0	26.2	27.4
12			11.7	12.8	15.0	16.6	18.2	19.7	21.2	22.7	24.2	25.7	27.1	28.5	29.9	31.4	32.7
13			13.8	15.0	17.6	19.6	21.4	23.2	25.0	26.8	28.5	30.2	31.9	33.6	35.3	36.9	38.6
14					20.5	22.8	24.9	27.0	29.1	31.2	33.2	35.2	37.1	39.1	41.0	43.0	44.9
15					23.6	26.2	28.7	31.1	33.5	35.9	38.2	40.5	42.7	45.0	47.2	49.4	51.6
16					26.9	29.9	32.7	35.5	38.2	40.9	43.5	46.1	48.7	51.3	53.8	56.4	58.9

[a] Includes 0.5-foot stump allowance.

Table 15--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for longleaf pine (species 121) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.6	2.1	2.6	2.7	3.1	3.6											
6	2.1	2.7	3.3	3.5	4.1	4.8	5.4	6.0									
7	2.7	3.5	4.3	4.6	5.4	6.2	6.9	7.7	8.5	9.2							
8	3.7	4.5	5.3	5.8	6.8	7.8	8.8	9.7	10.6	11.6	12.5	13.4					
9	4.3	5.6	6.6	7.2	8.5	9.7	10.8	12.0	13.1	14.2	15.3	16.4	17.5	18.6			
10	5.4	6.9	8.0	8.8	10.3	11.7	13.2	14.5	15.9	17.2	18.6	19.9	21.2	22.5	23.7	25.0	
11			9.6	10.6	12.3	14.0	15.7	17.4	19.0	20.6	22.1	23.7	25.2	26.7	28.3	29.8	31.3
12			11.4	12.5	14.6	16.6	18.5	20.5	22.3	24.2	26.0	27.8	29.6	31.4	33.2	35.0	36.7
13			13.4	14.6	17.0	19.3	21.6	23.8	26.0	28.2	30.3	32.4	34.5	36.5	38.6	40.6	42.7
14					19.6	22.3	24.9	27.5	30.0	32.4	34.9	37.3	39.7	42.1	44.4	46.8	49.1
15					22.4	25.5	28.5	31.4	34.2	37.0	39.8	42.6	45.3	48.0	50.7	53.3	56.0
16					25.4	28.9	32.3	35.5	38.8	41.9	45.1	48.2	51.3	54.3	57.4	60.4	63.4

[a] Includes 0.5-foot stump allowance.

Table 16--Predicted stemwood volume to a saw-log merchantable top, and to 7-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for loblolly pine (species 131) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40	4.9									5.1	7.1	63
	50	5.5									7.5	9.6	71
	60	5.9	8.1								9.5	11.9	75
10	70	6.1	8.6	10.7							11.3	14.0	77
	80	6.2	8.8	11.1							13.0	16.1	79
	90	6.3	9.0	11.4	13.6						14.6	18.1	80
	40	7.1									9.2	10.4	63
	50	8.0	10.9								12.7	14.0	71
	60	8.5	11.8	14.4							15.8	17.3	75
12	70	8.8	12.4	15.4	17.8						18.7	20.5	77
	80	9.0	12.8	16.1	18.9	21.1					21.4	23.5	79
	90	9.2	13.0	16.5	19.6	22.2					24.1	26.4	80
	100	9.3	13.3	16.9	20.1	23.0	25.3				26.6	29.2	81
	40	9.7	12.6								13.4	14.3	63
	50	11.0	14.8	17.7							18.3	19.3	71
	60	11.7	16.1	19.7	22.3						22.6	23.8	75
14	70	12.1	16.9	21.0	24.3	26.7					26.7	28.1	77
	80	12.4	17.4	21.9	25.7	28.7					30.7	32.2	79
	90	12.6	17.8	22.6	26.7	30.2	33.0				34.4	36.2	80
	100	12.7	18.1	23.0	27.5	31.3	34.6	37.1			38.2	40.1	81
	50	14.4	19.4	23.1							24.5	25.3	71
	60	15.3	21.1	25.8	29.2						30.3	31.2	75
	70	15.9	22.2	27.5	31.9	34.9					35.8	36.8	77
16	80	16.2	22.9	28.7	33.7	37.6	40.4				41.0	42.2	79
	90	16.5	23.4	29.6	35.0	39.5	43.1	45.7			46.1	47.5	80
	100	16.7	23.7	30.2	36.0	41.0	45.2	48.5	50.9		51.0	52.6	81
	110	16.8	24.0	30.6	36.7	42.1	46.8	50.7	53.8		55.9	57.6	81
	50	18.3	24.7	29.3							31.5	32.1	71
	60	19.4	26.8	32.7	37.0						38.9	39.7	75
	70	20.1	28.1	34.9	40.4	44.3					45.9	46.8	77
18	80	20.6	29.0	36.4	42.7	47.7	51.2				52.5	53.6	79
	90	20.9	29.6	37.5	44.4	50.1	54.7	57.9			59.0	60.3	80
	100	21.2	30.1	38.3	45.6	52.0	57.3	61.5	64.5		65.4	66.8	81
	110	21.3	30.4	38.9	46.5	53.4	59.3	64.2	68.1	70.9	71.6	73.2	81
	60	24.1	33.1	40.5	45.8						48.4	49.1	75
	70	24.9	34.8	43.2	49.9	54.7					57.1	57.9	77
	80	25.5	35.9	45.0	52.8	58.9	63.3				65.4	66.3	79
20	90	25.9	36.7	46.3	54.8	62.0	67.6	71.6			73.4	74.6	80
	100	26.2	37.2	47.3	56.3	64.2	70.8	76.0	79.7		81.3	82.6	81
	110	26.4	37.6	48.0	57.5	66.0	73.3	79.4	84.2	87.6	89.1	90.5	81
	60	29.2	40.2	49.1	55.4	58.8					58.9	59.5	75
	70	30.2	42.2	52.4	60.5	66.3	69.4				69.4	70.2	77
	80	30.9	43.5	54.6	63.9	71.4	76.6	79.5			79.5	80.4	79
22	90	31.4	44.4	56.2	66.4	75.0	81.9	86.7			89.3	90.4	80
	100	31.8	45.1	57.3	68.3	77.8	85.8	92.0	96.5		99.0	100.1	81
	110	32.0	45.6	58.2	69.7	79.9	88.7	96.1	102.0	106.1	108.4	109.7	81
	60	34.8	47.9	58.5	66.1	70.1					70.4	71.0	75
	70	36.1	50.3	62.4	72.1	78.9	82.6				82.9	83.7	77
	80	36.9	51.8	65.0	76.2	85.0	91.3	94.7			95.0	95.8	79
24	90	37.5	53.0	66.9	79.1	89.4	97.5	103.2	106.4		106.7	107.7	80
	100	37.9	53.8	68.3	81.3	92.6	102.1	109.6	114.9	117.9	118.2	119.3	81
	110	38.2	54.4	69.4	83.0	95.1	105.7	114.5	121.4	126.3	129.6	130.7	81

[a] Includes 1.0-foot stump allowance.

Table 17--Predicted stemwood volume to a saw-log merchantable top, and to 7-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for loblolly pine (species 131) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to: Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	5.2									5.9	7.4	67
	40	5.8	7.9								8.3	10.3	74
	50	6.1	8.5								10.4	13.0	77
10	60	6.3	8.8	11.0							12.4	15.6	79
	70	6.3	9.0	11.4	13.4						14.4	18.1	80
	80	6.4	9.1	11.6	13.8	15.8					16.2	20.6	81
	90	6.5	9.2	11.8	14.1	16.2					18.0	23.0	81
	30	7.5									9.6	10.5	67
	40	8.4	11.4								13.3	14.5	74
	50	8.8	12.3	15.0							16.7	18.3	77
12	60	9.1	12.7	15.8	18.4						19.9	21.9	79
	70	9.2	13.0	16.4	19.2	21.6					23.0	25.4	80
	80	9.3	13.2	16.7	19.8	22.5	24.8				26.1	28.8	81
	90	9.4	13.3	17.0	20.3	23.2	25.8	28.0			29.1	32.2	81
	40	11.5	15.6	18.4							18.8	19.6	74
	50	12.1	16.7	20.4	23.0						23.5	24.6	77
	60	12.4	17.4	21.6	24.9	27.4					28.0	29.3	79
14	70	12.6	17.8	22.3	26.1	29.3	31.7				32.4	34.0	80
	80	12.7	18.0	22.8	27.0	30.6	33.6	35.9			36.7	38.5	81
	90	12.8	18.2	23.1	27.6	31.5	34.9	37.8	40.1		40.9	43.0	81
	100	12.9	18.3	23.4	28.0	32.2	35.9	39.2	41.9	44.2	45.1	47.4	81
	40	15.1	20.4	24.0							24.8	25.4	74
	50	15.8	21.9	26.6	30.0						31.1	31.8	77
	60	16.2	22.7	28.2	32.5	35.7					37.0	38.0	79
16	70	16.5	23.2	29.1	34.1	38.2	41.2				42.8	43.9	80
	80	16.7	23.6	29.8	35.2	39.8	43.7	46.7			48.4	49.7	81
	90	16.8	23.8	30.2	36.0	41.1	45.4	49.1	52.0		54.0	55.5	81
	100	16.9	24.0	30.6	36.6	42.0	46.8	51.0	54.5	57.3	59.5	61.2	81
	40	19.1	25.9	30.3							31.6	32.1	74
	50	20.1	27.8	33.7	37.9						39.5	40.1	77
	60	20.6	28.8	35.7	41.1	45.0					47.0	47.7	79
18	70	20.9	29.5	36.9	43.2	48.2	52.0				54.3	55.2	80
	80	21.2	29.9	37.7	44.6	50.4	55.1	58.8	61.3		61.5	62.5	81
	90	21.3	30.2	38.3	45.6	51.9	57.4	62.0	65.6	68.1	68.5	69.7	81
	100	21.4	30.5	38.8	46.3	53.1	59.1	64.3	68.7	72.2	75.5	76.8	81
	50	24.9	34.3	41.6	46.7						48.9	49.3	77
	60	25.5	35.7	44.1	50.7	55.5					58.1	58.7	79
	70	25.9	36.5	45.6	53.3	59.4	64.0	67.0			67.1	67.8	80
20	80	26.2	37.0	46.6	55.0	62.1	68.0	72.4	75.4		75.9	76.7	81
	90	26.4	37.4	47.4	56.3	64.1	70.8	76.4	80.7	83.8	84.6	85.5	81
	100	26.5	37.7	47.9	57.2	65.6	72.9	79.3	84.6	88.9	93.3	94.3	81
	50	30.2	41.6	50.4	56.5						59.2	59.5	77
	60	31.0	43.2	53.4	61.4	67.1	70.3				70.3	70.8	79
	70	31.5	44.2	55.2	64.5	71.9	77.4	80.8			81.2	81.7	80
22	80	31.8	44.9	56.5	66.6	75.2	82.2	87.5	91.0		91.9	92.5	81
	90	32.0	45.3	57.4	68.1	77.5	85.6	92.3	97.4	101.1	102.4	103.1	81
	100	32.2	45.7	58.1	69.3	79.3	88.2	95.9	102.2	107.3	112.8	113.6	81
	50	36.0	49.6	60.0	67.2						70.4	70.7	77
	60	36.9	51.5	63.5	73.0	79.8	83.5				83.7	84.1	79
	70	37.5	52.7	65.8	76.7	85.5	92.0	96.0			96.6	97.0	80
24	80	37.9	53.5	67.3	79.3	89.4	97.7	104.0	108.1		109.2	109.7	81
	90	38.2	54.0	68.3	81.1	92.3	101.8	109.7	115.8	120.0	121.7	122.3	81
	100	38.4	54.4	69.1	82.5	94.4	104.9	114.0	121.5	127.5	134.1	134.7	81

[a] Includes 1.0-foot stump allowance.

Table 18--Predicted stemwood volume to a saw-log merchantable top, and to 7-inch and 4-inch d.o.b. tops based on d.b.h., height to a 7-inch d.o.b. top and height to a saw-log top for loblolly pine (species 131) in the Piedmont.[a]

D.b.h. class	Height to 7-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	4.8									5.5	8.8	65
	30	5.8	8.1								9.3	12.0	74
	40	6.2	8.7	10.9							12.7	15.7	78
10	50	6.3	9.0	11.4	13.7	15.7					15.9	19.3	79
	60	6.4	9.1	11.7	14.1	16.4	18.4				19.1	23.0	80
	70	6.5	9.3	11.9	14.4	16.8	19.0	21.0			22.2	26.6	81
	20	7.0									7.8	9.7	65
	30	8.4	11.4								12.8	14.4	74
	40	8.9	12.4	15.3							17.3	19.0	78
12	50	9.1	12.9	16.2	19.0	21.3					21.5	23.5	79
	60	9.2	13.1	16.7	19.8	22.6	24.9				25.6	27.9	80
	70	9.3	13.3	17.0	20.3	23.4	26.1	28.5			29.7	32.3	81
	80	9.4	13.4	17.2	20.7	23.9	26.9	29.6	32.0		33.8	36.6	81
	40	12.1	16.8	20.5							22.7	23.9	78
	50	12.4	17.5	21.8	25.3	27.9					28.1	29.5	79
	60	12.6	17.9	22.5	26.6	30.0	32.6				33.4	34.9	80
14	70	12.7	18.1	23.0	27.4	31.2	34.6	37.3			38.6	40.3	81
	80	12.8	18.2	23.3	27.9	32.1	35.8	39.1	41.9		43.8	45.7	81
	90	12.9	18.3	23.5	28.3	32.7	36.7	40.4	43.6	46.4	48.9	51.0	81
	100	12.9	18.4	23.6	28.6	33.2	37.4	41.4	44.9	48.1	54.0	56.3	81
	40	15.9	21.9	26.5							29.0	29.9	78
	50	16.3	22.8	28.3	32.6	35.6					35.8	36.8	79
	60	16.5	23.3	29.3	34.4	38.5	41.6				42.4	43.5	80
16	70	16.7	23.6	29.9	35.5	40.3	44.3	47.5			48.9	50.1	81
	80	16.8	23.8	30.3	36.2	41.5	46.1	50.1	53.3		55.3	56.7	81
	90	16.9	24.0	30.6	36.8	42.4	47.4	51.9	55.8	59.0	61.7	63.2	81
	100	16.9	24.1	30.9	37.2	43.0	48.4	53.3	57.7	61.5	68.1	69.7	81
	40	20.1	27.8	33.4							36.2	36.9	78
	50	20.7	28.9	35.7	40.9	44.3					44.5	45.3	79
	60	21.0	29.5	37.0	43.2	48.2	51.8				52.6	53.4	80
18	70	21.2	29.9	37.8	44.7	50.6	55.4	59.0			60.6	61.5	81
	80	21.3	30.2	38.3	45.7	52.2	57.8	62.5	66.2		68.4	69.4	81
	90	21.4	30.4	38.7	46.4	53.3	59.6	65.0	69.6	73.3	76.3	77.4	81
	100	21.5	30.5	39.0	46.9	54.2	60.8	66.8	72.1	76.6	84.0	85.2	81
	50	25.6	35.7	44.0	50.2	54.0					54.3	54.8	79
	60	26.0	36.5	45.6	53.2	59.1	63.1				64.0	64.7	80
	70	26.2	37.0	46.6	55.0	62.1	67.8	72.0			73.6	74.3	81
20	80	26.4	37.3	47.3	56.3	64.2	70.9	76.5	80.7		83.1	83.9	81
	90	26.5	37.6	47.8	57.2	65.6	73.1	79.6	85.1	89.3	92.5	93.4	81
	100	26.6	37.8	48.2	57.9	66.7	74.8	81.9	88.2	93.6	101.9	102.8	81
	50	31.0	43.2	53.1	60.4	64.8					65.1	65.5	79
	60	31.5	44.2	55.1	64.1	71.1	75.7				76.7	77.2	80
	70	31.8	44.8	56.4	66.4	74.9	81.5	86.3			88.1	88.6	81
22	80	32.0	45.2	57.3	68.0	77.4	85.4	91.9	96.7		99.3	100.0	81
	90	32.1	45.5	57.9	69.1	79.2	88.1	95.8	102.1	107.0	110.5	111.2	81
	100	32.2	45.7	58.3	69.9	80.6	90.2	98.7	106.1	112.3	121.7	122.4	81
	50	37.0	51.5	63.2	71.7	76.6					76.9	77.3	79
	60	37.5	52.7	65.6	76.2	84.2	89.5				90.5	90.9	80
	70	37.9	53.4	67.1	79.0	88.8	96.6	102.0			103.9	104.3	81
24	80	38.1	53.9	68.1	80.8	91.9	101.2	108.8	114.3		117.1	117.6	81
	90	38.3	54.2	68.9	82.2	94.1	104.6	113.5	120.9	126.4	130.3	130.8	81
	100	38.4	54.5	69.4	83.2	95.7	107.0	117.0	125.7	132.9	143.3	143.9	81

[a] Includes 1.0-foot stump allowance.

Table 19--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for loblolly pine (species 131) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.7	0.9	1.0	1.2	1.6	1.9											
6	1.3	2.1	2.4	2.6	3.0	3.4	3.8	4.1									
7	2.4	3.2	3.6	3.9	4.5	5.1	5.6	6.1	6.6	7.1							
8	3.4	4.3	4.8	5.3	6.1	6.9	7.6	8.2	8.9	9.5	10.2	10.8					
9	4.4	5.6	6.3	6.9	7.9	8.8	9.7	10.6	11.5	12.3	13.1	13.9	14.7	15.5			
10	5.5	6.9	7.8	8.6	9.9	11.1	12.2	13.3	14.3	15.4	16.4	17.4	18.4	19.4	20.3	21.3	
11			9.6	10.5	12.1	13.5	14.8	16.2	17.5	18.7	20.0	21.2	22.4	23.6	24.8	26.0	27.1
12			11.4	12.6	14.4	16.1	17.8	19.3	20.9	22.4	23.9	25.4	26.8	28.2	29.7	31.1	32.5
13			13.5	14.8	17.0	19.0	20.9	22.8	24.6	26.4	28.2	29.9	31.6	33.3	35.0	36.6	38.3
14					19.8	22.1	24.4	26.5	28.6	30.7	32.8	34.8	36.8	38.7	40.7	42.6	44.5
15					22.8	25.5	28.0	30.5	33.0	35.4	37.7	40.0	42.3	44.6	46.8	49.0	51.2
16					26.0	29.1	32.0	34.8	37.6	40.3	43.0	45.6	48.2	50.8	53.4	55.9	58.4

[a] Includes 0.5-foot stump allowance.

Table 20--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for loblolly pine (species 131) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.6	2.1	2.7	2.8	3.3	3.7											
6	2.1	2.7	3.3	3.7	4.3	4.9	5.5	6.1									
7	2.5	3.4	4.2	4.8	5.6	6.3	7.1	7.8	8.5	9.2							
8	3.5	4.3	5.2	6.1	7.0	8.0	8.9	9.8	10.7	11.5	12.4	13.2					
9	4.1	5.4	6.4	7.5	8.7	9.9	11.0	12.1	13.1	14.2	15.2	16.3	17.3	18.3			
10	5.0	6.7	7.9	9.2	10.6	12.0	13.3	14.6	15.9	17.2	18.4	19.7	20.9	22.1	23.3	24.5	
11			9.4	11.0	12.7	14.3	15.9	17.4	19.0	20.4	21.9	23.4	24.9	26.3	27.8	29.2	30.6
12			11.2	13.0	15.0	16.9	18.7	20.5	22.3	24.1	25.8	27.5	29.2	30.9	32.6	34.3	36.0
13			13.1	15.2	17.5	19.7	21.8	23.9	26.0	28.0	30.0	32.0	34.0	35.9	37.9	39.8	41.8
14					20.2	22.7	25.2	27.6	29.9	32.2	34.5	36.8	39.1	41.3	43.6	45.8	48.0
15					23.1	26.0	28.8	31.5	34.2	36.8	39.4	42.0	44.6	47.2	49.7	52.2	54.8
16					26.2	29.4	32.6	35.7	38.7	41.7	44.7	47.6	50.5	53.4	56.3	59.1	62.0

[a] Includes 0.5-foot stump allowance.

Table 21--Predicted stemwood volume to a saw-log merchantable top, and to 7-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for major southern pines combined (species 11) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40	5.1									5.6	7.5	65
	50	5.7	7.8								8.0	10.0	72
	60	6.0	8.4								10.0	12.4	76
10	70	6.2	8.8	11.0							11.9	14.6	78
	80	6.4	9.0	11.4	13.4						13.7	16.7	80
	90	6.5	9.2	11.7	13.9						15.4	18.7	81
	40	7.5	9.7								9.8	11.0	65
	50	8.3	11.3								13.4	14.7	72
	60	8.8	12.1	14.9							16.5	18.0	76
12	70	9.0	12.7	15.8	18.4						19.5	21.2	78
	80	9.2	13.1	16.5	19.4	21.7					22.4	24.3	80
	90	9.4	13.3	16.9	20.1	22.8	24.9				25.1	27.3	81
	100	9.5	13.5	17.3	20.6	23.6	26.0				27.8	30.3	82
	40	10.2	13.3								14.3	15.1	65
	50	11.4	15.4	18.3							19.2	20.1	72
	60	12.0	16.6	20.4	23.1						23.7	24.7	76
14	70	12.4	17.4	21.6	25.1	27.5					27.9	29.1	78
	80	12.6	17.9	22.5	26.4	29.6	31.8				31.9	33.3	80
	90	12.8	18.2	23.1	27.4	31.0	33.9				35.8	37.4	81
	100	13.0	18.5	23.6	28.1	32.1	35.5	38.2			39.7	41.5	82
	50	14.9	20.2	24.0							25.7	26.4	72
	60	15.7	21.8	26.7	30.2						31.6	32.5	76
	70	16.3	22.8	28.3	32.8	36.0					37.2	38.2	78
16	80	16.6	23.4	29.5	34.6	38.7	41.7				42.6	43.7	80
	90	16.8	23.9	30.3	35.9	40.6	44.4	47.1			47.8	49.1	81
	100	17.0	24.2	30.9	36.8	42.1	46.4	49.9	52.5		52.9	54.4	82
	110	17.1	24.5	31.3	37.6	43.1	48.0	52.1	55.3	57.7	58.0	59.6	82
	50	18.9	25.6	30.5							33.0	33.6	72
	60	20.0	27.6	33.8	38.3						40.5	41.2	76
	70	20.6	28.9	35.9	41.6	45.7					47.6	48.5	78
18	80	21.1	29.7	37.4	43.9	49.1	52.8				54.5	55.5	80
	90	21.4	30.3	38.4	45.5	51.5	56.3	59.7			61.2	62.3	81
	100	21.6	30.7	39.1	46.7	53.3	58.9	63.3	66.5		67.8	69.1	82
	110	21.7	31.1	39.7	47.6	54.7	60.8	66.0	70.1	73.1	74.2	75.7	82
	60	24.8	34.1	41.8	47.3						50.4	51.0	76
	70	25.6	35.7	44.4	51.4	56.5					59.2	60.0	78
	80	26.1	36.8	46.2	54.2	60.7	65.3				67.8	68.7	80
20	90	26.5	37.5	47.5	56.2	63.6	69.5	73.8			76.1	77.1	81
	100	26.7	38.0	48.4	57.7	65.9	72.7	78.2	82.1		84.3	85.4	82
	110	26.9	38.4	49.1	58.9	67.6	75.2	81.6	86.7	90.3	92.3	93.6	82
	60	30.0	41.4	50.7	57.4	61.0					61.3	61.9	76
	70	31.0	43.3	53.8	62.3	68.4	71.8				72.0	72.7	78
	80	31.6	44.6	56.0	65.7	73.5	79.0	82.2			82.4	83.2	80
22	90	32.1	45.4	57.5	68.1	77.1	84.2	89.4	92.3		92.5	93.5	81
	100	32.4	46.1	58.6	69.9	79.8	88.1	94.7	99.5	102.3	102.5	103.5	82
	110	32.7	46.6	59.5	71.3	81.9	91.1	98.8	104.9	109.4	112.2	113.4	82
	60	35.8	49.3	60.4	68.3	72.7					73.2	73.7	76
	70	37.0	51.6	64.1	74.2	81.5	85.5				86.0	86.7	78
	80	37.7	53.1	66.7	78.3	87.5	94.1	97.9			98.4	99.2	80
24	90	38.3	54.2	68.5	81.2	91.8	100.3	106.4	110.0		110.5	111.4	81
	100	38.6	54.9	69.9	83.3	95.0	104.9	112.8	118.4	121.8	122.4	123.3	82
	110	38.9	55.5	70.9	84.9	97.5	108.4	117.6	125.0	130.2	134.1	135.1	82

[a] Includes 1.0-foot stump allowance.

Table 22--Predicted stemwood volume to a saw-log merchantable top, and to 7-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for major southern pines combined (species 11) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	5.4									6.2	7.6	69
	40	5.9	8.1								8.7	10.5	75
	50	6.2	8.7	10.7							10.8	13.2	78
10	60	6.3	9.0	11.2							12.9	15.8	80
	70	6.4	9.2	11.6	13.7						14.8	18.3	81
	80	6.5	9.3	11.8	14.0	16.0					16.7	20.8	81
	90	6.5	9.4	12.0	14.3	16.5	18.3				18.6	23.3	82
	30	7.8									10.0	10.8	69
	40	8.6	11.7								13.8	14.9	75
	50	9.0	12.5	15.3							17.2	18.7	78
12	60	9.2	13.0	16.1	18.7						20.5	22.3	80
	70	9.3	13.2	16.6	19.6	22.0					23.6	25.8	81
	80	9.4	13.4	17.0	20.2	22.9	25.3				26.7	29.2	81
	90	9.5	13.5	17.2	20.6	23.6	26.2	28.4			29.8	32.6	82
	40	11.8	16.0	18.9							19.4	20.1	75
	50	12.3	17.1	20.8	23.5						24.1	25.1	78
	60	12.6	17.7	22.0	25.4	28.0					28.7	29.9	80
14	70	12.8	18.1	22.7	26.6	29.8	32.3				33.1	34.6	81
	80	12.9	18.3	23.2	27.4	31.1	34.2	36.6			37.5	39.1	81
	90	13.0	18.5	23.5	28.0	32.0	35.5	38.4	40.8		41.8	43.7	82
	100	13.0	18.6	23.8	28.5	32.7	36.5	39.8	42.6	45.0	46.0	48.2	82
	40	15.4	20.9	24.6							25.6	26.1	75
	50	16.1	22.4	27.2	30.6						31.9	32.5	78
	60	16.5	23.1	28.7	33.2	36.4					37.8	38.7	80
16	70	16.8	23.6	29.7	34.7	38.9	42.0				43.7	44.7	81
	80	16.9	24.0	30.3	35.8	40.6	44.5	47.5			49.4	50.6	81
	90	17.0	24.2	30.7	36.6	41.8	46.3	50.0	53.0		55.1	56.4	82
	100	17.1	24.4	31.1	37.2	42.7	47.6	51.8	55.4	58.3	60.7	62.2	82
	40	19.6	26.5	31.1							32.5	32.9	75
	50	20.5	28.3	34.5	38.7						40.5	41.0	78
	60	21.0	29.4	36.4	41.9	46.0					48.1	48.7	80
18	70	21.3	30.0	37.6	44.0	49.1	53.0				55.5	56.2	81
	80	21.5	30.4	38.4	45.3	51.3	56.2	59.9	62.5		62.7	63.6	81
	90	21.6	30.7	39.0	46.3	52.9	58.4	63.1	66.8	69.4	69.9	70.9	82
	100	21.7	30.9	39.4	47.1	54.0	60.2	65.5	69.9	73.5	77.0	78.2	82
	50	25.3	35.1	42.6	47.8						50.0	50.4	78
	60	26.0	36.3	44.9	51.7	56.7					59.4	59.9	80
	70	26.3	37.1	46.4	54.3	60.6	65.3	68.3			68.5	69.1	81
20	80	26.6	37.6	47.4	56.0	63.3	69.2	73.8	76.9		77.5	78.2	81
	90	26.8	38.0	48.2	57.2	65.2	72.1	77.8	82.2	85.3	86.3	87.1	82
	100	26.9	38.3	48.7	58.2	66.7	74.2	80.7	86.2	90.5	95.1	96.0	82
	50	30.7	42.5	51.5	57.7						60.6	60.9	78
	60	31.5	44.0	54.4	62.6	68.5	71.8				71.9	72.3	80
	70	31.9	44.9	56.2	65.7	73.3	78.9	82.4			82.9	83.4	81
22	80	32.2	45.6	57.4	67.8	76.6	83.7	89.1	92.8		93.7	94.2	81
	90	32.5	46.0	58.3	69.3	78.9	87.2	94.0	99.3	103.0	104.4	105.0	82
	100	32.6	46.4	59.0	70.4	80.7	89.8	97.6	104.1	109.3	115.0	115.7	82
	50	36.7	50.6	61.4	68.7						72.1	72.3	78
	60	37.5	52.4	64.8	74.5	81.4	85.3				85.5	85.8	80
	70	38.1	53.6	66.9	78.2	87.2	93.8	97.9			98.6	99.0	81
24	80	38.5	54.3	68.4	80.7	91.1	99.5	106.0	110.2		111.4	111.9	81
	90	38.7	54.9	69.5	82.5	93.9	103.7	111.7	118.0	122.3	124.1	124.6	82
	100	38.9	55.3	70.3	83.9	96.1	106.8	116.0	123.8	129.9	136.7	137.3	82

[a] Includes 1.0-foot stump allowance.

Table 23--Predicted stemwood volume to a saw-log merchantable top, and to 7-inch and 4-inch d.o.b. tops based on d.b.h., height to a 7-inch d.o.b. top and height to a saw-log top for major southern pines combined (species 11) in the Piedmont.[a]

D.b.h. class	Height to 7-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	5.0									5.7	8.7	66
	30	5.9	8.2								9.4	11.9	75
	40	6.2	8.8	11.1							12.8	15.5	79
10	50	6.4	9.1	11.6	13.8	15.8					16.0	19.1	80
	60	6.5	9.3	11.9	14.3	16.5	18.5				19.2	22.7	81
	70	6.5	9.4	12.0	14.6	17.0	19.2	21.2			22.4	26.3	81
	20	7.3									8.2	9.8	66
	30	8.6	11.7								13.1	14.6	75
	40	9.0	12.6	15.6							17.5	19.1	79
12	50	9.2	13.1	16.4	19.3	21.5					21.8	23.6	80
	60	9.4	13.3	16.9	20.1	22.9	25.2				25.9	28.0	81
	70	9.5	13.5	17.2	20.6	23.7	26.5	28.8			30.0	32.3	81
	80	9.5	13.6	17.4	21.0	24.3	27.3	30.0	32.4		34.1	36.6	82
	40	12.3	17.1	20.9							23.1	24.2	79
	50	12.6	17.8	22.2	25.7	28.3					28.6	29.8	80
	60	12.8	18.1	22.9	27.0	30.4	33.1				33.9	35.2	81
14	70	12.9	18.4	23.3	27.8	31.7	35.1	37.8			39.1	40.6	81
	80	13.0	18.5	23.6	28.3	32.6	36.4	39.7	42.5		44.3	46.0	82
	90	13.0	18.6	23.8	28.7	33.2	37.3	41.0	44.3	47.0	49.5	51.3	82
	100	13.1	18.7	24.0	29.0	33.7	38.0	42.0	45.6	48.8	54.7	56.6	82
	40	16.2	22.4	27.1							29.6	30.4	79
	50	16.5	23.2	28.8	33.2	36.2					36.4	37.3	80
	60	16.8	23.7	29.8	35.0	39.2	42.3				43.1	44.0	81
16	70	16.9	24.0	30.4	36.1	41.0	45.1	48.2			49.6	50.7	81
	80	17.0	24.2	30.8	36.8	42.2	46.9	50.9	54.1		56.1	57.3	82
	90	17.1	24.3	31.1	37.3	43.0	48.2	52.7	56.7	59.9	62.6	63.9	82
	100	17.1	24.4	31.3	37.7	43.7	49.2	54.1	58.6	62.5	69.1	70.5	82
	40	20.5	28.3	34.0							37.0	37.5	79
	50	21.0	29.4	36.3	41.7	45.1					45.3	46.0	80
	60	21.3	30.0	37.6	44.0	49.1	52.7				53.5	54.2	81
18	70	21.5	30.4	38.4	45.5	51.5	56.4	60.0			61.6	62.4	81
	80	21.6	30.7	39.0	46.4	53.1	58.8	63.6	67.3		69.6	70.4	82
	90	21.7	30.8	39.3	47.1	54.2	60.5	66.1	70.8	74.6	77.5	78.4	82
	100	21.7	31.0	39.6	47.7	55.1	61.8	67.9	73.3	77.9	85.4	86.4	82
	50	26.0	36.3	44.8	51.1	55.0					55.3	55.8	80
	60	26.3	37.1	46.4	54.1	60.2	64.3				65.2	65.7	81
	70	26.6	37.6	47.4	56.0	63.2	69.0	73.3			74.9	75.5	81
20	80	26.7	37.9	48.1	57.2	65.3	72.2	77.8	82.1		84.5	85.2	82
	90	26.8	38.1	48.6	58.1	66.7	74.4	81.0	86.5	90.9	94.1	94.8	82
	100	26.9	38.3	48.9	58.8	67.8	76.0	83.3	89.8	95.2	103.7	104.4	82
	50	31.5	44.0	54.1	61.6	66.1					66.3	66.7	80
	60	31.9	44.9	56.1	65.3	72.4	77.1				78.1	78.5	81
	70	32.2	45.5	57.3	67.6	76.2	83.0	87.9			89.7	90.1	81
22	80	32.4	45.9	58.2	69.1	78.7	86.9	93.5	98.5		101.1	101.7	82
	90	32.5	46.2	58.8	70.2	80.5	89.7	97.5	104.0	109.0	112.5	113.1	82
	100	32.6	46.4	59.2	71.1	81.9	91.7	100.4	108.0	114.4	123.9	124.5	82
	50	37.6	52.4	64.3	73.1	78.2					78.4	78.7	80
	60	38.1	53.5	66.7	77.6	85.9	91.2				92.2	92.6	81
	70	38.4	54.2	68.2	80.3	90.4	98.4	103.9			105.8	106.2	81
24	80	38.6	54.7	69.2	82.2	93.5	103.1	110.8	116.4		119.3	119.7	82
	90	38.8	55.0	70.0	83.5	95.7	106.4	115.6	123.1	128.8	132.7	133.1	82
	100	38.9	55.3	70.5	84.5	97.3	108.9	119.1	128.0	135.3	146.0	146.5	82

[a] Includes 1.0-foot stump allowance.

Table 24--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for major southern pines combined (species 11) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.7	0.9	1.0	1.1	1.7	1.9											
6	1.4	2.1	2.4	2.6	3.2	3.6	3.9	4.3									
7	2.5	3.2	3.6	3.9	4.7	5.3	5.8	6.3	6.8	7.3							
8	3.5	4.4	4.9	5.4	6.4	7.1	7.8	8.5	9.2	9.9	10.5	11.2					
9	4.5	5.7	6.4	7.0	8.3	9.2	10.1	11.0	11.9	12.8	13.6	14.4	15.3	16.1			
10	5.6	7.1	8.0	8.8	10.3	11.5	12.6	13.8	14.9	15.9	17.0	18.0	19.0	20.0	21.1	22.1	
11			9.8	10.7	12.6	14.0	15.4	16.8	18.1	19.4	20.7	21.9	23.2	24.4	25.7	26.9	28.1
12			11.7	12.8	15.1	16.8	18.5	20.1	21.7	23.2	24.7	26.3	27.7	29.2	30.7	32.1	33.6
13			13.8	15.1	17.8	19.8	21.7	23.7	25.5	27.3	29.2	30.9	32.7	34.4	36.2	37.9	39.6
14					20.7	23.0	25.3	27.5	29.7	31.8	33.9	36.0	38.0	40.1	42.1	44.1	46.0
15					23.8	26.5	29.1	31.7	34.2	36.6	39.0	41.4	43.8	46.1	48.4	50.7	53.0
16					27.2	30.2	33.2	36.1	39.0	41.7	44.5	47.2	49.9	52.5	55.2	57.8	60.4

[a] Includes 0.5-foot stump allowance.

Table 25--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for major southern pines combined (species 11) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.5	2.0	2.6	2.7	3.2	3.7											
6	2.0	2.6	3.3	3.7	4.3	4.9	5.5	6.1									
7	2.5	3.4	4.2	4.8	5.6	6.4	7.1	7.8	8.5	9.2							
8	3.5	4.3	5.2	6.2	7.1	8.1	9.0	9.9	10.8	11.6	12.5	13.3					
9	4.1	5.5	6.4	7.7	8.9	10.0	11.1	12.2	13.3	14.3	15.4	16.4	17.5	18.5			
10	5.1	6.7	7.9	9.4	10.8	12.2	13.5	14.8	16.1	17.4	18.6	19.9	21.1	22.4	23.6	24.8	
11			9.5	11.3	13.0	14.6	16.2	17.7	19.2	20.8	22.2	23.7	25.2	26.7	28.1	29.6	31.0
12			11.2	13.3	15.3	17.2	19.1	20.9	22.7	24.4	26.2	27.9	29.6	31.4	33.1	34.8	36.5
13			13.2	15.6	17.9	20.1	22.2	24.4	26.4	28.5	30.5	32.5	34.5	36.5	38.5	40.4	42.4
14					20.7	23.2	25.7	28.1	30.5	32.8	35.1	37.4	39.7	42.0	44.3	46.5	48.8
15					23.6	26.5	29.4	32.1	34.8	37.5	40.1	42.8	45.4	47.9	50.5	53.1	55.6
16					26.8	30.1	33.3	36.4	39.5	42.5	45.5	48.4	51.4	54.3	57.2	60.1	63.0

[a] Includes 0.5-foot stump allowance.

Table 26--Predicted stemwood volume to a saw-log merchantable top, and to 7-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for Virginia pine (species 132) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40	6.1									7.8	9.3	74
	50	6.4	8.9								9.5	11.4	78
	60	6.6	9.3								11.1	13.4	80
10	70	6.7	9.5	11.8							12.7	15.4	81
	80	6.8	9.6	12.1							14.1	17.3	82
	90	6.9	9.7	12.3	14.6						15.5	19.2	83
	40	8.9	11.9								12.6	13.5	74
	50	9.4	12.9	15.4							15.5	16.7	78
	60	9.6	13.4	16.5							18.1	19.6	80
12	70	9.8	13.7	17.1	19.8						20.7	22.5	81
	80	9.9	13.9	17.6	20.6	23.0					23.2	25.3	82
	90	10.0	14.1	17.9	21.2	23.9					25.6	28.0	83
	100	10.0	14.2	18.1	21.5	24.6	27.1				28.0	30.7	83
	40	12.2	16.3								17.9	18.6	74
	50	12.8	17.6	21.1							22.0	22.9	78
	60	13.2	18.3	22.5	25.5						25.8	27.0	80
14	70	13.4	18.8	23.4	27.1						29.5	30.9	81
	80	13.6	19.1	24.0	28.1	31.4					33.1	34.7	82
	90	13.7	19.3	24.4	28.9	32.6	35.5				36.6	38.5	83
	100	13.7	19.4	24.7	29.4	33.5	36.9	39.5			40.0	42.2	83
	50	16.8	23.1	27.6							29.3	30.1	78
	60	17.3	24.0	29.5	33.3						34.4	35.4	80
	70	17.6	24.6	30.7	35.5	38.7					39.3	40.6	81
16	80	17.8	25.0	31.4	36.8	41.1	43.9				44.1	45.6	82
	90	17.9	25.3	31.9	37.8	42.7	46.5				48.9	50.5	83
	100	18.0	25.5	32.3	38.5	43.9	48.3	51.7			53.5	55.4	83
	110	18.1	25.6	32.6	39.1	44.8	49.7	53.8	56.8		58.2	60.3	83
	50	21.4	29.3	35.0							37.5	38.2	78
	60	22.0	30.5	37.4	42.3						44.1	45.0	80
	70	22.4	31.2	38.9	45.0	49.1					50.4	51.5	81
18	80	22.6	31.7	39.8	46.7	52.1	55.7				56.6	57.9	82
	90	22.8	32.1	40.5	47.9	54.1	58.9	62.1			62.7	64.2	83
	100	22.9	32.3	41.0	48.8	55.6	61.2	65.5	68.4		68.7	70.4	83
	110	23.0	32.5	41.4	49.5	56.8	63.0	68.1	72.0	74.6	74.7	76.6	83
	60	27.2	37.7	46.3	52.3						54.9	55.7	80
	70	27.7	38.7	48.1	55.6	60.7					62.8	63.8	81
	80	28.0	39.3	49.3	57.8	64.4	68.8				70.5	71.7	82
20	90	28.2	39.7	50.1	59.3	66.9	72.8	76.7			78.1	79.5	83
	100	28.4	40.0	50.7	60.4	68.8	75.7	81.0	84.5		85.6	87.2	83
	110	28.5	40.2	51.2	61.2	70.2	77.9	84.2	89.0	92.2	93.0	94.8	83
	60	33.0	45.7	56.1	63.3						66.8	67.6	80
	70	33.6	46.9	58.3	67.4	73.6					76.4	77.4	81
	80	34.0	47.6	59.7	70.0	78.0	83.4				85.8	86.9	82
22	90	34.2	48.1	60.7	71.8	81.1	88.2	93.0			95.1	96.3	83
	100	34.4	48.5	61.5	73.2	83.3	91.7	98.1	102.4		104.2	105.7	83
	110	34.5	48.8	62.0	74.2	85.0	94.3	102.0	107.8	111.7	113.3	114.9	83
	60	39.4	54.5	66.8	75.5	79.7					79.8	80.5	80
	70	40.1	55.8	69.4	80.2	87.6	91.3				91.4	92.2	81
	80	40.5	56.7	71.2	83.4	92.9	99.3	102.6			102.6	103.6	82
24	90	40.8	57.3	72.4	85.6	96.6	105.1	110.7			113.7	114.8	83
	100	41.0	57.8	73.3	87.2	99.2	109.2	116.9	121.9		124.6	125.9	83
	110	41.2	58.1	73.9	88.4	101.2	112.3	121.5	128.4	133.0	135.5	136.9	83

[a] Includes 1.0-foot stump allowance.

Table 27--Predicted stemwood volume to a saw-log merchantable top, and to 7-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for Virginia pine (species 132) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	6.1									7.5	8.8	75
	40	6.5	9.0								9.6	11.7	79
	50	6.7	9.3	11.5							11.6	14.4	81
10	60	6.8	9.5	11.9							13.5	17.0	82
	70	6.9	9.7	12.2	14.4						15.3	19.6	82
	80	6.9	9.8	12.4	14.8	16.9					17.2	22.2	83
	90	6.9	9.8	12.5	15.0	17.2					18.9	24.7	83
	30	8.9	11.7								11.8	12.6	75
	40	9.5	13.0								15.4	16.6	79
	50	9.7	13.5	16.6							18.7	20.3	81
12	60	9.9	13.8	17.2	20.0						21.8	24.0	82
	70	10.0	14.0	17.6	20.7	23.4					25.0	27.5	82
	80	10.0	14.1	17.9	21.2	24.1	26.6				28.1	31.1	83
	90	10.1	14.2	18.1	21.6	24.7	27.5	29.9			31.1	34.6	83
	40	13.0	17.7	20.9							21.6	22.4	79
	50	13.3	18.5	22.6	25.5						26.2	27.4	81
	60	13.5	18.9	23.5	27.2	30.0					30.8	32.2	82
14	70	13.7	19.2	24.0	28.2	31.7	34.4				35.2	36.9	82
	80	13.7	19.3	24.4	28.9	32.8	36.1	38.7			39.6	41.6	83
	90	13.8	19.5	24.7	29.4	33.6	37.3	40.4	43.0		44.0	46.2	83
	100	13.8	19.6	24.9	29.7	34.2	38.2	41.7	44.7	47.2	48.3	50.9	83
	40	17.0	23.2	27.3							28.5	29.1	79
	50	17.5	24.2	29.5	33.3						34.7	35.5	81
	60	17.8	24.8	30.7	35.5	39.0					40.7	41.7	82
16	70	17.9	25.1	31.4	36.8	41.2	44.7				46.5	47.7	82
	80	18.0	25.3	31.9	37.7	42.7	46.9	50.3			52.3	53.8	83
	90	18.1	25.5	32.3	38.4	43.8	48.5	52.5	55.8		58.1	59.7	83
	100	18.2	25.6	32.5	38.9	44.6	49.7	54.3	58.1	61.3	63.8	65.7	83
	40	21.6	29.4	34.6							36.2	36.7	79
	50	22.3	30.7	37.3	42.1						44.1	44.7	81
	60	22.6	31.4	38.9	44.8	49.3					51.7	52.4	82
18	70	22.8	31.9	39.8	46.6	52.1	56.4				59.1	60.0	82
	80	22.9	32.2	40.4	47.8	54.0	59.3	63.4	66.2		66.5	67.5	83
	90	23.0	32.4	40.9	48.6	55.4	61.3	66.3	70.3	73.2	73.8	75.0	83
	100	23.1	32.5	41.3	49.2	56.5	62.9	68.5	73.3	77.2	81.1	82.4	83
	50	27.6	38.0	46.1	51.9						54.5	55.0	81
	60	28.0	38.9	48.0	55.4	60.7					63.9	64.5	82
	70	28.2	39.4	49.2	57.5	64.3	69.4	72.8			73.1	73.8	82
20	80	28.4	39.8	50.0	59.0	66.7	73.1	78.0	81.5		82.2	83.0	83
	90	28.5	40.1	50.6	60.0	68.4	75.7	81.7	86.6	90.1	91.2	92.1	83
	100	28.6	40.3	51.0	60.8	69.7	77.6	84.5	90.3	95.0	100.1	101.2	83
	50	33.4	46.0	55.8	62.7						66.0	66.4	81
	60	33.9	47.1	58.2	67.0	73.4	77.2				77.3	77.8	82
	70	34.3	47.8	59.6	69.6	77.8	83.9	87.8			88.4	89.0	82
22	80	34.5	48.2	60.6	71.4	80.7	88.3	94.3	98.3		99.4	100.0	83
	90	34.6	48.6	61.3	72.7	82.8	91.5	98.8	104.5	108.7	110.3	111.0	83
	100	34.7	48.8	61.8	73.6	84.3	93.9	102.1	109.1	114.8	121.1	121.9	83
	50	39.9	54.8	66.5	74.6						78.6	78.8	81
	60	40.5	56.1	69.3	79.7	87.3	91.7				92.0	92.4	82
	70	40.9	57.0	71.0	82.9	92.5	99.8	104.4			105.2	105.6	82
24	80	41.1	57.5	72.2	85.0	96.0	105.1	112.1	116.8		118.2	118.7	83
	90	41.3	57.9	73.0	86.6	98.5	108.8	117.5	124.2	129.0	131.1	131.7	83
	100	41.4	58.2	73.6	87.7	100.4	111.7	121.5	129.7	136.3	144.0	144.6	83

[a] Includes 1.0-foot stump allowance.

Table 28--Predicted stemwood volume to a saw-log merchantable top, and to 7-inch and 4-inch d.o.b. tops based on d.b.h., height to a 7-inch d.o.b. top and height to a saw-log top for Virginia pine (species 132) in the Piedmont.[a]

D.b.h. class	Height to 7-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	7-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	5.8									6.6	9.1	73
	30	6.5	9.0								10.4	12.9	79
	40	6.7	9.5	12.0							13.9	16.9	81
10	50	6.8	9.7	12.4	14.8	17.0					17.3	20.9	82
	60	6.9	9.8	12.6	15.2	17.6	19.8				20.6	24.9	83
	70	6.9	9.9	12.7	15.4	18.0	20.4	22.6			23.9	28.9	83
	20	8.5									9.5	10.7	73
	30	9.4	12.9								14.5	15.7	79
	40	9.8	13.6	16.9							19.0	20.4	81
12	50	9.9	14.0	17.6	20.7	23.2					23.4	25.1	82
	60	10.0	14.2	18.0	21.4	24.4	27.0				27.8	29.8	83
	70	10.1	14.3	18.2	21.8	25.2	28.1	30.7			32.1	34.4	83
	80	10.1	14.4	18.4	22.1	25.6	28.9	31.8	34.4		36.4	39.0	83
	40	13.4	18.6	22.7							25.1	25.9	81
	50	13.6	19.0	23.7	27.6	30.5					30.8	31.7	82
	60	13.7	19.3	24.3	28.8	32.5	35.4				36.3	37.4	83
14	70	13.8	19.5	24.7	29.4	33.7	37.3	40.3			41.8	43.0	83
	80	13.8	19.6	25.0	29.9	34.4	38.5	42.1	45.1		47.2	48.7	83
	90	13.9	19.7	25.1	30.2	35.0	39.4	43.3	46.9	49.9	52.7	54.3	83
	100	13.9	19.7	25.3	30.5	35.4	40.0	44.2	48.1	51.6	58.1	59.9	84
	40	17.6	24.3	29.3							32.2	32.7	81
	50	17.9	24.9	30.9	35.6	38.9					39.2	39.8	82
	60	18.0	25.3	31.7	37.3	41.8	45.2				46.1	46.8	83
16	70	18.1	25.5	32.2	38.2	43.5	47.9	51.4			53.0	53.7	83
	80	18.2	25.7	32.6	38.9	44.6	49.6	54.0	57.5		59.8	60.7	83
	90	18.2	25.8	32.8	39.4	45.4	50.9	55.8	60.0	63.6	66.6	67.5	83
	100	18.3	25.9	33.0	39.7	46.0	51.8	57.1	61.8	66.0	73.3	74.4	84
	40	22.3	30.7	36.9							40.2	40.5	81
	50	22.7	31.6	39.0	44.7	48.5					48.8	49.2	82
	60	22.9	32.1	40.1	46.9	52.4	56.3				57.3	57.7	83
18	70	23.0	32.4	40.8	48.2	54.6	59.9	64.0			65.7	66.2	83
	80	23.1	32.6	41.2	49.1	56.1	62.3	67.5	71.5		74.0	74.6	83
	90	23.2	32.7	41.6	49.7	57.2	63.9	69.8	74.9	79.1	82.3	83.0	83
	100	23.2	32.8	41.8	50.2	58.0	65.1	71.6	77.4	82.4	90.6	91.3	84
	50	28.1	39.0	48.1	54.9	59.3					59.6	59.8	82
	60	28.4	39.6	49.5	57.7	64.2	68.7				69.8	70.1	83
	70	28.5	40.0	50.3	59.4	67.1	73.4	78.0			79.9	80.2	83
20	80	28.6	40.3	50.9	60.5	69.0	76.4	82.5	87.2		89.9	90.3	83
	90	28.7	40.4	51.3	61.3	70.4	78.5	85.6	91.6	96.4	99.9	100.4	83
	100	28.8	40.6	51.7	61.9	71.4	80.1	87.9	94.7	100.6	109.9	110.4	84
	50	34.1	47.3	58.1	66.2	71.1					71.4	71.6	82
	60	34.4	48.0	59.8	69.6	77.3	82.5				83.6	83.8	83
	70	34.6	48.5	60.9	71.7	80.9	88.3	93.6			95.6	95.8	83
22	80	34.7	48.8	61.6	73.2	83.3	92.0	99.2	104.6		107.5	107.8	83
	90	34.8	49.0	62.1	74.2	85.0	94.7	103.0	110.0	115.5	119.4	119.7	83
	100	34.9	49.2	62.5	74.9	86.3	96.6	105.9	114.0	120.8	131.3	131.6	84
	50	40.7	56.3	69.1	78.6	84.1					84.5	84.6	82
	60	41.0	57.2	71.2	82.7	91.7	97.5				98.7	98.9	83
	70	41.3	57.8	72.5	85.3	96.0	104.6	110.6			112.8	113.0	83
24	80	41.4	58.2	73.4	87.0	99.0	109.2	117.5	123.6		126.8	127.0	83
	90	41.5	58.4	74.0	88.2	101.0	112.4	122.1	130.2	136.5	140.8	141.0	83
	100	41.6	58.6	74.5	89.1	102.6	114.7	125.6	135.0	143.0	154.7	154.9	84

[a] Includes 1.0-foot stump allowance.

Table 29--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for Virginia pine (species 132) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.7	0.9	1.0	1.1	2.1	2.3											
6	1.3	2.2	2.4	2.6	3.7	4.0	4.3	4.6									
7	2.6	3.3	3.7	4.0	5.4	5.9	6.3	6.8	7.2	7.6							
8	3.6	4.5	5.1	5.5	7.3	7.9	8.5	9.1	9.7	10.3	10.9	11.5					
9	4.7	5.9	6.6	7.2	9.4	10.2	11.0	11.8	12.5	13.3	14.1	14.8	15.6	16.3			
10	5.9	7.4	8.2	9.0	11.7	12.7	13.7	14.7	15.7	16.6	17.6	18.5	19.5	20.4	21.3	22.2	
11			10.1	11.0	14.3	15.5	16.8	18.0	19.1	20.3	21.5	22.6	23.8	24.9	26.0	27.1	28.3
12			12.1	13.2	17.1	18.6	20.1	21.5	22.9	24.3	25.7	27.1	28.5	29.8	31.2	32.5	33.9
13			14.2	15.6	20.2	21.9	23.7	25.4	27.0	28.7	30.3	31.9	33.6	35.2	36.8	38.3	39.9
14					23.5	25.5	27.5	29.5	31.5	33.4	35.3	37.2	39.1	40.9	42.8	44.6	46.5
15					27.0	29.4	31.7	34.0	36.2	38.4	40.6	42.8	45.0	47.1	49.3	51.4	53.5
16					30.8	33.5	36.2	38.8	41.3	43.9	46.4	48.8	51.3	53.8	56.2	58.6	61.0

[a] Includes 0.5-foot stump allowance.

Table 30--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for Virginia pine (species 132) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.7	2.2	2.7	3.0	3.5	4.0											
6	2.2	2.8	3.4	4.1	4.7	5.3	5.9	6.5									
7	2.7	3.6	4.4	5.4	6.2	7.0	7.7	8.4	9.2	9.9							
8	3.7	4.6	5.4	6.9	7.9	8.8	9.8	10.7	11.6	12.5	13.3	14.2					
9	4.4	5.8	6.8	8.7	9.8	11.0	12.1	13.2	14.3	15.4	16.4	17.5	18.6	19.6			
10	5.4	7.1	8.3	10.6	12.0	13.4	14.7	16.0	17.3	18.6	19.9	21.2	22.5	23.7	25.0	26.3	
11			10.0	12.7	14.4	16.0	17.6	19.1	20.7	22.2	23.7	25.3	26.8	28.3	29.8	31.3	32.8
12			11.9	15.1	17.0	18.9	20.8	22.6	24.4	26.2	28.0	29.7	31.5	33.3	35.0	36.8	38.5
13			13.9	17.6	19.9	22.1	24.2	26.3	28.4	30.5	32.5	34.6	36.6	38.7	40.7	42.7	44.7
14					23.0	25.5	27.9	30.4	32.8	35.1	37.5	39.8	42.2	44.5	46.8	49.1	51.5
15					26.3	29.1	31.9	34.7	37.4	40.1	42.8	45.5	48.1	50.8	53.4	56.1	58.7
16					29.8	33.1	36.2	39.3	42.4	45.5	48.5	51.5	54.5	57.5	60.5	63.5	66.4

[a] Includes 0.5-foot stump allowance.

Table 31--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for all soft hardwoods combined (species 300) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40										4.5	9.1	56
	50										6.5	12.5	66
	60	8.9									10.5	15.6	71
12	70	9.3	12.6								12.9	18.4	75
	80	9.6	13.1								14.9	21.1	77
	90	9.8	13.5	16.6							16.8	23.6	78
	100	10.0	13.7	17.1							18.6	26.1	79
	40										7.7	12.6	56
	50	11.2									14.0	17.2	66
	60	12.1	16.1								17.9	21.4	71
14	70	12.7	17.1	20.7							21.4	25.3	75
	80	13.1	17.8	21.8							24.5	28.9	77
	90	13.4	18.3	22.7	26.2						27.5	32.4	78
	100	13.6	18.7	23.3	27.2						30.3	35.8	79
	50	14.6	18.9								20.2	22.6	66
	60	15.9	21.0	24.8							25.4	28.1	71
	70	16.6	22.4	27.0							30.0	33.2	75
16	80	17.2	23.3	28.5	32.6						34.3	38.0	77
	90	17.5	24.0	29.6	34.3	37.8					38.4	42.6	78
	100	17.8	24.5	30.4	35.5	39.6					42.3	47.0	79
	110	18.0	24.8	31.0	36.4	41.0	44.7				46.2	51.4	80
	50	18.5	23.9								26.7	28.7	66
	60	20.1	26.6	31.5							33.3	35.7	71
	70	21.1	28.4	34.2	38.4						39.3	42.1	75
18	80	21.7	29.5	36.1	41.3	44.9					44.9	48.2	77
	90	22.2	30.4	37.5	43.4	47.9					50.3	54.1	78
	100	22.5	31.0	38.5	44.9	50.2	54.2				55.5	59.7	79
	110	22.7	31.4	39.3	46.1	52.0	56.7	60.2			60.6	65.3	80
	50	22.9	29.5	33.7							33.7	35.5	66
	60	24.8	32.9	38.9							42.0	44.2	71
	70	26.0	35.0	42.3	47.5						49.6	52.1	75
20	80	26.8	36.5	44.6	51.0	55.4					56.7	59.7	77
	90	27.4	37.5	46.3	53.6	59.2	63.0				63.5	66.9	78
	100	27.8	38.3	47.5	55.5	62.0	66.9				70.1	73.9	79
	110	28.1	38.8	48.5	57.0	64.2	70.0	74.3			76.5	80.7	80
	60	30.1	39.8	47.1	51.4						51.6	53.5	71
	70	31.5	42.4	51.2	57.5						60.8	63.2	75
	80	32.5	44.2	54.0	61.7	67.1					69.6	72.3	77
22	90	33.2	45.4	56.1	64.9	71.6	76.3				78.0	81.0	78
	100	33.7	46.3	57.6	67.2	75.0	81.0	85.1			86.1	89.5	79
	110	34.0	47.0	58.7	69.0	77.7	84.7	89.9	93.6		94.0	97.8	80
	60	35.8	47.4	56.0	61.2						62.0	63.8	71
	70	37.6	50.5	60.9	68.4	72.8					73.1	75.3	75
	80	38.7	52.6	64.3	73.5	79.9					83.6	86.1	77
24	90	39.5	54.1	66.7	77.2	85.3	90.8				93.7	96.5	78
	100	40.1	55.2	68.5	80.0	89.3	96.4	101.3			103.5	106.7	79
	110	40.5	56.0	69.9	82.1	92.5	100.8	107.0	111.4		113.0	116.6	80
	60	42.0	55.6	65.8	71.8						73.2	74.9	71
	70	44.1	59.3	71.5	80.3	85.5					86.4	88.4	75
	80	45.5	61.8	75.5	86.3	93.8	98.3				98.9	101.2	77
26	90	46.4	63.5	78.3	90.6	100.1	106.6	110.6			110.8	113.4	78
	100	47.1	64.8	80.4	93.9	104.9	113.1	118.9			122.3	125.3	79
	110	47.6	65.7	82.1	96.4	108.5	118.3	125.7	130.8		133.6	136.9	80

[a] Includes 1.0-foot stump allowance.

Table 32--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for all soft hardwoods combined (species 300) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	8.5									9.0	11.5	71
	40	9.2									11.1	14.9	75
	50	9.5	12.8								12.9	18.1	77
12	60	9.7	13.2								14.6	21.1	78
	70	9.8	13.5								16.2	24.1	78
	80	9.9	13.6	16.9							17.7	27.0	79
	90	10.0	13.7	17.1							19.2	29.9	79
	40	12.5	16.5								17.4	20.0	75
	50	12.9	17.4								20.6	24.2	77
	60	13.2	18.0	21.8							23.7	28.2	78
14	70	13.4	18.3	22.5	25.9						26.6	32.2	78
	80	13.5	18.5	22.9	26.6						29.5	36.0	79
	90	13.6	18.7	23.2	27.2	30.6					32.3	39.8	79
	100	13.7	18.8	23.5	27.6	31.3	34.5				35.1	43.6	79
	40	16.3	21.6								23.9	25.9	75
	50	16.9	22.8	27.1							28.6	31.3	77
	60	17.3	23.5	28.4	32.2						33.0	36.4	78
16	70	17.5	23.9	29.3	33.7	37.1					37.3	41.5	78
	80	17.7	24.2	29.9	34.7	38.7					41.5	46.4	79
	90	17.8	24.4	30.3	35.5	39.9	43.5				45.7	51.3	79
	100	17.9	24.6	30.7	36.0	40.8	44.9	48.3			49.8	56.1	79
	40	20.6	27.3								31.1	32.6	75
	50	21.4	28.8	34.2							37.3	39.3	77
	60	21.9	29.7	35.9	40.6						43.1	45.8	78
18	70	22.2	30.3	37.1	42.5	46.7					48.8	52.0	78
	80	22.4	30.7	37.8	43.9	48.8	52.7				54.4	58.2	79
	90	22.6	31.0	38.4	44.8	50.3	54.9	58.6			59.9	64.2	79
	100	22.7	31.2	38.8	45.6	51.5	56.6	60.9	64.3		65.4	70.3	79
	40	25.5	33.7	38.5							38.9	40.1	75
	50	26.5	35.6	42.2	46.4						46.6	48.3	77
	60	27.1	36.7	44.3	50.1	53.9					54.1	56.2	78
20	70	27.4	37.4	45.7	52.4	57.6	61.2				61.3	63.8	78
	80	27.7	37.9	46.7	54.1	60.2	64.9	68.3			68.3	71.3	79
	90	27.9	38.2	47.4	55.3	62.1	67.6	72.1			75.3	78.7	79
	100	28.0	38.5	47.9	56.2	63.5	69.8	75.0	79.2		82.2	86.1	79
	50	32.1	43.1	51.0	56.0						56.9	58.2	77
	60	32.8	44.4	53.6	60.5	65.0					66.0	67.7	78
	70	33.2	45.3	55.3	63.4	69.6	73.8				74.8	76.9	78
22	80	33.5	45.9	56.5	65.4	72.7	78.4	82.4			83.4	85.9	79
	90	33.8	46.3	57.3	66.9	75.0	81.7	87.0	90.9		92.0	94.8	79
	100	33.9	46.6	58.0	68.0	76.8	84.3	90.5	95.5	99.3	100.4	103.6	79
	50	38.2	51.3	60.7	66.6						68.0	69.1	77
	60	39.0	52.9	63.8	71.9	77.3					78.9	80.3	78
	70	39.6	53.9	65.8	75.4	82.7	87.7				89.4	91.1	78
24	80	39.9	54.6	67.2	77.8	86.4	93.1	97.8			99.8	101.8	79
	90	40.2	55.1	68.2	79.6	89.2	97.1	103.3	107.9		110.0	112.3	79
	100	40.4	55.5	69.0	80.9	91.3	100.2	107.6	113.5	117.9	120.1	122.8	79
	50	44.8	60.2	71.2	78.0						80.0	80.9	77
	60	45.8	62.1	74.9	84.4	90.6					92.8	94.0	78
	70	46.5	63.3	77.3	88.5	96.9	102.7				105.2	106.7	78
26	80	46.9	64.1	78.9	91.3	101.4	109.1	114.6			117.4	119.1	79
	90	47.2	64.7	80.1	93.4	104.7	113.9	121.1	126.4		129.4	131.4	79
	100	47.4	65.1	81.0	95.0	107.1	117.5	126.1	133.0	138.1	141.4	143.6	79

[a] Includes 1.0-foot stump allowance.

Table 33--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 9-inch d.o.b. top and height to a saw-log top for all soft hardwoods combined (species 300) in the Piedmont.[a]

D.b.h. class	Height to 9-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	8.8									9.9	17.4	73
	30	9.4	12.9								14.8	20.9	77
	40	9.7	13.4	16.8							19.4	25.1	78
12	50	9.9	13.7	17.2	20.5	23.5					23.9	29.3	79
	60	10.0	13.8	17.5	21.0	24.2	27.3				28.3	33.6	79
	70	10.0	13.9	17.7	21.2	24.7	27.9	30.9			32.7	38.0	79
	80	10.1	14.0	17.8	21.4	24.9	28.3	31.5	34.6		37.1	42.3	80
	40	13.2	18.1	22.2							25.1	30.4	78
	50	13.4	18.5	23.0	27.0	30.3					30.6	35.7	79
	60	13.6	18.7	23.5	27.8	31.7	35.0				36.1	41.1	79
14	70	13.7	18.9	23.8	28.3	32.5	36.3	39.7			41.5	46.4	79
	80	13.7	19.0	24.0	28.7	33.1	37.2	40.9	44.3		46.9	51.7	80
	90	13.8	19.1	24.1	29.0	33.5	37.8	41.8	45.5	48.9	52.3	57.1	80
	100	13.8	19.1	24.3	29.2	33.8	38.2	42.4	46.4	50.1	57.7	62.4	80
	40	17.3	23.5	28.5							31.7	36.8	78
	50	17.6	24.1	29.8	34.5	38.1					38.4	43.3	79
	60	17.7	24.4	30.5	35.7	40.3	44.0				45.1	49.8	79
16	70	17.9	24.7	30.9	36.5	41.6	46.0	49.8			51.7	56.3	79
	80	17.9	24.8	31.2	37.1	42.5	47.4	51.7	55.5		58.3	62.8	80
	90	18.0	24.9	31.4	37.5	43.1	48.4	53.1	57.4	61.2	64.8	69.3	80
	100	18.1	25.0	31.6	37.8	43.6	49.1	54.2	58.8	63.1	71.3	75.8	80
	40	21.9	29.7	35.7							39.1	44.1	78
	50	22.3	30.5	37.4	42.9	46.9					47.3	52.0	79
	60	22.5	30.9	38.3	44.7	50.0	54.1				55.3	59.9	79
18	70	22.6	31.2	38.9	45.9	51.9	57.0	61.2			63.2	67.7	79
	80	22.7	31.4	39.3	46.6	53.2	59.0	64.0	68.2		71.1	75.5	80
	90	22.8	31.5	39.6	47.2	54.1	60.4	66.0	70.9	75.2	78.9	83.3	80
	100	22.9	31.6	39.9	47.6	54.8	61.4	67.5	73.0	77.8	86.8	91.1	80
	40	27.0	36.6	43.7							47.5	52.4	78
	50	27.5	37.6	45.9	52.4	56.8					57.2	61.8	79
	60	27.8	38.1	47.2	54.8	60.9	65.5				66.7	71.2	79
20	70	28.0	38.5	47.9	56.3	63.4	69.4	74.0			76.1	80.5	79
	80	28.1	38.7	48.5	57.3	65.1	71.9	77.7	82.4		85.4	89.8	80
	90	28.2	38.9	48.9	58.0	66.3	73.8	80.4	86.0	90.8	94.8	99.1	80
	100	28.3	39.1	49.2	58.5	67.2	75.1	82.3	88.7	94.3	104.0	108.3	80
	50	33.3	45.4	55.3	62.9	67.7					68.1	72.7	79
	60	33.6	46.1	56.9	65.9	73.0	78.0				79.3	83.8	79
	70	33.9	46.6	57.9	67.8	76.1	83.0	88.1			90.3	94.7	79
22	80	34.0	46.9	58.6	69.0	78.3	86.3	92.9	98.1		101.3	105.6	80
	90	34.2	47.1	59.0	70.0	79.8	88.6	96.2	102.7	108.0	112.2	116.5	80
	100	34.2	47.3	59.4	70.6	81.0	90.3	98.8	106.2	112.6	123.1	127.3	80
	50	39.7	54.1	65.7	74.3	79.7					80.1	84.7	79
	60	40.1	54.9	67.6	78.1	86.2	91.8				93.1	97.5	79
	70	40.3	55.4	68.8	80.4	90.1	97.9	103.6			105.9	110.3	79
24	80	40.5	55.8	69.6	81.9	92.7	101.9	109.5	115.3		118.7	122.9	80
	90	40.7	56.1	70.2	83.1	94.6	104.8	113.7	121.0	126.9	131.4	135.6	80
	100	40.8	56.3	70.6	83.9	96.0	107.0	116.8	125.3	132.5	144.0	148.2	80
	50	46.6	63.4	76.9	86.8	92.7					93.1	97.7	79
	60	47.1	64.4	79.2	91.3	100.5	106.7				108.1	112.5	79
	70	47.4	65.0	80.6	94.1	105.3	114.1	120.4			122.9	127.2	79
26	80	47.6	65.5	81.6	95.9	108.4	119.0	127.6	134.0		137.6	141.8	80
	90	47.8	65.8	82.3	97.3	110.7	122.5	132.6	140.9	147.4	152.2	156.4	80
	100	47.9	66.0	82.9	98.3	112.4	125.1	136.3	146.1	154.3	166.8	170.9	80

[a] Includes 1.0-foot stump allowance.

Table 34--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for all soft hardwoods combined (species 300) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.9	0.9	1.0	1.2	1.2	1.4											
6	1.5	2.1	2.4	2.7	2.7	3.1	3.4	3.8									
7	2.8	3.1	3.6	4.0	4.1	4.6	5.1	5.5	6.0	6.4							
8	3.8	4.2	4.8	5.4	5.6	6.2	6.9	7.5	8.0	8.6	9.2	9.7					
9	4.8	5.4	6.2	6.9	7.2	8.0	8.8	9.6	10.4	11.1	11.8	12.5	13.2	13.9			
10	6.0	6.7	7.7	8.7	9.0	10.0	11.0	12.0	13.0	13.9	14.8	15.7	16.5	17.4	18.2	19.0	
11			9.4	10.5	10.9	12.2	13.5	14.7	15.8	17.0	18.0	19.1	20.2	21.2	22.2	23.2	24.2
12			11.2	12.6	13.1	14.7	16.1	17.6	19.0	20.3	21.6	22.9	24.2	25.4	26.6	27.8	29.0
13			13.2	14.9	15.4	17.3	19.0	20.7	22.4	23.9	25.5	27.0	28.5	30.0	31.4	32.8	34.3
14					18.0	20.1	22.1	24.1	26.0	27.9	29.7	31.4	33.2	34.9	36.6	38.2	39.9
15					20.7	23.1	25.5	27.8	29.9	32.1	34.1	36.2	38.2	40.1	42.1	44.0	45.9
16					23.6	26.4	29.1	31.6	34.1	36.6	38.9	41.2	43.5	45.8	48.0	50.2	52.3

[a] Includes 0.5-foot stump allowance.

Table 35--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for all soft hardwoods combined (species 300) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)															
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.9	2.4	2.7	3.0	3.4	3.8											
6	2.3	2.9	3.5	4.0	4.5	5.0	5.6	6.1									
7	2.9	3.6	4.2	5.1	5.8	6.5	7.1	7.7	8.4	9.0							
8	3.7	4.4	5.4	6.5	7.3	8.1	8.9	9.7	10.5	11.2	12.0	12.7					
9	4.6	5.4	6.7	8.0	9.0	10.0	11.0	11.9	12.8	13.8	14.7	15.6	16.5	17.3			
10	5.7	6.6	8.1	9.7	11.0	12.1	13.3	14.4	15.5	16.6	17.7	18.7	19.8	20.9	21.9	23.0	
11			9.7	11.7	13.1	14.5	15.8	17.1	18.4	19.7	21.0	22.3	23.5	24.7	26.0	27.2	28.5
12			11.5	13.8	15.4	17.0	18.6	20.2	21.7	23.2	24.6	26.1	27.6	29.0	30.4	31.9	33.3
13			13.4	16.0	18.0	19.8	21.7	23.4	25.2	26.9	28.6	30.3	32.0	33.6	35.3	37.0	38.6
14					20.7	22.9	24.9	27.0	29.0	30.9	32.9	34.8	36.7	38.6	40.5	42.4	44.3
15					23.7	26.1	28.5	30.8	33.0	35.3	37.5	39.7	41.9	44.0	46.2	48.3	50.5
16					26.8	29.6	32.2	34.8	37.4	39.9	42.4	44.9	47.3	49.8	52.2	54.6	57.0

[a] Includes 0.5-foot stump allowance.

Table 36--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for sweetgum (species 611) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40										3.6	7.7	50
	50										4.8	11.4	62
	60	8.3									9.0	14.8	69
12	70	8.9									12.0	17.9	73
	80	9.3	12.7								14.5	20.9	76
	90	9.6	13.2	16.3							16.7	23.7	77
	100	9.8	13.5	16.9							18.8	26.3	79
	40										5.6	10.6	50
	50	10.1									12.0	15.7	62
	60	11.3	15.1								16.7	20.4	69
14	70	12.2	16.4	19.9							20.6	24.7	73
	80	12.7	17.3	21.3							24.2	28.7	76
	90	13.1	18.0	22.3	25.9						27.6	32.5	77
	100	13.4	18.5	23.0	27.0	30.3					30.7	36.2	79
	50	13.3	17.1								18.1	20.7	62
	60	14.9	19.7	23.5							24.0	26.8	69
	70	15.9	21.5	26.1							29.2	32.4	73
16	80	16.7	22.7	27.9	32.0						34.1	37.7	76
	90	17.2	23.6	29.2	33.9	37.6					38.7	42.7	77
	100	17.6	24.2	30.2	35.3	39.6	42.9				43.0	47.6	79
	110	17.9	24.7	30.9	36.4	41.2	45.1				47.3	52.3	80
	50	16.8	21.7								24.2	26.3	62
	60	18.9	25.0	29.8							31.7	34.1	69
	70	20.2	27.3	33.0	37.3						38.4	41.2	73
18	80	21.2	28.8	35.3	40.6	44.3					44.7	47.9	76
	90	21.8	29.9	37.0	43.0	47.7					50.7	54.3	77
	100	22.3	30.7	38.2	44.8	50.2	54.4				56.4	60.4	79
	110	22.7	31.3	39.2	46.2	52.2	57.1	60.9			61.9	66.4	80
	50	20.8	26.8								30.8	32.6	62
	60	23.4	31.0	36.8							40.0	42.2	69
	70	25.0	33.7	40.8	46.1						48.5	51.0	73
20	80	26.2	35.6	43.7	50.1	54.8					56.4	59.3	76
	90	27.0	37.0	45.7	53.1	58.9	63.0				63.9	67.2	77
	100	27.6	38.0	47.3	55.3	62.0	67.2	70.9			71.1	74.8	79
	110	28.1	38.8	48.5	57.1	64.5	70.5	75.2			78.2	82.2	80
	60	28.3	37.5	44.6	49.0						49.2	51.2	69
	70	30.4	40.9	49.5	55.8						59.6	61.8	73
	80	31.8	43.2	52.9	60.7	66.4					69.2	71.9	76
22	90	32.8	44.8	55.4	64.3	71.4	76.3				78.5	81.4	77
	100	33.5	46.0	57.3	67.0	75.1	81.4	85.8			87.3	90.7	79
	110	34.1	47.0	58.7	69.1	78.1	85.4	91.1	95.0		96.0	99.7	80
	60	33.8	44.7	53.1	58.3						59.2	61.0	69
	70	36.2	48.7	58.9	66.5	71.1					71.6	73.7	73
	80	37.8	51.4	63.0	72.3	79.0	83.1				83.2	85.7	76
24	90	39.0	53.4	66.0	76.6	85.0	90.9				94.3	97.1	77
	100	39.9	54.9	68.2	79.8	89.5	97.0	102.2			105.0	108.1	79
	110	40.6	56.0	69.9	82.3	93.0	101.7	108.5	113.2		115.4	118.8	80
	60	39.7	52.5	62.4	68.5						70.0	71.7	69
	70	42.5	57.2	69.2	78.1	83.5					84.7	86.6	73
	80	44.5	60.4	74.0	85.0	92.8	97.6				98.4	100.7	76
26	90	45.9	62.7	77.5	90.0	99.8	106.7	111.0			111.5	114.0	77
	100	46.9	64.4	80.1	93.7	105.1	113.9	120.0	123.9		124.1	127.0	79
	110	47.7	65.8	82.1	96.7	109.2	119.5	127.3	132.9		136.4	139.5	80

[a] Includes 1.0-foot stump allowance.

Table 37--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for sweetgum (species 611) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to: Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	7.8									8.2	10.8	70
	40	8.6									10.5	14.4	74
	50	9.1	12.4								12.4	17.7	76
12	60	9.4	12.8								14.2	20.9	77
	70	9.6	13.1								15.9	24.0	78
	80	9.7	13.4	16.6							17.5	27.0	78
	90	9.9	13.5	16.9							19.1	29.9	78
	40	11.8	15.8								16.7	19.4	74
	50	12.4	16.8								20.1	23.8	76
	60	12.8	17.5	21.3							23.4	28.0	77
14	70	13.1	17.9	22.1	25.5						26.5	32.0	78
	80	13.3	18.3	22.6	26.3	29.5					29.5	36.0	78
	90	13.5	18.5	23.0	26.9	30.4					32.5	39.9	78
	100	13.6	18.7	23.3	27.4	31.1	34.3				35.4	43.8	79
	40	15.5	20.6								23.1	25.1	74
	50	16.3	22.0	26.4							28.1	30.7	76
	60	16.8	22.9	27.8	31.7						32.8	36.1	77
16	70	17.2	23.5	28.8	33.2	36.7					37.3	41.4	78
	80	17.5	23.9	29.5	34.4	38.4	41.6				41.7	46.5	78
	90	17.7	24.2	30.0	35.2	39.6	43.4				46.0	51.5	78
	100	17.8	24.4	30.4	35.8	40.6	44.7	48.2			50.3	56.5	79
	40	19.6	26.1								30.1	31.6	74
	50	20.7	27.9	33.3							36.7	38.7	76
	60	21.3	29.0	35.2	40.0						42.9	45.4	77
18	70	21.8	29.8	36.5	42.0	46.4					48.9	51.9	78
	80	22.2	30.3	37.4	43.5	48.5	52.5				54.7	58.3	78
	90	22.4	30.7	38.0	44.5	50.1	54.8	58.5			60.4	64.6	78
	100	22.6	31.0	38.5	45.3	51.3	56.5	60.9	64.5		66.1	70.8	79
	40	24.3	32.3	37.2							37.7	38.9	74
	50	25.6	34.5	41.2	45.5						46.0	47.5	76
	60	26.4	35.9	43.5	49.3	53.3					53.8	55.8	77
20	70	27.0	36.8	45.1	51.9	57.1	60.9				61.3	63.8	78
	80	27.4	37.5	46.2	53.6	59.8	64.7	68.3			68.7	71.6	78
	90	27.8	37.9	47.0	55.0	61.8	67.5	72.1	75.6		75.9	79.2	78
	100	28.0	38.3	47.6	56.0	63.3	69.6	75.0	79.4	82.7	83.1	86.8	79
	50	31.0	41.8	49.8	55.0						56.1	57.4	76
	60	32.0	43.5	52.7	59.7	64.4					65.6	67.3	77
	70	32.7	44.6	54.6	62.7	69.1	73.5				74.9	76.8	78
22	80	33.2	45.4	55.9	64.9	72.3	78.2	82.4			83.9	86.2	78
	90	33.6	46.0	56.9	66.5	74.7	81.6	87.1	91.2		92.8	95.4	78
	100	34.0	46.4	57.7	67.7	76.6	84.2	90.6	95.8	99.8	101.5	104.5	79
	50	36.9	49.8	59.3	65.3						67.1	68.1	76
	60	38.1	51.8	62.7	71.0	76.6					78.5	79.8	77
	70	39.0	53.1	65.0	74.7	82.1	87.4				89.6	91.2	78
24	80	39.6	54.1	66.6	77.3	86.0	92.9	97.9			100.4	102.2	78
	90	40.1	54.8	67.8	79.2	88.9	97.0	103.5	108.3		111.0	113.1	78
	100	40.5	55.3	68.7	80.6	91.1	100.1	107.7	113.9	118.6	121.5	123.9	79
	50	43.4	58.5	69.6	76.6						78.9	79.8	76
	60	44.8	60.8	73.6	83.3	89.8					92.4	93.5	77
	70	45.8	62.4	76.3	87.6	96.3	102.4				105.4	106.7	78
26	80	46.6	63.5	78.2	90.7	100.9	109.0	114.8			118.1	119.7	78
	90	47.1	64.3	79.6	92.9	104.3	113.8	121.3	126.9	130.6	130.6	132.4	78
	100	47.6	65.0	80.7	94.6	106.9	117.5	126.3	133.5	138.9	143.0	145.0	79

[a] Includes 1.0-foot stump allowance.

Table 38--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 9-inch d.o.b. top and height to a saw-log top for sweetgum (species 611) in the Piedmont.[a]

D.b.h. class	Height to 9-inch d.o.b. top	Volume to: Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	8.0									9.2	16.8	72
	30	9.0	12.4								14.3	20.6	76
	40	9.4	13.1	16.5							19.1	25.0	78
12	50	9.7	13.5	17.0	20.3	23.4					23.7	29.4	78
	60	9.9	13.7	17.4	20.9	24.1	27.2				28.3	33.8	79
	70	10.0	13.9	17.6	21.2	24.6	27.9	31.0			32.8	38.1	79
	80	10.1	14.0	17.8	21.4	25.0	28.3	31.6	34.7		37.2	42.5	79
	40	12.8	17.7	21.8							24.8	30.5	78
	50	13.2	18.3	22.8	26.8	30.2					30.5	36.0	78
	60	13.5	18.6	23.4	27.7	31.6	35.1				36.2	41.5	79
14	70	13.7	18.9	23.8	28.3	32.6	36.4	39.8			41.7	46.9	79
	80	13.8	19.0	24.0	28.7	33.2	37.3	41.1	44.6		47.2	52.4	79
	90	13.9	19.2	24.2	29.0	33.6	37.9	42.0	45.8	49.3	52.7	57.8	79
	100	14.0	19.3	24.4	29.3	34.0	38.4	42.7	46.7	50.4	58.2	63.2	79
	40	16.8	23.0	28.1							31.3	37.0	78
	50	17.3	23.8	29.5	34.3	38.0					38.4	43.9	78
	60	17.6	24.3	30.3	35.7	40.3	44.1				45.3	50.6	79
16	70	17.9	24.6	30.9	36.6	41.7	46.2	50.1			52.1	57.3	79
	80	18.0	24.9	31.2	37.2	42.7	47.6	52.1	56.0		58.8	63.9	79
	90	18.2	25.0	31.5	37.6	43.3	48.6	53.5	57.9	61.8	65.5	70.5	79
	100	18.3	25.2	31.7	38.0	43.9	49.4	54.6	59.3	63.7	72.2	77.1	79
	40	21.3	29.1	35.2							38.7	44.5	78
	50	21.9	30.1	37.1	42.8	46.9					47.3	52.8	78
	60	22.4	30.7	38.2	44.7	50.2	54.4				55.6	60.9	79
18	70	22.7	31.2	38.9	45.9	52.1	57.4	61.7			63.8	69.0	79
	80	22.9	31.5	39.4	46.8	53.4	59.4	64.6	68.9		71.9	77.0	79
	90	23.0	31.7	39.8	47.4	54.4	60.8	66.6	71.7	76.1	80.0	85.0	79
	100	23.2	31.9	40.1	47.8	55.1	61.8	68.0	73.7	78.8	88.0	93.0	79
	40	26.3	35.9	43.1							47.1	52.9	78
	50	27.1	37.1	45.6	52.2	56.9					57.2	62.8	78
	60	27.6	37.9	47.0	54.8	61.2	65.9				67.2	72.6	79
20	70	28.0	38.5	47.9	56.4	63.7	69.9	74.7			77.0	82.2	79
	80	28.3	38.9	48.6	57.5	65.5	72.5	78.5	83.4		86.6	91.8	79
	90	28.5	39.2	49.1	58.3	66.7	74.4	81.2	87.1	92.0	96.2	101.3	79
	100	28.7	39.4	49.5	58.9	67.7	75.8	83.1	89.8	95.6	105.8	110.8	79
	50	32.9	44.9	55.0	62.7	67.9					68.3	73.9	78
	60	33.5	45.9	56.8	65.9	73.3	78.6				80.0	85.4	79
	70	33.9	46.6	57.9	68.0	76.6	83.7	89.1			91.5	96.8	79
22	80	34.3	47.0	58.7	69.3	78.8	87.0	94.0	99.5		102.9	108.1	79
	90	34.5	47.4	59.3	70.4	80.4	89.4	97.3	104.1	109.7	114.1	119.3	79
	100	34.7	47.7	59.8	71.1	81.6	91.2	99.8	107.5	114.2	125.4	130.4	79
	50	39.1	53.5	65.3	74.2	79.9					80.3	86.1	78
	60	39.9	54.7	67.4	78.2	86.7	92.6				94.0	99.5	79
	70	40.4	55.4	68.9	80.6	90.7	98.8	104.9			107.4	112.8	79
24	80	40.8	56.0	69.9	82.3	93.4	102.9	110.9	117.0		120.6	125.9	79
	90	41.2	56.4	70.6	83.6	95.3	105.8	115.0	122.8	129.0	133.8	139.0	79
	100	41.4	56.8	71.2	84.5	96.8	108.0	118.1	127.0	134.6	146.9	152.0	79
	50	46.0	62.8	76.4	86.7	93.0					93.5	99.3	78
	60	46.9	64.2	79.1	91.5	101.2	107.8				109.2	114.9	79
	70	47.5	65.1	80.8	94.4	106.0	115.3	122.1			124.7	130.2	79
26	80	48.0	65.8	81.9	96.5	109.3	120.2	129.3	136.1		140.0	145.4	79
	90	48.4	66.3	82.8	97.9	111.6	123.7	134.3	143.1	150.0	155.2	160.4	79
	100	48.6	66.7	83.5	99.1	113.4	126.4	138.0	148.2	156.8	170.2	175.4	79

[a] Includes 1.0-foot stump allowance.

Table 39--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for sweetgum (species 611) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.6	0.6	0.7	0.9	0.8	0.9											
6	1.1	1.8	2.2	2.5	2.2	2.7	3.1	3.5									
7	2.5	2.8	3.3	3.8	3.6	4.1	4.7	5.2	5.7	6.2							
8	3.4	3.9	4.5	5.2	4.9	5.7	6.4	7.1	7.7	8.4	9.0	9.6					
9	4.4	5.0	5.9	6.7	6.5	7.4	8.3	9.2	10.0	10.9	11.7	12.4	13.2	13.9			
10	5.5	6.3	7.3	8.4	8.1	9.3	10.5	11.5	12.6	13.6	14.6	15.6	16.5	17.4	18.4	19.3	
11			9.0	10.2	9.9	11.4	12.8	14.1	15.4	16.7	17.9	19.0	20.2	21.3	22.4	23.5	24.6
12			10.8	12.2	11.9	13.7	15.4	16.9	18.5	20.0	21.4	22.8	24.2	25.6	26.9	28.2	29.5
13			12.7	14.5	14.1	16.2	18.1	20.0	21.8	23.6	25.3	27.0	28.6	30.2	31.8	33.3	34.9
14					16.4	18.8	21.1	23.3	25.4	27.5	29.5	31.4	33.3	35.2	37.0	38.8	40.6
15					19.0	21.7	24.3	26.9	29.3	31.6	33.9	36.2	38.3	40.5	42.6	44.7	46.8
16					21.6	24.8	27.8	30.6	33.4	36.1	38.7	41.3	43.7	46.2	48.6	51.0	53.3

[a] Includes 0.5-foot stump allowance.

Table 40--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for sweetgum (species 611) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)															
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.7	2.1	2.5	2.7	3.2	3.6											
6	2.0	2.6	3.3	3.7	4.2	4.8	5.3	5.9									
7	2.6	3.3	4.0	4.8	5.5	6.2	6.9	7.5	8.2	8.8							
8	3.3	4.0	5.1	6.1	7.0	7.8	8.7	9.5	10.3	11.0	11.8	12.6					
9	4.2	5.0	6.3	7.6	8.7	9.7	10.7	11.7	12.6	13.6	14.5	15.4	16.4	17.3			
10	5.1	6.2	7.7	9.3	10.6	11.8	13.0	14.1	15.3	16.4	17.5	18.6	19.7	20.8	21.9	23.0	
11			9.3	11.1	12.6	14.1	15.5	16.9	18.2	19.6	20.9	22.2	23.5	24.7	26.0	27.3	28.5
12			11.0	13.1	14.9	16.6	18.3	19.9	21.4	23.0	24.5	26.0	27.5	29.0	30.5	32.0	33.5
13			12.8	15.3	17.4	19.4	21.3	23.1	24.9	26.7	28.5	30.3	32.0	33.7	35.4	37.1	38.8
14					20.1	22.3	24.5	26.6	28.7	30.8	32.8	34.8	36.8	38.8	40.7	42.7	44.6
15					23.0	25.5	28.0	30.4	32.8	35.1	37.4	39.7	42.0	44.2	46.4	48.6	50.8
16					26.0	28.9	31.7	34.5	37.1	39.8	42.4	44.9	47.5	50.0	52.5	55.0	57.5

[a] Includes 0.5-foot stump allowance.

Table 41--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for yellow-poplar (species 621) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40										4.4	9.3	59
	50	7.9									8.3	12.5	68
	60	8.5									10.8	15.4	72
12	70	8.9	12.2								13.0	18.1	75
	80	9.1	12.6								14.9	20.6	77
	90	9.3	13.0	16.1							16.7	23.1	78
	100	9.5	13.2	16.5							18.3	25.4	79
	40	9.3									10.0	12.7	59
	50	10.7	14.2								14.4	17.2	68
	60	11.6	15.6								17.9	21.1	72
14	70	12.1	16.6	20.2							21.1	24.8	75
	80	12.4	17.2	21.2							24.1	28.3	77
	90	12.7	17.6	21.9	25.5						26.9	31.7	78
	100	12.9	18.0	22.5	26.3	29.5					29.6	34.9	79
	50	14.0	18.5								20.4	22.5	68
	60	15.1	20.4	24.4							25.2	27.7	72
	70	15.8	21.6	26.3							29.5	32.6	75
16	80	16.3	22.5	27.7	31.8						33.6	37.1	77
	90	16.6	23.0	28.6	33.3	36.8					37.5	41.5	78
	100	16.8	23.5	29.4	34.4	38.5					41.3	45.8	79
	110	17.0	23.8	29.9	35.3	39.8	43.5				45.0	50.0	80
	50	17.8	23.5								26.7	28.6	68
	60	19.2	25.9	30.9							32.9	35.2	72
	70	20.0	27.4	33.3	37.6						38.6	41.3	75
18	80	20.6	28.4	35.0	40.2	43.8					44.0	47.2	77
	90	21.0	29.2	36.3	42.1	46.6					49.1	52.7	78
	100	21.3	29.7	37.2	43.5	48.7	52.7				54.1	58.2	79
	110	21.5	30.1	37.8	44.6	50.4	55.0	58.5			59.0	63.5	80
	50	22.0	29.0	33.4							33.7	35.4	68
	60	23.7	31.9	38.1							41.5	43.6	72
	70	24.7	33.8	41.2	46.4						48.7	51.1	75
20	80	25.4	35.1	43.3	49.7	54.1					55.5	58.3	77
	90	25.9	36.0	44.8	52.0	57.6	61.4				62.0	65.2	78
	100	26.3	36.7	45.9	53.8	60.2	65.0				68.3	72.0	79
	110	26.6	37.2	46.7	55.1	62.2	67.9	72.2			74.5	78.6	80
	60	28.6	38.7	46.1	50.6						50.9	52.8	72
	70	29.9	41.0	49.8	56.2						59.7	62.0	75
	80	30.8	42.5	52.4	60.1	65.5					68.1	70.7	77
22	90	31.4	43.6	54.2	62.9	69.7	74.3				76.1	79.0	78
	100	31.8	44.4	55.5	65.1	72.8	78.7	82.8			83.9	87.2	79
	110	32.2	45.0	56.6	66.7	75.3	82.2	87.4	91.0		91.5	95.2	80
	60	34.1	46.0	54.9	60.2						61.2	62.9	72
	70	35.6	48.8	59.3	66.9	71.3					71.8	73.8	75
	80	36.7	50.6	62.3	71.5	77.9	81.8				81.8	84.2	77
24	90	37.4	51.9	64.5	74.9	82.9	88.4				91.4	94.2	78
	100	37.9	52.9	66.1	77.5	86.7	93.7	98.5			100.8	103.9	79
	110	38.3	53.6	67.3	79.4	89.6	97.9	104.0	108.3		110.0	113.4	80
	60	40.0	54.0	64.4	70.7						72.3	73.9	72
	70	41.8	57.2	69.6	78.5	83.7					84.8	86.7	75
	80	43.0	59.4	73.2	84.0	91.5	96.0				96.7	98.9	77
26	90	43.9	60.9	75.7	87.9	97.3	103.8	107.8			108.1	110.6	78
	100	44.5	62.1	77.6	90.9	101.8	110.0	115.6			119.2	122.0	79
	110	44.9	62.9	79.0	93.2	105.2	114.9	122.1	127.2		130.0	133.2	80

[a] Includes 1.0-foot stump allowance.

Table 42--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for yellow-poplar (species 621) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	8.0									8.7	10.9	71
	40	8.7									10.7	14.3	75
	50	9.0	12.3								12.6	17.4	77
12	60	9.2	12.7								14.2	20.4	78
	70	9.3	12.9								15.8	23.3	78
	80	9.4	13.1	16.3							17.3	26.2	79
	90	9.5	13.2	16.5							18.8	29.0	79
	40	11.8	15.8								16.7	19.2	75
	50	12.3	16.7								19.9	23.3	77
	60	12.5	17.2	21.0							22.9	27.3	78
14	70	12.7	17.6	21.7	25.0						25.7	31.1	78
	80	12.8	17.8	22.1	25.8						28.6	34.9	79
	90	12.9	18.0	22.4	26.3	29.7					31.3	38.6	79
	100	13.0	18.1	22.7	26.8	30.4	33.5				34.1	42.3	79
	40	15.4	20.6								23.0	24.9	75
	50	16.0	21.8	26.1							27.5	30.1	77
	60	16.4	22.5	27.4	31.1						31.9	35.2	78
16	70	16.6	22.9	28.2	32.5	35.8					36.0	40.1	78
	80	16.8	23.2	28.8	33.6	37.4					40.2	44.9	79
	90	16.9	23.5	29.3	34.3	38.6	42.2				44.2	49.7	79
	100	17.0	23.6	29.6	34.9	39.5	43.5	46.9			48.2	54.4	79
	40	19.5	26.1								29.8	31.3	75
	50	20.3	27.6	32.9							35.8	37.9	77
	60	20.7	28.5	34.6	39.2						41.5	44.2	78
18	70	21.0	29.0	35.7	41.1	45.2					47.1	50.3	78
	80	21.2	29.4	36.5	42.4	47.3	51.0				52.5	56.3	79
	90	21.4	29.7	37.0	43.4	48.8	53.2	56.8			57.9	62.2	79
	100	21.5	29.9	37.4	44.1	49.9	54.9	59.1	62.4		63.2	68.1	79
	40	24.1	32.2	36.9							37.2	38.4	75
	50	25.1	34.1	40.6	44.6						44.8	46.5	77
	60	25.6	35.2	42.7	48.3	52.0					52.1	54.2	78
20	70	26.0	35.9	44.1	50.7	55.7					59.1	61.6	78
	80	26.2	36.3	45.0	52.3	58.2	62.8				66.0	69.0	79
	90	26.4	36.7	45.7	53.5	60.1	65.6	69.8			72.8	76.2	79
	100	26.6	36.9	46.2	54.4	61.6	67.7	72.7	76.8		79.5	83.4	79
	50	30.3	41.3	49.1	53.9						54.7	56.0	77
	60	31.0	42.6	51.7	58.4	62.7					63.5	65.3	78
	70	31.5	43.4	53.3	61.2	67.2	71.3				72.1	74.2	78
22	80	31.8	44.0	54.5	63.2	70.4	75.8	79.7			80.5	83.0	79
	90	32.0	44.4	55.3	64.7	72.7	79.2	84.3	88.0		88.9	91.7	79
	100	32.2	44.7	55.9	65.8	74.4	81.7	87.8	92.6	96.2	97.1	100.3	79
	50	36.1	49.1	58.4	64.1						65.3	66.5	77
	60	36.9	50.7	61.5	69.4	74.5					75.9	77.4	78
	70	37.5	51.7	63.4	72.8	79.9	84.7				86.2	88.0	78
24	80	37.8	52.4	64.8	75.2	83.6	90.1	94.6			96.3	98.4	79
	90	38.1	52.9	65.8	77.0	86.4	94.1	100.1	104.5		106.3	108.7	79
	100	38.3	53.2	66.6	78.3	88.5	97.2	104.3	110.0	114.2	116.2	118.9	79
	50	42.4	57.6	68.5	75.1						76.9	77.9	77
	60	43.4	59.5	72.1	81.4	87.3					89.4	90.6	78
	70	44.0	60.7	74.5	85.4	93.6	99.2				101.5	103.0	78
26	80	44.4	61.5	76.1	88.3	98.1	105.6	110.9			113.4	115.1	79
	90	44.7	62.0	77.2	90.3	101.3	110.3	117.3	122.4		125.1	127.1	79
	100	45.0	62.5	78.1	91.9	103.8	113.9	122.3	128.9	133.8	136.7	139.0	79

[a] Includes 1.0-foot stump allowance.

Table 43--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 9-inch d.o.b. top and height to a saw-log top for yellow-poplar (species 621) in the Piedmont.[a]

D.b.h. class	Height to 9-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	7.9									9.0	15.7	71
	30	8.8	12.2								14.0	20.1	76
	40	9.2	12.8	16.1							18.6	24.9	78
12	50	9.4	13.1	16.6	19.8	22.7					23.1	29.7	78
	60	9.5	13.3	16.9	20.3	23.5	26.4				27.5	34.4	79
	70	9.6	13.4	17.1	20.6	23.9	27.1	30.1			31.8	39.1	79
	80	9.6	13.5	17.2	20.8	24.3	27.6	30.7	33.7		36.1	43.8	79
	40	12.5	17.3	21.3							24.0	28.6	78
	50	12.7	17.7	22.2	26.0	29.2					29.5	34.3	78
	60	12.9	18.0	22.7	26.9	30.6	33.9				34.9	40.0	79
14	70	13.0	18.2	23.0	27.4	31.5	35.2	38.4			40.3	45.6	79
	80	13.1	18.3	23.2	27.8	32.1	36.1	39.7	43.0		45.6	51.1	79
	90	13.1	18.4	23.4	28.1	32.6	36.7	40.6	44.2	47.5	50.8	56.6	79
	100	13.2	18.4	23.5	28.3	32.9	37.2	41.3	45.1	48.7	56.1	62.1	79
	40	16.3	22.4	27.2							30.3	33.9	78
	50	16.6	23.1	28.6	33.1	36.6					37.0	40.7	78
	60	16.8	23.4	29.3	34.5	38.9	42.4				43.5	47.5	79
16	70	17.0	23.7	29.8	35.3	40.2	44.5	48.1			50.0	54.1	79
	80	17.1	23.9	30.1	35.9	41.2	45.9	50.1	53.7		56.4	60.7	79
	90	17.1	24.0	30.4	36.3	41.9	46.9	51.6	55.7	59.4	62.8	67.3	79
	100	17.2	24.1	30.6	36.7	42.4	47.7	52.6	57.2	61.3	69.2	73.9	79
	40	20.6	28.3	34.0							37.3	40.3	78
	50	21.1	29.1	35.9	41.2	45.0					45.4	48.5	78
	60	21.3	29.6	36.9	43.1	48.2	52.1				53.2	56.5	79
18	70	21.5	29.9	37.5	44.3	50.1	55.1	59.1			61.0	64.4	79
	80	21.6	30.2	38.0	45.1	51.5	57.1	61.9	65.9		68.7	72.2	79
	90	21.7	30.3	38.3	45.7	52.4	58.5	64.0	68.7	72.8	76.4	80.1	79
	100	21.8	30.4	38.6	46.1	53.2	59.6	65.5	70.8	75.5	84.0	87.8	79
	40	25.5	34.8	41.6							45.3	47.8	78
	50	26.0	35.9	44.0	50.2	54.4					54.8	57.4	78
	60	26.3	36.5	45.4	52.7	58.6	63.0				64.1	66.9	79
20	70	26.5	36.9	46.2	54.3	61.2	66.9	71.3			73.3	76.2	79
	80	26.7	37.2	46.8	55.4	63.0	69.6	75.1	79.6		82.5	85.5	79
	90	26.8	37.4	47.2	56.1	64.2	71.5	77.8	83.3	87.8	91.6	94.7	79
	100	26.9	37.6	47.5	56.7	65.2	72.9	79.9	86.0	91.4	100.6	103.8	79
	50	31.5	43.4	53.0	60.2	64.8					65.2	67.5	78
	60	31.9	44.2	54.7	63.4	70.2	75.0				76.2	78.5	79
	70	32.1	44.7	55.8	65.4	73.5	80.0	84.9			87.0	89.4	79
22	80	32.3	45.0	56.5	66.7	75.7	83.4	89.7	94.6		97.7	100.3	79
	90	32.4	45.2	57.0	67.7	77.3	85.8	93.2	99.4	104.3	108.4	111.0	79
	100	32.5	45.4	57.4	68.4	78.5	87.6	95.7	102.9	109.0	119.0	121.7	79
	50	37.5	51.6	62.9	71.2	76.3					76.6	78.6	78
	60	37.9	52.5	64.9	75.1	82.8	88.1				89.4	91.4	79
	70	38.2	53.1	66.2	77.5	86.9	94.3	99.7			101.9	104.1	79
24	80	38.5	53.5	67.1	79.1	89.6	98.5	105.7	111.1		114.4	116.6	79
	90	38.6	53.8	67.7	80.3	91.6	101.5	109.9	117.0	122.5	126.8	129.1	79
	100	38.7	54.1	68.2	81.2	93.1	103.7	113.1	121.3	128.2	139.1	141.5	79
	50	44.0	60.5	73.6	83.1	88.6					89.0	90.8	78
	60	44.5	61.6	76.1	87.8	96.6	102.4				103.7	105.5	79
	70	44.9	62.3	77.6	90.7	101.5	109.9	115.8			118.2	120.1	79
26	80	45.1	62.8	78.7	92.7	104.7	114.9	123.0	129.1		132.5	134.5	79
	90	45.3	63.2	79.4	94.1	107.1	118.5	128.2	136.1	142.2	146.8	148.8	79
	100	45.5	63.4	80.0	95.2	108.9	121.2	132.1	141.4	149.2	161.0	163.1	79

[a] Includes 1.0-foot stump allowance.

Table 44--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for yellow-poplar (species 621) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.7	0.8	0.9	1.1	1.2	1.6											
6	1.3	1.9	2.3	2.6	2.7	3.1	3.4	3.7									
7	2.5	2.9	3.3	3.8	4.1	4.6	5.0	5.4	5.8	6.2							
8	3.4	3.9	4.5	5.1	5.5	6.1	6.7	7.3	7.9	8.4	8.9	9.5					
9	4.4	5.0	5.8	6.6	7.1	7.9	8.7	9.4	10.2	10.9	11.5	12.2	12.9	13.5			
10	5.5	6.3	7.2	8.2	8.9	9.9	10.9	11.8	12.7	13.6	14.4	15.3	16.1	16.9	17.7	18.5	
11			8.8	10.0	10.8	12.1	13.3	14.4	15.5	16.6	17.6	18.6	19.6	20.6	21.6	22.6	23.6
12			10.6	12.0	13.0	14.4	15.9	17.2	18.5	19.8	21.1	22.3	23.5	24.7	25.9	27.1	28.2
13			12.5	14.1	15.3	17.0	18.7	20.3	21.9	23.4	24.9	26.3	27.7	29.1	30.5	31.9	33.3
14					17.8	19.8	21.8	23.6	25.4	27.2	28.9	30.6	32.3	33.9	35.5	37.2	38.7
15					20.4	22.8	25.0	27.2	29.3	31.3	33.3	35.2	37.1	39.0	40.9	42.8	44.6
16					23.3	26.0	28.5	31.0	33.4	35.7	37.9	40.2	42.4	44.5	46.6	48.8	50.8

[a] Includes 0.5-foot stump allowance.

Table 45--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for yellow-poplar (species 621) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.7	2.2	2.5	2.8	3.2	3.6											
6	2.1	2.7	3.3	3.7	4.3	4.8	5.3	5.8									
7	2.6	3.3	4.0	4.9	5.5	6.2	6.8	7.5	8.1	8.7							
8	3.3	4.0	5.1	6.2	7.0	7.8	8.6	9.3	10.1	10.8	11.6	12.3					
9	4.2	5.0	6.3	7.6	8.6	9.6	10.6	11.5	12.4	13.3	14.2	15.1	15.9	16.8			
10	5.2	6.2	7.7	9.3	10.5	11.6	12.8	13.9	14.9	16.0	17.1	18.1	19.2	20.2	21.2	22.3	
11			9.2	11.1	12.5	13.9	15.2	16.5	17.8	19.0	20.3	21.5	22.7	24.0	25.2	26.4	27.6
12			10.9	13.1	14.8	16.3	17.9	19.4	20.9	22.3	23.8	25.2	26.7	28.1	29.5	30.9	32.3
13			12.7	15.3	17.2	19.0	20.8	22.5	24.2	25.9	27.6	29.3	30.9	32.5	34.2	35.8	37.4
14					19.8	21.9	23.9	25.9	27.9	29.8	31.7	33.6	35.5	37.4	39.2	41.1	42.9
15					22.6	25.0	27.3	29.6	31.8	34.0	36.2	38.3	40.4	42.6	44.7	46.8	48.9
16					25.7	28.3	30.9	33.5	36.0	38.4	40.9	43.3	45.7	48.1	50.5	52.8	55.2

[a] Includes 0.5-foot stump allowance.

Table 46--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for sycamore (species 731) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40										4.7	10.4	63
	50										6.9	13.9	70
	60	9.4									10.5	17.0	75
12	70	9.8									12.4	19.8	77
	80	10.1	13.8								14.1	22.5	79
	90	10.3	14.1								15.7	25.2	80
	100	10.5	14.4								17.2	27.7	81
	40	10.4									10.7	14.3	63
	50	11.9									15.0	19.0	70
	60	12.8	17.1								18.7	23.3	75
14	70	13.4	18.1	21.8							21.9	27.2	77
	80	13.8	18.7	22.9							24.9	30.9	79
	90	14.0	19.2	23.7	27.4						27.7	34.5	80
	100	14.2	19.5	24.2	28.3						30.4	38.0	81
	50	15.5	20.4								21.9	25.0	70
	60	16.7	22.3	26.5							27.0	30.5	75
	70	17.4	23.6	28.5							31.6	35.7	77
16	80	17.9	24.4	29.9	34.2						35.9	40.6	79
	90	18.3	25.0	30.9	35.7	39.6					40.0	45.3	80
	100	18.6	25.5	31.6	36.9	41.3					43.9	49.9	81
	110	18.8	25.9	32.2	37.8	42.5	46.5				47.8	54.4	82
	50	19.6	25.7								29.2	31.7	70
	60	21.1	28.2	33.5							35.9	38.7	75
	70	22.1	29.8	36.1	40.7						41.9	45.3	77
18	80	22.7	30.9	37.8	43.3	47.4					47.6	51.5	79
	90	23.1	31.7	39.1	45.2	50.1					53.1	57.5	80
	100	23.5	32.3	40.0	46.7	52.2	56.6				58.4	63.3	81
	110	23.7	32.7	40.7	47.8	53.8	58.9	62.9			63.6	69.0	82
	50	24.2	31.8	36.7							37.1	39.2	70
	60	26.1	34.8	41.4							45.5	47.9	75
	70	27.2	36.8	44.5	50.2						53.1	56.0	77
20	80	28.0	38.1	46.6	53.5	58.5					60.3	63.7	79
	90	28.6	39.1	48.2	55.8	61.9	66.3				67.3	71.1	80
	100	29.0	39.8	49.4	57.6	64.4	69.9	73.9			74.0	78.3	81
	110	29.3	40.3	50.3	59.0	66.4	72.7	77.6			80.6	85.3	82
	60	31.5	42.1	50.1	55.2						55.8	58.0	75
	70	32.9	44.5	53.8	60.8						65.2	67.8	77
	80	33.9	46.1	56.4	64.7	70.8					74.1	77.1	79
22	90	34.5	47.3	58.3	67.5	74.8	80.3				82.7	86.1	80
	100	35.0	48.1	59.7	69.7	77.9	84.5	89.4			91.0	94.8	81
	110	35.4	48.8	60.8	71.3	80.4	87.9	93.9	98.2		99.1	103.3	82
	60	37.5	50.1	59.6	65.7						67.1	69.1	75
	70	39.1	52.9	64.0	72.3	77.6					78.4	80.7	77
	80	40.3	54.9	67.1	76.9	84.2	88.8				89.1	91.8	79
24	90	41.1	56.3	69.4	80.3	89.0	95.5				99.4	102.5	80
	100	41.7	57.3	71.0	82.9	92.7	100.6	106.4			109.4	112.9	81
	110	42.1	58.1	72.3	84.9	95.6	104.6	111.7	116.9		119.2	123.1	82
	60	44.0	58.8	69.9	77.1						79.3	81.1	75
	70	45.9	62.1	75.1	84.9	91.1					92.6	94.8	77
	80	47.3	64.4	78.8	90.3	98.8	104.3				105.3	107.8	79
26	90	48.2	66.0	81.4	94.2	104.5	112.1	116.9			117.5	120.3	80
	100	48.9	67.2	83.4	97.2	108.8	118.0	124.8	129.2		129.3	132.6	81
	110	49.4	68.1	84.9	99.6	112.2	122.7	131.1	137.2		140.9	144.5	82

[a] Includes 1.0-foot stump allowance.

Table 47--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for sycamore (species 731) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to: Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30										5.9	11.5	70
	40	9.4									10.5	15.5	76
	50	9.9									12.5	19.1	78
12	60	10.2	13.8								14.3	22.6	79
	70	10.4	14.2								15.9	25.9	80
	80	10.5	14.4								17.4	29.1	81
	90	10.6	14.5	18.1							18.9	32.3	81
	40	12.8	17.0								17.4	20.8	76
	50	13.4	18.1								21.0	25.6	78
	60	13.8	18.8	22.9							24.4	30.1	79
14	70	14.1	19.2	23.7	27.3						27.6	34.5	80
	80	14.2	19.5	24.2	28.2						30.7	38.8	81
	90	14.4	19.7	24.6	28.8	32.6					33.7	43.0	81
	100	14.5	19.9	24.9	29.3	33.3					36.7	47.2	81
	40	16.6	22.1								24.4	26.9	76
	50	17.5	23.6	28.2							29.6	33.0	78
	60	18.0	24.5	29.8	33.9						34.6	38.8	79
16	70	18.3	25.1	30.8	35.6	39.3					39.3	44.4	80
	80	18.6	25.5	31.5	36.7	41.1					43.9	49.9	81
	90	18.8	25.8	32.0	37.6	42.4	46.4				48.5	55.3	81
	100	18.9	26.0	32.4	38.2	43.3	47.8	51.7			53.0	60.7	81
	40	21.0	27.9								31.8	33.7	76
	50	22.1	29.8	35.6							38.8	41.4	78
	60	22.8	31.0	37.6	42.8						45.4	48.7	79
18	70	23.2	31.7	38.9	44.9	49.6					51.8	55.7	80
	80	23.5	32.2	39.8	46.4	51.8	56.2				57.9	62.5	81
	90	23.7	32.6	40.5	47.4	53.5	58.5	62.6			64.0	69.3	81
	100	23.9	32.8	41.0	48.3	54.7	60.3	65.1	69.0		70.0	76.0	81
	40	26.0	34.4	39.6							39.9	41.4	76
	50	27.3	36.8	43.9	48.5						48.8	50.8	78
	60	28.1	38.2	46.4	52.7	57.0					57.1	59.7	79
20	70	28.6	39.1	48.0	55.3	61.0	65.1				65.1	68.2	80
	80	29.0	39.7	49.1	57.1	63.8	69.1				73.0	76.6	81
	90	29.2	40.2	49.9	58.5	65.9	72.0	77.0			80.7	84.9	81
	100	29.4	40.5	50.5	59.5	67.4	74.3	80.1	84.9		88.3	93.1	81
	50	33.0	44.5	53.0	58.6						59.6	61.2	78
	60	34.0	46.2	56.1	63.6	68.7					69.8	71.9	79
	70	34.6	47.3	58.0	66.8	73.6	78.5				79.6	82.1	80
22	80	35.0	48.0	59.4	69.0	77.1	83.4	88.1			89.2	92.2	81
	90	35.4	48.6	60.4	70.7	79.6	87.0	93.0	97.5		98.7	102.1	81
	100	35.6	49.0	61.1	71.9	81.5	89.7	96.7	102.4	106.8	108.1	111.9	81
	50	39.3	52.9	63.1	69.6						71.2	72.6	78
	60	40.4	55.0	66.7	75.6	81.6					83.5	85.2	79
	70	41.2	56.3	69.0	79.4	87.5	93.2				95.3	97.4	80
24	80	41.7	57.1	70.6	82.1	91.6	99.1	104.5			106.8	109.3	81
	90	42.1	57.8	71.8	84.0	94.6	103.3	110.4	115.7		118.2	121.0	81
	100	42.4	58.3	72.7	85.5	96.8	106.6	114.9	121.5	126.7	129.4	132.6	81
	50	46.1	62.1	73.9	81.5						83.8	85.0	78
	60	47.4	64.5	78.2	88.6	95.6					98.2	99.7	79
	70	48.3	66.0	80.9	93.1	102.5	109.2				112.1	113.9	80
26	80	48.9	67.0	82.8	96.3	107.4	116.1	122.4			125.7	127.8	81
	90	49.4	67.8	84.2	98.6	110.9	121.1	129.3	135.4		139.1	141.5	81
	100	49.7	68.4	85.2	100.3	113.5	125.0	134.6	142.4	148.3	152.4	155.1	81

[a] Includes 1.0-foot stump allowance.

Table 48--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 9-inch d.o.b. top and height to a saw-log top for sycamore (species 731) in the Piedmont.[a]

D.b.h. class	Height to 9-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	10.2									11.7	29.1	85
	30	10.2	14.2								16.4	26.3	82
	40	10.4	14.4	18.1							21.1	28.3	81
12	50	10.5	14.5	18.4	22.0	25.3					25.7	31.5	81
	60	10.6	14.6	18.5	22.2	25.8	29.2				30.4	35.2	81
	70	10.6	14.7	18.6	22.4	26.0	29.6	32.9			35.0	39.2	81
	80	10.7	14.7	18.7	22.5	26.2	29.8	33.3	36.7		39.6	43.4	81
	40	14.1	19.4	23.8							27.0	34.6	81
	50	14.2	19.6	24.4	28.6	32.3					32.7	38.7	81
	60	14.3	19.7	24.7	29.3	33.4	37.0				38.3	43.3	81
14	70	14.4	19.8	24.9	29.7	34.0	38.1	41.7			43.8	48.3	81
	80	14.5	19.9	25.1	29.9	34.5	38.8	42.8	46.4		49.4	53.3	81
	90	14.5	20.0	25.2	30.1	34.8	39.3	43.5	47.4	51.1	54.9	58.5	81
	100	14.6	20.0	25.3	30.3	35.1	39.7	44.0	48.2	52.1	60.5	63.7	81
	40	18.3	25.1	30.4							33.9	41.9	81
	50	18.5	25.4	31.4	36.3	40.2					40.7	47.0	81
	60	18.7	25.7	31.9	37.4	42.1	46.1				47.4	52.7	81
16	70	18.8	25.8	32.2	38.1	43.3	47.9	51.9			54.0	58.7	81
	80	18.9	25.9	32.5	38.5	44.1	49.1	53.6	57.6		60.7	64.8	81
	90	18.9	26.0	32.6	38.8	44.6	50.0	54.9	59.4	63.4	67.3	71.1	81
	100	19.0	26.1	32.8	39.1	45.1	50.6	55.8	60.7	65.1	74.0	77.4	81
	40	23.2	31.6	37.9							41.7	50.1	81
	50	23.4	32.1	39.3	45.0	49.3					49.7	56.4	81
	60	23.6	32.4	40.0	46.6	52.1	56.4				57.7	63.3	81
18	70	23.7	32.6	40.5	47.6	53.8	59.0	63.4			65.6	70.5	81
	80	23.9	32.7	40.8	48.2	54.9	60.8	66.0	70.4		73.5	77.9	81
	90	23.9	32.8	41.1	48.7	55.7	62.1	67.8	72.9	77.3	81.4	85.3	81
	100	24.0	32.9	41.3	49.1	56.4	63.1	69.2	74.8	79.8	89.3	92.9	81
	40	28.6	38.9	46.3							50.4	59.3	81
	50	28.9	39.5	48.1	54.8	59.4					59.8	67.0	81
	60	29.1	39.8	49.1	56.9	63.2	67.9				69.2	75.2	81
20	70	29.3	40.1	49.8	58.2	65.5	71.5	76.2			78.5	83.7	81
	80	29.4	40.3	50.2	59.1	67.0	73.9	79.8	84.6		87.8	92.4	81
	90	29.5	40.5	50.5	59.8	68.1	75.7	82.3	88.0	92.8	97.1	101.3	81
	100	29.6	40.6	50.8	60.3	69.0	77.0	84.2	90.6	96.2	106.4	110.2	81
	50	34.9	47.7	57.9	65.6	70.6					71.0	78.6	81
	60	35.2	48.1	59.2	68.3	75.4	80.6				82.0	88.3	81
	70	35.4	48.5	60.0	70.0	78.4	85.3	90.5			92.8	98.3	81
22	80	35.6	48.7	60.6	71.1	80.4	88.4	95.0	100.3		103.7	108.5	81
	90	35.7	48.9	61.0	72.0	81.9	90.6	98.3	104.7	110.0	114.5	118.9	81
	100	35.8	49.0	61.3	72.6	83.0	92.3	100.7	108.1	114.4	125.3	129.3	81
	50	41.5	56.6	68.6	77.4	82.8					83.3	91.3	81
	60	41.9	57.2	70.2	80.8	88.9	94.5				95.9	102.6	81
	70	42.1	57.6	71.2	82.9	92.6	100.3	106.0			108.5	114.3	81
24	80	42.3	57.9	71.9	84.3	95.1	104.2	111.7	117.5		121.0	126.1	81
	90	42.4	58.1	72.4	85.4	96.9	107.0	115.8	123.0	128.8	133.5	138.1	81
	100	42.6	58.3	72.8	86.2	98.3	109.2	118.8	127.2	134.3	146.0	150.2	81
	50	48.7	66.4	80.2	90.2	96.2					96.6	105.0	81
	60	49.1	67.1	82.1	94.3	103.5	109.6				111.1	118.1	81
	70	49.4	67.5	83.4	96.9	108.0	116.7	122.9			125.5	131.6	81
26	80	49.6	67.9	84.2	98.6	111.0	121.5	129.8	136.1		139.9	145.3	81
	90	49.8	68.1	84.9	99.9	113.2	124.9	134.8	142.9	149.3	154.2	159.0	81
	100	49.9	68.4	85.3	100.9	114.9	127.4	138.5	148.0	156.0	168.5	172.9	81

[a] Includes 1.0-foot stump allowance.

Table 49--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for sycamore (species 731) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.8	0.8	0.9	1.0	1.1	1.3											
6	1.2	1.4	1.9	2.4	2.8	3.2	3.5	3.8									
7	2.6	2.9	3.4	3.8	4.4	4.9	5.4	5.8	6.2	6.7							
8	3.6	4.1	4.7	5.3	6.1	6.7	7.4	8.0	8.6	9.2	9.7	10.3					
9	4.6	5.3	6.1	6.9	7.9	8.8	9.6	10.4	11.2	11.9	12.6	13.3	14.0	14.7			
10	5.8	6.6	7.7	8.7	9.9	11.0	12.0	13.0	14.0	14.9	15.8	16.7	17.6	18.5	19.3	20.2	
11			9.4	10.6	12.1	13.4	14.6	15.9	17.0	18.2	19.3	20.4	21.5	22.5	23.6	24.6	25.7
12			11.2	12.7	14.4	16.0	17.5	19.0	20.4	21.8	23.1	24.4	25.7	27.0	28.3	29.5	30.7
13			13.2	15.0	17.0	18.9	20.7	22.4	24.0	25.7	27.2	28.8	30.3	31.8	33.3	34.8	36.3
14					19.8	21.9	24.0	26.0	28.0	29.8	31.7	33.5	35.3	37.0	38.8	40.5	42.2
15					22.7	25.2	27.6	29.9	32.2	34.3	36.5	38.5	40.6	42.6	44.6	46.6	48.6
16					25.9	28.8	31.5	34.1	36.7	39.1	41.6	43.9	46.3	48.6	50.9	53.1	55.4

[a] Includes 0.5-foot stump allowance.

Table 50--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for sycamore (species 731) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.8	2.4	2.8	3.1	3.6	4.1											
6	2.3	2.9	3.6	4.1	4.7	5.3	5.9	6.5									
7	2.8	3.6	4.3	5.3	6.1	6.8	7.6	8.3	9.0	9.7							
8	3.6	4.4	5.5	6.7	7.7	8.6	9.5	10.4	11.2	12.1	12.9	13.7					
9	4.5	5.4	6.8	8.3	9.4	10.6	11.6	12.7	13.7	14.8	15.8	16.8	17.8	18.8			
10	5.5	6.6	8.2	10.0	11.4	12.8	14.1	15.3	16.6	17.8	19.0	20.2	21.4	22.6	23.7	24.9	
11			9.9	12.0	13.6	15.2	16.7	18.2	19.7	21.1	22.6	24.0	25.3	26.7	28.1	29.5	30.8
12			11.6	14.1	16.0	17.9	19.7	21.4	23.1	24.8	26.4	28.1	29.7	31.3	32.9	34.5	36.1
13			13.6	16.4	18.7	20.8	22.9	24.9	26.8	28.8	30.7	32.6	34.4	36.3	38.1	40.0	41.8
14					21.5	23.9	26.3	28.6	30.8	33.1	35.2	37.4	39.5	41.7	43.8	45.9	48.0
15					24.6	27.3	30.0	32.6	35.2	37.7	40.2	42.6	45.0	47.4	49.8	52.2	54.6
16					27.8	30.9	34.0	36.9	39.8	42.6	45.4	48.2	50.9	53.6	56.3	59.0	61.7

[a] Includes 0.5-foot stump allowance.

Table 51--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for elm (species 970) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40										4.3	9.1	57
	50										6.7	12.6	67
	60	9.1									11.4	15.7	73
12	70	9.6	13.0								13.9	18.6	77
	80	9.9	13.6								16.0	21.3	79
	90	10.1	14.0	17.3							17.9	23.9	81
	100	10.3	14.3	17.8							19.7	26.4	82
	40										7.2	12.5	57
	50	11.4									14.5	17.3	67
	60	12.4	16.6								18.4	21.7	73
14	70	13.1	17.8	21.4							21.8	25.6	77
	80	13.5	18.6	22.7							24.9	29.4	79
	90	13.8	19.1	23.7	27.2						27.8	32.9	81
	100	14.1	19.5	24.3	28.3						30.6	36.4	82
	50	14.9	19.3								20.4	22.8	67
	60	16.3	21.7	25.5							25.6	28.5	73
	70	17.2	23.3	28.0							30.3	33.7	77
16	80	17.7	24.3	29.7	33.7						34.6	38.6	79
	90	18.1	25.0	31.0	35.6						38.8	43.3	81
	100	18.4	25.6	31.9	37.1	41.0					42.8	47.8	82
	110	18.7	26.0	32.6	38.2	42.7	46.2				46.6	52.3	83
	50	18.9	24.5								26.9	29.0	67
	60	20.7	27.5	32.4							33.6	36.2	73
	70	21.8	29.5	35.5	39.5						39.8	42.8	77
18	80	22.5	30.8	37.7	42.7						45.5	49.1	79
	90	23.0	31.7	39.2	45.1	49.4					51.0	55.0	81
	100	23.4	32.4	40.4	47.0	52.0	55.7				56.2	60.8	82
	110	23.7	32.9	41.3	48.4	54.1	58.5				61.4	66.4	83
	50	23.4	30.3								34.0	35.9	67
	60	25.6	34.0	40.0							42.5	44.9	73
	70	26.9	36.5	43.9	48.8						50.3	53.0	77
20	80	27.8	38.1	46.6	52.8	56.9					57.5	60.7	79
	90	28.5	39.3	48.5	55.8	61.0					64.4	68.1	81
	100	28.9	40.1	49.9	58.0	64.3	68.8				71.1	75.2	82
	110	29.3	40.7	51.0	59.8	66.9	72.3	76.3			77.6	82.2	83
	60	31.0	41.2	48.5							52.2	54.4	73
	70	32.6	44.2	53.2	59.1						61.8	64.3	77
	80	33.7	46.2	56.4	63.9	68.9					70.7	73.6	79
22	90	34.5	47.6	58.7	67.5	73.9	78.2				79.2	82.6	81
	100	35.1	48.6	60.5	70.3	77.8	83.3	87.1			87.5	91.2	82
	110	35.5	49.3	61.8	72.4	80.9	87.5	92.4			95.5	99.6	83
	60	36.9	49.1	57.7	62.5						62.8	64.8	73
	70	38.9	52.6	63.3	70.3						74.3	76.7	77
	80	40.2	55.0	67.2	76.1	82.1					85.1	87.8	79
24	90	41.1	56.6	70.0	80.4	88.0	93.1				95.3	98.4	81
	100	41.8	57.9	72.0	83.7	92.7	99.2	103.7			105.2	108.7	82
	110	42.3	58.8	73.6	86.2	96.4	104.2	110.0	114.1		114.9	118.8	83
	60	43.4	57.7	67.8	73.4						74.3	76.2	73
	70	45.7	61.8	74.3	82.6	87.4					87.9	90.1	77
	80	47.2	64.6	78.9	89.4	96.3	100.5				100.6	103.1	79
26	90	48.3	66.5	82.2	94.5	103.3	109.3				112.8	115.6	81
	100	49.1	68.0	84.6	98.3	108.8	116.5	121.8			124.5	127.7	82
	110	49.7	69.0	86.4	101.2	113.2	122.4	129.1	133.9		136.0	139.5	83

[a] Includes 1.0-foot stump allowance.

Table 52--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for elm (species 970) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	8.2									8.6	11.0	70
	40	9.0									10.9	14.6	75
	50	9.4	12.8								12.9	17.9	78
12	60	9.7	13.3								14.7	21.0	79
	70	9.9	13.6								16.4	24.0	80
	80	10.0	13.8	17.1							18.0	27.0	80
	90	10.1	14.0	17.4							19.6	29.9	80
	40	12.4	16.4								17.0	19.7	75
	50	13.0	17.5								20.4	24.0	78
	60	13.3	18.2	22.0							23.6	28.2	79
14	70	13.6	18.6	22.8	26.2						26.6	32.2	80
	80	13.7	18.9	23.3	27.1						29.6	36.1	80
	90	13.9	19.1	23.7	27.7	31.1					32.5	39.9	80
	100	14.0	19.3	24.0	28.2	31.9	35.1				35.3	43.8	81
	40	16.2	21.5								23.5	25.6	75
	50	17.0	23.0	27.2							28.4	31.2	78
	60	17.5	23.8	28.8	32.5						33.0	36.5	79
16	70	17.8	24.4	29.8	34.2						37.3	41.6	80
	80	18.1	24.8	30.5	35.4	39.3					41.6	46.6	80
	90	18.2	25.1	31.1	36.3	40.6	44.2				45.8	51.5	80
	100	18.3	25.3	31.5	36.9	41.7	45.7	49.1			50.0	56.4	81
	40	20.6	27.2								30.6	32.2	75
	50	21.6	29.1	34.4							37.0	39.2	78
	60	22.3	30.2	36.5	41.0						43.1	45.8	79
18	70	22.7	30.9	37.8	43.2	47.3					48.9	52.2	80
	80	22.9	31.4	38.7	44.8	49.7	53.4				54.6	58.5	80
	90	23.2	31.8	39.4	45.9	51.4	55.9	59.4			60.1	64.7	80
	100	23.3	32.1	39.9	46.8	52.7	57.8	62.0	65.3		65.6	70.8	81
	40	25.5	33.7	38.2							38.4	39.7	75
	50	26.8	36.0	42.5							46.4	48.2	78
	60	27.5	37.4	45.0	50.6						54.1	56.3	79
20	70	28.1	38.3	46.7	53.4	58.3					61.4	64.1	80
	80	28.4	38.9	47.8	55.3	61.3	65.8				68.6	71.8	80
	90	28.7	39.3	48.7	56.7	63.4	68.9	73.2			75.6	79.3	80
	100	28.9	39.7	49.3	57.8	65.1	71.3	76.3	80.4		82.6	86.8	81
	50	32.5	43.6	51.4	56.2						56.7	58.2	78
	60	33.4	45.3	54.5	61.2	65.5					66.0	67.9	79
	70	34.0	46.4	56.5	64.6	70.5	74.6				75.0	77.3	80
22	80	34.4	47.1	57.9	66.9	74.1	79.5	83.4			83.8	86.5	80
	90	34.8	47.7	58.9	68.6	76.7	83.3	88.4	92.0		92.5	95.6	80
	100	35.0	48.1	59.7	69.9	78.7	86.2	92.2	97.0	100.6	101.0	104.5	81
	50	38.7	51.9	61.2	66.8						67.9	69.1	78
	60	39.8	53.9	64.9	72.8	77.9					79.0	80.6	79
	70	40.5	55.2	67.3	76.8	83.9	88.6				89.8	91.7	80
24	80	41.1	56.1	69.0	79.6	88.1	94.6	99.0			100.4	102.6	80
	90	41.4	56.8	70.2	81.7	91.3	99.0	105.0	109.3		110.7	113.3	80
	100	41.7	57.3	71.1	83.2	93.7	102.5	109.7	115.3	119.5	121.0	123.9	81
	50	45.5	61.0	71.9	78.4						79.9	81.0	78
	60	46.8	63.4	76.2	85.5	91.3					93.1	94.4	79
	70	47.6	64.9	79.0	90.2	98.4	103.9				105.8	107.4	80
26	80	48.3	65.9	81.0	93.4	103.4	110.9	116.1			118.2	120.1	80
	90	48.7	66.7	82.4	95.9	107.1	116.2	123.1	128.1		130.4	132.6	80
	100	49.0	67.3	83.5	97.7	109.9	120.2	128.6	135.2	140.0	142.5	145.0	81

[a] Includes 1.0-foot stump allowance.

Table 53--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 9-inch d.o.b. top and height to a saw-log top for elm (species 970) in the Piedmont.[a]

D.b.h. class	Height to 9-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	8.5									9.7	15.8	73
	30	9.3	12.9								14.9	19.7	78
	40	9.7	13.5	17.0							19.7	24.0	80
12	50	9.9	13.9	17.6	21.0	24.1					24.5	28.4	81
	60	10.0	14.1	17.9	21.5	24.9	28.1				29.2	32.9	81
	70	10.1	14.2	18.1	21.9	25.4	28.8	32.0			33.8	37.4	81
	80	10.2	14.3	18.3	22.1	25.8	29.3	32.7	35.8		38.5	41.9	82
	40	13.4	18.5	22.8							25.8	30.1	80
	50	13.7	19.0	23.8	27.9	31.3					31.7	35.6	81
	60	13.9	19.3	24.3	28.8	32.9	36.4				37.5	41.2	81
14	70	14.0	19.5	24.6	29.4	33.8	37.8	41.3			43.2	46.8	81
	80	14.1	19.6	24.9	29.8	34.4	38.7	42.7	46.2		49.0	52.4	82
	90	14.1	19.7	25.0	30.1	34.9	39.4	43.6	47.5	51.1	54.6	57.9	82
	100	14.2	19.8	25.2	30.3	35.2	39.9	44.3	48.5	52.3	60.3	63.5	82
	40	17.7	24.2	29.5							32.8	37.1	80
	50	18.1	24.9	30.9	35.8	39.6					40.0	43.9	81
	60	18.3	25.3	31.6	37.2	42.0	45.9				47.1	50.8	81
16	70	18.5	25.6	32.1	38.1	43.4	48.1	52.1			54.1	57.6	81
	80	18.6	25.8	32.5	38.7	44.4	49.6	54.2	58.2		61.0	64.5	82
	90	18.6	25.9	32.7	39.2	45.1	50.6	55.7	60.2	64.2	68.0	71.3	82
	100	18.7	26.0	32.9	39.5	45.7	51.4	56.8	61.7	66.2	74.9	78.1	82
	40	22.6	30.7	37.0							40.6	45.0	80
	50	23.0	31.6	38.9	44.8	49.0					49.4	53.4	81
	60	23.3	32.1	40.0	46.7	52.3	56.7				57.9	61.7	81
18	70	23.5	32.5	40.6	48.0	54.4	59.8	64.2			66.4	70.0	81
	80	23.6	32.7	41.1	48.8	55.7	61.9	67.3	71.7		74.8	78.2	82
	90	23.8	32.9	41.5	49.4	56.7	63.4	69.4	74.6	79.1	83.1	86.4	82
	100	23.8	33.0	41.7	49.9	57.5	64.5	70.9	76.8	82.0	91.4	94.7	82
	40	28.0	38.0	45.4							49.4	53.9	80
	50	28.5	39.1	47.9	54.8	59.4					59.8	63.9	81
	60	28.9	39.8	49.3	57.3	63.9	68.7				70.0	73.9	81
20	70	29.2	40.2	50.2	59.0	66.6	72.9	77.8			80.1	83.8	81
	80	29.3	40.5	50.8	60.1	68.4	75.7	81.8	86.8		90.1	93.6	82
	90	29.5	40.7	51.2	60.9	69.7	77.6	84.6	90.7	95.8	100.0	103.4	82
	100	29.6	40.9	51.5	61.5	70.6	79.1	86.7	93.6	99.6	109.9	113.2	82
	50	34.7	47.4	57.8	65.8	71.0					71.4	75.6	81
	60	35.1	48.2	59.5	69.1	76.7	82.1				83.4	87.3	81
	70	35.4	48.7	60.7	71.1	80.1	87.4	92.9			95.2	99.0	81
22	80	35.6	49.1	61.4	72.5	82.3	90.9	98.0	103.6		107.0	110.6	82
	90	35.8	49.4	62.0	73.5	84.0	93.3	101.5	108.5	114.2	118.7	122.1	82
	100	35.9	49.6	62.4	74.3	85.2	95.2	104.2	112.1	119.0	130.3	133.7	82
	50	41.3	56.4	68.7	77.9	83.7					84.1	88.4	81
	60	41.9	57.4	70.8	81.9	90.7	96.7				98.1	102.1	81
	70	42.2	58.1	72.1	84.4	94.8	103.2	109.4			111.9	115.7	81
24	80	42.5	58.5	73.1	86.1	97.6	107.5	115.6	121.9		125.5	129.2	82
	90	42.7	58.8	73.7	87.4	99.7	110.6	120.0	128.0	134.3	139.1	142.7	82
	100	42.8	59.1	74.3	88.3	101.2	112.9	123.3	132.5	140.3	152.7	156.1	82
	50	48.6	66.2	80.5	91.1	97.4					97.9	102.3	81
	60	49.2	67.4	83.0	95.9	105.9	112.5				114.0	118.1	81
	70	49.6	68.2	84.6	98.9	110.9	120.4	127.3			129.9	133.8	81
26	80	49.9	68.7	85.8	101.0	114.3	125.6	134.8	141.8		145.7	149.4	82
	90	50.2	69.1	86.6	102.4	116.7	129.3	140.1	149.2	156.2	161.3	165.0	82
	100	50.3	69.4	87.2	103.5	118.5	132.1	144.1	154.6	163.4	177.0	180.5	82

[a] Includes 1.0-foot stump allowance.

Table 54--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for elm (species 970) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.6	0.6	0.7	0.8	0.9	1.5											
6	1.2	1.9	2.2	2.5	2.6	3.0	3.3	3.6									
7	2.6	2.9	3.3	3.7	3.9	4.5	4.9	5.4	5.8	6.3							
8	3.6	4.0	4.6	5.1	5.4	6.1	6.8	7.4	8.0	8.6	9.1	9.7					
9	4.7	5.2	5.9	6.7	7.1	8.0	8.8	9.6	10.4	11.1	11.9	12.6	13.3	13.9			
10	5.8	6.6	7.5	8.4	8.9	10.0	11.1	12.1	13.1	14.0	14.9	15.8	16.7	17.5	18.4	19.2	
11			9.2	10.3	10.9	12.3	13.6	14.8	16.0	17.1	18.3	19.3	20.4	21.5	22.5	23.5	24.5
12			11.0	12.3	13.1	14.8	16.3	17.8	19.2	20.6	21.9	23.2	24.5	25.8	27.0	28.2	29.5
13			13.0	14.6	15.5	17.4	19.3	21.0	22.7	24.3	25.9	27.4	28.9	30.4	31.9	33.4	34.8
14					18.1	20.3	22.4	24.5	26.4	28.3	30.1	31.9	33.7	35.5	37.2	38.9	40.5
15					20.9	23.4	25.9	28.2	30.4	32.6	34.7	36.8	38.8	40.8	42.8	44.8	46.7
16					23.8	26.8	29.5	32.2	34.7	37.2	39.6	42.0	44.3	46.6	48.9	51.1	53.3

[a] Includes 0.5-foot stump allowance.

Table 55--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for elm (species 970) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5[b]	1.6	2.1	2.4	2.6	3.1	3.5											
6[b]	2.0	2.5	3.2	3.6	4.1	4.7	5.2	5.7									
7	2.5	3.2	3.8	4.7	5.3	6.0	6.7	7.3	8.0	8.6							
8	3.3	4.0	5.0	6.0	6.9	7.7	8.5	9.3	10.1	10.9	11.6	12.4					
9	4.3	5.1	6.3	7.6	8.7	9.7	10.7	11.6	12.5	13.5	14.4	15.3	16.2	17.1			
10	5.3	6.3	7.8	9.4	10.6	11.8	13.0	14.1	15.3	16.4	17.5	18.5	19.6	20.7	21.8	22.8	
11			9.4	11.3	12.8	14.2	15.6	16.9	18.3	19.6	20.9	22.1	23.4	24.7	25.9	27.2	28.4
12			11.2	13.4	15.1	16.8	18.4	20.0	21.5	23.1	24.6	26.0	27.5	29.0	30.4	31.9	33.3
13			13.1	15.7	17.7	19.6	21.5	23.3	25.1	26.9	28.6	30.3	32.0	33.7	35.4	37.1	38.7
14					20.4	22.7	24.8	26.9	28.9	31.0	32.9	34.9	36.9	38.8	40.7	42.6	44.5
15					23.4	25.9	28.4	30.7	33.1	35.4	37.6	39.8	42.1	44.3	46.4	48.6	50.8
16					26.6	29.4	32.2	34.9	37.5	40.1	42.6	45.1	47.6	50.1	52.6	55.0	57.4

[a] Includes 0.5-foot stump allowance.

[b] Cylindrical volume assumed below breast height.

Table 56--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for all hard hardwoods combined (species 500) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40										4.8	9.7	61
	50	8.3									9.4	13.1	70
	60	9.0									12.2	16.2	75
12	70	9.4	12.9								14.4	19.0	78
	80	9.7	13.4								16.5	21.6	80
	90	9.8	13.8	17.2							18.3	24.2	81
	100	10.0	14.0	17.6							20.1	26.6	82
	40	9.9									10.9	13.4	61
	50	11.4	15.1								15.5	18.1	70
	60	12.3	16.7								19.2	22.2	75
14	70	12.8	17.7	21.5							22.4	26.1	78
	80	13.2	18.3	22.6							25.5	29.7	80
	90	13.5	18.8	23.4	27.2						28.4	33.2	81
	100	13.6	19.1	24.0	28.1						31.2	36.6	82
	50	14.9	19.8								21.5	23.7	70
	60	16.1	21.8	25.9							26.5	29.2	75
	70	16.8	23.1	28.1							31.1	34.3	78
16	80	17.3	24.0	29.6	33.8						35.3	39.0	80
	90	17.6	24.6	30.7	35.5	39.0					39.4	43.6	81
	100	17.9	25.1	31.4	36.8	41.0					43.3	48.1	82
	110	18.0	25.4	32.0	37.8	42.5	46.1				47.2	52.5	83
	50	18.9	25.0								28.2	30.2	70
	60	20.4	27.7	32.9							34.7	37.1	75
	70	21.3	29.3	35.6	39.9						40.7	43.5	78
18	80	21.9	30.4	37.5	42.8						46.3	49.6	80
	90	22.3	31.2	38.8	45.0	49.5					51.6	55.4	81
	100	22.6	31.8	39.8	46.6	51.9	55.7				56.8	61.1	82
	110	22.9	32.2	40.6	47.8	53.8	58.4	61.8			61.9	66.7	83
	50	23.4	31.0	35.4							35.5	37.3	70
	60	25.2	34.2	40.6							43.8	45.9	75
	70	26.4	36.2	44.0	49.3						51.3	53.9	78
20	80	27.1	37.6	46.4	52.9	57.3					58.4	61.4	80
	90	27.6	38.5	48.0	55.6	61.1	64.8				65.2	68.6	81
	100	28.0	39.2	49.2	57.6	64.1	68.9				71.8	75.6	82
	110	28.3	39.8	50.1	59.1	66.5	72.1	76.3			78.2	82.5	83
	60	30.6	41.4	49.2	53.5						53.7	55.7	75
	70	31.9	43.9	53.3	59.6						62.9	65.3	78
	80	32.8	45.5	56.1	64.1	69.3					71.6	74.4	80
22	90	33.5	46.7	58.1	67.3	74.0	78.5				80.0	83.1	81
	100	33.9	47.5	59.6	69.7	77.6	83.4	87.3			88.1	91.7	82
	110	34.2	48.2	60.7	71.6	80.5	87.3	92.4	95.9		96.1	100.0	83
	60	36.4	49.3	58.5	63.7						64.5	66.3	75
	70	38.1	52.2	63.5	71.0	75.3					75.6	77.8	78
	80	39.1	54.2	66.8	76.3	82.5					86.1	88.6	80
24	90	39.9	55.6	69.2	80.1	88.1	93.5				96.2	99.1	81
	100	40.4	56.6	71.0	83.0	92.4	99.3	104.0			106.0	109.2	82
	110	40.8	57.4	72.3	85.2	95.8	104.0	110.0	114.2		115.6	119.2	83
	60	42.8	57.9	68.7	74.8						76.2	77.9	75
	70	44.7	61.4	74.5	83.4	88.5					89.4	91.4	78
	80	46.0	63.7	78.5	89.5	96.9	101.3				101.8	104.1	80
26	90	46.8	65.3	81.3	94.1	103.4	109.7	113.6			113.7	116.4	81
	100	47.5	66.5	83.3	97.5	108.5	116.5	122.1			125.3	128.3	82
	110	47.9	67.4	84.9	100.1	112.5	122.0	129.1	134.1		136.6	140.0	83

[a] Includes 1.0-foot stump allowance.

Table 57--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for all hard hardwoods combined (species 500) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	8.2									8.9	11.1	71
	40	8.9									11.2	14.8	76
	50	9.3	12.8								13.3	18.1	78
12	60	9.6	13.2								15.2	21.2	80
	70	9.7	13.5	16.7							17.0	24.3	80
	80	9.8	13.7	17.1							18.8	27.3	81
	90	9.9	13.8	17.3	20.4						20.5	30.3	81
	40	12.2	16.4								17.3	19.8	76
	50	12.8	17.4								20.8	24.2	78
	60	13.1	18.0	22.0							24.1	28.4	80
14	70	13.3	18.4	22.7	26.2						27.2	32.5	80
	80	13.4	18.7	23.2	27.0	30.2					30.3	36.5	81
	90	13.5	18.9	23.6	27.7	31.2					33.3	40.4	81
	100	13.6	19.0	23.9	28.2	31.9	35.2				36.3	44.3	81
	40	16.0	21.4								23.8	25.7	76
	50	16.7	22.8	27.2							28.7	31.3	78
	60	17.1	23.6	28.7	32.5						33.4	36.7	80
16	70	17.4	24.1	29.6	34.1	37.5					37.9	41.9	80
	80	17.6	24.4	30.3	35.3	39.3					42.3	47.0	81
	90	17.7	24.7	30.8	36.1	40.6	44.3				46.6	52.0	81
	100	17.8	24.9	31.2	36.7	41.6	45.8	49.3			50.9	57.0	81
	40	20.3	27.1								30.8	32.3	76
	50	21.2	28.8	34.3							37.3	39.4	78
	60	21.7	29.9	36.3	41.0						43.5	46.1	80
18	70	22.1	30.5	37.5	43.1	47.4					49.4	52.6	80
	80	22.3	30.9	38.4	44.6	49.6	53.6				55.2	58.9	81
	90	22.5	31.3	39.0	45.7	51.3	56.0	59.6			60.9	65.2	81
	100	22.6	31.5	39.5	46.5	52.6	57.8	62.1	65.6		66.6	71.4	81
	40	25.0	33.4	38.2							38.5	39.8	76
	50	26.2	35.6	42.4	46.5						46.7	48.4	78
	60	26.9	36.9	44.8	50.6	54.3					54.5	56.6	80
20	70	27.3	37.7	46.3	53.2	58.4	61.9				61.9	64.5	80
	80	27.6	38.2	47.4	55.0	61.2	65.9				69.3	72.3	81
	90	27.8	38.6	48.1	56.4	63.3	68.9	73.4			76.5	79.9	81
	100	27.9	38.9	48.7	57.4	64.9	71.2	76.5	80.7		83.6	87.5	81
	50	31.7	43.1	51.2	56.2						57.0	58.4	78
	60	32.5	44.6	54.1	61.1	65.6					66.4	68.2	80
	70	33.0	45.6	56.0	64.3	70.5	74.7				75.6	77.7	80
22	80	33.4	46.3	57.3	66.5	74.0	79.6	83.7			84.5	87.0	81
	90	33.7	46.8	58.3	68.2	76.5	83.3	88.6	92.5		93.4	96.2	81
	100	33.9	47.1	59.0	69.4	78.4	86.1	92.4	97.4	101.2	102.1	105.3	81
	50	37.8	51.3	60.9	66.8						68.1	69.3	78
	60	38.7	53.2	64.4	72.7	78.0					79.4	80.9	80
	70	39.4	54.3	66.7	76.5	83.8	88.8				90.4	92.1	80
24	80	39.8	55.1	68.2	79.2	87.9	94.6	99.3			101.1	103.2	81
	90	40.1	55.7	69.4	81.1	91.0	99.0	105.3	109.8		111.6	114.1	81
	100	40.3	56.1	70.2	82.6	93.3	102.4	109.8	115.7	120.1	122.1	124.8	81
	50	44.4	60.3	71.5	78.3						80.1	81.1	78
	60	45.5	62.4	75.6	85.2	91.4					93.4	94.7	80
	70	46.2	63.8	78.3	89.7	98.3	104.0				106.3	107.9	80
26	80	46.7	64.7	80.1	92.9	103.1	111.0	116.4			118.9	120.7	81
	90	47.1	65.4	81.4	95.2	106.7	116.1	123.4	128.6		131.4	133.5	81
	100	47.4	65.9	82.4	96.9	109.5	120.1	128.8	135.6	140.7	143.7	146.0	81

[a] Includes 1.0-foot stump allowance.

Table 58--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 9-inch d.o.b. top and height to a saw-log top for all hard hardwoods combined (species 500) in the Piedmont.[a]

D.b.h. class	Height to 9-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	8.3									9.5	15.1	73
	30	9.2	12.7								14.6	18.9	78
	40	9.5	13.3	16.8							19.4	23.3	80
12	50	9.7	13.6	17.3	20.7	23.8					24.1	27.7	80
	60	9.8	13.8	17.6	21.2	24.6	27.6				28.7	32.2	81
	70	9.9	13.9	17.8	21.5	25.1	28.4	31.5			33.3	36.7	81
	80	9.9	14.0	18.0	21.8	25.4	28.9	32.2	35.3		37.8	41.1	81
	40	13.0	18.1	22.3							25.2	28.4	80
	50	13.3	18.6	23.3	27.3	30.7					31.0	34.0	80
	60	13.4	18.8	23.8	28.2	32.2	35.6				36.7	39.6	81
14	70	13.5	19.0	24.1	28.8	33.1	37.0	40.5			42.4	45.1	81
	80	13.6	19.1	24.3	29.2	33.8	38.0	41.8	45.3		48.0	50.7	81
	90	13.7	19.2	24.5	29.5	34.2	38.7	42.8	46.6	50.1	53.6	56.2	81
	100	13.7	19.3	24.6	29.7	34.6	39.2	43.5	47.6	51.4	59.1	61.7	82
	40	17.1	23.6	28.7							31.9	34.6	80
	50	17.4	24.2	30.1	35.0	38.7					39.0	41.6	80
	60	17.6	24.6	30.9	36.4	41.0	44.8				46.0	48.4	81
16	70	17.7	24.8	31.3	37.2	42.5	47.1	50.9			52.9	55.2	81
	80	17.8	25.0	31.7	37.8	43.4	48.5	53.0	56.9		59.7	62.0	81
	90	17.9	25.1	31.9	38.3	44.1	49.6	54.5	59.0	62.9	66.5	68.7	81
	100	18.0	25.2	32.1	38.6	44.7	50.4	55.6	60.5	64.9	73.3	75.5	82
	40	21.7	29.8	36.0							39.5	41.9	80
	50	22.1	30.6	37.8	43.6	47.7					48.1	50.3	80
	60	22.4	31.1	38.9	45.5	51.1	55.3				56.5	58.6	81
18	70	22.5	31.5	39.5	46.8	53.1	58.4	62.7			64.8	66.8	81
	80	22.6	31.7	40.0	47.6	54.4	60.5	65.7	70.0		73.0	75.0	81
	90	22.7	31.8	40.3	48.2	55.4	61.9	67.8	73.0	77.3	81.2	83.1	81
	100	22.8	31.9	40.6	48.6	56.1	63.0	69.4	75.1	80.2	89.4	91.3	82
	40	26.8	36.7	44.1							48.0	50.1	80
	50	27.3	37.8	46.5	53.3	57.8					58.2	60.2	80
	60	27.6	38.4	47.9	55.8	62.2	66.9				68.2	70.1	81
20	70	27.9	38.8	48.7	57.4	64.9	71.1	75.9			78.1	79.9	81
	80	28.0	39.1	49.3	58.5	66.7	73.8	79.9	84.7		87.9	89.6	81
	90	28.1	39.3	49.7	59.3	68.0	75.8	82.7	88.6	93.5	97.6	99.3	81
	100	28.2	39.5	50.0	59.8	68.9	77.2	84.7	91.4	97.3	107.3	109.0	82
	50	33.1	45.8	56.1	63.9	69.0					69.4	71.2	80
	60	33.5	46.5	57.8	67.2	74.6	79.8				81.1	82.9	81
	70	33.8	47.0	58.8	69.2	78.0	85.1	90.5			92.8	94.4	81
22	80	33.9	47.4	59.6	70.5	80.2	88.6	95.5	101.0		104.3	105.9	81
	90	34.1	47.6	60.1	71.5	81.9	91.1	99.1	105.9	111.4	115.7	117.3	81
	100	34.2	47.8	60.5	72.3	83.1	92.9	101.7	109.5	116.2	127.2	128.7	82
	50	39.5	54.5	66.6	75.6	81.2					81.6	83.3	80
	60	39.9	55.4	68.7	79.6	88.2	94.0				95.3	96.9	81
	70	40.2	56.0	70.0	82.1	92.3	100.5	106.4			108.9	110.4	81
24	80	40.5	56.4	70.8	83.7	95.1	104.7	112.7	118.7		122.3	123.7	81
	90	40.6	56.7	71.5	85.0	97.1	107.8	117.1	124.8	130.9	135.6	137.1	81
	100	40.7	56.9	72.0	85.9	98.6	110.1	120.3	129.3	136.9	148.9	150.3	82
	50	46.3	63.9	78.0	88.4	94.6					95.0	96.5	80
	60	46.9	65.0	80.5	93.1	102.9	109.3				110.8	112.2	81
	70	47.3	65.7	82.0	96.1	107.9	117.2	123.8			126.4	127.8	81
26	80	47.5	66.2	83.1	98.1	111.2	122.3	131.3	138.1		141.8	143.2	81
	90	47.7	66.6	83.9	99.6	113.6	126.0	136.6	145.4	152.2	157.2	158.5	81
	100	47.9	66.8	84.4	100.6	115.4	128.7	140.6	150.8	159.4	172.5	173.8	82

[a] Includes 1.0-foot stump allowance.

Table 59--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for all hard hardwoods combined (species 500) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.6	0.8	0.9	1.1	1.5	1.7											
6	1.4	2.2	2.4	2.6	2.8	3.2	3.5	3.8									
7	2.6	3.2	3.5	3.9	4.2	4.7	5.1	5.6	6.0	6.4							
8	3.5	4.3	4.8	5.3	5.7	6.4	7.0	7.6	8.2	8.7	9.3	9.8					
9	4.5	5.6	6.2	6.8	7.4	8.3	9.1	9.8	10.6	11.3	12.0	12.7	13.4	14.1			
10	5.7	7.0	7.7	8.6	9.3	10.4	11.4	12.4	13.3	14.2	15.1	16.0	16.8	17.7	18.5	19.3	
11			9.5	10.5	11.4	12.7	13.9	15.1	16.3	17.4	18.5	19.5	20.6	21.6	22.7	23.7	24.7
12			11.3	12.6	13.6	15.2	16.7	18.1	19.5	20.8	22.1	23.4	24.7	25.9	27.2	28.4	29.6
13			13.4	14.8	16.1	17.9	19.7	21.4	23.0	24.6	26.1	27.6	29.1	30.6	32.1	33.5	34.9
14					18.8	20.9	22.9	24.9	26.8	28.6	30.4	32.2	33.9	35.6	37.3	39.0	40.7
15					21.6	24.1	26.4	28.7	30.9	33.0	35.0	37.1	39.1	41.1	43.0	44.9	46.8
16					24.6	27.5	30.1	32.7	35.2	37.6	40.0	42.3	44.6	46.8	49.1	51.3	53.4

[a] Includes 0.5-foot stump allowance.

Table 60--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for all hard hardwoods combined (species 500) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.6	2.0	2.5	2.8	3.2	3.7											
6	2.2	2.7	3.3	3.8	4.3	4.9	5.4	6.0									
7	2.7	3.4	4.1	4.9	5.7	6.4	7.0	7.7	8.3	9.0							
8	3.5	4.4	5.2	6.3	7.2	8.0	8.8	9.7	10.5	11.2	12.0	12.8					
9	4.4	5.5	6.5	7.8	8.9	9.9	10.9	11.9	12.9	13.8	14.7	15.7	16.6	17.5			
10	5.5	6.7	8.0	9.5	10.8	12.0	13.2	14.4	15.5	16.7	17.8	18.9	20.0	21.1	22.2	23.3	
11			9.6	11.4	12.9	14.4	15.8	17.2	18.5	19.8	21.2	22.5	23.8	25.0	26.3	27.6	28.9
12			11.4	13.5	15.3	17.0	18.6	20.2	21.8	23.3	24.8	26.4	27.9	29.4	30.9	32.3	33.8
13			13.3	15.8	17.8	19.8	21.7	23.5	25.3	27.1	28.9	30.6	32.3	34.1	35.8	37.5	39.2
14					20.5	22.8	24.9	27.1	29.1	31.2	33.2	35.2	37.2	39.2	41.1	43.1	45.0
15					23.5	26.0	28.5	30.9	33.2	35.6	37.9	40.1	42.4	44.6	46.9	49.1	51.3
16					26.6	29.5	32.3	35.0	37.6	40.3	42.8	45.4	47.9	50.5	53.0	55.5	58.0

[a] Includes 0.5-foot stump allowance.

Table 61--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for hickory (species 400) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40	7.5									8.0	10.7	68
	50	8.3									10.8	13.8	74
	60	8.8	12.2								13.0	16.6	77
12	70	9.1	12.8								14.9	19.2	79
	80	9.3	13.1	16.4							16.7	21.6	80
	90	9.5	13.4	16.8							18.4	24.0	81
	100	9.6	13.6	17.2							20.1	26.4	81
	40	10.2									13.0	14.8	68
	50	11.4	15.5								16.6	19.0	74
	60	12.0	16.7								19.8	22.8	77
14	70	12.5	17.4	21.4							22.8	26.3	79
	80	12.7	17.9	22.3							25.6	29.7	80
	90	12.9	18.3	23.0	26.8						28.3	33.0	81
	100	13.1	18.5	23.4	27.6	30.8					30.9	36.2	81
	50	14.9	20.3								22.8	24.9	74
	60	15.8	21.8	26.3							27.3	29.9	77
	70	16.3	22.8	28.0							31.4	34.6	79
16	80	16.7	23.5	29.2	33.6						35.4	39.0	80
	90	17.0	23.9	30.0	35.0	38.6					39.2	43.4	81
	100	17.2	24.3	30.6	36.1	40.3					42.9	47.6	81
	110	17.3	24.5	31.1	36.9	41.6	45.3				46.5	51.8	82
	50	18.9	25.7								29.8	31.6	74
	60	20.0	27.7	33.3							35.7	38.0	77
	70	20.7	28.9	35.5	40.0						41.1	43.9	79
18	80	21.2	29.7	37.0	42.5	46.2					46.3	49.6	80
	90	21.5	30.3	38.1	44.3	48.9					51.3	55.1	81
	100	21.8	30.7	38.8	45.7	51.1	55.0				56.2	60.5	81
	110	21.9	31.1	39.4	46.7	52.7	57.4	60.8			61.0	65.8	82
	50	23.4	31.8	36.9							37.5	39.1	74
	60	24.7	34.2	41.2							44.9	47.0	77
	70	25.6	35.7	43.9	49.4						51.8	54.3	79
20	80	26.2	36.7	45.7	52.5	57.1					58.4	61.4	80
	90	26.6	37.5	47.0	54.8	60.5	64.3				64.8	68.2	81
	100	26.9	38.0	48.0	56.5	63.1	67.9				71.0	74.8	81
	110	27.1	38.4	48.7	57.7	65.1	70.9	75.1			77.1	81.4	82
	60	29.9	41.4	49.8	54.6						55.0	57.0	77
	70	31.0	43.3	53.2	59.9						63.5	65.9	79
	80	31.7	44.5	55.4	63.6	69.1					71.7	74.4	80
22	90	32.2	45.4	57.0	66.3	73.2	77.9				79.5	82.6	81
	100	32.6	46.0	58.1	68.4	76.4	82.3	86.3			87.2	90.7	81
	110	32.9	46.5	59.0	69.9	78.9	85.8	90.9	94.5		94.8	98.7	82
	60	35.7	49.3	59.4	65.0						66.1	67.9	77
	70	36.9	51.5	63.3	71.3	75.9					76.4	78.5	79
	80	37.8	53.0	66.0	75.8	82.3					86.1	88.6	80
24	90	38.4	54.1	67.8	79.0	87.2	92.7				95.6	98.5	81
	100	38.8	54.8	69.2	81.4	91.0	97.9	102.8			104.9	108.1	81
	110	39.2	55.4	70.2	83.2	93.9	102.2	108.3	112.6		114.0	117.6	82
	60	41.9	57.9	69.7	76.3						78.1	79.7	77
	70	43.4	60.5	74.3	83.7	89.1					90.2	92.2	79
	80	44.4	62.3	77.4	88.9	96.6	101.2				101.8	104.1	80
26	90	45.1	63.5	79.6	92.8	102.4	108.9	112.8			113.0	115.7	81
	100	45.6	64.4	81.3	95.6	106.8	115.0	120.7			124.0	127.0	81
	110	46.0	65.1	82.5	97.7	110.3	120.0	127.1	132.2		134.8	138.1	82

[a] Includes 1.0-foot stump allowance.

Table 62--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for hickory (species 400) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	8.0									9.1	11.2	73
	40	8.7									11.6	14.9	77
	50	9.1	12.6								13.8	18.3	79
12	60	9.3	13.1								15.9	21.6	80
	70	9.5	13.3	16.6							17.9	24.8	81
	80	9.6	13.5	17.0							19.8	28.0	81
	90	9.7	13.6	17.2	20.4						21.7	31.1	81
	40	11.9	16.3								17.8	20.1	77
	50	12.4	17.2	20.8							21.5	24.6	79
	60	12.7	17.8	21.9							25.0	29.0	80
14	70	13.0	18.2	22.6	26.3						28.4	33.2	81
	80	13.1	18.4	23.1	27.1	30.5					31.7	37.4	81
	90	13.2	18.6	23.4	27.7	31.4	34.5				34.9	41.5	81
	100	13.3	18.7	23.7	28.1	32.1	35.6				38.2	45.6	81
	40	15.6	21.2								24.3	26.0	77
	50	16.3	22.5	27.2							29.5	31.9	79
	60	16.7	23.3	28.6	32.7						34.5	37.5	80
16	70	17.0	23.7	29.5	34.3	38.0					39.3	42.9	81
	80	17.1	24.1	30.1	35.3	39.7	43.1				44.0	48.3	81
	90	17.3	24.3	30.6	36.1	40.9	44.9	48.2			48.7	53.5	81
	100	17.4	24.5	30.9	36.7	41.8	46.3	50.1	53.2		53.3	58.8	81
	40	19.8	26.9	31.3							31.5	32.8	77
	50	20.6	28.5	34.4	38.2						38.3	40.1	79
	60	21.2	29.5	36.2	41.3						44.8	47.1	80
18	70	21.5	30.1	37.3	43.3	48.0					51.2	53.9	81
	80	21.7	30.5	38.2	44.7	50.1	54.4				57.4	60.6	81
	90	21.9	30.8	38.7	45.7	51.7	56.7	60.8			63.5	67.2	81
	100	22.1	31.0	39.2	46.5	52.9	58.5	63.2	67.1		69.5	73.8	81
	40	24.5	33.2	38.5							39.3	40.3	77
	50	25.5	35.2	42.4	47.1						47.9	49.3	79
	60	26.2	36.4	44.7	51.0	55.3					56.1	57.9	80
20	70	26.6	37.2	46.1	53.4	59.1	63.2				64.0	66.2	81
	80	26.9	37.7	47.1	55.2	61.8	67.1	70.9			71.8	74.4	81
	90	27.1	38.1	47.8	56.4	63.8	69.9	74.9	78.6		79.5	82.5	81
	100	27.3	38.4	48.4	57.4	65.3	72.1	77.9	82.6	86.2	87.1	90.5	81
	50	30.9	42.7	51.3	56.9						58.3	59.5	79
	60	31.7	44.1	54.1	61.6	66.7					68.3	69.8	80
	70	32.2	45.0	55.8	64.6	71.5	76.3				78.0	79.8	81
22	80	32.6	45.6	57.0	66.7	74.7	81.0	85.6			87.6	89.6	81
	90	32.9	46.1	57.9	68.3	77.1	84.5	90.4	94.9		97.0	99.4	81
	100	33.1	46.5	58.6	69.4	78.9	87.2	94.1	99.7	104.0	106.3	109.0	81
	50	36.8	50.8	61.1	67.7						69.7	70.6	79
	60	37.8	52.5	64.3	73.3	79.3					81.6	82.8	80
	70	38.4	53.6	66.4	76.9	85.0	90.6				93.2	94.7	81
24	80	38.8	54.4	67.9	79.4	88.9	96.3	101.7			104.6	106.4	81
	90	39.1	54.9	69.0	81.2	91.7	100.5	107.5	112.7		115.9	117.9	81
	100	39.4	55.3	69.8	82.6	93.9	103.7	111.9	118.5	123.6	127.0	129.3	81
	50	43.3	59.6	71.7	79.4						82.0	82.8	79
	60	44.4	61.6	75.5	86.0	93.0					96.0	97.0	80
	70	45.1	62.9	78.0	90.2	99.7	106.3				109.7	110.9	81
26	80	45.6	63.8	79.7	93.2	104.3	113.0	119.3			123.1	124.5	81
	90	46.0	64.5	81.0	95.3	107.6	117.9	126.0	132.1	136.1	136.3	138.0	81
	100	46.3	65.0	81.9	97.0	110.2	121.6	131.2	138.9	144.8	149.4	151.3	81

[a] Includes 1.0-foot stump allowance.

Table 63--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 9-inch d.o.b. top and height to a saw-log top for hickory (species 400) in the Piedmont.[a]

D.b.h. class	Height to 9-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	8.3									9.5	16.5	76
	30	9.0	12.7								14.6	19.6	79
	40	9.3	13.3	16.8							19.5	23.6	81
12	50	9.5	13.6	17.3	20.8	23.8					24.2	27.9	81
	60	9.6	13.7	17.6	21.3	24.7	27.8				28.8	32.3	82
	70	9.7	13.8	17.8	21.6	25.1	28.5	31.7			33.5	36.7	82
	80	9.8	13.9	17.9	21.8	25.5	29.0	32.4	35.5		38.0	41.1	82
	40	12.8	18.0	22.4							25.4	28.8	81
	50	13.0	18.4	23.3	27.5	30.9					31.3	34.4	81
	60	13.2	18.7	23.7	28.4	32.5	36.0				37.1	40.0	82
14	70	13.3	18.8	24.1	28.9	33.4	37.4	41.0			42.9	45.6	82
	80	13.4	19.0	24.3	29.3	34.0	38.3	42.3	45.9		48.6	51.2	82
	90	13.4	19.0	24.4	29.5	34.4	39.0	43.3	47.2	50.8	54.3	56.8	82
	100	13.5	19.1	24.5	29.7	34.7	39.5	44.0	48.2	52.1	60.0	62.4	82
	40	16.7	23.4	28.9							32.2	35.2	81
	50	17.1	24.0	30.1	35.2	39.1					39.5	42.2	81
	60	17.3	24.4	30.8	36.6	41.5	45.5				46.7	49.1	82
16	70	17.4	24.6	31.3	37.4	42.9	47.7	51.8			53.8	56.1	82
	80	17.5	24.8	31.6	38.0	43.8	49.1	53.9	57.9		60.8	63.0	82
	90	17.6	24.9	31.8	38.4	44.5	50.1	55.3	60.0	64.1	67.9	69.9	82
	100	17.6	25.0	32.0	38.7	44.9	50.9	56.4	61.5	66.1	74.9	76.9	82
	40	21.2	29.6	36.2							40.0	42.6	81
	50	21.6	30.4	37.9	44.0	48.4					48.8	51.2	81
	60	21.9	30.9	38.9	45.9	51.8	56.3				57.5	59.7	82
18	70	22.1	31.2	39.5	47.0	53.7	59.4	64.0			66.1	68.1	82
	80	22.2	31.4	39.9	47.8	55.0	61.4	66.9	71.6		74.7	76.6	82
	90	22.3	31.5	40.2	48.3	55.9	62.7	69.0	74.5	79.1	83.2	85.0	82
	100	22.4	31.7	40.5	48.8	56.5	63.8	70.5	76.5	82.0	91.7	93.4	82
	40	26.2	36.5	44.4							48.6	51.0	81
	50	26.8	37.5	46.7	53.9	58.8					59.2	61.3	81
	60	27.1	38.1	47.9	56.3	63.2	68.3				69.6	71.6	82
20	70	27.3	38.5	48.7	57.8	65.7	72.4	77.6			79.9	81.8	82
	80	27.5	38.8	49.2	58.8	67.4	75.0	81.6	86.8		90.2	91.9	82
	90	27.6	39.0	49.6	59.5	68.6	76.9	84.2	90.6	96.0	100.3	102.0	82
	100	27.7	39.1	49.9	60.1	69.5	78.2	86.2	93.4	99.7	110.5	112.1	82
	50	32.4	45.4	56.3	64.8	70.3					70.7	72.7	81
	60	32.8	46.2	57.9	67.8	75.9	81.7				83.0	84.8	82
	70	33.1	46.6	58.8	69.7	79.1	86.8	92.7			95.2	96.9	82
22	80	33.3	47.0	59.5	71.0	81.2	90.1	97.7	103.7		107.3	108.9	82
	90	33.4	47.2	60.0	71.9	82.7	92.5	101.1	108.5	114.6	119.3	120.8	82
	100	33.6	47.4	60.4	72.5	83.8	94.2	103.6	112.0	119.3	131.3	132.7	82
	50	38.7	54.1	66.9	76.7	82.9					83.4	85.1	81
	60	39.1	54.9	68.8	80.5	89.8	96.3				97.7	99.4	82
	70	39.5	55.5	70.0	82.7	93.7	102.6	109.3			111.9	113.5	82
24	80	39.7	55.9	70.8	84.3	96.3	106.7	115.4	122.2		126.0	127.5	82
	90	39.9	56.2	71.4	85.4	98.1	109.6	119.6	128.1	134.9	140.1	141.4	82
	100	40.0	56.4	71.8	86.2	99.5	111.7	122.7	132.4	140.8	154.1	155.4	82
	50	45.4	63.5	78.3	89.7	96.6					97.1	98.7	81
	60	46.0	64.5	80.6	94.2	104.8	112.1				113.7	115.2	82
	70	46.4	65.2	82.1	96.9	109.6	119.8	127.3			130.1	131.5	82
26	80	46.6	65.7	83.1	98.8	112.7	124.7	134.7	142.2		146.4	147.8	82
	90	46.8	66.0	83.8	100.1	114.9	128.2	139.7	149.4	157.1	162.6	163.9	82
	100	47.0	66.3	84.3	101.1	116.6	130.7	143.4	154.6	164.1	178.8	180.0	82

[a] Includes 1.0-foot stump allowance.

Table 64--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for hickory (species 400) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.6	0.7	0.9	1.5	1.9	2.0											
6	1.7	2.1	2.4	2.6	3.1	3.4	3.7	4.0									
7	2.5	3.1	3.4	3.8	4.5	4.9	5.3	5.8	6.1	6.5							
8	3.4	4.2	4.6	5.2	6.1	6.6	7.2	7.8	8.3	8.8	9.3	9.8					
9	4.3	5.4	6.0	6.7	7.8	8.6	9.3	10.0	10.7	11.4	12.1	12.7	13.4	14.0			
10	5.4	6.7	7.5	8.3	9.8	10.7	11.7	12.6	13.4	14.3	15.1	15.9	16.7	17.5	18.3	19.1	
11			9.1	10.2	11.9	13.1	14.2	15.3	16.4	17.4	18.5	19.5	20.5	21.4	22.4	23.4	24.3
12			11.0	12.2	14.3	15.7	17.1	18.4	19.6	20.9	22.1	23.3	24.5	25.7	26.9	28.0	29.2
13			12.9	14.4	16.8	18.5	20.1	21.7	23.2	24.6	26.1	27.5	28.9	30.3	31.7	33.1	34.4
14					19.6	21.5	23.4	25.2	27.0	28.7	30.4	32.0	33.7	35.3	36.9	38.5	40.1
15					22.6	24.8	27.0	29.0	31.1	33.0	35.0	36.9	38.8	40.7	42.5	44.3	46.2
16					25.7	28.3	30.7	33.1	35.4	37.7	39.9	42.1	44.2	46.4	48.5	50.6	52.7

[a] Includes 0.5-foot stump allowance.

Table 65--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for hickory (species 400) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.6	2.0	2.5	2.8	3.3	3.7											
6	2.1	2.7	3.3	3.8	4.4	4.9	5.5	6.0									
7	2.6	3.3	4.0	5.0	5.7	6.4	7.1	7.7	8.4	9.0							
8	3.4	4.3	5.1	6.3	7.2	8.1	8.9	9.7	10.6	11.4	12.2	12.9					
9	4.3	5.3	6.4	7.9	8.9	10.0	11.0	12.0	13.0	14.0	14.9	15.9	16.8	17.8			
10	5.3	6.5	7.8	9.6	10.9	12.1	13.4	14.6	15.7	16.9	18.1	19.2	20.3	21.5	22.6	23.7	
11			9.4	11.5	13.0	14.5	16.0	17.4	18.8	20.2	21.5	22.9	24.2	25.6	26.9	28.2	29.5
12			11.1	13.6	15.4	17.1	18.8	20.5	22.1	23.7	25.3	26.9	28.5	30.0	31.6	33.1	34.7
13			13.0	15.9	17.9	20.0	21.9	23.8	25.7	27.6	29.4	31.3	33.1	34.9	36.7	38.5	40.2
14					20.7	23.0	25.3	27.5	29.6	31.8	33.9	36.0	38.1	40.1	42.2	44.2	46.3
15					23.7	26.3	28.9	31.4	33.8	36.3	38.7	41.1	43.4	45.8	48.1	50.4	52.8
16					26.9	29.8	32.7	35.6	38.3	41.1	43.8	46.5	49.1	51.8	54.4	57.1	59.7

[a] Includes 0.5-foot stump allowance.

Table 66--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for white oak (species 802) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to: Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40										4.4	9.1	57
	50	8.2									8.5	12.9	68
	60	9.0									12.1	16.2	74
12	70	9.5	13.1								14.7	19.3	78
	80	9.9	13.7	17.0							17.1	22.2	80
	90	10.1	14.1	17.7							19.2	25.0	82
	100	10.3	14.4	18.2							21.2	27.7	83
	40										8.2	12.5	57
	50	11.2	14.8								14.9	17.6	68
	60	12.3	16.6								19.1	22.2	74
14	70	13.0	17.8	21.8							22.7	26.5	78
	80	13.4	18.6	23.1							26.1	30.4	80
	90	13.7	19.2	24.0	27.9						29.4	34.3	82
	100	13.9	19.6	24.7	29.0	32.4					32.4	38.0	83
	50	14.6	19.3								20.8	23.1	68
	60	16.0	21.7	25.9							26.4	29.2	74
	70	16.9	23.3	28.4							31.4	34.7	78
16	80	17.5	24.3	30.1	34.5						36.1	39.9	80
	90	17.9	25.1	31.4	36.4	40.1					40.6	44.9	82
	100	18.2	25.6	32.3	37.9	42.3					44.9	49.8	83
	110	18.4	26.0	33.0	39.0	44.0	47.8				49.2	54.5	84
	50	18.5	24.4								27.3	29.4	68
	60	20.3	27.5	32.7							34.5	37.0	74
	70	21.4	29.5	35.9	40.3						41.1	44.0	78
18	80	22.1	30.8	38.1	43.6						47.3	50.7	80
	90	22.7	31.7	39.7	46.1	50.8					53.2	57.0	82
	100	23.0	32.4	40.8	48.0	53.5	57.5				58.9	63.2	83
	110	23.3	32.9	41.7	49.4	55.6	60.5	64.0			64.4	69.2	84
	50	22.8	30.1								34.5	36.3	68
	60	25.0	33.9	40.4							43.5	45.8	74
	70	26.4	36.4	44.4	49.7						51.8	54.5	78
20	80	27.3	38.0	47.1	53.9	58.4					59.6	62.7	80
	90	28.0	39.2	49.0	56.9	62.7	66.6				67.1	70.5	82
	100	28.4	40.0	50.4	59.2	66.1	71.1				74.2	78.1	83
	110	28.8	40.6	51.5	61.0	68.7	74.7	79.1			81.3	85.6	84
	60	30.3	41.1	48.9	53.3						53.4	55.4	74
	70	32.0	44.0	53.7	60.2						63.6	66.0	78
	80	33.1	46.0	57.0	65.2	70.7					73.1	75.9	80
22	90	33.9	47.4	59.3	68.9	75.9	80.6				82.3	85.4	82
	100	34.4	48.4	61.0	71.7	79.9	86.0	90.1			91.1	94.7	83
	110	34.8	49.2	62.3	73.8	83.1	90.3	95.7	99.4		99.8	103.7	84
	60	36.1	48.9	58.2	63.4						64.2	66.1	74
	70	38.1	52.4	63.9	71.6	76.1					76.4	78.6	78
	80	39.4	54.8	67.8	77.6	84.1					87.9	90.4	80
24	90	40.3	56.4	70.6	82.0	90.3	95.9				98.9	101.8	82
	100	41.0	57.6	72.6	85.3	95.1	102.3	107.3			109.5	112.8	83
	110	41.5	58.5	74.2	87.8	98.9	107.5	113.9	118.3		119.9	123.5	84
	60	42.3	57.4	68.3	74.5						75.8	77.6	74
	70	44.7	61.5	75.0	84.1	89.3					90.3	92.3	78
	80	46.2	64.3	79.6	91.1	98.7	103.3				103.8	106.2	80
26	90	47.3	66.2	82.9	96.3	106.0	112.6	116.7			116.8	119.5	82
	100	48.1	67.6	85.2	100.1	111.7	120.1	125.9			129.4	132.4	83
	110	48.7	68.7	87.0	103.0	116.1	126.2	133.6	138.9		141.7	145.1	84

[a] Includes 1.0-foot stump allowance.

Table 67--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for white oak (species 802) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to: Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	8.2									8.6	11.1	70
	40	9.1									11.4	15.1	76
	50	9.6	13.1								13.8	18.6	79
12	60	9.8	13.6								15.9	22.0	80
	70	10.0	13.9	17.2							18.0	25.3	81
	80	10.1	14.1	17.6							19.9	28.5	81
	90	10.2	14.3	17.9	21.0						21.9	31.7	82
	40	12.4	16.6								17.7	20.2	76
	50	13.0	17.7	21.3							21.6	25.0	79
	60	13.4	18.4	22.5							25.2	29.4	80
14	70	13.6	18.9	23.3	27.0						28.7	33.8	81
	80	13.8	19.1	23.8	27.9	31.2					32.1	38.0	81
	90	13.9	19.4	24.2	28.5	32.2					35.4	42.2	82
	100	14.0	19.5	24.5	29.0	33.0	36.5				38.6	46.4	82
	40	16.1	21.6								24.3	26.2	76
	50	17.0	23.1	27.7							29.8	32.3	79
	60	17.5	24.0	29.3	33.4						34.9	38.0	80
16	70	17.8	24.6	30.4	35.1	38.8					39.8	43.6	81
	80	18.0	25.0	31.1	36.3	40.6	44.1				44.6	49.1	81
	90	18.1	25.3	31.6	37.2	42.0	46.0	49.2			49.3	54.4	82
	100	18.3	25.5	32.0	37.8	43.0	47.4	51.2			54.0	59.8	82
	40	20.4	27.3								31.5	32.9	76
	50	21.5	29.3	35.0							38.6	40.5	79
	60	22.1	30.4	37.1	42.1						45.3	47.8	80
18	70	22.5	31.1	38.4	44.3	48.9					51.8	54.7	81
	80	22.8	31.6	39.3	45.9	51.3	55.5				58.1	61.6	81
	90	22.9	32.0	40.0	47.0	53.0	58.0	62.0			64.3	68.3	82
	100	23.1	32.2	40.5	47.8	54.3	59.9	64.6	68.4		70.5	75.0	82
	40	25.2	33.7	38.8							39.3	40.5	76
	50	26.5	36.1	43.2	47.7						48.3	49.8	79
	60	27.3	37.5	45.7	51.9	56.1					56.7	58.6	80
20	70	27.8	38.4	47.4	54.7	60.3	64.2				64.8	67.2	81
	80	28.1	39.0	48.5	56.5	63.2	68.4	72.2			72.8	75.5	81
	90	28.3	39.4	49.3	57.9	65.3	71.4	76.3	80.0		80.6	83.8	82
	100	28.5	39.8	49.9	59.0	66.9	73.8	79.5	84.2	87.7	88.4	91.9	82
	50	32.1	43.7	52.2	57.6						58.8	60.1	79
	60	33.0	45.4	55.3	62.7	67.7					69.1	70.7	80
	70	33.6	46.5	57.3	66.1	72.8	77.5				79.0	80.9	81
22	80	34.0	47.2	58.7	68.4	76.3	82.6	87.1			88.7	91.0	81
	90	34.3	47.7	59.6	70.0	78.9	86.3	92.2	96.5		98.3	100.9	82
	100	34.5	48.1	60.4	71.3	80.9	89.1	96.0	101.6	105.8	107.8	110.7	82
	50	38.2	52.0	62.1	68.5						70.2	71.3	79
	60	39.3	54.0	65.8	74.6	80.5					82.5	83.9	80
	70	40.0	55.3	68.2	78.6	86.5	92.1				94.4	96.0	81
24	80	40.5	56.2	69.8	81.3	90.8	98.1	103.4			106.0	107.9	81
	90	40.8	56.8	71.0	83.3	93.8	102.6	109.5	114.6		117.5	119.6	82
	100	41.1	57.3	71.9	84.8	96.2	106.0	114.1	120.7	125.7	128.8	131.2	82
	50	44.8	61.0	72.8	80.3						82.6	83.5	79
	60	46.1	63.4	77.2	87.5	94.3					97.1	98.2	80
	70	46.9	64.9	80.0	92.2	101.5	107.9				111.1	112.4	81
26	80	47.5	65.9	81.9	95.4	106.4	115.0	121.2			124.7	126.3	81
	90	47.9	66.7	83.3	97.7	110.1	120.3	128.3	134.3	138.1	138.2	140.0	82
	100	48.2	67.2	84.3	99.5	112.8	124.3	133.8	141.4	147.2	151.5	153.5	82

[a] Includes 1.0-foot stump allowance.

Table 68--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 9-inch d.o.b. top and height to a saw-log top for white oak (species 802) in the Piedmont.[a]

D.b.h. class	Height to 9-inch d.o.b. top	Volume to: Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	8.1									9.2	15.3	71
	30	9.4	12.9								14.9	19.5	78
	40	9.9	13.8	17.3							20.1	24.2	80
12	50	10.2	14.2	18.0	21.5	24.7					25.0	29.0	81
	60	10.3	14.4	18.4	22.1	25.6	28.8				29.9	33.8	82
	70	10.4	14.6	18.6	22.5	26.1	29.6	32.8			34.7	38.5	82
	80	10.5	14.7	18.8	22.7	26.5	30.1	33.6	36.8		39.5	43.3	82
	40	13.4	18.5	23.0							26.1	29.4	80
	50	13.7	19.1	24.0	28.4	31.9					32.3	35.5	81
	60	13.9	19.5	24.6	29.4	33.6	37.2				38.4	41.6	82
14	70	14.1	19.7	25.0	30.0	34.6	38.8	42.5			44.4	47.6	82
	80	14.2	19.8	25.3	30.4	35.2	39.7	43.9	47.6		50.4	53.5	82
	90	14.2	20.0	25.5	30.7	35.7	40.4	44.9	49.0	52.7	56.4	59.4	83
	100	14.3	20.0	25.6	30.9	36.1	40.9	45.6	49.9	54.0	62.3	65.4	83
	40	17.4	24.0	29.5							33.0	35.9	80
	50	17.8	24.8	31.0	36.3	40.3					40.7	43.5	81
	60	18.1	25.3	31.9	37.8	42.9	47.0				48.2	50.9	82
16	70	18.3	25.6	32.4	38.7	44.3	49.3	53.6			55.7	58.3	82
	80	18.4	25.8	32.8	39.3	45.3	50.8	55.8	60.0		63.1	65.7	82
	90	18.5	25.9	33.0	39.7	46.0	51.9	57.3	62.1	66.4	70.4	73.0	83
	100	18.6	26.1	33.2	40.1	46.5	52.6	58.4	63.7	68.5	77.7	80.3	83
	40	21.9	30.3	36.9							40.8	43.4	80
	50	22.5	31.3	39.0	45.3	49.8					50.2	52.7	81
	60	22.9	31.9	40.1	47.3	53.4	58.1				59.4	61.8	82
18	70	23.1	32.3	40.8	48.5	55.4	61.3	66.2			68.4	70.8	82
	80	23.2	32.6	41.3	49.4	56.7	63.4	69.2	74.1		77.4	79.7	82
	90	23.3	32.7	41.6	50.0	57.7	64.9	71.3	77.1	82.0	86.3	88.6	83
	100	23.4	32.9	41.9	50.4	58.4	65.9	72.9	79.2	84.9	95.2	97.5	83
	40	27.0	37.3	45.2							49.6	51.9	80
	50	27.8	38.6	47.8	55.3	60.5					60.9	63.1	81
	60	28.2	39.3	49.3	57.9	65.1	70.5				71.9	74.0	82
20	70	28.4	39.8	50.2	59.5	67.8	74.8	80.3			82.7	84.8	82
	80	28.6	40.1	50.8	60.6	69.5	77.5	84.3	89.9		93.4	95.5	82
	90	28.8	40.4	51.2	61.4	70.8	79.4	87.1	93.8	99.5	104.1	106.2	83
	100	28.9	40.5	51.6	62.0	71.7	80.8	89.1	96.6	103.3	114.7	116.8	83
	50	33.6	46.6	57.7	66.4	72.3					72.7	74.7	81
	60	34.1	47.5	59.4	69.7	78.1	84.2				85.7	87.6	82
	70	34.4	48.1	60.6	71.7	81.5	89.6	95.9			98.5	100.4	82
22	80	34.6	48.5	61.3	73.1	83.7	93.0	101.0	107.4		111.2	113.1	82
	90	34.8	48.8	61.9	74.1	85.3	95.4	104.5	112.3	118.7	123.8	125.7	83
	100	34.9	49.0	62.3	74.8	86.4	97.2	107.0	115.8	123.6	136.3	138.2	83
	50	39.9	55.4	68.4	78.6	85.2					85.6	87.5	81
	60	40.5	56.5	70.6	82.6	92.4	99.3				100.8	102.6	82
	70	40.9	57.2	72.0	85.1	96.5	105.9	113.0			115.8	117.5	82
24	80	41.1	57.7	72.9	86.8	99.2	110.1	119.3	126.5		130.6	132.3	82
	90	41.3	58.0	73.5	87.9	101.1	113.0	123.6	132.6	139.8	145.4	147.1	83
	100	41.5	58.3	74.0	88.8	102.6	115.2	126.7	136.9	145.8	160.0	161.7	83
	50	46.8	65.0	80.1	91.8	99.2					99.7	101.4	81
	60	47.5	66.3	82.7	96.7	107.8	115.6				117.3	118.9	82
	70	48.0	67.1	84.3	99.6	112.8	123.6	131.5			134.6	136.2	82
26	80	48.3	67.6	85.4	101.6	116.0	128.6	139.1	147.2		151.8	153.4	82
	90	48.5	68.0	86.2	103.0	118.4	132.2	144.3	154.6	162.8	168.8	170.4	83
	100	48.7	68.3	86.8	104.1	120.1	134.8	148.1	159.8	170.0	185.8	187.4	83

[a] Includes 1.0-foot stump allowance.

Table 69--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for white oak (species 802) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.8	1.0	1.1	1.3	1.3	1.9											
6	1.4	2.4	2.6	2.9	3.0	3.4	3.8	4.1									
7	2.7	3.3	3.7	4.1	4.3	4.8	5.3	5.8	6.3	6.8							
8	3.6	4.4	4.9	5.5	5.7	6.5	7.2	7.8	8.5	9.1	9.7	10.3					
9	4.6	5.7	6.3	7.0	7.4	8.3	9.2	10.1	10.9	11.7	12.5	13.3	14.0	14.8			
10	5.8	7.1	7.9	8.8	9.2	10.4	11.5	12.6	13.6	14.6	15.6	16.6	17.5	18.4	19.4	20.3	
11			9.6	10.7	11.2	12.6	14.0	15.3	16.6	17.8	19.0	20.2	21.4	22.5	23.6	24.7	25.8
12			11.5	12.7	13.4	15.1	16.8	18.3	19.9	21.3	22.8	24.2	25.6	26.9	28.3	29.6	30.9
13			13.5	15.0	15.8	17.8	19.8	21.6	23.4	25.1	26.8	28.5	30.1	31.7	33.3	34.9	36.4
14					18.4	20.7	23.0	25.1	27.2	29.2	31.2	33.1	35.0	36.9	38.7	40.5	42.3
15					21.1	23.8	26.4	28.9	31.3	33.6	35.9	38.1	40.3	42.4	44.6	46.7	48.7
16					24.1	27.2	30.1	32.9	35.7	38.3	40.9	43.4	45.9	48.4	50.8	53.2	55.5

[a] Includes 0.5-foot stump allowance.

Table 70--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for white oak (species 802) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.7	2.2	2.7	3.0	3.5	4.0											
6	2.3	2.9	3.5	4.0	4.6	5.2	5.8	6.3									
7	2.8	3.6	4.3	5.1	5.9	6.6	7.3	8.0	8.7	9.4							
8	3.6	4.5	5.4	6.5	7.4	8.3	9.2	10.1	10.9	11.7	12.5	13.3					
9	4.6	5.6	6.7	8.0	9.2	10.3	11.3	12.4	13.4	14.4	15.4	16.3	17.3	18.3			
10	5.6	6.9	8.2	9.7	11.1	12.4	13.7	14.9	16.1	17.3	18.5	19.7	20.9	22.0	23.2	24.3	
11			9.8	11.6	13.2	14.8	16.3	17.8	19.2	20.6	22.0	23.4	24.8	26.1	27.5	28.8	30.2
12			11.6	13.7	15.6	17.4	19.2	20.9	22.6	24.2	25.9	27.5	29.1	30.7	32.3	33.8	35.4
13			13.5	15.9	18.2	20.3	22.3	24.3	26.2	28.2	30.0	31.9	33.8	35.6	37.4	39.2	41.1
14					20.9	23.4	25.7	28.0	30.2	32.4	34.6	36.7	38.8	40.9	43.0	45.1	47.2
15					23.9	26.7	29.3	31.9	34.5	36.9	39.4	41.8	44.2	46.6	49.0	51.4	53.8
16					27.1	30.2	33.2	36.1	39.0	41.8	44.6	47.3	50.1	52.8	55.4	58.1	60.8

[a] Includes 0.5-foot stump allowance.

Table 71--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for chestnut oak (species 832) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40										5.6	9.9	63
	50	8.2									10.4	13.4	72
	60	8.8	12.2								13.2	16.6	77
12	70	9.2	12.9								15.7	19.5	80
	80	9.5	13.4	16.7							18.0	22.3	82
	90	9.6	13.7	17.3							20.1	25.0	83
	100	9.8	14.0	17.8	21.0						22.1	27.7	84
	40	9.8									11.6	13.6	63
	50	11.3	15.1								16.2	18.4	72
	60	12.1	16.7	20.1							20.1	22.8	77
14	70	12.6	17.7	21.7							23.7	26.8	80
	80	12.9	18.3	22.8	26.3						27.0	30.7	82
	90	13.2	18.8	23.6	27.6						30.2	34.4	83
	100	13.3	19.1	24.2	28.6	32.1					33.3	38.0	84
	50	14.8	19.8								22.3	24.2	72
	60	15.9	21.8	26.3							27.6	29.9	77
	70	16.5	23.1	28.4	32.1						32.4	35.2	80
16	80	17.0	24.0	29.9	34.4						37.0	40.3	82
	90	17.3	24.6	30.9	36.1	40.0					41.4	45.1	83
	100	17.5	25.0	31.7	37.4	41.9	45.3				45.7	49.9	84
	110	17.6	25.3	32.3	38.4	43.4	47.4				49.9	54.5	85
	50	18.7	25.1								29.0	30.7	72
	60	20.1	27.7	33.3							35.9	38.0	77
	70	21.0	29.3	36.0	40.7						42.2	44.7	80
18	80	21.5	30.4	37.9	43.6	47.5					48.2	51.1	82
	90	21.9	31.2	39.2	45.8	50.7					54.0	57.3	83
	100	22.2	31.7	40.2	47.4	53.2	57.4				59.6	63.3	84
	110	22.4	32.1	40.9	48.6	55.1	60.1	63.8			65.1	69.3	85
	50	23.2	31.1	36.0							36.5	38.1	72
	60	24.9	34.3	41.2	45.1						45.1	47.0	77
	70	26.0	36.3	44.6	50.3						53.1	55.4	80
20	80	26.6	37.6	46.8	54.0	58.7					60.7	63.3	82
	90	27.1	38.5	48.5	56.6	62.7	66.8				67.9	70.9	83
	100	27.4	39.2	49.7	58.6	65.7	70.9	74.5			75.0	78.4	84
	110	27.7	39.7	50.6	60.1	68.0	74.2	78.8			81.9	85.7	85
	60	30.2	41.5	49.9	54.6						55.3	57.0	77
	70	31.5	44.0	54.0	60.9	64.9					65.1	67.1	80
	80	32.3	45.6	56.8	65.4	71.1					74.3	76.7	82
22	90	32.9	46.7	58.7	68.6	75.9	80.8				83.2	86.0	83
	100	33.3	47.5	60.2	71.0	79.6	85.9	90.2			91.9	95.0	84
	110	33.6	48.1	61.3	72.8	82.4	89.9	95.5	99.3		100.4	103.9	85
	60	36.0	49.5	59.4	65.1						66.4	68.0	77
	70	37.5	52.4	64.3	72.5	77.3					78.1	80.0	80
	80	38.5	54.3	67.6	77.8	84.7	88.8				89.2	91.4	82
24	90	39.2	55.6	70.0	81.7	90.4	96.3	99.9			99.9	102.5	83
	100	39.7	56.6	71.7	84.5	94.8	102.3	107.4			110.4	113.2	84
	110	40.0	57.3	73.0	86.7	98.1	107.1	113.7	118.3		120.6	123.8	85
	60	42.3	58.2	69.8	76.5						78.4	79.9	77
	70	44.1	61.5	75.5	85.2	90.8					92.2	94.0	80
	80	45.3	63.8	79.4	91.4	99.5	104.3				105.4	107.4	82
26	90	46.1	65.4	82.2	95.9	106.2	113.1	117.3			118.0	120.4	83
	100	46.6	66.5	84.2	99.3	111.3	120.1	126.2	130.0		130.4	133.0	84
	110	47.1	67.4	85.8	101.8	115.3	125.7	133.5	138.9	142.4	142.5	145.4	85

[a] Includes 1.0-foot stump allowance.

Table 72--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for chestnut oak (species 832) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	8.2									9.3	11.2	72
	40	8.9									11.9	14.9	77
	50	9.3	12.8								14.2	18.2	80
12	60	9.4	13.2	16.2							16.4	21.4	81
	70	9.5	13.5	16.7							18.4	24.5	82
	80	9.6	13.6	17.1	20.1						20.4	27.5	82
	90	9.7	13.7	17.3	20.5						22.4	30.6	83
	40	12.2	16.5								17.9	20.0	77
	50	12.7	17.5	21.0							21.6	24.4	80
	60	12.9	18.0	22.1							25.0	28.7	81
14	70	13.1	18.4	22.8	26.4						28.4	32.8	82
	80	13.2	18.6	23.3	27.3	30.5					31.7	36.9	82
	90	13.2	18.8	23.6	27.9	31.5	34.5				35.0	40.9	83
	100	13.3	18.9	23.9	28.4	32.3	35.6				38.2	44.9	83
	40	16.0	21.6								24.4	26.0	77
	50	16.6	22.9	27.4							29.5	31.7	80
	60	16.9	23.6	28.9	32.8						34.4	37.1	81
16	70	17.1	24.0	29.8	34.5	38.0					39.1	42.4	82
	80	17.3	24.3	30.5	35.6	39.8	43.0				43.7	47.6	82
	90	17.3	24.6	30.9	36.4	41.1	45.0	48.0			48.3	52.8	83
	100	17.4	24.7	31.3	37.0	42.1	46.4	50.0			52.8	57.9	83
	40	20.4	27.4	31.5							31.5	32.8	77
	50	21.1	29.0	34.7							38.2	39.9	80
	60	21.5	29.9	36.6	41.5						44.5	46.7	81
18	70	21.8	30.5	37.8	43.6	48.0					50.7	53.3	82
	80	21.9	30.9	38.6	45.0	50.3	54.3				56.7	59.8	82
	90	22.0	31.2	39.2	46.1	52.0	56.8	60.6			62.7	66.3	83
	100	22.1	31.3	39.6	46.9	53.3	58.7	63.2	66.8		68.6	72.7	83
	40	25.2	33.9	38.8							39.4	40.4	77
	50	26.1	35.9	42.9	47.2						47.7	49.1	80
	60	26.6	37.0	45.2	51.2	55.1					55.6	57.4	81
20	70	26.9	37.7	46.7	53.8	59.2	62.9				63.4	65.5	82
	80	27.1	38.2	47.7	55.6	62.0	67.0	70.5			71.0	73.5	82
	90	27.3	38.5	48.4	56.9	64.1	70.0	74.6	78.0		78.5	81.4	83
	100	27.4	38.8	49.0	57.9	65.7	72.4	77.9	82.2	85.5	85.9	89.2	83
	50	31.7	43.5	51.9	57.1						58.1	59.3	80
	60	32.3	44.9	54.7	61.9	66.6					67.8	69.2	81
	70	32.7	45.7	56.5	65.1	71.6	76.0				77.2	79.0	82
22	80	32.9	46.3	57.7	67.3	75.0	81.0	85.1			86.5	88.6	82
	90	33.1	46.7	58.6	68.9	77.6	84.7	90.2	94.2		95.7	98.0	83
	100	33.2	47.0	59.3	70.1	79.5	87.5	94.1	99.3	103.2	104.8	107.4	83
	50	37.8	51.8	61.8	67.9						69.4	70.4	80
	60	38.5	53.5	65.2	73.7	79.2					81.0	82.2	81
	70	39.0	54.5	67.3	77.5	85.1	90.3				92.3	93.8	82
24	80	39.3	55.2	68.8	80.1	89.3	96.3	101.2			103.4	105.1	82
	90	39.5	55.6	69.8	82.1	92.3	100.7	107.2	111.9		114.3	116.3	83
	100	39.6	56.0	70.6	83.5	94.7	104.1	111.9	118.0	122.6	125.2	127.5	83
	50	44.4	60.9	72.6	79.6						81.7	82.5	80
	60	45.3	62.8	76.5	86.5	92.9					95.3	96.4	81
	70	45.8	64.0	79.0	91.0	99.9	105.9				108.6	109.8	82
26	80	46.2	64.8	80.8	94.1	104.8	112.9	118.6			121.6	123.1	82
	90	46.4	65.4	82.0	96.3	108.4	118.2	125.8	131.2		134.5	136.2	83
	100	46.6	65.8	83.0	98.1	111.1	122.2	131.3	138.4	143.7	147.3	149.2	83

[a] Includes 1.0-foot stump allowance.

Table 73--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 9-inch d.o.b. top and height to a saw-log top for chestnut oak (species 832) in the Piedmont.[a]

D.b.h. class	Height to 9-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	8.0									9.1	13.7	72
	30	9.1	12.6								14.5	18.0	78
	40	9.5	13.4	16.8							19.3	22.5	81
12	50	9.6	13.7	17.4	20.8	23.7					24.0	27.1	82
	60	9.7	13.9	17.8	21.4	24.7	27.7				28.7	31.7	82
	70	9.8	14.0	18.0	21.8	25.3	28.6	31.6			33.3	36.2	83
	80	9.8	14.1	18.2	22.0	25.7	29.2	32.4	35.4		37.8	40.8	83
	40	12.9	18.1	22.3							25.1	27.8	81
	50	13.1	18.6	23.3	27.4	30.7					31.0	33.6	82
	60	13.3	18.8	23.9	28.4	32.4	35.7				36.8	39.3	82
14	70	13.3	19.0	24.3	29.1	33.5	37.4	40.7			42.5	45.0	83
	80	13.4	19.1	24.5	29.5	34.2	38.4	42.3	45.7		48.2	50.7	83
	90	13.4	19.2	24.7	29.9	34.7	39.2	43.4	47.2	50.6	53.9	56.3	83
	100	13.5	19.3	24.8	30.1	35.1	39.8	44.2	48.3	52.1	59.5	62.0	83
	40	16.9	23.5	28.7							31.8	34.2	81
	50	17.2	24.2	30.2	35.1	38.7					39.1	41.3	82
	60	17.3	24.6	31.0	36.6	41.4	45.1				46.2	48.4	82
16	70	17.4	24.8	31.5	37.6	42.9	47.5	51.3			53.2	55.4	83
	80	17.5	25.0	31.9	38.2	44.0	49.2	53.7	57.5		60.2	62.4	83
	90	17.6	25.1	32.1	38.7	44.8	50.3	55.4	59.8	63.7	67.2	69.3	83
	100	17.6	25.2	32.3	39.1	45.3	51.2	56.6	61.5	65.9	74.1	76.2	83
	40	21.4	29.7	35.9							39.4	41.6	81
	50	21.8	30.6	38.0	43.8	47.9					48.2	50.3	82
	60	22.0	31.1	39.1	45.9	51.5	55.7				56.8	58.8	82
18	70	22.1	31.4	39.8	47.2	53.7	59.1	63.4			65.4	67.3	83
	80	22.2	31.6	40.2	48.1	55.2	61.4	66.7	71.0		73.8	75.7	83
	90	22.3	31.8	40.6	48.7	56.2	63.0	69.0	74.2	78.5	82.3	84.2	83
	100	22.3	31.9	40.8	49.2	57.0	64.1	70.7	76.5	81.6	90.7	92.6	83
	40	26.4	36.6	44.1							48.0	49.9	81
	50	26.9	37.8	46.7	53.6	58.1					58.5	60.3	82
	60	27.2	38.4	48.1	56.3	62.9	67.6				68.8	70.6	82
20	70	27.4	38.8	49.0	58.0	65.7	72.0	76.9			79.0	80.7	83
	80	27.5	39.0	49.6	59.2	67.6	75.0	81.2	86.0		89.1	90.8	83
	90	27.6	39.2	50.0	60.0	69.0	77.1	84.2	90.2	95.1	99.1	100.9	83
	100	27.6	39.4	50.4	60.6	70.0	78.6	86.4	93.3	99.2	109.2	110.9	83
	50	32.6	45.7	56.3	64.4	69.4					69.8	71.5	82
	60	32.9	46.5	58.1	67.8	75.4	80.7				82.0	83.6	82
	70	33.2	46.9	59.2	69.9	79.0	86.4	91.8			94.0	95.6	83
22	80	33.3	47.3	60.0	71.4	81.4	90.1	97.2	102.7		105.9	107.5	83
	90	33.4	47.5	60.5	72.4	83.2	92.7	101.0	108.0	113.5	117.8	119.4	83
	100	33.5	47.7	60.9	73.2	84.4	94.7	103.8	111.8	118.7	129.6	131.2	83
	50	38.9	54.4	66.9	76.2	81.9					82.2	83.9	82
	60	39.3	55.3	69.1	80.4	89.2	95.1				96.4	98.0	82
	70	39.5	55.9	70.4	83.0	93.6	102.0	108.1			110.5	112.0	83
24	80	39.7	56.3	71.3	84.8	96.6	106.6	114.8	120.9		124.4	125.9	83
	90	39.8	56.6	72.0	86.0	98.7	109.8	119.4	127.4	133.7	138.3	139.7	83
	100	39.9	56.8	72.5	87.0	100.2	112.2	122.9	132.2	140.0	152.1	153.5	83
	50	45.7	63.8	78.4	89.1	95.4					95.8	97.3	82
	60	46.2	65.0	81.0	94.1	104.2	110.8				112.2	113.6	82
	70	46.4	65.6	82.6	97.3	109.5	119.1	125.9			128.4	129.8	83
26	80	46.6	66.1	83.7	99.4	113.0	124.5	133.9	140.8		144.5	145.9	83
	90	46.8	66.4	84.5	100.9	115.5	128.4	139.5	148.6	155.5	160.5	161.9	83
	100	46.9	66.7	85.1	102.0	117.4	131.3	143.6	154.3	163.2	176.5	177.8	83

[a] Includes 1.0-foot stump allowance.

Table 74--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for chestnut oak (species 832) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.8	1.3	1.5	1.7	1.9	2.2											
6	1.8	2.3	2.5	2.8	3.1	3.5	3.8	4.2									
7	2.6	3.2	3.6	3.9	4.4	4.9	5.4	5.9	6.4	6.8							
8	3.5	4.3	4.8	5.3	5.9	6.6	7.3	7.9	8.5	9.1	9.7	10.3					
9	4.5	5.5	6.1	6.8	7.6	8.5	9.3	10.2	11.0	11.7	12.5	13.3	14.0	14.7			
10	5.6	6.8	7.6	8.5	9.5	10.6	11.7	12.7	13.7	14.7	15.6	16.5	17.5	18.4	19.3	20.2	
11			9.3	10.3	11.6	12.9	14.2	15.5	16.7	17.9	19.0	20.2	21.3	22.4	23.5	24.6	25.7
12			11.1	12.4	13.8	15.5	17.0	18.5	20.0	21.4	22.8	24.2	25.5	26.8	28.1	29.4	30.7
13			13.1	14.6	16.3	18.2	20.1	21.8	23.6	25.2	26.9	28.5	30.1	31.6	33.2	34.7	36.2
14					19.0	21.2	23.4	25.4	27.4	29.4	31.3	33.1	35.0	36.8	38.6	40.4	42.2
15					21.9	24.4	26.9	29.3	31.6	33.8	36.0	38.1	40.3	42.4	44.4	46.5	48.5
16					25.0	27.9	30.7	33.4	36.0	38.5	41.0	43.5	45.9	48.3	50.7	53.0	55.3

[a] Includes 0.5-foot stump allowance.

Table 75--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for chestnut oak (species 832) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.6	2.0	2.5	2.8	3.3	3.7											
6	2.2	2.7	3.3	3.8	4.3	4.9	5.4	5.9									
7	2.7	3.4	4.1	4.9	5.6	6.3	7.0	7.6	8.3	8.9							
8	3.5	4.4	5.2	6.3	7.1	8.0	8.8	9.6	10.4	11.2	11.9	12.7					
9	4.4	5.5	6.5	7.8	8.9	9.9	10.9	11.8	12.8	13.7	14.7	15.6	16.6	17.5			
10	5.5	6.7	7.9	9.5	10.8	12.0	13.2	14.4	15.5	16.6	17.8	18.9	20.0	21.1	22.2	23.3	
11			9.5	11.4	12.9	14.4	15.8	17.2	18.5	19.9	21.2	22.5	23.8	25.1	26.4	27.7	29.0
12			11.3	13.5	15.3	17.0	18.6	20.2	21.8	23.4	24.9	26.5	28.0	29.5	31.0	32.5	34.0
13			13.2	15.8	17.8	19.8	21.7	23.6	25.4	27.2	29.0	30.8	32.5	34.3	36.0	37.8	39.5
14					20.6	22.9	25.0	27.2	29.3	31.3	33.4	35.4	37.5	39.5	41.5	43.5	45.5
15					23.6	26.1	28.6	31.0	33.4	35.8	38.1	40.4	42.7	45.0	47.3	49.6	51.9
16					26.8	29.7	32.5	35.2	37.9	40.5	43.2	45.8	48.4	51.0	53.6	56.1	58.7

[a] Includes 0.5-foot stump allowance.

Table 76--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for post oak (species 835) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40	8.3									9.8	11.9	73
	50	8.8									11.4	14.3	75
	60	9.0	12.4								12.9	16.5	76
12	70	9.2	12.7								14.2	18.6	77
	80	9.4	12.9								15.5	20.6	77
	90	9.4	13.1	16.3							16.7	22.6	78
	100	9.5	13.2	16.5							17.9	24.6	78
	40	11.4									14.8	16.4	73
	50	12.0	16.2								17.3	19.7	75
	60	12.4	16.9								19.7	22.7	76
14	70	12.6	17.4	21.1							21.9	25.6	77
	80	12.8	17.7	21.8							24.1	28.4	77
	90	12.9	17.9	22.2	25.6						26.2	31.2	78
	100	13.0	18.1	22.5	26.3						28.2	33.9	78
	50	15.7	21.3								23.8	25.8	75
	60	16.2	22.2	26.4							27.2	29.8	76
	70	16.5	22.8	27.7							30.4	33.6	77
16	80	16.8	23.1	28.5	32.4						33.5	37.3	77
	90	17.0	23.4	29.1	33.6						36.5	41.0	78
	100	17.1	23.7	29.5	34.4	38.2					39.5	44.5	78
	110	17.2	23.8	29.8	35.0	39.2					42.5	48.1	78
	50	20.0	27.0								31.0	32.9	75
	60	20.6	28.1	33.5							35.5	37.9	76
	70	21.0	28.9	35.1	39.2						39.8	42.8	77
18	80	21.3	29.4	36.1	41.1						44.0	47.5	77
	90	21.5	29.7	36.9	42.6	46.7					48.1	52.1	78
	100	21.7	30.0	37.4	43.6	48.4	51.9				52.1	56.6	78
	110	21.8	30.2	37.8	44.4	49.7	53.8				56.1	61.1	78
	50	24.7	33.4	38.5							39.0	40.7	75
	60	25.5	34.8	41.5							44.8	47.0	76
	70	26.0	35.7	43.4	48.5						50.3	53.0	77
20	80	26.4	36.3	44.7	50.9	55.0					55.7	58.8	77
	90	26.7	36.8	45.6	52.6	57.7					60.9	64.5	78
	100	26.9	37.1	46.3	53.9	59.8	64.1				66.0	70.1	78
	110	27.1	37.4	46.8	54.9	61.5	66.5	70.3			71.1	75.7	78
	60	30.9	42.2	50.3	54.7						55.0	57.0	76
	70	31.6	43.3	52.6	58.8						61.8	64.2	77
	80	32.0	44.1	54.2	61.6	66.6					68.4	71.3	77
22	90	32.4	44.6	55.3	63.8	69.9	74.0				74.9	78.2	78
	100	32.6	45.0	56.1	65.3	72.5	77.7	81.2			81.3	85.1	78
	110	32.8	45.3	56.7	66.5	74.5	80.6	85.1			87.6	91.8	78
	60	36.9	50.3	59.9	65.2						66.1	67.9	76
	70	37.6	51.6	62.7	70.0	74.2					74.3	76.6	77
	80	38.2	52.5	64.6	73.4	79.3					82.4	85.0	77
24	90	38.6	53.2	65.9	76.0	83.3	88.2				90.2	93.3	78
	100	38.9	53.7	66.8	77.8	86.3	92.5	96.8			98.0	101.4	78
	110	39.2	54.0	67.6	79.3	88.7	96.0	101.4	105.1		105.6	109.5	78
	60	43.4	59.1	70.4	76.6						78.1	79.8	76
	70	44.3	60.7	73.6	82.2	87.2					87.9	90.0	77
	80	44.9	61.7	75.8	86.3	93.2	97.3				97.5	99.9	77
26	90	45.4	62.5	77.4	89.2	97.8	103.6				106.8	109.6	78
	100	45.7	63.1	78.5	91.5	101.4	108.6	113.7			116.0	119.2	78
	110	46.0	63.5	79.4	93.1	104.2	112.8	119.1	123.5		125.1	128.7	78

[a] Includes 1.0-foot stump allowance.

Table 77--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for post oak (species 835) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	8.6									9.7	11.8	73
	40	9.0									11.6	15.0	76
	50	9.3	12.6								13.3	18.1	77
12	60	9.4	12.9								14.8	21.0	77
	70	9.5	13.1	16.2							16.4	23.9	78
	80	9.6	13.2	16.4							17.9	26.7	78
	90	9.7	13.3	16.6							19.3	29.6	78
	40	12.4	16.6								17.9	20.3	76
	50	12.7	17.3	20.7							20.9	24.3	77
	60	12.9	17.7	21.5							23.9	28.2	77
14	70	13.1	17.9	22.1	25.5						26.7	32.0	78
	80	13.2	18.1	22.4	26.2	29.3					29.5	35.8	78
	90	13.3	18.2	22.7	26.7	30.1					32.3	39.5	78
	100	13.3	18.3	22.9	27.0	30.7	33.9				35.1	43.2	78
	40	16.3	21.7								24.6	26.3	76
	50	16.7	22.6	27.1							29.0	31.5	77
	60	17.0	23.2	28.2	32.0						33.3	36.5	77
16	70	17.2	23.5	28.9	33.3	36.8					37.5	41.4	78
	80	17.3	23.7	29.4	34.2	38.2	41.4				41.6	46.2	78
	90	17.4	23.9	29.7	34.8	39.3	43.0				45.7	51.0	78
	100	17.5	24.0	30.0	35.3	40.1	44.2	47.7			49.7	55.8	78
	40	20.7	27.6	31.8							31.9	33.2	76
	50	21.3	28.7	34.3							37.8	39.7	77
	60	21.6	29.4	35.7	40.5						43.5	45.9	77
18	70	21.9	29.8	36.6	42.2	46.5					49.0	52.0	78
	80	22.0	30.1	37.2	43.3	48.3	52.3				54.5	58.1	78
	90	22.1	30.4	37.7	44.1	49.7	54.3	58.1			59.9	64.1	78
	100	22.2	30.5	38.0	44.8	50.7	55.9	60.2	63.8		65.3	70.0	78
	40	25.6	34.1	39.2							39.8	40.9	76
	50	26.3	35.5	42.3	46.8						47.3	48.9	77
	60	26.8	36.4	44.1	50.0	54.0					54.5	56.5	77
20	70	27.1	36.9	45.3	52.1	57.4	61.1				61.6	64.0	78
	80	27.3	37.3	46.0	53.5	59.7	64.5	68.1			68.5	71.3	78
	90	27.4	37.6	46.6	54.5	61.3	67.0	71.6	75.0		75.4	78.7	78
	100	27.6	37.8	47.0	55.3	62.6	68.9	74.2	78.6	81.9	82.2	85.9	78
	50	32.0	43.1	51.3	56.6						57.7	59.0	77
	60	32.5	44.1	53.4	60.5	65.3					66.6	68.2	77
	70	32.9	44.8	54.8	63.0	69.4	73.9				75.2	77.1	78
22	80	33.1	45.2	55.8	64.8	72.2	78.0	82.3			83.7	86.0	78
	90	33.3	45.6	56.5	66.0	74.2	81.0	86.5	90.6		92.1	94.8	78
	100	33.4	45.8	57.0	67.0	75.8	83.4	89.7	94.9	98.9	100.5	103.5	78
	50	38.1	51.3	61.1	67.3						69.1	70.1	77
	60	38.8	52.6	63.7	72.0	77.7					79.6	81.0	77
	70	39.2	53.4	65.3	75.0	82.5	87.8				90.0	91.6	78
24	80	39.5	53.9	66.5	77.1	85.9	92.8	97.8			100.2	102.1	78
	90	39.7	54.3	67.3	78.6	88.3	96.4	102.9	107.7		110.3	112.5	78
	100	39.9	54.6	67.9	79.8	90.2	99.2	106.7	112.8	117.5	120.3	122.8	78
	50	44.8	60.3	71.7	79.0						81.3	82.2	77
	60	45.6	61.8	74.8	84.6	91.1					93.8	94.9	77
	70	46.1	62.7	76.7	88.1	96.9	103.0				105.9	107.3	78
26	80	46.5	63.4	78.1	90.6	100.8	108.9	114.7			117.9	119.6	78
	90	46.7	63.9	79.1	92.3	103.7	113.2	120.7	126.3		129.8	131.7	78
	100	46.9	64.2	79.8	93.7	105.9	116.4	125.2	132.3	137.8	141.7	143.8	78

[a] Includes 1.0-foot stump allowance.

Table 78--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 9-inch d.o.b. top and height to a saw-log top for post oak (species 835) in the Piedmont.[a]

D.b.h. class	Height to 9-inch d.o.b. top	Volume to: Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	8.5									9.7	14.0	75
	30	9.1	12.7								14.6	18.6	77
	40	9.4	13.1	16.6							19.3	23.1	78
12	50	9.6	13.3	16.9	20.3	23.4					23.8	27.6	78
	60	9.6	13.5	17.1	20.7	24.0	27.2				28.2	32.1	79
	70	9.7	13.5	17.3	20.9	24.4	27.7	30.9			32.7	36.5	79
	80	9.7	13.6	17.4	21.0	24.6	28.1	31.4	34.5		37.1	41.0	79
	40	12.9	17.9	22.2							25.3	28.3	78
	50	13.1	18.2	22.9	27.1	30.6					31.0	34.0	78
	60	13.2	18.4	23.2	27.8	31.9	35.5				36.6	39.7	79
14	70	13.3	18.5	23.5	28.2	32.6	36.6	40.3			42.2	45.3	79
	80	13.4	18.6	23.6	28.4	33.0	37.3	41.3	45.0		47.8	50.9	79
	90	13.4	18.7	23.7	28.6	33.3	37.8	42.0	46.0	49.7	53.3	56.4	79
	100	13.5	18.7	23.8	28.8	33.5	38.1	42.6	46.8	50.7	58.9	62.0	79
	40	17.0	23.4	28.8							32.3	34.8	78
	50	17.2	23.8	29.8	34.9	39.0					39.4	41.9	78
	60	17.4	24.1	30.3	35.9	40.9	45.1				46.3	48.9	79
16	70	17.5	24.3	30.6	36.5	42.0	46.9	51.1			53.3	55.8	79
	80	17.6	24.4	30.8	37.0	42.7	48.0	52.8	57.1		60.2	62.7	79
	90	17.7	24.5	31.0	37.3	43.2	48.8	54.0	58.8	63.0	67.0	69.6	79
	100	17.7	24.5	31.1	37.5	43.5	49.3	54.8	59.9	64.7	73.9	76.5	79
	40	21.6	29.6	36.2							40.2	42.4	78
	50	21.9	30.2	37.5	43.8	48.4					48.9	51.0	78
	60	22.1	30.6	38.3	45.2	51.2	56.0				57.4	59.5	79
18	70	22.3	30.8	38.7	46.1	52.7	58.6	63.5			65.8	68.0	79
	80	22.4	31.0	39.0	46.6	53.7	60.1	65.9	70.8		74.2	76.4	79
	90	22.5	31.1	39.3	47.1	54.4	61.2	67.5	73.2	78.2	82.5	84.7	79
	100	22.5	31.2	39.4	47.4	54.9	62.0	68.7	74.8	80.5	90.9	93.1	79
	40	26.8	36.6	44.5							49.1	51.0	78
	50	27.2	37.4	46.3	53.7	59.0					59.5	61.4	78
	60	27.4	37.8	47.2	55.6	62.7	68.2				69.7	71.6	79
20	70	27.6	38.1	47.8	56.7	64.7	71.6	77.3			79.8	81.7	79
	80	27.7	38.3	48.2	57.5	66.0	73.7	80.5	86.2		89.9	91.8	79
	90	27.8	38.4	48.5	58.0	66.9	75.1	82.6	89.3	95.1	99.9	101.8	79
	100	27.9	38.6	48.7	58.4	67.6	76.2	84.2	91.5	98.2	109.9	111.8	79
	50	33.0	45.3	55.9	64.7	70.7					71.2	72.9	78
	60	33.3	45.8	57.1	67.1	75.4	81.7				83.3	85.0	79
	70	33.5	46.2	57.9	68.5	78.0	86.1	92.5			95.3	97.0	79
22	80	33.7	46.4	58.4	69.5	79.6	88.7	96.7	103.2		107.2	108.9	79
	90	33.8	46.6	58.7	70.1	80.8	90.5	99.4	107.2	113.8	119.1	120.8	79
	100	33.9	46.8	59.0	70.7	81.6	91.9	101.4	110.0	117.7	130.9	132.7	79
	50	39.4	53.9	66.5	76.7	83.6					84.1	85.6	78
	60	39.8	54.6	68.0	79.6	89.4	96.5				98.2	99.8	79
	70	40.0	55.0	68.9	81.4	92.5	101.9	109.2			112.3	113.8	79
24	80	40.2	55.4	69.5	82.6	94.5	105.2	114.4	121.8		126.2	127.8	79
	90	40.3	55.6	70.0	83.4	95.9	107.4	117.7	126.8	134.3	140.1	141.7	79
	100	40.4	55.7	70.3	84.1	97.0	109.1	120.2	130.2	139.1	154.0	155.5	79
	50	46.3	63.4	78.0	89.8	97.5					98.1	99.5	78
	60	46.8	64.2	79.8	93.3	104.5	112.6				114.5	115.9	79
	70	47.1	64.7	80.9	95.5	108.3	119.1	127.4			130.7	132.1	79
26	80	47.3	65.1	81.6	96.9	110.7	123.1	133.6	142.0		146.9	148.3	79
	90	47.4	65.3	82.2	97.9	112.5	125.8	137.7	148.0	156.6	163.0	164.4	79
	100	47.6	65.5	82.6	98.7	113.7	127.8	140.6	152.2	162.4	179.0	180.4	79

[a] Includes 1.0-foot stump allowance.

Table 79--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for post oak (species 835) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.7	1.1	1.5	1.7	2.1	2.2											
6	1.8	2.3	2.5	2.8	3.3	3.6	3.8	4.0									
7	2.6	3.2	3.6	4.0	4.7	5.1	5.4	5.7	6.0	6.3							
8	3.5	4.3	4.8	5.3	6.3	6.8	7.2	7.7	8.1	8.5	8.9	9.3					
9	4.5	5.5	6.2	6.8	8.1	8.7	9.3	9.9	10.4	11.0	11.5	12.1	12.6	13.2			
10	5.6	6.9	7.7	8.6	10.1	10.9	11.6	12.4	13.1	13.8	14.5	15.1	15.8	16.5	17.2	17.8	
11			9.4	10.4	12.4	13.3	14.2	15.1	16.0	16.8	17.7	18.5	19.3	20.2	21.0	21.8	22.6
12			11.3	12.5	14.8	15.9	17.0	18.1	19.1	20.2	21.2	22.2	23.2	24.2	25.2	26.1	27.1
13			13.3	14.8	17.5	18.8	20.1	21.3	22.6	23.8	25.0	26.2	27.4	28.5	29.7	30.9	32.0
14					20.3	21.9	23.4	24.9	26.3	27.7	29.1	30.5	31.9	33.3	34.6	36.0	37.3
15					23.4	25.2	26.9	28.6	30.3	31.9	33.6	35.2	36.7	38.3	39.9	41.4	43.0
16					26.7	28.8	30.7	32.7	34.6	36.4	38.3	40.1	41.9	43.7	45.5	47.3	49.1

[a] Includes 0.5-foot stump allowance.

Table 80--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for post oak (species 835) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.6	2.0	2.5	2.8	3.2	3.6											
6	2.2	2.7	3.3	3.8	4.3	4.8	5.3	5.8									
7	2.7	3.4	4.1	5.0	5.7	6.3	6.9	7.5	8.1	8.7							
8	3.6	4.4	5.3	6.4	7.2	8.0	8.7	9.5	10.2	10.9	11.7	12.4					
9	4.5	5.6	6.7	8.0	9.0	9.9	10.8	11.7	12.6	13.5	14.4	15.2	16.1	17.0			
10	5.6	6.9	8.2	9.8	10.9	12.1	13.2	14.2	15.3	16.4	17.4	18.4	19.5	20.5	21.5	22.6	
11			9.8	11.8	13.1	14.5	15.7	17.0	18.3	19.5	20.8	22.0	23.2	24.4	25.6	26.8	28.0
12			11.7	13.9	15.5	17.1	18.6	20.1	21.5	23.0	24.4	25.9	27.3	28.7	30.1	31.5	32.9
13			13.7	16.3	18.1	19.9	21.7	23.4	25.1	26.8	28.4	30.1	31.7	33.4	35.0	36.6	38.3
14					21.0	23.0	25.0	27.0	28.9	30.8	32.8	34.6	36.5	38.4	40.3	42.1	44.0
15					24.0	26.3	28.6	30.9	33.1	35.2	37.4	39.6	41.7	43.8	45.9	48.1	50.2
16					27.3	29.9	32.5	35.0	37.5	39.9	42.4	44.8	47.2	49.6	52.0	54.4	56.8

[a] Includes 0.5-foot stump allowance.

Table 81--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for all white oaks combined (species 82) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40										4.5	9.2	59
	50	8.2									9.1	12.8	69
	60	8.9									12.1	16.0	75
12	70	9.4	12.9								14.5	19.0	78
	80	9.7	13.5	16.7							16.7	21.8	80
	90	9.9	13.9	17.3							18.8	24.5	82
	100	10.1	14.2	17.8							20.7	27.1	83
	40	9.4									10.0	12.6	59
	50	11.1	14.7								15.0	17.6	69
	60	12.1	16.5								18.9	22.0	75
14	70	12.8	17.6	21.4							22.4	26.1	78
	80	13.2	18.4	22.7							25.7	29.9	80
	90	13.5	18.9	23.6	27.4						28.8	33.6	82
	100	13.7	19.3	24.3	28.4	31.7					31.8	37.1	83
	50	14.5	19.2								20.8	23.1	69
	60	15.8	21.5	25.6							26.2	28.9	75
	70	16.7	23.0	28.0							31.0	34.2	78
16	80	17.2	24.0	29.7	33.9						35.5	39.2	80
	90	17.6	24.7	30.8	35.8	39.4					39.8	44.0	82
	100	17.9	25.2	31.7	37.2	41.4					44.0	48.7	83
	110	18.1	25.6	32.4	38.2	43.0	46.7				48.1	53.3	84
	50	18.4	24.3								27.3	29.3	69
	60	20.1	27.3	32.4							34.2	36.6	75
	70	21.1	29.1	35.5	39.7						40.6	43.4	78
18	80	21.8	30.4	37.5	42.9						46.5	49.8	80
	90	22.3	31.3	39.0	45.3	49.8					52.2	55.9	82
	100	22.6	31.9	40.1	47.0	52.4	56.4				57.6	61.8	83
	110	22.9	32.4	41.0	48.4	54.5	59.2	62.6			63.0	67.7	84
	50	22.7	30.0	34.4							34.4	36.2	69
	60	24.8	33.7	40.0							43.2	45.3	75
	70	26.1	36.0	43.8	49.1						51.1	53.7	78
20	80	26.9	37.5	46.4	53.0	57.4					58.6	61.6	80
	90	27.5	38.6	48.2	55.9	61.5	65.3				65.8	69.2	82
	100	27.9	39.4	49.6	58.1	64.7	69.6				72.7	76.5	83
	110	28.3	40.0	50.6	59.8	67.3	73.1	77.3			79.5	83.7	84
	60	30.0	40.8	48.5	52.8						52.9	54.9	75
	70	31.6	43.6	53.0	59.4						62.7	65.1	78
	80	32.6	45.4	56.1	64.2	69.5					71.9	74.6	80
22	90	33.3	46.8	58.4	67.7	74.5	79.1				80.7	83.8	82
	100	33.8	47.7	60.0	70.3	78.4	84.2	88.3			89.2	92.7	83
	110	34.2	48.4	61.2	72.3	81.4	88.4	93.6	97.2		97.6	101.4	84
	60	35.7	48.5	57.7	62.9						63.6	65.4	75
	70	37.6	51.9	63.1	70.7	75.0					75.4	77.5	78
	80	38.8	54.1	66.8	76.4	82.7					86.4	88.9	80
24	90	39.7	55.7	69.5	80.6	88.7	94.1				97.0	99.8	82
	100	40.3	56.8	71.4	83.7	93.3	100.3	105.1			107.2	110.4	83
	110	40.7	57.7	72.9	86.1	96.9	105.2	111.4	115.7		117.3	120.8	84
	60	42.0	57.0	67.7	73.8						75.2	76.9	75
	70	44.1	60.9	74.1	83.0	88.1					89.1	91.0	78
	80	45.6	63.5	78.5	89.7	97.1	101.6				102.1	104.4	80
26	90	46.6	65.4	81.6	94.6	104.1	110.5	114.5			114.6	117.3	82
	100	47.3	66.7	83.9	98.3	109.5	117.7	123.4			126.8	129.7	83
	110	47.8	67.7	85.6	101.1	113.8	123.6	130.8	135.9		138.6	141.9	84

[a] Includes 1.0-foot stump allowance.

Table 82--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for all white oaks combined (species 82) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	8.0									8.6	10.9	71
	40	8.9									11.2	14.6	76
	50	9.4	12.8								13.4	18.0	79
12	60	9.6	13.3								15.5	21.2	80
	70	9.8	13.6	16.8							17.4	24.4	81
	80	9.9	13.8	17.2							19.2	27.4	81
	90	10.0	14.0	17.5	20.6						21.0	30.4	82
	40	12.1	16.2								17.2	19.6	76
	50	12.7	17.4								20.8	24.1	79
	60	13.1	18.1	22.0							24.2	28.4	80
14	70	13.3	18.5	22.8	26.3						27.4	32.5	81
	80	13.5	18.8	23.4	27.2	30.4					30.5	36.5	81
	90	13.6	19.0	23.7	27.9	31.4					33.6	40.5	82
	100	13.7	19.1	24.0	28.4	32.2	35.5				36.7	44.4	82
	40	15.8	21.2								23.5	25.4	76
	50	16.6	22.7	27.1							28.6	31.2	79
	60	17.1	23.6	28.7	32.5						33.4	36.6	80
16	70	17.4	24.1	29.7	34.2	37.6					38.0	41.9	81
	80	17.6	24.5	30.4	35.4	39.5					42.5	47.0	81
	90	17.7	24.8	31.0	36.3	40.9	44.6				46.9	52.1	82
	100	17.8	25.0	31.4	37.0	41.9	46.1	49.6			51.2	57.2	82
	40	20.0	26.8								30.5	31.9	76
	50	21.0	28.7	34.2							37.1	39.2	79
	60	21.6	29.8	36.3	41.0						43.4	46.0	80
18	70	22.0	30.5	37.6	43.2	47.5					49.4	52.5	81
	80	22.2	31.0	38.5	44.8	49.8	53.7				55.3	59.0	81
	90	22.4	31.3	39.2	45.9	51.6	56.2	59.9			61.2	65.3	82
	100	22.6	31.6	39.7	46.8	52.9	58.2	62.5	65.9		66.9	71.6	82
	40	24.7	33.1	37.8							38.1	39.3	76
	50	26.0	35.4	42.2	46.3						46.4	48.1	79
	60	26.7	36.8	44.7	50.5	54.3					54.3	56.4	80
20	70	27.2	37.7	46.4	53.3	58.4					61.9	64.5	81
	80	27.5	38.3	47.5	55.2	61.4	66.1				69.4	72.3	81
	90	27.7	38.7	48.3	56.6	63.6	69.3	73.7			76.7	80.1	82
	100	27.9	39.0	49.0	57.7	65.3	71.7	76.9	81.1		83.9	87.8	82
	50	31.4	42.9	51.0	55.9						56.6	58.0	79
	60	32.3	44.6	54.1	61.0	65.5					66.2	68.0	80
	70	32.9	45.6	56.1	64.4	70.6	74.8				75.5	77.6	81
22	80	33.3	46.3	57.5	66.7	74.2	79.9	83.8			84.6	87.1	81
	90	33.5	46.8	58.5	68.5	76.8	83.7	88.9	92.8		93.6	96.4	82
	100	33.7	47.2	59.2	69.8	78.9	86.6	92.9	97.9	101.6	102.4	105.6	82
	50	37.4	51.1	60.6	66.4						67.6	68.8	79
	60	38.5	53.0	64.4	72.6	77.8					79.2	80.6	80
	70	39.1	54.3	66.7	76.6	83.9	88.8				90.3	92.1	81
24	80	39.6	55.1	68.4	79.4	88.2	94.9	99.5			101.2	103.3	81
	90	39.9	55.8	69.6	81.5	91.4	99.4	105.7	110.1		111.9	114.3	82
	100	40.2	56.2	70.5	83.0	93.8	102.9	110.4	116.3	120.6	122.5	125.2	82
	50	44.0	59.9	71.1	77.9						79.6	80.6	79
	60	45.2	62.3	75.5	85.1	91.2					93.2	94.4	80
	70	46.0	63.7	78.3	89.8	98.4	104.1				106.3	107.8	81
26	80	46.5	64.7	80.3	93.1	103.4	111.2	116.6			119.1	120.9	81
	90	46.9	65.5	81.7	95.6	107.2	116.6	123.8	129.0		131.7	133.7	82
	100	47.2	66.0	82.7	97.4	110.1	120.7	129.4	136.3	141.3	144.2	146.5	82

[a] Includes 1.0-foot stump allowance.

Table 83--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 9-inch d.o.b. top and height to a saw-log top for all white oaks combined (species 82) in the Piedmont.[a]

D.b.h. class	Height to 9-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	8.1									9.3	14.0	72
	30	9.2	12.8								14.7	18.7	78
	40	9.7	13.5	17.0							19.7	23.5	80
12	50	9.9	13.9	17.6	21.0	24.1					24.5	28.3	81
	60	10.1	14.1	18.0	21.6	25.0	28.1				29.2	33.0	82
	70	10.2	14.3	18.2	22.0	25.5	28.9	32.0			33.8	37.7	82
	80	10.2	14.4	18.4	22.2	25.9	29.4	32.7	35.9		38.4	42.3	82
	40	13.1	18.2	22.4							25.4	28.4	80
	50	13.4	18.7	23.5	27.6	30.9					31.3	34.3	81
	60	13.6	19.1	24.1	28.6	32.6	36.0				37.1	40.1	82
14	70	13.7	19.3	24.4	29.2	33.6	37.5	41.0			42.9	45.9	82
	80	13.8	19.4	24.7	29.6	34.3	38.5	42.4	45.9		48.6	51.6	82
	90	13.9	19.5	24.9	30.0	34.7	39.2	43.4	47.3	50.8	54.2	57.3	82
	100	13.9	19.6	25.0	30.2	35.1	39.8	44.2	48.3	52.1	59.9	63.0	82
	40	17.0	23.6	28.7							32.0	34.5	80
	50	17.4	24.3	30.2	35.1	38.9					39.2	41.7	81
	60	17.7	24.7	31.1	36.6	41.4	45.2				46.3	48.8	82
16	70	17.8	25.0	31.6	37.6	42.9	47.5	51.4			53.3	55.8	82
	80	17.9	25.2	32.0	38.2	43.9	49.1	53.6	57.5		60.3	62.8	82
	90	18.0	25.4	32.3	38.7	44.7	50.2	55.2	59.6	63.6	67.2	69.8	82
	100	18.1	25.5	32.5	39.0	45.2	51.0	56.3	61.2	65.7	74.1	76.7	82
	40	21.5	29.7	35.9							39.5	41.6	80
	50	22.0	30.7	37.9	43.7	47.8					48.2	50.4	81
	60	22.3	31.2	39.1	45.8	51.3	55.6				56.8	58.9	82
18	70	22.5	31.6	39.8	47.1	53.5	58.9	63.2			65.2	67.4	82
	80	22.7	31.8	40.3	48.0	54.9	61.0	66.3	70.7		73.6	75.8	82
	90	22.8	32.0	40.6	48.6	55.9	62.6	68.5	73.7	78.1	82.0	84.1	82
	100	22.8	32.1	40.9	49.1	56.7	63.7	70.1	75.9	81.0	90.3	92.5	82
	40	26.5	36.5	43.9							47.8	49.7	80
	50	27.1	37.8	46.5	53.3	57.9					58.3	60.2	81
	60	27.5	38.5	48.0	56.0	62.5	67.2				68.5	70.4	82
20	70	27.8	38.9	48.9	57.7	65.3	71.6	76.4			78.5	80.4	82
	80	27.9	39.2	49.6	58.9	67.2	74.4	80.5	85.4		88.5	90.4	82
	90	28.1	39.5	50.0	59.7	68.5	76.4	83.4	89.4	94.3	98.4	100.3	82
	100	28.2	39.6	50.4	60.3	69.6	78.0	85.6	92.4	98.3	108.3	110.2	82
	50	32.8	45.6	56.1	64.0	69.0					69.4	71.1	81
	60	33.3	46.5	57.9	67.4	74.9	80.1				81.4	83.1	82
	70	33.6	47.0	59.0	69.5	78.4	85.6	91.0			93.3	94.9	82
22	80	33.8	47.4	59.8	71.0	80.8	89.2	96.2	101.7		105.0	106.7	82
	90	33.9	47.7	60.4	72.0	82.5	91.8	99.9	106.8	112.3	116.7	118.4	82
	100	34.1	47.9	60.8	72.8	83.8	93.7	102.7	110.5	117.3	128.3	130.0	82
	50	39.1	54.2	66.5	75.6	81.2					81.6	83.1	81
	60	39.6	55.3	68.7	79.8	88.4	94.3				95.6	97.1	82
	70	40.0	55.9	70.1	82.4	92.7	101.0	107.0			109.4	110.9	82
24	80	40.2	56.4	71.1	84.2	95.7	105.4	113.4	119.5		123.1	124.6	82
	90	40.4	56.7	71.8	85.5	97.8	108.6	118.0	125.8	132.0	136.6	138.2	82
	100	40.5	57.0	72.3	86.4	99.3	111.0	121.4	130.5	138.1	150.2	151.7	82
	50	45.8	63.6	77.8	88.3	94.5					94.9	96.3	81
	60	46.5	64.8	80.5	93.3	103.1	109.6				111.0	112.4	82
	70	46.9	65.6	82.2	96.4	108.3	117.7	124.4			126.9	128.3	82
26	80	47.2	66.2	83.3	98.6	111.8	123.1	132.2	139.0		142.7	144.1	82
	90	47.4	66.6	84.2	100.1	114.4	126.9	137.7	146.5	153.4	158.4	159.8	82
	100	47.6	66.9	84.8	101.3	116.3	129.8	141.7	152.1	160.8	174.0	175.4	82

[a] Includes 1.0-foot stump allowance.

Table 84--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for all white oaks combined (species 82) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.8	1.0	1.2	1.5	1.7	2.0											
6	1.8	2.3	2.6	2.8	3.0	3.4	3.7	4.1									
7	2.7	3.3	3.6	4.0	4.3	4.8	5.3	5.8	6.2	6.7							
8	3.5	4.3	4.8	5.4	5.7	6.4	7.1	7.7	8.4	9.0	9.5	10.1					
9	4.5	5.6	6.2	6.9	7.3	8.2	9.1	9.9	10.7	11.5	12.3	13.0	13.7	14.4			
10	5.6	6.9	7.7	8.5	9.1	10.3	11.4	12.4	13.4	14.4	15.3	16.2	17.1	18.0	18.9	19.8	
11			9.4	10.4	11.1	12.5	13.8	15.1	16.3	17.5	18.7	19.8	20.9	22.0	23.1	24.1	25.2
12			11.2	12.4	13.3	15.0	16.6	18.1	19.5	20.9	22.3	23.7	25.0	26.3	27.6	28.9	30.1
13			13.2	14.6	15.7	17.6	19.5	21.3	23.0	24.7	26.3	27.9	29.5	31.0	32.5	34.0	35.5
14					18.3	20.5	22.7	24.8	26.8	28.7	30.6	32.5	34.3	36.1	37.8	39.6	41.3
15					21.0	23.6	26.1	28.5	30.8	33.0	35.2	37.3	39.4	41.5	43.6	45.6	47.6
16					23.9	26.9	29.8	32.5	35.1	37.6	40.1	42.6	45.0	47.3	49.6	51.9	54.2

[a] Includes 0.5-foot stump allowance.

Table 85--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for all white oaks combined (species 82) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.8	2.2	2.7	3.1	3.5	4.0											
6	2.3	2.9	3.5	4.0	4.6	5.1	5.7	6.2									
7	2.8	3.5	4.2	5.1	5.8	6.5	7.2	7.9	8.5	9.2							
8	3.6	4.5	5.3	6.4	7.3	8.1	9.0	9.8	10.6	11.4	12.2	13.0					
9	4.5	5.5	6.6	7.8	8.9	10.0	11.0	12.0	13.0	13.9	14.9	15.8	16.7	17.7			
10	5.5	6.7	8.0	9.5	10.8	12.1	13.3	14.5	15.6	16.8	17.9	19.0	20.1	21.2	22.3	23.4	
11			9.6	11.3	12.9	14.4	15.8	17.2	18.6	19.9	21.2	22.5	23.9	25.1	26.4	27.7	29.0
12			11.3	13.3	15.1	16.9	18.6	20.2	21.8	23.3	24.9	26.4	28.0	29.5	31.0	32.5	33.9
13			13.1	15.5	17.6	19.6	21.6	23.4	25.3	27.1	28.9	30.7	32.4	34.2	35.9	37.6	39.3
14					20.3	22.6	24.8	27.0	29.1	31.2	33.2	35.2	37.2	39.2	41.2	43.2	45.2
15					23.2	25.8	28.3	30.8	33.2	35.5	37.8	40.1	42.4	44.7	46.9	49.2	51.4
16					26.3	29.2	32.1	34.8	37.5	40.2	42.8	45.4	48.0	50.5	53.1	55.6	58.1

[a] Includes 0.5-foot stump allowance.

Table 86--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for scarlet oak (species 806) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to: Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40	7.7									8.0	10.9	69
	50	8.6									11.0	14.2	75
	60	9.2	12.7								13.3	17.1	78
12	70	9.5	13.3								15.4	19.8	81
	80	9.8	13.8	17.1							17.3	22.4	82
	90	9.9	14.1	17.6							19.1	25.0	83
	100	10.1	14.3	18.0							20.9	27.4	84
	40	10.5									13.1	15.0	69
	50	11.8	16.0								17.0	19.5	75
	60	12.5	17.3								20.4	23.5	78
14	70	13.0	18.2	22.3							23.6	27.2	81
	80	13.3	18.8	23.3							26.5	30.8	82
	90	13.6	19.2	24.0	27.9						29.4	34.3	83
	100	13.7	19.5	24.5	28.8						32.1	37.7	84
	50	15.4	21.0								23.4	25.6	75
	60	16.4	22.7	27.2							28.1	30.8	78
	70	17.0	23.8	29.1							32.5	35.8	81
16	80	17.4	24.5	30.5	34.9						36.7	40.5	82
	90	17.7	25.1	31.4	36.5	40.2					40.7	45.0	83
	100	18.0	25.4	32.1	37.7	42.0					44.6	49.5	84
	110	18.2	25.8	32.6	38.6	43.5	47.2				48.4	53.8	84
	50	19.5	26.5								30.5	32.5	75
	60	20.8	28.7	34.5							36.8	39.2	78
	70	21.6	30.1	36.9	41.5						42.5	45.4	81
18	80	22.1	31.1	38.6	44.2	47.9					48.0	51.4	82
	90	22.5	31.7	39.8	46.2	50.9					53.3	57.2	83
	100	22.8	32.2	40.7	47.7	53.2	57.2				58.4	62.8	84
	110	23.0	32.6	41.3	48.9	55.0	59.8	63.3			63.5	68.4	84
	50	24.2	32.8	38.0							38.4	40.2	75
	60	25.7	35.5	42.6							46.3	48.4	78
	70	26.7	37.2	45.6	51.2						53.6	56.2	81
20	80	27.3	38.4	47.7	54.6	59.2					60.5	63.6	82
	90	27.8	39.2	49.1	57.1	62.9	66.8				67.2	70.7	83
	100	28.2	39.8	50.2	59.0	65.7	70.7				73.8	77.7	84
	110	28.4	40.3	51.1	60.4	68.0	73.8	78.2			80.2	84.6	84
	60	31.1	43.0	51.5	56.3						56.7	58.7	78
	70	32.3	45.1	55.2	62.0						65.7	68.1	81
	80	33.1	46.5	57.7	66.1	71.7					74.3	77.0	82
22	90	33.7	47.5	59.5	69.1	76.1	80.9				82.5	85.7	83
	100	34.1	48.2	60.8	71.4	79.6	85.6	89.7			90.6	94.2	84
	110	34.5	48.8	61.8	73.1	82.3	89.4	94.6	98.3		98.5	102.5	84
	60	37.1	51.2	61.4	67.1						68.1	70.0	78
	70	38.5	53.7	65.8	73.8	78.5					78.9	81.1	81
	80	39.4	55.4	68.7	78.7	85.4					89.2	91.8	82
24	90	40.1	56.6	70.8	82.3	90.6	96.3				99.2	102.1	83
	100	40.6	57.5	72.4	85.0	94.7	101.9	106.8			108.9	112.2	84
	110	41.0	58.1	73.6	87.0	98.0	106.4	112.7	117.0		118.5	122.2	84
	60	43.5	60.1	72.1	78.8						80.5	82.2	78
	70	45.2	63.0	77.2	86.7	92.2					93.3	95.3	81
	80	46.3	65.0	80.7	92.4	100.2	104.9				105.5	107.8	82
26	90	47.1	66.4	83.2	96.6	106.4	113.0	117.1			117.3	120.0	83
	100	47.7	67.5	85.0	99.8	111.2	119.6	125.4			128.8	131.8	84
	110	48.2	68.3	86.4	102.2	115.0	124.9	132.3	137.4		140.1	143.5	84

[a] Includes 1.0-foot stump allowance.

Table 87--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for scarlet oak (species 806) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	8.6									9.9	12.0	76
	40	9.3									12.3	15.7	79
	50	9.6	13.3								14.5	19.2	81
12	60	9.9	13.7								16.6	22.5	82
	70	10.0	14.0	17.4							18.6	25.8	82
	80	10.1	14.2	17.7							20.5	29.0	83
	90	10.2	14.3	18.0	21.2						22.4	32.2	83
	40	12.6	17.2								18.8	21.1	79
	50	13.1	18.1	21.9							22.4	25.7	81
	60	13.4	18.7	22.9							26.0	30.1	82
14	70	13.6	19.0	23.6	27.4						29.4	34.4	82
	80	13.7	19.2	24.1	28.2	31.7					32.7	38.7	83
	90	13.8	19.4	24.4	28.8	32.6	35.8				36.0	42.9	83
	100	13.9	19.6	24.7	29.3	33.3	36.9				39.2	47.0	83
	40	16.5	22.5								25.6	27.4	79
	50	17.2	23.7	28.5							30.8	33.3	81
	60	17.5	24.4	29.9	34.1						35.8	38.9	82
16	70	17.8	24.8	30.8	35.7	39.5					40.7	44.4	82
	80	17.9	25.1	31.4	36.8	41.2	44.7				45.4	49.9	83
	90	18.1	25.4	31.9	37.5	42.4	46.6	49.9			50.1	55.3	83
	100	18.2	25.5	32.2	38.1	43.4	48.0	51.8			54.8	60.6	83
	40	20.9	28.4	32.9							33.1	34.5	79
	50	21.7	29.9	36.0	39.9						39.9	41.8	81
	60	22.2	30.8	37.8	43.1						46.5	48.9	82
18	70	22.5	31.4	38.9	45.1	49.8					52.9	55.8	82
	80	22.7	31.8	39.7	46.4	52.0	56.4				59.1	62.6	83
	90	22.9	32.1	40.3	47.5	53.6	58.7	62.9			65.3	69.3	83
	100	23.0	32.3	40.7	48.2	54.8	60.5	65.3	69.3		71.4	76.0	83
	40	25.9	35.1	40.6							41.3	42.4	79
	50	26.8	37.0	44.4	49.2						49.9	51.4	81
	60	27.4	38.1	46.6	53.1	57.4					58.1	60.1	82
20	70	27.8	38.8	48.0	55.6	61.4	65.5				66.1	68.5	82
	80	28.1	39.3	49.0	57.3	64.1	69.4	73.3			74.0	76.8	83
	90	28.3	39.6	49.7	58.6	66.1	72.4	77.4	81.1		81.8	85.0	83
	100	28.4	39.9	50.3	59.5	67.6	74.6	80.5	85.2	88.9	89.5	93.2	83
	50	32.5	44.8	53.7	59.4						60.8	62.0	81
	60	33.2	46.1	56.4	64.2	69.3					70.8	72.4	82
	70	33.7	47.0	58.1	67.2	74.1	79.0				80.6	82.5	82
22	80	34.0	47.6	59.3	69.3	77.5	83.9	88.5			90.2	92.5	83
	90	34.2	48.0	60.2	70.8	79.9	87.4	93.4	97.9		99.8	102.4	83
	100	34.4	48.3	60.8	72.0	81.8	90.2	97.2	102.9	107.2	109.2	112.2	83
	50	38.7	53.3	63.9	70.6						72.6	73.6	81
	60	39.5	54.9	67.1	76.3	82.4					84.6	85.9	82
	70	40.1	55.9	69.2	79.9	88.1	93.9				96.3	97.9	82
24	80	40.5	56.6	70.6	82.4	92.1	99.7	105.1			107.8	109.7	83
	90	40.8	57.1	71.6	84.3	95.0	104.0	111.0	116.3		119.2	121.4	83
	100	41.0	57.5	72.4	85.7	97.3	107.2	115.5	122.2	127.3	130.5	133.0	83
	50	45.5	62.6	75.0	82.8						85.4	86.2	81
	60	46.4	64.4	78.8	89.5	96.6					99.5	100.6	82
	70	47.1	65.6	81.2	93.8	103.4	110.0				113.3	114.6	82
26	80	47.5	66.5	82.9	96.7	108.1	116.9	123.2			126.8	128.4	83
	90	47.9	67.1	84.1	98.9	111.5	121.9	130.1	136.2	140.2	140.2	142.1	83
	100	48.1	67.5	85.0	100.5	114.1	125.7	135.5	143.3	149.1	153.5	155.6	83

[a] Includes 1.0-foot stump allowance.

Table 88--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 9-inch d.o.b. top and height to a saw-log top for scarlet oak (species 806) in the Piedmont.[a]

D.b.h. class	Height to 9-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	9.3									10.6	14.5	81
	30	9.7	13.6								15.6	19.2	81
	40	9.9	13.9	17.6							20.4	23.9	82
12	50	10.1	14.2	18.0	21.5	24.7					25.1	28.6	82
	60	10.2	14.3	18.2	21.9	25.4	28.7				29.8	33.2	82
	70	10.3	14.4	18.4	22.2	25.8	29.3	32.5			34.4	37.9	82
	80	10.3	14.5	18.5	22.4	26.1	29.7	33.1	36.4		39.0	42.5	82
	40	13.4	18.8	23.3							26.4	29.7	82
	50	13.6	19.1	24.0	28.4	31.9					32.3	35.5	82
	60	13.7	19.3	24.4	29.1	33.3	37.0				38.1	41.2	82
14	70	13.8	19.4	24.7	29.6	34.1	38.2	41.9			43.9	47.0	82
	80	13.9	19.5	24.8	29.9	34.6	39.1	43.1	46.8		49.6	52.7	82
	90	14.0	19.6	25.0	30.1	35.0	39.6	44.0	48.0	51.7	55.4	58.4	82
	100	14.0	19.6	25.1	30.3	35.3	40.1	44.6	48.9	52.9	61.1	64.1	82
	40	17.5	24.4	29.9							33.5	36.4	82
	50	17.7	24.8	31.0	36.2	40.3					40.6	43.6	82
	60	17.9	25.1	31.6	37.4	42.4	46.5				47.8	50.7	82
16	70	18.0	25.2	31.9	38.1	43.7	48.6	52.7			54.8	57.7	82
	80	18.1	25.4	32.2	38.6	44.5	49.9	54.7	58.9		61.9	64.7	82
	90	18.1	25.5	32.4	38.9	45.1	50.8	56.0	60.8	65.0	68.9	71.7	82
	100	18.2	25.5	32.5	39.2	45.5	51.5	57.0	62.2	66.9	75.9	78.7	82
	40	22.1	30.7	37.5							41.4	44.2	82
	50	22.4	31.3	38.9	45.2	49.7					50.1	52.9	82
	60	22.6	31.6	39.7	46.8	52.8	57.4				58.7	61.5	82
18	70	22.7	31.8	40.2	47.8	54.5	60.3	65.0			67.3	70.0	82
	80	22.8	32.0	40.6	48.5	55.7	62.1	67.8	72.6		75.8	78.5	82
	90	22.9	32.1	40.8	48.9	56.5	63.4	69.7	75.3	80.1	84.2	86.9	82
	100	23.0	32.2	41.0	49.3	57.1	64.4	71.1	77.2	82.7	92.7	95.4	82
	40	27.2	37.8	45.9							50.3	53.0	82
	50	27.6	38.5	47.8	55.2	60.3					60.7	63.4	82
	60	27.8	39.0	48.8	57.3	64.4	69.6				71.0	73.6	82
20	70	28.0	39.3	49.5	58.6	66.7	73.4	78.8			81.2	83.8	82
	80	28.1	39.5	49.9	59.5	68.2	75.9	82.5	87.9		91.3	93.9	82
	90	28.2	39.6	50.3	60.2	69.3	77.6	85.0	91.5	96.9	101.4	104.0	82
	100	28.3	39.7	50.5	60.6	70.1	78.8	86.9	94.1	100.5	111.5	114.1	82
	50	33.4	46.6	57.6	66.3	72.0					72.4	75.0	82
	60	33.7	47.1	58.9	69.0	77.2	83.1				84.5	87.0	82
	70	33.9	47.5	59.7	70.6	80.1	88.0	94.0			96.5	99.0	82
22	80	34.0	47.7	60.3	71.8	82.0	91.1	98.7	104.8		108.5	111.0	82
	90	34.2	47.9	60.7	72.6	83.4	93.2	101.9	109.4	115.6	120.4	122.9	82
	100	34.2	48.0	61.0	73.2	84.4	94.8	104.3	112.7	120.1	132.3	134.8	82
	50	39.7	55.4	68.4	78.4	84.8					85.2	87.7	82
	60	40.1	56.0	70.0	81.8	91.2	97.8				99.4	101.8	82
	70	40.3	56.4	71.0	83.8	94.8	103.9	110.7			113.4	115.8	82
24	80	40.5	56.7	71.6	85.2	97.2	107.7	116.5	123.4		127.3	129.7	82
	90	40.6	57.0	72.1	86.1	98.9	110.4	120.5	129.1	136.0	141.3	143.6	82
	100	40.8	57.1	72.5	86.9	100.2	112.4	123.4	133.2	141.6	155.1	157.5	82
	50	46.7	65.0	80.1	91.6	98.7					99.2	101.6	82
	60	47.1	65.7	82.0	95.7	106.5	113.9				115.5	117.9	82
	70	47.3	66.2	83.2	98.1	110.8	121.2	128.8			131.7	134.1	82
26	80	47.5	66.6	84.0	99.7	113.7	125.8	135.8	143.5		147.8	150.2	82
	90	47.7	66.8	84.6	100.9	115.8	129.0	140.6	150.4	158.2	163.9	166.2	82
	100	47.8	67.0	85.1	101.8	117.3	131.4	144.1	155.4	165.0	179.9	182.2	82

[a] Includes 1.0-foot stump allowance.

Table 89--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for scarlet oak (species 806) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.6	0.8	0.9	1.1	1.9	2.1											
6	1.3	2.1	2.4	2.6	3.2	3.6	3.9	4.2									
7	2.5	3.1	3.5	3.8	4.6	5.1	5.6	6.0	6.4	6.8							
8	3.4	4.2	4.7	5.2	6.2	6.9	7.5	8.1	8.6	9.2	9.7	10.3					
9	4.4	5.4	6.0	6.7	8.0	8.9	9.6	10.4	11.1	11.9	12.6	13.2	13.9	14.6			
10	5.5	6.8	7.5	8.4	10.0	11.1	12.1	13.0	13.9	14.8	15.7	16.6	17.4	18.3	19.1	19.9	
11			9.2	10.2	12.2	13.5	14.7	15.9	17.0	18.1	19.2	20.2	21.3	22.3	23.3	24.4	25.4
12			11.0	12.3	14.7	16.2	17.6	19.0	20.4	21.7	23.0	24.2	25.5	26.7	28.0	29.2	30.4
13			13.0	14.5	17.3	19.1	20.8	22.4	24.0	25.6	27.1	28.6	30.1	31.5	33.0	34.4	35.9
14					20.1	22.2	24.2	26.1	27.9	29.7	31.5	33.3	35.0	36.7	38.4	40.1	41.7
15					23.2	25.5	27.8	30.0	32.2	34.2	36.3	38.3	40.3	42.3	44.2	46.1	48.1
16					26.4	29.1	31.7	34.2	36.7	39.0	41.4	43.7	46.0	48.2	50.4	52.6	54.8

[a] Includes 0.5-foot stump allowance.

Table 90--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for scarlet oak (species 806) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.7	2.1	2.7	3.2	3.6	4.1											
6	2.2	2.8	3.5	4.2	4.8	5.4	5.9	6.5									
7	2.8	3.5	4.2	5.4	6.1	6.9	7.6	8.3	8.9	9.6							
8	3.5	4.5	5.4	6.8	7.7	8.6	9.5	10.3	11.1	12.0	12.8	13.6					
9	4.5	5.5	6.6	8.4	9.5	10.6	11.6	12.7	13.7	14.7	15.7	16.6	17.6	18.6			
10	5.5	6.8	8.1	10.2	11.5	12.8	14.1	15.3	16.5	17.7	18.9	20.0	21.2	22.4	23.5	24.7	
11			9.7	12.2	13.8	15.3	16.8	18.2	19.6	21.0	22.4	23.8	25.2	26.5	27.9	29.3	30.6
12			11.4	14.4	16.2	18.0	19.7	21.4	23.1	24.7	26.3	27.9	29.5	31.1	32.7	34.3	35.9
13			13.3	16.8	18.9	21.0	22.9	24.9	26.8	28.7	30.6	32.4	34.3	36.1	38.0	39.8	41.6
14					21.8	24.1	26.4	28.7	30.8	33.0	35.2	37.3	39.4	41.5	43.6	45.7	47.8
15					24.9	27.6	30.2	32.7	35.2	37.7	40.1	42.5	44.9	47.3	49.7	52.1	54.4
16					28.3	31.3	34.2	37.0	39.8	42.6	45.4	48.1	50.8	53.5	56.2	58.9	61.5

[a] Includes 0.5-foot stump allowance.

Table 91--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for southern red oak (species 812) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40										4.1	8.9	57
	50	7.8									8.0	12.3	67
	60	8.5									11.0	15.3	72
12	70	8.9	12.3								13.4	18.1	75
	80	9.2	12.8								15.4	20.8	77
	90	9.4	13.1	16.4							17.4	23.3	78
	100	9.6	13.4	16.8							19.2	25.8	79
	40	9.0									9.2	12.2	57
	50	10.6	14.0								14.2	16.9	67
	60	11.6	15.7								17.9	21.0	72
14	70	12.2	16.7	20.4							21.3	24.9	75
	80	12.6	17.4	21.5							24.3	28.5	77
	90	12.9	17.9	22.3	26.0						27.2	32.0	78
	100	13.1	18.3	22.9	26.9						30.0	35.4	79
	50	13.9	18.3								20.0	22.2	67
	60	15.2	20.5	24.4							24.9	27.6	72
	70	15.9	21.8	26.6							29.5	32.7	75
16	80	16.5	22.8	28.1	32.2						33.7	37.4	77
	90	16.8	23.4	29.2	33.9	37.4					37.8	42.0	78
	100	17.1	23.9	30.0	35.2	39.3					41.7	46.4	79
	110	17.3	24.3	30.6	36.1	40.8	44.4				45.5	50.8	80
	50	17.6	23.2								26.2	28.1	67
	60	19.2	25.9	30.9							32.7	35.1	72
	70	20.2	27.7	33.7	37.9						38.6	41.5	75
18	80	20.9	28.8	35.6	40.8						44.2	47.5	77
	90	21.4	29.7	37.0	43.0	47.4					49.6	53.3	78
	100	21.7	30.3	38.0	44.6	49.8	53.6				54.7	59.0	79
	110	22.0	30.7	38.7	45.8	51.6	56.2	59.6			59.8	64.5	80
	50	21.8	28.7	33.0							33.1	34.8	67
	60	23.7	32.0	38.2							41.2	43.4	72
	70	25.0	34.2	41.7	46.8						48.8	51.3	75
20	80	25.8	35.6	44.0	50.4	54.8					55.8	58.8	77
	90	26.4	36.7	45.7	53.1	58.6	62.3				62.6	66.0	78
	100	26.8	37.4	46.9	55.0	61.5	66.2				69.1	73.0	79
	110	27.1	38.0	47.9	56.5	63.8	69.4	73.6			75.5	79.8	80
	60	28.7	38.8	46.3	50.5						50.6	52.6	72
	70	30.2	41.4	50.4	56.7						59.9	62.2	75
	80	31.2	43.1	53.3	61.1	66.3					68.6	71.3	77
22	90	32.0	44.4	55.3	64.3	70.9	75.4				76.9	80.0	78
	100	32.5	45.3	56.8	66.6	74.5	80.2	84.1			84.9	88.4	79
	110	32.9	46.0	57.9	68.4	77.2	84.0	89.1	92.6		92.8	96.7	80
	60	34.2	46.2	55.1	60.2						60.9	62.7	72
	70	36.0	49.3	60.0	67.5	71.7					72.0	74.1	75
	80	37.2	51.4	63.4	72.7	78.9					82.4	84.9	77
24	90	38.1	52.8	65.8	76.5	84.4	89.8				92.4	95.3	78
	100	38.7	53.9	67.6	79.3	88.6	95.5	100.2			102.2	105.4	79
	110	39.2	54.8	69.0	81.5	91.9	100.1	106.1	110.3		111.6	115.2	80
	60	40.2	54.3	64.7	70.6						72.0	73.7	72
	70	42.3	57.9	70.5	79.2	84.2					85.1	87.1	75
	80	43.7	60.3	74.5	85.3	92.6	97.0				97.4	99.8	77
26	90	44.7	62.0	77.3	89.8	99.1	105.4	109.2			109.3	111.9	78
	100	45.4	63.3	79.4	93.1	104.1	112.1	117.6			120.8	123.8	79
	110	46.0	64.3	81.0	95.7	107.9	117.5	124.5	129.5		132.0	135.3	80

[a] Includes 1.0-foot stump allowance.

Table 92--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for southern red oak (species 812) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	7.7									8.0	10.6	68
	40	8.5									10.4	14.2	73
	50	9.0	12.2								12.5	17.6	75
12	60	9.2	12.7								14.4	20.7	77
	70	9.4	13.0	16.0							16.1	23.8	77
	80	9.5	13.2	16.4							17.8	26.8	78
	90	9.6	13.3	16.6							19.5	29.8	78
	40	11.6	15.6								16.5	19.1	73
	50	12.2	16.6	19.9							20.0	23.5	75
	60	12.6	17.2	21.0							23.3	27.7	77
14	70	12.8	17.6	21.7	25.2						26.5	31.8	77
	80	13.0	17.9	22.2	26.0	29.1					29.5	35.8	78
	90	13.1	18.1	22.6	26.6	30.0					32.5	39.7	78
	100	13.2	18.2	22.8	27.0	30.7	33.9				35.5	43.6	78
	40	15.2	20.3								22.8	24.7	73
	50	16.0	21.7	26.0							27.8	30.4	75
	60	16.5	22.5	27.4	31.2						32.5	35.8	77
16	70	16.8	23.0	28.4	32.8	36.3					37.1	41.0	77
	80	17.0	23.4	29.0	33.8	37.9	41.2				41.5	46.1	78
	90	17.1	23.6	29.5	34.6	39.1	42.9				45.8	51.1	78
	100	17.2	23.8	29.8	35.2	40.0	44.2	47.7			50.1	56.1	78
	40	19.3	25.7								29.6	31.1	73
	50	20.3	27.5	32.8							36.2	38.2	75
	60	20.9	28.5	34.7	39.5						42.4	44.9	77
18	70	21.2	29.1	35.9	41.4	45.8					48.4	51.4	77
	80	21.5	29.6	36.7	42.8	47.8	51.9				54.3	57.8	78
	90	21.7	29.9	37.3	43.8	49.4	54.1	57.9			60.0	64.1	78
	100	21.8	30.2	37.7	44.5	50.5	55.7	60.2	63.8		65.7	70.3	78
	40	23.8	31.7	36.6							37.1	38.3	73
	50	25.0	33.9	40.5	44.8						45.4	46.9	75
	60	25.8	35.2	42.8	48.6	52.6					53.2	55.2	77
20	70	26.2	36.0	44.3	51.1	56.4	60.2				60.7	63.1	77
	80	26.6	36.6	45.3	52.8	59.0	63.9	67.5			68.1	70.9	78
	90	26.8	37.0	46.0	54.0	60.9	66.6	71.3	74.8		75.4	78.6	78
	100	27.0	37.3	46.6	54.9	62.3	68.7	74.1	78.5	82.0	82.5	86.2	78
	50	30.3	41.0	49.0	54.2						55.3	56.6	75
	60	31.2	42.6	51.8	58.8	63.6					64.9	66.5	77
	70	31.8	43.6	53.6	61.7	68.1	72.6				74.1	76.0	77
22	80	32.2	44.3	54.8	63.8	71.3	77.2	81.5			83.1	85.4	78
	90	32.5	44.8	55.7	65.3	73.6	80.5	86.0	90.2		92.0	94.6	78
	100	32.7	45.1	56.4	66.4	75.3	83.0	89.5	94.8	98.9	100.8	103.7	78
	50	36.1	48.8	58.3	64.4						66.1	67.2	75
	60	37.2	50.7	61.6	69.9	75.5					77.5	78.9	77
	70	37.8	51.9	63.7	73.4	81.0	86.3				88.6	90.2	77
24	80	38.3	52.7	65.2	75.9	84.7	91.7	96.8			99.4	101.2	78
	90	38.7	53.3	66.3	77.7	87.5	95.7	102.2	107.2		110.0	112.1	78
	100	38.9	53.7	67.1	79.1	89.6	98.7	106.4	112.6	117.4	120.5	122.9	78
	50	42.4	57.3	68.4	75.5						77.8	78.7	75
	60	43.6	59.5	72.3	82.0	88.5					91.2	92.3	77
	70	44.4	60.9	74.8	86.2	94.9	101.1				104.2	105.5	77
26	80	45.0	61.9	76.5	89.1	99.4	107.5	113.4			116.9	118.5	78
	90	45.4	62.6	77.8	91.2	102.6	112.2	119.8	125.5	129.3	129.4	131.2	78
	100	45.7	63.1	78.8	92.8	105.1	115.8	124.7	132.0	137.5	141.8	143.8	78

[a] Includes 1.0-foot stump allowance.

Table 93--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 9-inch d.o.b. top and height to a saw-log top for southern red oak (species 812) in the Piedmont.[a]

D.b.h. class	Height to 9-inch d.o.b. top	Volume to: Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	7.8									8.9	15.1	70
	30	8.8	12.2								14.0	18.4	75
	40	9.2	12.8	16.1							18.7	22.6	77
12	50	9.5	13.1	16.6	19.9	22.8					23.2	26.9	77
	60	9.6	13.3	16.9	20.3	23.5	26.5				27.6	31.1	78
	70	9.7	13.5	17.1	20.6	24.0	27.2	30.2			31.9	35.4	78
	80	9.8	13.6	17.3	20.8	24.3	27.6	30.8	33.8		36.3	39.6	78
	40	12.6	17.3	21.3							24.2	27.1	77
	50	12.9	17.8	22.2	26.1	29.4					29.8	32.5	77
	60	13.0	18.1	22.7	27.0	30.8	34.2				35.2	37.9	78
14	70	13.2	18.2	23.0	27.5	31.6	35.4	38.8			40.7	43.2	78
	80	13.3	18.4	23.2	27.9	32.2	36.3	40.0	43.4		46.0	48.5	78
	90	13.3	18.5	23.4	28.1	32.6	36.8	40.8	44.5	48.0	51.4	53.8	78
	100	13.4	18.5	23.5	28.3	32.9	37.3	41.4	45.4	49.1	56.7	59.1	78
	40	16.4	22.4	27.4							30.5	32.9	77
	50	16.8	23.1	28.7	33.4	37.0					37.4	39.6	77
	60	17.0	23.5	29.4	34.7	39.2	43.0				44.1	46.2	78
16	70	17.2	23.8	29.9	35.5	40.5	45.0	48.8			50.7	52.8	78
	80	17.3	23.9	30.2	36.0	41.4	46.3	50.7	54.5		57.3	59.3	78
	90	17.4	24.1	30.4	36.4	42.0	47.2	52.0	56.3	60.2	63.8	65.8	78
	100	17.4	24.2	30.6	36.7	42.5	47.9	53.0	57.7	62.0	70.3	72.2	78
	40	20.7	28.3	34.2							37.8	39.7	77
	50	21.2	29.2	36.0	41.6	45.7					46.1	47.9	77
	60	21.5	29.7	37.0	43.4	48.8	53.0				54.2	55.9	78
18	70	21.7	30.0	37.6	44.5	50.6	55.8	60.1			62.2	63.8	78
	80	21.9	30.3	38.0	45.2	51.8	57.6	62.8	67.1		70.1	71.7	78
	90	22.0	30.4	38.4	45.8	52.6	58.9	64.7	69.7	74.1	78.0	79.5	78
	100	22.1	30.6	38.6	46.2	53.3	59.9	66.0	71.6	76.6	85.8	87.4	78
	40	25.6	34.9	41.9							45.9	47.5	77
	50	26.2	36.0	44.2	50.8	55.4					55.8	57.3	77
	60	26.6	36.6	45.5	53.1	59.4	64.2				65.4	66.9	78
20	70	26.8	37.0	46.3	54.6	61.8	67.9	72.7			74.9	76.3	78
	80	27.0	37.3	46.8	55.6	63.4	70.4	76.3	81.2		84.4	85.7	78
	90	27.1	37.5	47.2	56.3	64.6	72.1	78.8	84.7	89.6	93.8	95.1	78
	100	27.2	37.7	47.5	56.8	65.4	73.4	80.7	87.2	93.0	103.1	104.4	78
	50	31.7	43.5	53.3	61.0	66.1					66.5	67.8	77
	60	32.2	44.3	54.9	63.9	71.2	76.5				77.8	79.1	78
	70	32.5	44.8	55.9	65.8	74.3	81.3	86.7			89.1	90.3	78
22	80	32.7	45.1	56.6	67.0	76.3	84.4	91.3	96.8		100.2	101.4	78
	90	32.8	45.4	57.1	67.9	77.7	86.6	94.5	101.2	106.8	111.2	112.4	78
	100	33.0	45.6	57.5	68.5	78.8	88.3	96.8	104.5	111.1	122.2	123.4	78
	50	37.8	51.7	63.3	72.1	77.8					78.2	79.4	77
	60	38.3	52.7	65.2	75.8	84.2	90.1				91.5	92.6	78
	70	38.7	53.3	66.4	78.0	87.9	96.0	102.1			104.5	105.6	78
24	80	38.9	53.7	67.3	79.5	90.4	99.8	107.7	113.9		117.5	118.5	78
	90	39.1	54.0	67.9	80.6	92.2	102.5	111.6	119.4	125.6	130.4	131.4	78
	100	39.2	54.3	68.3	81.4	93.5	104.6	114.5	123.4	131.0	143.2	144.2	78
	50	44.3	60.7	74.1	84.3	90.6					91.0	92.0	77
	60	45.0	61.8	76.4	88.6	98.2	104.8				106.3	107.3	78
	70	45.4	62.5	77.9	91.3	102.7	112.0	118.7			121.4	122.3	78
26	80	45.7	63.0	78.9	93.1	105.7	116.6	125.6	132.4		136.3	137.2	78
	90	45.9	63.4	79.6	94.4	107.9	119.9	130.3	139.1	146.0	151.2	152.1	78
	100	46.1	63.7	80.1	95.4	109.5	122.3	133.8	143.9	152.5	166.0	166.8	78

[a] Includes 1.0-foot stump allowance.

Table 94--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for southern red oak (species 812) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.7	0.9	1.0	1.5	1.2	1.7											
6	1.7	2.2	2.5	2.7	2.7	3.1	3.4	3.7									
7	2.6	3.2	3.6	3.9	4.0	4.5	5.0	5.4	5.8	6.2							
8	3.5	4.3	4.8	5.3	5.4	6.1	6.7	7.3	7.9	8.4	9.0	9.5					
9	4.5	5.5	6.1	6.8	7.0	7.8	8.6	9.4	10.2	10.9	11.6	12.3	13.0	13.7			
10	5.6	6.9	7.7	8.5	8.7	9.8	10.8	11.8	12.7	13.7	14.6	15.4	16.3	17.1	18.0	18.8	
11			9.4	10.4	10.7	12.0	13.2	14.4	15.6	16.7	17.8	18.8	19.9	20.9	21.9	23.0	24.0
12			11.2	12.5	12.8	14.3	15.8	17.3	18.6	20.0	21.3	22.6	23.8	25.1	26.3	27.5	28.7
13			13.2	14.7	15.1	16.9	18.7	20.4	22.0	23.6	25.1	26.6	28.1	29.6	31.0	32.4	33.9
14					17.6	19.7	21.7	23.7	25.6	27.4	29.2	31.0	32.7	34.4	36.1	37.8	39.4
15					20.2	22.7	25.0	27.3	29.5	31.6	33.7	35.7	37.7	39.6	41.6	43.5	45.4
16					23.0	25.9	28.5	31.1	33.6	36.0	38.4	40.7	43.0	45.2	47.4	49.6	51.8

[a] Includes 0.5-foot stump allowance.

Table 95--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for southern red oak (species 812) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.6	2.1	2.6	2.8	3.3	3.7											
6	2.2	2.8	3.4	3.7	4.3	4.9	5.4	5.9									
7	2.7	3.5	4.2	4.8	5.6	6.3	6.9	7.6	8.2	8.9							
8	3.5	4.4	5.3	6.1	7.0	7.9	8.7	9.5	10.3	11.1	11.8	12.6					
9	4.4	5.5	6.6	7.6	8.6	9.7	10.7	11.7	12.6	13.6	14.5	15.4	16.3	17.2			
10	5.4	6.8	8.1	9.2	10.5	11.7	12.9	14.1	15.2	16.3	17.5	18.6	19.7	20.7	21.8	22.9	
11			9.7	11.0	12.5	14.0	15.4	16.8	18.1	19.4	20.8	22.1	23.3	24.6	25.9	27.2	28.4
12			11.4	13.0	14.7	16.5	18.1	19.7	21.3	22.8	24.4	25.9	27.4	28.9	30.4	31.8	33.3
13			13.3	15.1	17.2	19.1	21.1	22.9	24.7	26.5	28.3	30.0	31.8	33.5	35.2	36.9	38.6
14					19.8	22.1	24.2	26.4	28.5	30.5	32.5	34.5	36.5	38.5	40.4	42.4	44.3
15					22.6	25.2	27.7	30.1	32.5	34.8	37.1	39.4	41.6	43.8	46.1	48.3	50.5
16					25.6	28.5	31.3	34.1	36.7	39.4	42.0	44.5	47.1	49.6	52.1	54.6	57.1

[a] Includes 0.5-foot stump allowance.

Table 96--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for water oak (species 827) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40										4.9	10.0	61
	50	8.7									9.1	13.6	70
	60	9.4									12.1	16.8	75
12	70	9.8	13.4								14.6	19.8	78
	80	10.1	14.0								16.8	22.6	80
	90	10.3	14.4	17.9							18.8	25.3	82
	100	10.5	14.6	18.3							20.7	28.0	83
	40	10.2									10.7	13.7	61
	50	11.8	15.5								15.7	18.7	70
	60	12.8	17.2								19.8	23.1	75
14	70	13.4	18.3	22.3							23.3	27.2	78
	80	13.8	19.1	23.5							26.6	31.1	80
	90	14.1	19.6	24.4	28.3						29.7	34.8	82
	100	14.4	20.0	25.0	29.3						32.7	38.5	83
	50	15.5	20.3								22.2	24.6	70
	60	16.8	22.6	26.9							27.5	30.4	75
	70	17.6	24.0	29.2							32.4	35.8	78
16	80	18.1	25.0	30.7	35.2						36.9	40.9	80
	90	18.5	25.6	31.9	37.0	40.8					41.3	45.8	82
	100	18.8	26.1	32.7	38.3	42.8					45.4	50.5	83
	110	19.0	26.5	33.3	39.3	44.3	48.2				49.5	55.2	84
	50	19.6	25.8								29.1	31.2	70
	60	21.3	28.6	34.0							36.0	38.6	75
	70	22.3	30.4	37.0	41.5						42.4	45.4	78
18	80	23.0	31.6	38.9	44.6						48.4	51.9	80
	90	23.5	32.5	40.4	46.8	51.7					54.1	58.1	82
	100	23.8	33.1	41.4	48.5	54.2	58.4				59.7	64.2	83
	110	24.1	33.6	42.2	49.8	56.1	61.1	64.8			65.1	70.1	84
	50	24.3	31.9	36.6							36.7	38.6	70
	60	26.3	35.4	42.1							45.5	47.8	75
	70	27.6	37.6	45.7	51.3						53.5	56.2	78
20	80	28.4	39.1	48.1	55.1	59.8					61.1	64.2	80
	90	29.0	40.2	49.9	57.9	63.8	67.9				68.3	71.9	82
	100	29.5	41.0	51.2	59.9	67.0	72.1				75.3	79.4	83
	110	29.8	41.6	52.2	61.5	69.4	75.5	80.0			82.2	86.7	84
	60	31.8	42.8	50.9	55.6						55.8	57.9	75
	70	33.4	45.5	55.3	62.1						65.7	68.2	78
	80	34.4	47.3	58.3	66.7	72.4					75.0	77.9	80
22	90	35.2	48.6	60.4	70.1	77.3	82.2				83.9	87.2	82
	100	35.7	49.6	62.0	72.6	81.1	87.3	91.6			92.5	96.3	83
	110	36.1	50.3	63.2	74.5	84.0	91.4	96.9	100.7		101.0	105.1	84
	60	37.9	51.0	60.7	66.2						67.1	69.0	75
	70	39.8	54.2	65.9	73.9	78.6					79.0	81.2	78
	80	41.0	56.4	69.4	79.5	86.2					90.1	92.8	80
24	90	41.9	57.9	71.9	83.5	92.0	97.9				100.9	103.9	82
	100	42.5	59.1	73.8	86.4	96.5	103.9	109.0			111.3	114.7	83
	110	43.0	59.9	75.3	88.7	100.0	108.8	115.3	119.9		121.5	125.3	84
	60	44.6	59.9	71.3	77.8						79.3	81.1	75
	70	46.7	63.7	77.3	86.8	92.3					93.3	95.4	78
	80	48.2	66.2	81.5	93.3	101.2	106.0				106.6	109.0	80
26	90	49.2	68.0	84.5	98.0	108.1	114.9	119.1			119.3	122.1	82
	100	50.0	69.4	86.7	101.5	113.3	122.0	128.0			131.6	134.7	83
	110	50.6	70.4	88.4	104.2	117.4	127.7	135.4	140.8		143.7	147.2	84

[a] Includes 1.0-foot stump allowance.

Table 97--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for water oak (species 827) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	8.7									9.6	12.1	74
	40	9.5									12.1	15.9	78
	50	9.9	13.5								14.2	19.4	80
12	60	10.2	14.0								16.2	22.8	81
	70	10.3	14.2	17.6							18.1	26.1	81
	80	10.4	14.4	18.0							19.9	29.3	82
	90	10.5	14.6	18.2	21.5						21.7	32.5	82
	40	13.0	17.4								18.7	21.4	78
	50	13.5	18.4	22.1							22.4	26.1	80
	60	13.9	19.0	23.2							25.9	30.5	81
14	70	14.1	19.4	24.0	27.7						29.3	34.9	81
	80	14.2	19.7	24.4	28.6	32.0					32.6	39.2	82
	90	14.4	19.9	24.8	29.2	33.0					35.9	43.4	82
	100	14.5	20.0	25.1	29.6	33.7	37.2				39.1	47.6	82
	40	17.0	22.8								25.8	27.7	78
	50	17.7	24.1	28.9							31.1	33.7	80
	60	18.2	24.9	30.3	34.5						36.1	39.5	81
16	70	18.4	25.4	31.3	36.1	40.0					40.9	45.0	81
	80	18.7	25.7	31.9	37.2	41.7	45.2				45.7	50.5	82
	90	18.8	26.0	32.4	38.1	42.9	47.1				50.4	55.9	82
	100	18.9	26.2	32.8	38.7	43.9	48.4	52.3			55.0	61.3	82
	40	21.5	28.8	33.3							33.4	34.9	78
	50	22.5	30.5	36.5							40.4	42.4	80
	60	23.0	31.5	38.4	43.6						47.0	49.6	81
18	70	23.4	32.2	39.6	45.7	50.4					53.4	56.6	81
	80	23.7	32.6	40.4	47.1	52.6	57.1				59.7	63.4	82
	90	23.8	32.9	41.0	48.1	54.3	59.4	63.5			65.9	70.2	82
	100	24.0	33.2	41.5	48.9	55.5	61.2	66.0	70.0		72.0	76.9	82
	40	26.6	35.6	41.1							41.8	42.9	78
	50	27.8	37.7	45.1	49.9						50.5	52.1	80
	60	28.5	38.9	47.4	53.8	58.2					58.9	60.9	81
20	70	28.9	39.7	48.9	56.4	62.2	66.3				66.9	69.4	81
	80	29.2	40.3	49.9	58.1	64.9	70.3	74.2			74.9	77.8	82
	90	29.5	40.7	50.7	59.4	66.9	73.2	78.2	82.1		82.7	86.1	82
	100	29.7	41.0	51.2	60.4	68.5	75.4	81.3	86.1	89.8	90.4	94.2	82
	50	33.6	45.7	54.5	60.2						61.6	62.9	80
	60	34.5	47.2	57.3	65.1	70.3					71.8	73.4	81
	70	35.0	48.1	59.2	68.2	75.1	80.0				81.6	83.7	81
22	80	35.4	48.8	60.4	70.3	78.5	84.9	89.6			91.3	93.7	82
	90	35.7	49.3	61.3	71.9	80.9	88.5	94.5	99.0		100.9	103.6	82
	100	36.0	49.7	62.0	73.1	82.8	91.2	98.2	104.0	108.4	110.4	113.5	82
	50	40.1	54.4	64.9	71.6						73.6	74.7	80
	60	41.1	56.1	68.2	77.4	83.5					85.8	87.1	81
	70	41.7	57.3	70.4	81.1	89.3	95.1				97.6	99.3	81
24	80	42.2	58.1	71.9	83.7	93.3	100.9	106.4			109.2	111.1	82
	90	42.6	58.7	73.0	85.5	96.3	105.2	112.3	117.6		120.6	122.9	82
	100	42.8	59.1	73.8	87.0	98.5	108.4	116.8	123.5	128.7	132.0	134.5	82
	50	47.1	63.8	76.1	84.0						86.5	87.5	80
	60	48.3	65.9	80.1	90.8	97.9					100.9	102.0	81
	70	49.0	67.3	82.7	95.1	104.7	111.5				114.8	116.2	81
26	80	49.6	68.2	84.4	98.2	109.5	118.3	124.7			128.5	130.1	82
	90	50.0	68.9	85.7	100.4	112.9	123.4	131.6	137.8	141.8	141.9	143.8	82
	100	50.3	69.5	86.7	102.1	115.6	127.2	136.9	144.8	150.8	155.3	157.4	82

[a] Includes 1.0-foot stump allowance.

Table 98--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 9-inch d.o.b. top and height to a saw-log top for water oak (species 827) in the Piedmont.[a]

D.b.h. class	Height to 9-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	9.0									10.3	17.3	78
	30	9.8	13.6								15.7	22.1	80
	40	10.2	14.2	17.8							20.7	27.1	81
12	50	10.4	14.5	18.3	21.9	25.2					25.6	32.0	81
	60	10.5	14.6	18.6	22.4	25.9	29.3				30.4	36.9	82
	70	10.6	14.8	18.8	22.7	26.4	29.9	33.3			35.2	41.8	82
	80	10.7	14.9	18.9	22.8	26.7	30.3	33.9	37.2		40.0	46.6	82
	40	13.8	19.1	23.7							26.9	31.9	81
	50	14.1	19.6	24.5	28.9	32.6					33.0	38.0	81
	60	14.3	19.8	25.0	29.8	34.1	37.8				39.0	44.1	82
14	70	14.4	20.0	25.3	30.3	34.9	39.1	42.9			45.0	50.1	82
	80	14.5	20.2	25.5	30.6	35.4	40.0	44.1	48.0		50.9	56.1	82
	90	14.6	20.3	25.7	30.9	35.8	40.6	45.0	49.1	53.0	56.8	62.0	82
	100	14.7	20.3	25.8	31.1	36.1	41.0	45.6	50.0	54.1	62.6	67.9	82
	40	18.1	24.9	30.5							34.1	38.1	81
	50	18.4	25.5	31.7	37.0	41.2					41.6	45.7	81
	60	18.7	25.9	32.4	38.3	43.4	47.7				48.9	53.1	82
16	70	18.9	26.1	32.9	39.1	44.7	49.8	54.0			56.2	60.4	82
	80	19.0	26.3	33.2	39.6	45.6	51.1	56.0	60.4		63.5	67.7	82
	90	19.1	26.4	33.4	40.0	46.2	52.0	57.4	62.3	66.6	70.7	75.0	82
	100	19.1	26.5	33.6	40.3	46.7	52.7	58.4	63.7	68.5	77.9	82.2	82
	40	22.9	31.4	38.2							42.2	45.7	81
	50	23.4	32.2	39.9	46.2	50.9					51.3	54.8	81
	60	23.7	32.7	40.8	48.0	54.1	58.9				60.2	63.7	82
18	70	23.9	33.0	41.4	49.1	55.9	61.8	66.7			69.0	72.6	82
	80	24.0	33.2	41.9	49.8	57.1	63.7	69.5	74.4		77.8	81.4	82
	90	24.1	33.4	42.2	50.4	58.0	65.1	71.5	77.2	82.1	86.5	90.1	82
	100	24.2	33.5	42.4	50.8	58.7	66.0	72.9	79.1	84.8	95.1	98.8	82
	40	28.3	38.7	46.8							51.3	54.3	81
	50	28.9	39.7	49.0	56.5	61.7					62.2	65.2	81
	60	29.2	40.3	50.2	58.8	66.0	71.4				72.8	75.9	82
20	70	29.5	40.7	51.0	60.3	68.4	75.3	80.8			83.3	86.4	82
	80	29.7	41.0	51.6	61.3	70.0	77.8	84.6	90.1		93.7	96.9	82
	90	29.8	41.2	52.0	62.0	71.2	79.6	87.2	93.8	99.4	104.1	107.3	82
	100	29.9	41.4	52.3	62.5	72.1	80.9	89.1	96.5	103.0	114.5	117.7	82
	50	34.9	48.1	59.1	67.9	73.7					74.2	76.9	81
	60	35.4	48.8	60.7	70.8	79.1	85.2				86.7	89.4	82
	70	35.7	49.3	61.6	72.6	82.2	90.3	96.4			99.1	101.9	82
22	80	35.9	49.6	62.3	73.9	84.3	93.5	101.3	107.5		111.4	114.2	82
	90	36.1	49.9	62.8	74.8	85.8	95.7	104.6	112.2	118.6	123.6	126.5	82
	100	36.3	50.1	63.2	75.4	86.9	97.4	107.0	115.6	123.2	135.8	138.7	82
	50	41.6	57.2	70.2	80.3	86.9					87.3	89.8	81
	60	42.2	58.1	72.1	84.0	93.5	100.4				102.0	104.4	82
	70	42.5	58.7	73.3	86.2	97.4	106.6	113.6			116.4	118.9	82
24	80	42.8	59.1	74.1	87.7	99.9	110.6	119.5	126.6		130.8	133.3	82
	90	43.0	59.4	74.7	88.8	101.7	113.4	123.6	132.4	139.5	145.0	147.6	82
	100	43.2	59.7	75.1	89.6	103.1	115.4	126.6	136.6	145.2	159.2	161.8	82
	50	48.9	67.1	82.2	93.8	101.2					101.6	103.9	81
	60	49.5	68.2	84.5	98.3	109.2	116.8				118.5	120.8	82
	70	49.9	68.9	85.9	100.9	113.8	124.4	132.2			135.2	137.5	82
26	80	50.3	69.4	86.9	102.8	116.9	129.2	139.4	147.3		151.8	154.1	82
	90	50.5	69.7	87.6	104.1	119.1	132.5	144.3	154.4	162.3	168.3	170.6	82
	100	50.7	70.0	88.2	105.1	120.7	135.0	148.0	159.4	169.2	184.7	187.0	82

[a] Includes 1.0-foot stump allowance.

Table 99--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for water oak (species 827) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.7	0.8	0.9	1.1	1.2	1.7											
6	1.3	2.2	2.4	2.7	2.9	3.3	3.7	4.0									
7	2.6	3.3	3.6	4.0	4.4	4.9	5.4	5.9	6.3	6.8							
8	3.6	4.4	4.9	5.5	5.9	6.6	7.3	8.0	8.6	9.2	9.8	10.3					
9	4.7	5.7	6.4	7.1	7.7	8.6	9.5	10.3	11.1	11.9	12.6	13.4	14.1	14.8			
10	5.8	7.1	8.0	8.8	9.6	10.8	11.9	12.9	13.9	14.9	15.8	16.8	17.7	18.6	19.5	20.4	
11			9.7	10.8	11.8	13.2	14.5	15.8	17.0	18.2	19.4	20.5	21.6	22.7	23.8	24.9	26.0
12			11.7	13.0	14.1	15.8	17.4	18.9	20.4	21.8	23.2	24.6	25.9	27.3	28.6	29.9	31.2
13			13.8	15.3	16.7	18.7	20.5	22.3	24.1	25.8	27.4	29.0	30.6	32.2	33.7	35.3	36.8
14					19.4	21.7	23.9	26.0	28.0	30.0	31.9	33.8	35.7	37.5	39.3	41.1	42.8
15					22.4	25.0	27.5	29.9	32.3	34.5	36.8	38.9	41.1	43.2	45.2	47.3	49.3
16					25.5	28.5	31.4	34.2	36.8	39.4	41.9	44.4	46.8	49.2	51.6	53.9	56.3

[a] Includes 0.5-foot stump allowance.

Table 100--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for water oak (species 827) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.7	2.1	2.6	3.0	3.5	4.0											
6	2.2	2.8	3.4	4.1	4.7	5.3	5.8	6.4									
7	2.8	3.5	4.3	5.3	6.1	6.8	7.5	8.2	8.9	9.6							
8	3.6	4.6	5.5	6.8	7.7	8.6	9.5	10.3	11.2	12.0	12.9	13.7					
9	4.6	5.7	6.8	8.4	9.6	10.7	11.7	12.8	13.8	14.8	15.8	16.8	17.8	18.7			
10	5.6	7.0	8.3	10.3	11.6	12.9	14.2	15.5	16.7	17.9	19.1	20.3	21.4	22.6	23.8	24.9	
11			10.0	12.3	13.9	15.5	17.0	18.4	19.9	21.3	22.7	24.1	25.5	26.9	28.2	29.6	31.0
12			11.8	14.6	16.4	18.2	20.0	21.7	23.4	25.0	26.7	28.3	29.9	31.5	33.1	34.7	36.3
13			13.8	17.0	19.2	21.3	23.3	25.3	27.2	29.1	31.0	32.9	34.8	36.6	38.5	40.3	42.1
14					22.1	24.5	26.8	29.1	31.3	33.5	35.7	37.8	40.0	42.1	44.2	46.3	48.4
15					25.3	28.0	30.7	33.2	35.8	38.3	40.7	43.2	45.6	48.0	50.4	52.8	55.2
16					28.7	31.8	34.7	37.7	40.5	43.3	46.1	48.9	51.6	54.3	57.0	59.7	62.4

[a] Includes 0.5-foot stump allowance.

Table 101--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for black oak (species 837) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40										4.7	9.7	62
	50	8.1									9.6	13.0	70
	60	8.7	11.8								12.2	15.9	74
12	70	9.0	12.5								14.5	18.7	76
	80	9.3	12.9	16.1							16.5	21.3	78
	90	9.5	13.3	16.6							18.3	23.8	79
	100	9.6	13.5	17.0	20.0						20.1	26.2	80
	40	9.6									11.3	13.4	62
	50	11.0	14.7								15.5	17.9	70
	60	11.8	16.2								19.1	21.9	74
14	70	12.4	17.1	20.9							22.3	25.7	76
	80	12.7	17.7	21.9	25.2						25.3	29.2	78
	90	12.9	18.1	22.7	26.4						28.2	32.6	79
	100	13.1	18.4	23.2	27.3	30.5					31.0	36.0	80
	50	14.4	19.3								21.5	23.5	70
	60	15.5	21.2	25.4							26.3	28.8	74
	70	16.2	22.3	27.4							30.8	33.7	76
16	80	16.6	23.1	28.7	33.0						35.0	38.4	78
	90	17.0	23.7	29.7	34.5	38.2					39.0	42.9	79
	100	17.2	24.1	30.4	35.7	39.9					42.9	47.3	80
	110	17.4	24.4	30.9	36.6	41.3	45.0				46.7	51.6	81
	50	18.3	24.5								28.1	29.9	70
	60	19.7	26.8	32.2							34.4	36.6	74
	70	20.6	28.3	34.7	39.0						40.2	42.8	76
18	80	21.1	29.3	36.4	41.8	45.4					45.7	48.8	78
	90	21.5	30.1	37.6	43.8	48.4					51.0	54.5	79
	100	21.8	30.6	38.5	45.3	50.6	54.6				56.2	60.1	80
	110	22.1	31.0	39.2	46.4	52.4	57.0	60.5			61.2	65.5	81
	50	22.7	30.3	35.0							35.4	37.0	70
	60	24.4	33.2	39.8							43.4	45.3	74
	70	25.4	35.0	42.9	48.3						50.7	53.0	76
20	80	26.2	36.3	45.0	51.7	56.1					57.7	60.4	78
	90	26.7	37.2	46.5	54.1	59.8	63.6				64.3	67.5	79
	100	27.0	37.8	47.6	55.9	62.6	67.4	70.8			70.8	74.4	80
	110	27.3	38.3	48.4	57.3	64.7	70.5	74.8			77.2	81.1	81
	60	29.6	40.2	48.2	52.7						53.2	55.0	74
	70	30.8	42.5	52.0	58.5						62.2	64.3	76
	80	31.7	44.0	54.5	62.6	68.0					70.7	73.2	78
22	90	32.3	45.1	56.3	65.6	72.4	77.0				78.9	81.8	79
	100	32.8	45.9	57.6	67.8	75.8	81.7	85.7			86.9	90.1	80
	110	33.1	46.4	58.7	69.4	78.4	85.4	90.5	94.1		94.8	98.3	81
	60	35.2	47.9	57.4	62.8						63.9	65.5	74
	70	36.8	50.6	61.9	69.6	74.1					74.7	76.7	76
	80	37.8	52.4	64.9	74.6	81.0	84.8				85.0	87.3	78
24	90	38.6	53.7	67.1	78.1	86.2	91.7				94.9	97.5	79
	100	39.1	54.6	68.7	80.7	90.3	97.2	102.1			104.5	107.4	80
	110	39.5	55.4	69.9	82.7	93.4	101.7	107.8	112.1		113.9	117.2	81
	60	41.4	56.3	67.4	73.7						75.5	77.0	74
	70	43.2	59.5	72.7	81.8	87.1					88.3	90.1	76
	80	44.5	61.6	76.3	87.6	95.1	99.6				100.4	102.5	78
26	90	45.3	63.1	78.8	91.7	101.3	107.7	111.7			112.1	114.5	79
	100	46.0	64.2	80.7	94.8	106.0	114.2	119.9	123.4		123.5	126.2	80
	110	46.4	65.0	82.1	97.1	109.7	119.4	126.6	131.7		134.7	137.7	81

[a] Includes 1.0-foot stump allowance.

Table 102--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for black oak (species 837) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	7.9									8.7	10.9	71
	40	8.6									11.0	14.3	75
	50	8.9	12.2								13.0	17.5	76
12	60	9.2	12.6								14.8	20.6	77
	70	9.3	12.9	16.0							16.6	23.6	78
	80	9.4	13.1	16.3							18.3	26.6	78
	90	9.5	13.2	16.6	19.5						20.0	29.5	79
	40	11.7	15.8								17.0	19.3	75
	50	12.2	16.7	20.1							20.4	23.6	76
	60	12.5	17.3	21.1							23.7	27.6	77
14	70	12.7	17.6	21.8	25.2						26.8	31.6	78
	80	12.9	17.9	22.2	26.0	29.1					29.8	35.5	78
	90	13.0	18.1	22.6	26.5	30.0					32.8	39.3	79
	100	13.1	18.2	22.8	27.0	30.7	33.9				35.8	43.1	79
	40	15.4	20.6								23.4	25.0	75
	50	16.0	21.9	26.2							28.2	30.5	76
	60	16.4	22.6	27.6	31.4						32.8	35.8	77
16	70	16.7	23.1	28.5	32.9	36.3					37.3	40.8	78
	80	16.9	23.4	29.1	33.9	37.9	41.1				41.7	45.8	78
	90	17.1	23.6	29.5	34.7	39.1	42.8	45.8			46.0	50.7	79
	100	17.2	23.8	29.8	35.2	40.0	44.1	47.6			50.2	55.6	79
	40	19.5	26.1	30.2							30.3	31.6	75
	50	20.4	27.7	33.2							36.7	38.4	76
	60	20.9	28.7	34.9	39.7						42.7	45.0	77
18	70	21.2	29.3	36.0	41.6	45.9					48.6	51.3	78
	80	21.5	29.7	36.8	42.9	47.9	51.9				54.3	57.5	78
	90	21.7	30.0	37.4	43.9	49.4	54.1	57.8			60.0	63.7	79
	100	21.8	30.2	37.8	44.6	50.6	55.7	60.1	63.6		65.6	69.8	79
	40	24.1	32.3	37.2							37.8	38.9	75
	50	25.2	34.3	40.9	45.2						45.9	47.2	76
	60	25.8	35.4	43.1	48.9	52.9					53.5	55.2	77
20	70	26.3	36.2	44.5	51.3	56.5	60.2				60.9	63.0	78
	80	26.6	36.7	45.5	53.0	59.1	63.9	67.5			68.1	70.6	78
	90	26.8	37.1	46.2	54.2	61.0	66.7	71.2	74.6		75.2	78.1	79
	100	27.0	37.4	46.7	55.1	62.4	68.7	74.1	78.4	81.7	82.3	85.6	79
	50	30.5	41.5	49.6	54.7						55.9	57.0	76
	60	31.3	42.9	52.2	59.2	63.9					65.2	66.6	77
	70	31.9	43.8	53.9	62.1	68.4	72.8				74.2	76.0	78
22	80	32.2	44.5	55.1	64.1	71.5	77.3	81.5			83.1	85.1	78
	90	32.5	44.9	56.0	65.6	73.8	80.6	86.0	90.1		91.8	94.1	79
	100	32.7	45.3	56.6	66.7	75.5	83.1	89.5	94.6	98.6	100.4	103.1	79
	50	36.4	49.5	59.0	65.0						66.8	67.7	76
	60	37.4	51.2	62.2	70.4	75.9					77.9	79.1	77
	70	38.0	52.2	64.2	73.9	81.3	86.5				88.7	90.1	78
24	80	38.4	53.0	65.6	76.3	85.0	91.9	96.8			99.3	101.0	78
	90	38.8	53.6	66.6	78.1	87.8	95.9	102.3	107.0		109.7	111.7	79
	100	39.0	54.0	67.4	79.4	89.9	98.9	106.4	112.5	117.1	120.1	122.2	79
	50	42.8	58.1	69.3	76.3						78.6	79.4	76
	60	43.9	60.1	73.0	82.6	89.0					91.7	92.7	77
	70	44.7	61.4	75.4	86.7	95.4	101.4				104.4	105.6	78
26	80	45.2	62.3	77.1	89.6	99.8	107.8	113.5			116.8	118.2	78
	90	45.6	62.9	78.3	91.6	103.0	112.5	119.9	125.4	129.0	129.1	130.7	79
	100	45.9	63.4	79.2	93.2	105.5	116.0	124.8	131.9	137.2	141.3	143.1	79

[a] Includes 1.0-foot stump allowance.

Table 103--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 9-inch d.o.b. top and height to a saw-log top for black oak (species 837) in the Piedmont.[a]

D.b.h. class	Height to 9-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	7.6									8.7	17.1	69
	30	8.7	12.0								13.8	16.9	75
	40	9.1	12.8	16.1							18.6	20.3	77
12	50	9.4	13.1	16.6	19.9	22.9					23.2	24.3	78
	60	9.5	13.3	17.0	20.4	23.7	26.7				27.7	28.5	79
	70	9.6	13.5	17.2	20.8	24.2	27.4	30.4			32.1	32.7	79
	80	9.7	13.6	17.4	21.0	24.5	27.9	31.1	34.1		36.5	37.0	79
	40	12.5	17.3	21.4							24.2	26.1	77
	50	12.8	17.8	22.4	26.3	29.6					30.0	31.2	78
	60	13.0	18.1	22.9	27.2	31.1	34.5				35.6	36.4	79
14	70	13.1	18.3	23.3	27.8	32.0	35.9	39.3			41.1	41.7	79
	80	13.2	18.5	23.5	28.2	32.7	36.8	40.6	44.0		46.6	47.1	79
	90	13.3	18.6	23.7	28.5	33.1	37.4	41.5	45.3	48.7	52.0	52.4	80
	100	13.3	18.7	23.8	28.7	33.4	37.9	42.2	46.2	49.9	57.5	57.8	80
	40	16.3	22.5	27.5							30.7	32.7	77
	50	16.8	23.3	28.9	33.7	37.4					37.8	39.0	78
	60	17.0	23.7	29.7	35.1	39.8	43.5				44.7	45.6	79
16	70	17.2	24.0	30.2	36.0	41.2	45.7	49.5			51.5	52.1	79
	80	17.3	24.2	30.6	36.6	42.1	47.1	51.6	55.4		58.2	58.7	79
	90	17.4	24.3	30.8	37.0	42.8	48.1	53.0	57.4	61.3	64.9	65.3	80
	100	17.5	24.4	31.0	37.3	43.3	48.8	54.0	58.8	63.2	71.6	71.9	80
	40	20.7	28.5	34.5							38.1	40.2	77
	50	21.3	29.4	36.4	42.1	46.3					46.6	48.0	78
	60	21.6	30.0	37.5	44.1	49.5	53.8				55.0	55.9	79
18	70	21.8	30.4	38.2	45.2	51.5	56.8	61.2			63.2	63.9	79
	80	22.0	30.6	38.6	46.0	52.8	58.8	64.0	68.4		71.4	71.9	79
	90	22.1	30.8	39.0	46.6	53.7	60.2	66.0	71.2	75.6	79.5	79.9	80
	100	22.2	30.9	39.2	47.1	54.4	61.2	67.5	73.2	78.3	87.5	87.9	80
	40	25.6	35.1	42.3							46.3	48.5	77
	50	26.3	36.3	44.8	51.5	56.2					56.5	58.0	78
	60	26.7	37.1	46.2	54.0	60.5	65.3				66.5	67.5	79
20	70	27.0	37.5	47.1	55.6	63.0	69.3	74.2			76.4	77.1	79
	80	27.2	37.8	47.7	56.6	64.7	71.9	78.0	82.9		86.1	86.7	79
	90	27.3	38.1	48.1	57.4	66.0	73.7	80.6	86.6	91.6	95.8	96.3	80
	100	27.4	38.2	48.4	58.0	66.9	75.1	82.6	89.3	95.2	105.4	105.8	80
	50	31.9	44.0	54.1	61.9	67.1					67.5	69.0	78
	60	32.4	44.9	55.8	65.1	72.6	78.0				79.3	80.4	79
	70	32.7	45.4	56.9	67.1	75.8	83.1	88.6			90.9	91.7	79
22	80	33.0	45.8	57.6	68.4	78.0	86.3	93.4	99.0		102.4	103.0	79
	90	33.1	46.1	58.2	69.3	79.5	88.7	96.8	103.7	109.3	113.8	114.3	80
	100	33.3	46.3	58.6	70.0	80.6	90.4	99.2	107.1	113.9	125.2	125.6	80
	50	38.0	52.4	64.2	73.4	79.1					79.5	81.2	78
	60	38.6	53.4	66.3	77.2	85.9	91.9				93.3	94.4	79
	70	39.0	54.1	67.7	79.6	89.8	98.2	104.3			106.8	107.7	79
24	80	39.3	54.6	68.6	81.2	92.5	102.2	110.3	116.6		120.2	120.9	79
	90	39.5	54.9	69.2	82.4	94.3	105.1	114.4	122.4	128.7	133.6	134.1	80
	100	39.7	55.2	69.7	83.3	95.8	107.2	117.5	126.6	134.4	146.8	147.3	80
	50	44.7	61.5	75.3	85.8	92.2					92.6	94.3	78
	60	45.4	62.7	77.8	90.4	100.3	107.0				108.5	109.7	79
	70	45.9	63.5	79.4	93.3	105.1	114.6	121.5			124.2	125.1	79
26	80	46.2	64.1	80.5	95.2	108.2	119.4	128.7	135.7		139.7	140.4	79
	90	46.4	64.5	81.2	96.6	110.5	122.9	133.7	142.7	149.8	155.0	155.6	80
	100	46.6	64.8	81.8	97.6	112.2	125.4	137.3	147.8	156.6	170.4	170.8	80

[a] Includes 1.0-foot stump allowance.

Table 104--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for black oak (species 837) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.6	0.8	0.9	1.1	1.2	1.7											
6	1.3	2.2	2.4	2.7	2.9	3.2	3.5	3.8									
7	2.5	3.2	3.5	3.9	4.2	4.7	5.1	5.6	6.0	6.4							
8	3.4	4.2	4.7	5.3	5.7	6.3	6.9	7.5	8.1	8.6	9.2	9.7					
9	4.4	5.5	6.1	6.8	7.3	8.2	9.0	9.7	10.5	11.2	11.9	12.6	13.2	13.9			
10	5.5	6.8	7.7	8.5	9.2	10.2	11.2	12.2	13.1	14.0	14.9	15.7	16.6	17.4	18.2	19.0	
11			9.4	10.4	11.2	12.5	13.7	14.9	16.0	17.1	18.2	19.2	20.3	21.3	22.3	23.3	24.3
12			11.2	12.5	13.5	15.0	16.4	17.8	19.2	20.5	21.8	23.0	24.3	25.5	26.7	27.9	29.1
13			13.2	14.7	15.9	17.7	19.4	21.0	22.6	24.2	25.7	27.2	28.6	30.1	31.5	32.9	34.3
14					18.5	20.6	22.6	24.5	26.4	28.2	29.9	31.7	33.4	35.0	36.7	38.3	40.0
15					21.4	23.7	26.0	28.2	30.4	32.4	34.5	36.5	38.4	40.4	42.3	44.2	46.0
16					24.4	27.1	29.7	32.2	34.6	37.0	39.3	41.6	43.8	46.0	48.2	50.4	52.5

[a] Includes 0.5-foot stump allowance.

Table 105--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for black oak (species 837) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.6	2.0	2.5	2.7	3.2	3.6											
6	2.1	2.7	3.3	3.7	4.2	4.7	5.3	5.8									
7	2.6	3.3	4.0	4.8	5.5	6.1	6.8	7.4	8.0	8.7							
8	3.4	4.3	5.2	6.1	6.9	7.8	8.6	9.3	10.1	10.9	11.6	12.4					
9	4.3	5.4	6.4	7.6	8.6	9.6	10.6	11.5	12.4	13.4	14.3	15.2	16.1	16.9			
10	5.3	6.6	7.9	9.2	10.5	11.7	12.8	13.9	15.0	16.1	17.2	18.3	19.4	20.4	21.5	22.5	
11			9.4	11.1	12.5	13.9	15.3	16.6	17.9	19.2	20.5	21.8	23.0	24.3	25.5	26.8	28.0
12			11.2	13.1	14.8	16.5	18.0	19.6	21.1	22.6	24.1	25.6	27.1	28.5	30.0	31.4	32.9
13			13.1	15.3	17.3	19.2	21.0	22.8	24.6	26.3	28.1	29.8	31.5	33.1	34.8	36.5	38.1
14					20.0	22.1	24.2	26.3	28.3	30.3	32.3	34.3	36.2	38.1	40.0	42.0	43.9
15					22.8	25.3	27.7	30.0	32.3	34.6	36.9	39.1	41.3	43.5	45.7	47.8	50.0
16					25.9	28.7	31.4	34.1	36.6	39.2	41.7	44.2	46.7	49.2	51.7	54.1	56.5

[a] Includes 0.5-foot stump allowance.

Table 106--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for all red oaks combined (species 83) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40										4.4	9.4	60
	50	8.2									9.0	12.9	69
	60	8.9									11.8	15.9	74
12	70	9.3	12.8								14.1	18.7	77
	80	9.6	13.4								16.2	21.4	79
	90	9.8	13.7	17.1							18.1	23.9	81
	100	10.0	14.0	17.5							19.9	26.4	82
	40	9.7									10.4	13.0	60
	50	11.3	14.9								15.1	17.7	69
	60	12.2	16.5								18.8	21.9	74
14	70	12.8	17.6	21.3							22.1	25.8	77
	80	13.2	18.3	22.5							25.1	29.4	79
	90	13.5	18.8	23.4	27.0						28.0	32.9	81
	100	13.6	19.1	24.0	28.0						30.8	36.3	82
	50	14.8	19.5								21.0	23.3	69
	60	16.0	21.6	25.6							26.1	28.8	74
	70	16.8	23.0	27.9							30.6	33.9	77
16	80	17.3	23.9	29.5	33.6						34.9	38.7	79
	90	17.6	24.6	30.6	35.4	38.8					39.0	43.3	81
	100	17.9	25.0	31.4	36.7	40.8					42.9	47.8	82
	110	18.1	25.4	32.0	37.7	42.3	45.9				46.7	52.2	82
	50	18.8	24.7								27.6	29.6	69
	60	20.3	27.4	32.5							34.2	36.6	74
	70	21.3	29.2	35.4	39.5						40.2	43.1	77
18	80	22.0	30.4	37.4	42.6						45.8	49.2	79
	90	22.4	31.2	38.8	44.8	49.2					51.2	55.0	81
	100	22.7	31.8	39.8	46.5	51.7	55.5				56.4	60.7	82
	110	23.0	32.2	40.6	47.8	53.6	58.1				61.4	66.3	82
	50	23.2	30.5								34.8	36.7	69
	60	25.1	33.9	40.2							43.1	45.3	74
	70	26.4	36.1	43.8	48.9						50.7	53.3	77
20	80	27.2	37.5	46.2	52.6	56.9					57.8	60.9	79
	90	27.7	38.5	47.9	55.4	60.8	64.5				64.6	68.1	81
	100	28.1	39.3	49.2	57.5	63.9	68.5				71.2	75.1	82
	110	28.4	39.8	50.1	59.1	66.3	71.8	76.0			77.7	82.0	82
	60	30.5	41.1	48.7	52.9						53.0	55.0	74
	70	31.9	43.7	53.0	59.2						62.3	64.7	77
	80	32.9	45.5	55.9	63.7	68.9					71.0	73.8	79
22	90	33.6	46.7	58.0	67.1	73.6	78.1				79.4	82.6	81
	100	34.1	47.6	59.6	69.6	77.3	83.0	86.9			87.5	91.1	82
	110	34.4	48.3	60.7	71.5	80.3	87.0	92.0			95.4	99.4	82
	60	36.3	49.0	58.0	63.0						63.7	65.5	74
	70	38.1	52.1	63.1	70.5	74.7					74.8	77.1	77
	80	39.2	54.2	66.6	75.9	82.0					85.4	88.0	79
24	90	40.0	55.6	69.1	79.9	87.7	92.9				95.5	98.4	81
	100	40.6	56.7	70.9	82.9	92.1	98.8	103.4			105.3	108.6	82
	110	41.0	57.5	72.3	85.2	95.6	103.6	109.5	113.7		114.8	118.5	82
	60	42.7	57.5	68.1	74.0						75.3	77.0	74
	70	44.7	61.2	74.1	82.7	87.7					88.5	90.5	77
	80	46.1	63.6	78.2	89.1	96.3	100.6				101.0	103.3	79
26	90	47.0	65.3	81.2	93.8	102.9	109.1				112.9	115.6	81
	100	47.7	66.6	83.3	97.3	108.1	116.0	121.5			124.5	127.5	82
	110	48.2	67.5	84.9	100.0	112.2	121.6	128.6	133.4		135.8	139.2	82

[a] Includes 1.0-foot stump allowance.

Table 107--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for all red oaks combined (species 83) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	8.2									8.8	11.1	71
	40	8.9									11.1	14.7	76
	50	9.3	12.7								13.1	18.0	78
12	60	9.6	13.2								14.9	21.1	79
	70	9.7	13.4	16.6							16.7	24.1	80
	80	9.8	13.6	16.9							18.3	27.0	80
	90	9.9	13.8	17.2							19.9	30.0	81
	40	12.2	16.4								17.2	19.8	76
	50	12.8	17.4								20.6	24.1	78
	60	13.1	18.0	21.9							23.8	28.2	79
14	70	13.3	18.4	22.6	26.0						26.8	32.2	80
	80	13.5	18.6	23.1	26.9						29.8	36.1	80
	90	13.6	18.8	23.5	27.5	30.9					32.7	39.9	81
	100	13.6	19.0	23.7	28.0	31.7	34.9				35.6	43.8	81
	40	16.1	21.4								23.7	25.6	76
	50	16.8	22.8	27.1							28.5	31.2	78
	60	17.2	23.6	28.6	32.3						33.1	36.4	79
16	70	17.5	24.1	29.5	33.9	37.3					37.4	41.5	80
	80	17.7	24.4	30.2	35.1	39.0					41.7	46.5	80
	90	17.8	24.6	30.7	35.9	40.3	44.0				45.9	51.5	81
	100	17.9	24.8	31.0	36.5	41.3	45.4	48.8			50.1	56.3	81
	40	20.4	27.1								30.8	32.3	76
	50	21.3	28.9	34.3							37.1	39.2	78
	60	21.8	29.9	36.2	40.8						43.1	45.8	79
18	70	22.2	30.5	37.4	42.9	47.1					48.9	52.1	80
	80	22.4	30.9	38.2	44.4	49.3	53.1				54.6	58.4	80
	90	22.6	31.3	38.9	45.4	51.0	55.5	59.1			60.1	64.5	81
	100	22.7	31.5	39.3	46.2	52.2	57.3	61.6	65.0		65.7	70.6	81
	40	25.2	33.5	38.2							38.5	39.7	76
	50	26.3	35.7	42.3	46.4						46.5	48.2	78
	60	27.0	36.9	44.7	50.3	54.0					54.0	56.2	79
20	70	27.4	37.7	46.2	52.9	58.0					61.4	64.0	80
	80	27.7	38.2	47.2	54.7	60.8	65.4				68.5	71.6	80
	90	27.9	38.6	48.0	56.1	62.9	68.4	72.7			75.5	79.1	81
	100	28.1	38.9	48.6	57.1	64.4	70.7	75.8	79.9		82.5	86.5	81
	50	31.9	43.2	51.2	56.0						56.7	58.1	78
	60	32.7	44.7	54.0	60.9	65.3					65.9	67.7	79
	70	33.2	45.7	55.9	64.0	70.1	74.2				74.9	77.1	80
22	80	33.6	46.3	57.2	66.2	73.5	79.0	82.9			83.6	86.2	80
	90	33.9	46.8	58.1	67.9	76.0	82.7	87.8	91.6		92.3	95.2	81
	100	34.1	47.2	58.8	69.1	77.9	85.4	91.6	96.5	100.1	100.8	104.2	81
	50	38.0	51.4	60.9	66.6						67.8	69.0	78
	60	39.0	53.2	64.3	72.4	77.6					78.9	80.4	79
	70	39.6	54.4	66.5	76.2	83.3	88.1				89.6	91.4	80
24	80	40.0	55.2	68.1	78.8	87.4	94.0	98.5			100.1	102.2	80
	90	40.4	55.8	69.2	80.7	90.4	98.3	104.4	108.7		110.4	112.9	81
	100	40.6	56.2	70.1	82.2	92.7	101.6	108.9	114.6	118.9	120.6	123.4	81
	50	44.7	60.4	71.4	78.1						79.8	80.8	78
	60	45.8	62.5	75.5	84.9	90.9					92.8	94.1	79
	70	46.5	63.9	78.1	89.4	97.7	103.3				105.4	107.0	80
26	80	47.1	64.8	79.9	92.5	102.5	110.2	115.4			117.8	119.6	80
	90	47.4	65.5	81.2	94.8	106.1	115.3	122.3	127.4		130.0	132.1	81
	100	47.7	66.0	82.2	96.5	108.8	119.2	127.7	134.3	139.2	142.0	144.4	81

[a] Includes 1.0-foot stump allowance.

Table 108--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 9-inch d.o.b. top and height to a saw-log top for all red oaks combined (species 83) in the Piedmont.[a]

D.b.h. class	Height to 9-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	8.3									9.5	15.9	74
	30	9.1	12.6								14.5	18.8	78
	40	9.4	13.2	16.6							19.2	22.7	79
12	50	9.6	13.5	17.1	20.4	23.5					23.8	26.8	80
	60	9.7	13.6	17.4	20.9	24.2	27.3				28.3	31.0	80
	70	9.7	13.7	17.5	21.2	24.7	27.9	31.0			32.8	35.3	80
	80	9.8	13.8	17.7	21.4	25.0	28.4	31.6	34.7		37.3	39.6	81
	40	13.0	18.0	22.1							25.0	28.2	79
	50	13.2	18.4	23.0	27.0	30.4					30.7	33.5	80
	60	13.4	18.7	23.5	27.9	31.8	35.2				36.3	38.8	80
14	70	13.5	18.8	23.8	28.4	32.7	36.5	39.9			41.8	44.1	80
	80	13.5	18.9	24.0	28.8	33.3	37.4	41.2	44.7		47.3	49.4	81
	90	13.6	19.0	24.2	29.1	33.7	38.1	42.1	45.9	49.3	52.8	54.7	81
	100	13.6	19.1	24.3	29.3	34.1	38.6	42.8	46.8	50.6	58.2	60.1	81
	40	17.1	23.5	28.6							31.7	34.7	79
	50	17.4	24.1	29.9	34.6	38.3					38.7	41.2	80
	60	17.6	24.4	30.6	36.0	40.6	44.3				45.5	47.8	80
16	70	17.7	24.7	31.0	36.8	42.0	46.5	50.2			52.2	54.3	80
	80	17.8	24.8	31.4	37.4	42.9	47.9	52.3	56.1		58.9	60.8	81
	90	17.9	24.9	31.6	37.8	43.6	48.9	53.7	58.1	61.9	65.5	67.4	81
	100	17.9	25.0	31.8	38.1	44.1	49.6	54.8	59.6	63.9	72.2	73.9	81
	40	21.7	29.7	35.8							39.3	42.2	79
	50	22.1	30.5	37.6	43.2	47.3					47.7	50.1	80
	60	22.4	31.0	38.6	45.1	50.5	54.7				55.8	58.0	80
18	70	22.6	31.3	39.2	46.3	52.5	57.7	61.9			63.9	65.9	80
	80	22.7	31.5	39.7	47.1	53.8	59.7	64.8	69.1		72.0	73.8	81
	90	22.7	31.7	40.0	47.7	54.7	61.1	66.8	71.9	76.2	80.0	81.7	81
	100	22.8	31.8	40.2	48.1	55.4	62.2	68.4	74.0	78.9	88.0	89.6	81
	40	26.9	36.7	43.9							47.8	50.6	79
	50	27.4	37.8	46.3	52.9	57.3					57.7	60.1	80
	60	27.7	38.3	47.6	55.3	61.6	66.2				67.4	69.6	80
20	70	27.9	38.7	48.4	56.9	64.2	70.2	74.9			77.1	79.0	80
	80	28.1	39.0	48.9	57.9	65.9	72.9	78.8	83.5		86.6	88.4	81
	90	28.2	39.2	49.3	58.7	67.2	74.8	81.5	87.3	92.1	96.1	97.8	81
	100	28.3	39.3	49.6	59.2	68.1	76.2	83.5	90.1	95.8	105.6	107.2	81
	50	33.3	45.7	55.8	63.5	68.4					68.8	71.1	80
	60	33.7	46.4	57.5	66.6	73.9	79.0				80.3	82.3	80
	70	33.9	46.9	58.5	68.6	77.1	84.1	89.3			91.6	93.4	80
22	80	34.1	47.2	59.2	69.9	79.3	87.5	94.2	99.5		102.8	104.5	81
	90	34.2	47.5	59.7	70.8	80.9	89.9	97.7	104.3	109.7	114.0	115.6	81
	100	34.3	47.6	60.1	71.6	82.1	91.7	100.3	107.9	114.4	125.1	126.6	81
	50	39.7	54.4	66.3	75.1	80.6					81.0	83.2	80
	60	40.2	55.3	68.3	79.0	87.3	93.0				94.3	96.3	80
	70	40.4	55.9	69.5	81.4	91.3	99.3	105.1			107.5	109.3	80
24	80	40.6	56.3	70.4	83.0	94.0	103.5	111.2	117.1		120.5	122.2	81
	90	40.8	56.5	71.0	84.2	96.0	106.4	115.5	123.0	128.9	133.5	135.1	81
	100	40.9	56.8	71.5	85.1	97.5	108.7	118.7	127.4	134.8	146.4	147.9	81
	50	46.7	63.9	77.7	87.8	93.8					94.2	96.4	80
	60	47.2	65.0	80.1	92.4	101.9	108.2				109.6	111.5	80
	70	47.5	65.6	81.6	95.3	106.8	115.8	122.2			124.7	126.5	80
26	80	47.8	66.1	82.6	97.3	110.0	120.8	129.6	136.1		139.8	141.4	81
	90	48.0	66.4	83.3	98.7	112.4	124.4	134.7	143.3	149.9	154.7	156.3	81
	100	48.1	66.7	83.9	99.7	114.1	127.1	138.6	148.6	156.9	169.7	171.1	81

[a] Includes 1.0-foot stump allowance.

Table 109--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for all red oaks combined (species 83) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5[b]	0.6	0.7	0.8	1.0	1.1	1.6											
6[b]	1.2	2.1	2.3	2.5	2.7	3.0	3.3	3.6									
7	2.5	3.1	3.4	3.8	4.0	4.5	4.9	5.4	5.8	6.2							
8	3.4	4.2	4.7	5.2	5.5	6.2	6.8	7.4	8.0	8.5	9.1	9.6					
9	4.5	5.5	6.1	6.8	7.2	8.0	8.9	9.6	10.4	11.1	11.8	12.5	13.2	13.9			
10	5.6	6.9	7.7	8.5	9.1	10.1	11.2	12.1	13.1	14.0	14.9	15.8	16.6	17.5	18.3	19.1	
11			9.4	10.4	11.1	12.4	13.7	14.9	16.0	17.2	18.3	19.3	20.4	21.4	22.4	23.5	24.5
12			11.3	12.5	13.4	14.9	16.4	17.9	19.3	20.6	21.9	23.2	24.5	25.7	26.9	28.2	29.4
13			13.4	14.8	15.8	17.7	19.4	21.1	22.7	24.3	25.9	27.4	28.9	30.4	31.8	33.3	34.7
14					18.4	20.6	22.6	24.6	26.5	28.4	30.2	31.9	33.7	35.4	37.1	38.8	40.4
15					21.2	23.7	26.1	28.4	30.6	32.7	34.8	36.8	38.8	40.8	42.7	44.7	46.6
16					24.2	27.1	29.8	32.4	34.9	37.3	39.7	42.0	44.3	46.5	48.8	51.0	53.1

[a] Includes 0.5-foot stump allowance.
[b] Cylindrical volume assumed below breast height.

Table 110--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for all red oaks combined (species 83) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5[b]	1.5	1.9	2.4	2.7	3.2	3.6											
6[b]	2.1	2.6	3.2	3.6	4.2	4.7	5.3	5.8									
7	2.6	3.3	4.0	4.8	5.5	6.2	6.8	7.5	8.1	8.8							
8	3.5	4.3	5.2	6.2	7.1	7.9	8.7	9.5	10.3	11.0	11.8	12.6					
9	4.4	5.5	6.5	7.7	8.8	9.8	10.8	11.7	12.7	13.6	14.5	15.4	16.3	17.2			
10	5.5	6.7	8.0	9.5	10.7	11.9	13.1	14.2	15.4	16.5	17.6	18.7	19.7	20.8	21.9	22.9	
11			9.6	11.4	12.9	14.3	15.7	17.0	18.3	19.6	20.9	22.2	23.5	24.7	26.0	27.2	28.5
12			11.4	13.5	15.2	16.9	18.5	20.0	21.6	23.1	24.6	26.1	27.6	29.0	30.5	32.0	33.4
13			13.3	15.7	17.7	19.7	21.5	23.3	25.1	26.9	28.6	30.3	32.0	33.7	35.4	37.1	38.7
14					20.5	22.7	24.8	26.9	28.9	30.9	32.9	34.9	36.8	38.8	40.7	42.6	44.5
15					23.4	25.9	28.4	30.7	33.0	35.3	37.6	39.8	42.0	44.2	46.4	48.5	50.7
16					26.6	29.4	32.1	34.8	37.4	40.0	42.5	45.0	47.5	50.0	52.4	54.9	57.3

[a] Includes 0.5-foot stump allowance.
[b] Cylindrical volume assumed below breast height.

Table 111--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for all oaks combined (species 800) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40										4.6	9.6	61
	50	8.3									9.4	13.1	70
	60	9.0									12.1	16.1	75
12	70	9.4	12.9								14.4	18.9	78
	80	9.7	13.4								16.5	21.6	80
	90	9.9	13.8	17.2							18.4	24.2	81
	100	10.0	14.1	17.7							20.2	26.7	82
	40	9.8									10.8	13.2	61
	50	11.3	15.0								15.4	17.9	70
	60	12.3	16.6								19.1	22.2	75
14	70	12.8	17.7	21.5							22.4	26.0	78
	80	13.2	18.3	22.6							25.4	29.7	80
	90	13.5	18.8	23.5	27.2						28.4	33.2	81
	100	13.7	19.2	24.1	28.2						31.2	36.6	82
	50	14.8	19.6								21.4	23.6	70
	60	16.0	21.8	25.9							26.4	29.1	75
	70	16.8	23.1	28.1							31.0	34.2	78
16	80	17.3	24.0	29.6	33.8						35.3	39.0	80
	90	17.6	24.6	30.7	35.5	39.1					39.3	43.6	81
	100	17.9	25.1	31.5	36.8	41.0					43.3	48.1	82
	110	18.1	25.4	32.1	37.8	42.5	46.1				47.2	52.5	83
	50	18.8	24.9								28.0	30.0	70
	60	20.3	27.6	32.8							34.5	37.0	75
	70	21.3	29.3	35.6	39.8						40.5	43.4	78
18	80	21.9	30.4	37.5	42.8						46.2	49.5	80
	90	22.3	31.2	38.9	45.0	49.5					51.6	55.4	81
	100	22.7	31.8	39.9	46.7	51.9	55.8				56.8	61.1	82
	110	22.9	32.2	40.6	47.9	53.9	58.4	61.8			61.9	66.7	83
	50	23.3	30.8	35.2							35.3	37.1	70
	60	25.1	34.1	40.5							43.6	45.7	75
	70	26.3	36.2	44.0	49.2						51.1	53.7	78
20	80	27.1	37.6	46.3	52.9	57.2					58.3	61.3	80
	90	27.6	38.6	48.0	55.6	61.1	64.8				65.1	68.6	81
	100	28.0	39.3	49.3	57.7	64.1	68.9				71.7	75.6	82
	110	28.3	39.8	50.2	59.2	66.5	72.2	76.4			78.2	82.5	83
	60	30.4	41.3	49.0	53.3						53.5	55.4	75
	70	31.9	43.8	53.2	59.5						62.8	65.1	78
	80	32.8	45.5	56.1	64.0	69.3					71.5	74.3	80
22	90	33.5	46.7	58.2	67.3	74.0	78.5				79.9	83.1	81
	100	33.9	47.6	59.7	69.8	77.6	83.4	87.3			88.1	91.6	82
	110	34.3	48.2	60.8	71.7	80.5	87.4	92.4	96.0		96.1	100.0	83
	60	36.3	49.1	58.3	63.5						64.2	66.1	75
	70	38.0	52.2	63.4	70.9	75.2					75.4	77.6	78
	80	39.1	54.2	66.8	76.2	82.4					86.0	88.5	80
24	90	39.9	55.6	69.2	80.1	88.1	93.4				96.1	99.0	81
	100	40.4	56.7	71.0	83.1	92.4	99.3	104.0			105.9	109.2	82
	110	40.8	57.4	72.4	85.3	95.9	104.0	110.0	114.2		115.6	119.2	83
	60	42.6	57.7	68.5	74.5						75.9	77.6	75
	70	44.6	61.2	74.4	83.2	88.3					89.1	91.2	78
	80	45.9	63.6	78.4	89.5	96.8	101.2				101.6	104.0	80
26	90	46.8	65.3	81.3	94.1	103.4	109.7	113.6			113.6	116.3	81
	100	47.5	66.5	83.4	97.6	108.5	116.5	122.1			125.3	128.2	82
	110	48.0	67.4	85.0	100.2	112.6	122.1	129.2	134.1		136.6	140.0	83

[a] Includes 1.0-foot stump allowance.

Table 112--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for all oaks combined (species 800) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to: Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	8.1									8.8	11.1	71
	40	9.0									11.2	14.7	76
	50	9.4	12.8								13.3	18.0	78
12	60	9.6	13.2								15.2	21.2	80
	70	9.8	13.5	16.7							17.0	24.3	80
	80	9.9	13.7	17.1							18.7	27.3	81
	90	9.9	13.9	17.3	20.4						20.4	30.2	81
	40	12.2	16.3								17.2	19.8	76
	50	12.8	17.4								20.7	24.2	78
	60	13.1	18.0	22.0							24.0	28.3	80
14	70	13.3	18.4	22.7	26.2						27.1	32.4	80
	80	13.5	18.7	23.2	27.0						30.2	36.3	81
	90	13.6	18.9	23.6	27.7	31.2					33.1	40.3	81
	100	13.6	19.0	23.9	28.2	31.9	35.2				36.1	44.1	81
	40	16.0	21.4								23.7	25.6	76
	50	16.7	22.8	27.1							28.6	31.2	78
	60	17.2	23.6	28.7	32.4						33.3	36.6	80
16	70	17.4	24.1	29.6	34.1	37.5					37.7	41.8	80
	80	17.6	24.5	30.3	35.3	39.3					42.1	46.8	81
	90	17.8	24.7	30.8	36.1	40.6	44.3				46.4	51.8	81
	100	17.9	24.9	31.2	36.8	41.6	45.7	49.2			50.7	56.8	81
	40	20.3	27.0								30.7	32.2	76
	50	21.2	28.8	34.3							37.2	39.3	78
	60	21.8	29.9	36.2	40.9						43.3	45.9	80
18	70	22.1	30.5	37.5	43.1	47.3					49.2	52.4	80
	80	22.3	31.0	38.4	44.6	49.6	53.4				55.0	58.7	81
	90	22.5	31.3	39.0	45.7	51.3	55.9	59.5			60.7	65.0	81
	100	22.7	31.5	39.5	46.5	52.6	57.7	62.0	65.4		66.3	71.1	81
	40	25.0	33.4	38.1							38.4	39.6	76
	50	26.2	35.6	42.3	46.4						46.5	48.2	78
	60	26.9	36.9	44.7	50.5	54.2					54.2	56.4	80
20	70	27.3	37.7	46.3	53.1	58.2					61.7	64.3	80
	80	27.6	38.3	47.4	55.0	61.1	65.8				69.0	72.0	81
	90	27.8	38.7	48.2	56.3	63.2	68.8	73.2			76.1	79.6	81
	100	28.0	39.0	48.8	57.4	64.8	71.2	76.4	80.5		83.2	87.2	81
	50	31.7	43.1	51.1	56.0						56.7	58.1	78
	60	32.6	44.7	54.1	61.0	65.4					66.2	67.9	80
	70	33.1	45.7	56.0	64.2	70.4	74.5				75.3	77.4	80
22	80	33.5	46.3	57.3	66.5	73.8	79.5	83.4			84.2	86.7	81
	90	33.7	46.8	58.3	68.1	76.4	83.1	88.4	92.2		92.9	95.8	81
	100	33.9	47.2	59.0	69.4	78.4	86.0	92.2	97.2	100.8	101.6	104.9	81
	50	37.8	51.3	60.8	66.6						67.8	69.0	78
	60	38.8	53.2	64.4	72.5	77.7					79.1	80.6	80
	70	39.4	54.4	66.7	76.4	83.6	88.5				90.0	91.8	80
24	80	39.9	55.2	68.2	79.1	87.8	94.4	99.0			100.6	102.8	81
	90	40.2	55.8	69.4	81.1	90.9	98.8	105.0	109.4		111.1	113.6	81
	100	40.4	56.2	70.3	82.6	93.2	102.2	109.6	115.4	119.7	121.5	124.3	81
	50	44.4	60.2	71.4	78.1						79.8	80.8	78
	60	45.6	62.4	75.6	85.1	91.1					93.1	94.3	80
	70	46.3	63.8	78.2	89.6	98.1	103.7				105.9	107.4	80
26	80	46.8	64.8	80.1	92.8	103.0	110.7	116.0			118.4	120.3	81
	90	47.2	65.5	81.4	95.1	106.6	115.9	123.1	128.2		130.8	132.9	81
	100	47.4	66.0	82.5	96.9	109.4	119.9	128.5	135.2	140.2	143.1	145.4	81

[a] Includes 1.0-foot stump allowance.

Table 113--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 9-inch d.o.b. top and height to a saw-log top for all oaks combined (species 800) in the Piedmont.[a]

D.b.h. class	Height to 9-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	8.3									9.4	15.0	73
	30	9.2	12.7								14.6	18.8	78
	40	9.5	13.3	16.8							19.4	23.2	80
12	50	9.7	13.7	17.3	20.7	23.7					24.1	27.6	80
	60	9.8	13.8	17.6	21.2	24.5	27.6				28.7	32.0	81
	70	9.9	14.0	17.8	21.5	25.0	28.3	31.4			33.3	36.5	81
	80	9.9	14.0	18.0	21.7	25.4	28.8	32.1	35.2		37.8	40.9	81
	40	13.0	18.1	22.3							25.2	28.3	80
	50	13.3	18.6	23.2	27.3	30.6					31.0	33.9	80
	60	13.5	18.8	23.8	28.2	32.2	35.6				36.7	39.5	81
14	70	13.6	19.0	24.1	28.8	33.1	37.0	40.4			42.3	45.0	81
	80	13.6	19.1	24.3	29.2	33.7	37.9	41.8	45.2		47.9	50.5	81
	90	13.7	19.2	24.5	29.5	34.2	38.6	42.7	46.5	50.0	53.5	56.0	81
	100	13.7	19.3	24.6	29.7	34.5	39.1	43.5	47.5	51.3	59.0	61.5	81
	40	17.1	23.6	28.7							31.9	34.6	80
	50	17.4	24.2	30.1	34.9	38.6					39.0	41.5	80
	60	17.6	24.6	30.8	36.3	41.0	44.7				45.9	48.3	81
16	70	17.8	24.8	31.3	37.2	42.4	47.0	50.8			52.8	55.1	81
	80	17.9	25.0	31.7	37.8	43.4	48.5	52.9	56.8		59.6	61.8	81
	90	17.9	25.1	31.9	38.2	44.1	49.5	54.4	58.8	62.7	66.3	68.6	81
	100	18.0	25.2	32.1	38.6	44.6	50.3	55.6	60.4	64.7	73.1	75.3	81
	40	21.7	29.8	35.9							39.4	41.9	80
	50	22.1	30.6	37.8	43.5	47.6					48.0	50.2	80
	60	22.4	31.1	38.9	45.5	50.9	55.1				56.3	58.5	81
18	70	22.5	31.5	39.5	46.7	53.0	58.3	62.5			64.6	66.7	81
	80	22.7	31.7	40.0	47.5	54.3	60.4	65.6	69.9		72.8	74.8	81
	90	22.8	31.8	40.3	48.1	55.3	61.8	67.7	72.8	77.1	81.0	82.9	81
	100	22.8	32.0	40.6	48.6	56.1	63.0	69.3	74.9	80.0	89.1	91.0	81
	40	26.8	36.7	44.0							47.9	50.1	80
	50	27.4	37.8	46.5	53.2	57.7					58.1	60.1	80
	60	27.7	38.5	47.8	55.7	62.1	66.8				68.0	70.0	81
20	70	27.9	38.9	48.7	57.3	64.8	70.9	75.7			77.8	79.7	81
	80	28.0	39.1	49.3	58.4	66.6	73.7	79.7	84.5		87.6	89.4	81
	90	28.1	39.3	49.7	59.2	67.9	75.6	82.5	88.4	93.2	97.3	99.1	81
	100	28.2	39.5	50.0	59.8	68.8	77.1	84.6	91.2	97.0	107.0	108.7	81
	50	33.1	45.7	56.0	63.8	68.8					69.2	71.1	80
	60	33.5	46.5	57.7	67.1	74.4	79.6				80.9	82.7	81
	70	33.8	47.0	58.8	69.1	77.8	84.9	90.2			92.5	94.2	81
22	80	34.0	47.4	59.5	70.5	80.1	88.4	95.3	100.6		103.9	105.6	81
	90	34.1	47.6	60.1	71.5	81.7	90.9	98.8	105.6	111.0	115.3	117.0	81
	100	34.2	47.8	60.5	72.2	83.0	92.7	101.5	109.2	115.9	126.7	128.3	81
	50	39.5	54.4	66.5	75.5	81.0					81.4	83.2	80
	60	40.0	55.4	68.6	79.5	87.9	93.7				95.0	96.7	81
	70	40.3	56.0	69.9	82.0	92.1	100.2	106.1			108.5	110.1	81
24	80	40.5	56.4	70.8	83.7	94.9	104.5	112.4	118.3		121.8	123.4	81
	90	40.6	56.7	71.5	84.9	96.9	107.6	116.8	124.4	130.5	135.1	136.6	81
	100	40.3	56.9	71.9	85.8	98.4	109.9	120.1	128.9	136.5	148.3	149.8	81
	50	46.4	63.9	77.9	88.2	94.3					94.7	96.3	80
	60	46.9	65.0	80.4	93.0	102.6	109.0				110.4	112.0	81
	70	47.3	65.7	82.0	96.0	107.6	116.8	123.4			125.9	127.4	81
26	80	47.6	66.2	83.0	98.0	111.0	122.0	130.9	137.6		141.3	142.8	81
	90	47.7	66.6	83.8	99.5	113.4	125.7	136.3	144.9	151.7	156.6	158.0	81
	100	47.9	66.8	84.4	100.6	115.3	128.5	140.2	150.4	158.9	171.8	173.2	81

[a] Includes 1.0-foot stump allowance.

Table 114--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for all oaks combined (species 800) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.6	0.8	0.9	1.1	1.4	1.7											
6	1.3	2.2	2.4	2.6	2.8	3.2	3.5	3.8									
7	2.6	3.2	3.5	3.9	4.2	4.7	5.1	5.6	6.0	6.4							
8	3.5	4.3	4.8	5.3	5.7	6.4	7.0	7.6	8.2	8.7	9.3	9.8					
9	4.5	5.5	6.2	6.8	7.4	8.2	9.1	9.8	10.6	11.3	12.0	12.7	13.4	14.1			
10	5.7	6.9	7.7	8.5	9.3	10.3	11.4	12.3	13.3	14.2	15.1	16.0	16.8	17.7	18.5	19.4	
11			9.4	10.4	11.3	12.6	13.9	15.1	16.2	17.4	18.5	19.5	20.6	21.6	22.7	23.7	24.7
12			11.3	12.5	13.6	15.1	16.6	18.1	19.5	20.8	22.1	23.4	24.7	26.0	27.2	28.4	29.6
13			13.3	14.8	16.0	17.9	19.6	21.3	23.0	24.6	26.1	27.6	29.1	30.6	32.1	33.5	35.0
14					18.7	20.8	22.9	24.8	26.8	28.6	30.4	32.2	33.9	35.7	37.4	39.0	40.7
15					21.5	24.0	26.3	28.6	30.8	32.9	35.0	37.1	39.1	41.1	43.0	45.0	46.9
16					24.5	27.3	30.0	32.6	35.1	37.6	39.9	42.3	44.6	46.8	49.1	51.3	53.5

[a] Includes 0.5-foot stump allowance.

Table 115--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for all oaks combined (species 800) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.6	2.0	2.5	2.8	3.3	3.7											
6	2.2	2.7	3.3	3.8	4.4	4.9	5.5	6.0									
7	2.7	3.4	4.1	4.9	5.7	6.4	7.0	7.7	8.3	9.0							
8	3.5	4.4	5.3	6.3	7.2	8.0	8.8	9.7	10.4	11.2	12.0	12.8					
9	4.5	5.5	6.6	7.8	8.9	9.9	10.9	11.9	12.8	13.8	14.7	15.6	16.6	17.5			
10	5.5	6.8	8.0	9.5	10.8	12.0	13.2	14.4	15.5	16.6	17.8	18.9	20.0	21.0	22.1	23.2	
11			9.6	11.4	12.9	14.4	15.8	17.1	18.5	19.8	21.1	22.4	23.7	25.0	26.3	27.5	28.8
12			11.4	13.5	15.2	16.9	18.6	20.2	21.7	23.3	24.8	26.3	27.8	29.3	30.8	32.3	33.7
13			13.3	15.7	17.7	19.7	21.6	23.4	25.2	27.0	28.8	30.5	32.3	34.0	35.7	37.4	39.1
14					20.5	22.7	24.9	27.0	29.1	31.1	33.1	35.1	37.1	39.0	41.0	42.9	44.9
15					23.4	25.9	28.4	30.8	33.1	35.5	37.7	40.0	42.3	44.5	46.7	48.9	51.1
16					26.5	29.4	32.2	34.9	37.5	40.1	42.7	45.3	47.8	50.3	52.8	55.3	57.8

[a] Includes 0.5-foot stump allowance.

Table 116--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., total-tree height and height to a saw-log top for soft and hard hardwoods combined (species 90) in the Piedmont.[a]

D.b.h. class	Total tree height	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	40										5.0	10.1	62
	50	8.5									9.4	13.2	70
	60	9.1									11.9	16.1	74
12	70	9.4	12.9								13.9	18.7	77
	80	9.6	13.3								15.7	21.1	79
	90	9.8	13.6	16.8							17.4	23.5	80
	100	9.9	13.8	17.2							19.0	25.9	80
	40	10.2									11.5	13.9	62
	50	11.6	15.3								15.6	18.2	70
	60	12.4	16.7								18.9	22.1	74
14	70	12.9	17.5	21.2							22.0	25.7	77
	80	13.2	18.1	22.2							24.8	29.1	79
	90	13.4	18.5	23.0	26.5						27.4	32.3	80
	100	13.6	18.8	23.5	27.4						30.0	35.5	80
	50	15.2	20.0								21.7	23.9	70
	60	16.2	21.8	25.8							26.3	29.0	74
	70	16.8	22.9	27.8							30.5	33.7	77
16	80	17.3	23.7	29.1	33.1						34.4	38.2	79
	90	17.5	24.3	30.0	34.7	38.1					38.2	42.5	80
	100	17.8	24.7	30.7	35.9	39.9					41.8	46.7	80
	110	17.9	24.9	31.3	36.7	41.2	44.7				45.4	50.8	81
	50	19.2	25.3								28.4	30.4	70
	60	20.5	27.6	32.7							34.4	36.8	74
	70	21.3	29.1	35.2	39.3						39.9	42.8	77
18	80	21.9	30.1	36.9	42.0						45.1	48.5	79
	90	22.2	30.7	38.1	44.0	48.3					50.1	54.0	80
	100	22.5	31.2	38.9	45.4	50.5	54.2				54.9	59.3	80
	110	22.7	31.6	39.6	46.5	52.2	56.6				59.7	64.6	81
	50	23.8	31.3	35.7							35.8	37.6	70
	60	25.4	34.1	40.4							43.4	45.6	74
	70	26.4	35.9	43.5	48.5						50.4	53.0	77
20	80	27.0	37.1	45.5	51.9	56.1					57.0	60.0	79
	90	27.5	38.0	47.0	54.3	59.6	63.2				63.3	66.8	80
	100	27.8	38.6	48.1	56.1	62.4	66.9				69.5	73.4	80
	110	28.1	39.1	49.0	57.5	64.5	70.0	74.0			75.5	79.9	81
	60	30.8	41.3	48.9	53.2						53.3	55.3	74
	70	32.0	43.5	52.6	58.8						61.8	64.2	77
	80	32.8	45.0	55.2	62.8	67.9					70.0	72.8	79
22	90	33.3	46.0	56.9	65.7	72.2	76.5				77.8	81.0	80
	100	33.7	46.8	58.3	67.9	75.5	81.0	84.9			85.4	89.0	80
	110	34.0	47.3	59.3	69.6	78.1	84.7	89.6			92.8	96.8	81
	60	36.7	49.2	58.2	63.3						64.0	65.9	74
	70	38.1	51.8	62.7	70.0	74.2					74.4	76.6	77
	80	39.0	53.6	65.7	74.8	80.8					84.1	86.7	79
24	90	39.7	54.8	67.8	78.3	85.9	91.1				93.6	96.5	80
	100	40.2	55.7	69.4	80.9	89.9	96.5	101.0			102.7	106.0	80
	110	40.5	56.4	70.6	82.9	93.0	100.8	106.6	110.7		111.7	115.4	81
	60	43.0	57.8	68.4	74.4						75.7	77.4	74
	70	44.7	60.9	73.6	82.2	87.1					87.9	89.9	77
	80	45.8	62.9	77.1	87.8	94.9	99.2				99.5	101.9	79
26	90	46.6	64.3	79.6	91.9	100.9	107.0				110.6	113.3	80
	100	47.2	65.4	81.5	95.0	105.6	113.3	118.6			121.5	124.6	80
	110	47.6	66.2	82.9	97.3	109.2	118.4	125.2	129.9		132.1	135.5	81

[a] Includes 1.0-foot stump allowance.

Table 117--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 4-inch d.o.b. top and height to a saw-log top for soft and hard hardwoods combined (species 90) in the Piedmont.[a]

D.b.h. class	Height to 4-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	30	8.4									9.1	11.4	72
	40	9.1									11.3	14.8	76
	50	9.4	12.8								13.1	18.0	78
12	60	9.6	13.2								14.8	21.0	79
	70	9.8	13.5								16.5	24.0	79
	80	9.9	13.6	16.9							18.0	26.9	80
	90	9.9	13.7	17.1							19.6	29.8	80
	40	12.4	16.5								17.4	19.9	76
	50	12.9	17.5								20.6	24.1	78
	60	13.2	18.0	21.8							23.6	28.1	79
14	70	13.3	18.3	22.5	25.9						26.6	32.0	79
	80	13.5	18.6	23.0	26.7						29.4	35.8	80
	90	13.6	18.7	23.3	27.3	30.7					32.3	39.6	80
	100	13.6	18.9	23.6	27.8	31.4	34.6				35.0	43.4	80
	40	16.2	21.6								23.9	25.8	76
	50	16.9	22.8	27.1							28.5	31.2	78
	60	17.2	23.5	28.5	32.2						32.9	36.3	79
16	70	17.5	24.0	29.4	33.7	37.1					37.1	41.3	79
	80	17.6	24.3	30.0	34.8	38.7					41.3	46.2	80
	90	17.7	24.5	30.5	35.6	40.0	43.6				45.4	51.0	80
	100	17.8	24.7	30.8	36.2	40.9	45.0	48.3			49.4	55.8	80
	40	20.6	27.3								31.0	32.5	76
	50	21.4	28.9	34.3							37.1	39.2	78
	60	21.8	29.8	36.0	40.7						42.9	45.6	79
18	70	22.1	30.4	37.2	42.6	46.8					48.5	51.8	79
	80	22.3	30.8	38.0	44.0	48.9	52.7				54.0	57.9	80
	90	22.5	31.0	38.6	45.0	50.5	55.0	58.5			59.5	63.9	80
	100	22.6	31.3	39.0	45.8	51.7	56.8	60.9	64.3		64.9	69.9	80
	40	25.4	33.7	38.5							38.7	40.0	76
	50	26.4	35.7	42.3	46.3						46.4	48.1	78
	60	27.0	36.8	44.5	50.1						53.7	55.9	79
20	70	27.4	37.5	45.9	52.6	57.6					60.9	63.5	79
	80	27.6	38.0	46.9	54.3	60.3	64.9				67.8	71.0	80
	90	27.8	38.4	47.6	55.6	62.3	67.7	72.0			74.7	78.3	80
	100	27.9	38.6	48.2	56.5	63.8	70.0	75.0	79.1		81.5	85.6	80
	50	32.0	43.2	51.1	55.9						56.6	58.0	78
	60	32.7	44.6	53.8	60.6	64.9					65.6	67.4	79
	70	33.1	45.4	55.6	63.6	69.6	73.6				74.3	76.5	79
22	80	33.5	46.0	56.7	65.7	72.9	78.3	82.2			82.8	85.4	80
	90	33.7	46.4	57.6	67.2	75.3	81.8	86.9	90.6		91.3	94.3	80
	100	33.8	46.8	58.3	68.4	77.1	84.5	90.6	95.4	99.0	99.6	103.0	80
	50	38.1	51.4	60.8	66.5						67.7	68.9	78
	60	38.9	53.0	64.0	72.0	77.1					78.4	79.9	79
	70	39.5	54.1	66.1	75.6	82.7	87.5				88.8	90.7	79
24	80	39.8	54.8	67.5	78.1	86.6	93.1	97.6			99.1	101.3	80
	90	40.1	55.3	68.6	80.0	89.5	97.3	103.3	107.6		109.2	111.7	80
	100	40.3	55.7	69.4	81.4	91.7	100.5	107.7	113.3	117.5	119.2	122.1	80
	50	44.8	60.4	71.4	78.0						79.6	80.7	78
	60	45.7	62.3	75.2	84.5	90.4					92.3	93.6	79
	70	46.4	63.5	77.6	88.7	97.0	102.5				104.6	106.2	79
26	80	46.8	64.3	79.3	91.7	101.6	109.1	114.4			116.6	118.5	80
	90	47.1	64.9	80.5	93.8	105.0	114.1	121.1	126.1		128.5	130.7	80
	100	47.3	65.4	81.4	95.5	107.6	117.9	126.2	132.8	137.7	140.3	142.8	80

[a] Includes 1.0-foot stump allowance.

Table 118--Predicted stemwood volume to a saw-log merchantable top, and to 9-inch and 4-inch d.o.b. tops based on d.b.h., height to a 9-inch d.o.b. top and height to a saw-log top for soft and hard hardwoods combined (species 90) in the Piedmont.[a]

D.b.h. class	Height to 9-inch d.o.b. top	Volume to Saw-log merchantable height (16-foot logs) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	9-inch d.o.b. top	4-inch d.o.b. top	Girard Form Class
Inches	Feet	Cubic feet											Percent
	20	8.6									9.8	15.8	74
	30	9.3	12.9								14.8	19.7	78
	40	9.6	13.4	16.8							19.4	24.0	79
12	50	9.8	13.6	17.2	20.6	23.6					24.0	28.4	80
	60	9.9	13.8	17.5	21.0	24.3	27.4				28.5	32.9	80
	70	9.9	13.9	17.7	21.3	24.8	28.0	31.1			32.9	37.3	80
	80	10.0	14.0	17.8	21.5	25.1	28.5	31.7	34.8		37.4	41.7	80
	40	13.1	18.1	22.3							25.2	29.1	79
	50	13.4	18.5	23.1	27.1	30.4					30.8	34.5	80
	60	13.5	18.8	23.6	28.0	31.9	35.2				36.3	40.0	80
14	70	13.6	18.9	23.9	28.5	32.7	36.6	40.0			41.8	45.4	80
	80	13.6	19.0	24.1	28.9	33.3	37.5	41.2	44.6		47.3	50.9	80
	90	13.7	19.1	24.2	29.1	33.7	38.1	42.1	45.9	49.3	52.7	56.3	80
	100	13.7	19.1	24.4	29.3	34.1	38.6	42.8	46.8	50.5	58.2	61.7	81
	40	17.2	23.6	28.7							31.8	35.2	79
	50	17.5	24.2	29.9	34.7	38.3					38.7	41.9	80
	60	17.7	24.5	30.6	36.0	40.6	44.3				45.4	48.6	80
16	70	17.8	24.7	31.1	36.8	41.9	46.4	50.2			52.1	55.2	80
	80	17.9	24.9	31.4	37.4	42.8	47.8	52.2	56.0		58.8	61.9	80
	90	17.9	25.0	31.6	37.8	43.5	48.8	53.6	58.0	61.8	65.4	68.4	80
	100	18.0	25.0	31.7	38.1	44.0	49.5	54.7	59.4	63.7	72.0	75.0	81
	40	21.9	29.8	35.9							39.4	42.4	79
	50	22.2	30.6	37.6	43.2	47.3					47.6	50.5	80
	60	22.4	31.0	38.6	45.1	50.4	54.6				55.7	58.6	80
18	70	22.6	31.3	39.2	46.2	52.3	57.5	61.7			63.8	66.6	80
	80	22.7	31.5	39.6	47.0	53.6	59.5	64.6	68.8		71.7	74.5	80
	90	22.8	31.6	39.9	47.5	54.6	60.9	66.6	71.6	75.9	79.7	82.4	80
	100	22.8	31.7	40.1	48.0	55.3	62.0	68.1	73.7	78.6	87.6	90.3	81
	40	27.0	36.8	44.0							47.8	50.6	79
	50	27.5	37.8	46.2	52.8	57.2					57.6	60.3	80
	60	27.7	38.3	47.5	55.2	61.5	66.0				67.3	69.8	80
20	70	27.9	38.7	48.3	56.7	64.0	70.0	74.7			76.8	79.3	80
	80	28.1	38.9	48.8	57.7	65.7	72.6	78.5	83.2		86.3	88.8	80
	90	28.1	39.1	49.2	58.5	66.9	74.5	81.2	86.9	91.7	95.7	98.2	80
	100	28.2	39.2	49.5	59.0	67.8	75.9	83.2	89.7	95.3	105.1	107.6	81
	50	33.3	45.7	55.7	63.4	68.3					68.7	71.1	80
	60	33.6	46.4	57.3	66.4	73.6	78.7				80.0	82.4	80
	70	33.8	46.8	58.3	68.3	76.9	83.8	89.0			91.2	93.5	80
22	80	34.0	47.1	59.0	69.6	79.0	87.1	93.8	99.1		102.3	104.6	80
	90	34.1	47.3	59.5	70.6	80.6	89.5	97.3	103.8	109.1	113.4	115.7	80
	100	34.2	47.5	59.8	71.3	81.8	91.3	99.8	107.4	113.8	124.4	126.7	81
	50	39.7	54.3	66.2	75.0	80.4					80.8	83.1	80
	60	40.1	55.2	68.1	78.7	87.0	92.6				93.9	96.2	80
	70	40.3	55.7	69.3	81.1	91.0	98.9	104.6			107.0	109.1	80
24	80	40.5	56.1	70.1	82.7	93.6	103.0	110.6	116.5		119.9	122.1	80
	90	40.6	56.3	70.7	83.8	95.5	105.9	114.9	122.4	128.3	132.8	134.9	80
	100	40.7	56.5	71.2	84.7	97.0	108.1	118.1	126.7	134.0	145.6	147.8	81
	50	46.6	63.8	77.5	87.6	93.5					93.9	96.1	80
	60	47.1	64.8	79.8	92.1	101.5	107.7				109.1	111.2	80
	70	47.4	65.4	81.2	94.9	106.3	115.3	121.6			124.1	126.2	80
26	80	47.6	65.8	82.2	96.8	109.5	120.2	128.9	135.4		139.0	141.0	80
	90	47.7	66.1	82.9	98.2	111.8	123.8	134.0	142.5	149.1	153.9	155.9	80
	100	47.9	66.4	83.5	99.2	113.6	126.5	137.9	147.7	156.0	168.7	170.6	81

[a] Includes 1.0-foot stump allowance.

Table 119--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and total-tree height for soft and hard hardwoods combined (species 90) in the Piedmont.[a]

D.b.h. class	Total-tree height (feet)																
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
Inches	Cubic feet																
5	0.7	0.8	0.9	1.2	1.5	1.7											
6	1.5	2.2	2.4	2.7	2.9	3.2	3.5	3.8									
7	2.7	3.3	3.6	3.9	4.2	4.7	5.1	5.5	5.9	6.3							
8	3.6	4.4	4.9	5.4	5.8	6.4	7.0	7.5	8.0	8.6	9.1	9.6					
9	4.7	5.7	6.3	6.9	7.5	8.3	9.0	9.7	10.4	11.1	11.8	12.4	13.1	13.7			
10	5.9	7.1	7.9	8.7	9.4	10.4	11.3	12.2	13.1	13.9	14.8	15.6	16.4	17.2	18.0	18.7	
11			9.6	10.6	11.5	12.7	13.8	14.9	16.0	17.1	18.1	19.1	20.1	21.0	22.0	22.9	23.9
12			11.5	12.7	13.8	15.2	16.6	17.9	19.2	20.4	21.7	22.9	24.1	25.2	26.4	27.5	28.7
13			13.6	15.0	16.2	17.9	19.6	21.1	22.7	24.1	25.6	27.0	28.4	29.8	31.1	32.5	33.8
14					18.9	20.9	22.8	24.6	26.4	28.1	29.8	31.4	33.1	34.7	36.3	37.8	39.4
15					21.8	24.1	26.3	28.3	30.4	32.4	34.3	36.2	38.1	39.9	41.8	43.6	45.4
16					24.8	27.5	29.9	32.3	34.7	36.9	39.1	41.3	43.4	45.6	47.6	49.7	51.8

[a] Includes 0.5-foot stump allowance.

Table 120--Predicted stemwood volume to a 4-inch d.o.b. top in pulpwood trees based on d.b.h. and height to a 4-inch d.o.b. top for soft and hard hardwoods combined (species 90) in the Piedmont.[a]

D.b.h. class	Tree height to 4-inch d.o.b. top (feet)																
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Inches	Cubic feet																
5	1.6	2.0	2.5	2.8	3.3	3.7											
6	2.2	2.8	3.4	3.8	4.4	4.9	5.5	6.0									
7	2.8	3.5	4.2	5.0	5.7	6.4	7.0	7.7	8.3	8.9							
8	3.7	4.5	5.4	6.4	7.2	8.0	8.8	9.6	10.4	11.1	11.9	12.6					
9	4.6	5.7	6.7	7.9	9.0	9.9	10.9	11.8	12.8	13.7	14.6	15.5	16.4	17.2			
10	5.7	6.9	8.2	9.7	10.9	12.1	13.2	14.3	15.4	16.5	17.6	18.6	19.7	20.7	21.8	22.8	
11			9.8	11.6	13.0	14.4	15.7	17.1	18.3	19.6	20.9	22.1	23.4	24.6	25.9	27.1	28.3
12			11.6	13.7	15.4	17.0	18.5	20.1	21.6	23.0	24.5	26.0	27.4	28.9	30.3	31.7	33.1
13			13.5	16.0	17.9	19.8	21.6	23.3	25.1	26.8	28.5	30.1	31.8	33.5	35.1	36.8	38.4
14					20.6	22.8	24.8	26.9	28.8	30.8	32.7	34.7	36.6	38.5	40.3	42.2	44.1
15					23.6	26.0	28.4	30.6	32.9	35.1	37.3	39.5	41.7	43.8	45.9	48.1	50.2
16					26.8	29.5	32.1	34.7	37.2	39.7	42.2	44.7	47.1	49.5	51.9	54.3	56.7

[a] Includes 0.5-foot stump allowance.

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Clark, Alexander III; Souter, Ray A. 1996. Stem cubic-foot volume tables for tree species in the Piedmont. Res. Pap. SE-295. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 109 p.

Stemwood cubic-foot volume inside bark tables are presented for 16 species and 8 species groups based on equations used to estimate timber sale volumes on national forests in the Piedmont. Tables are based on form class measurement data for 2,753 trees sampled in the Piedmont and taper data collected across the South. A series of tables is presented for each species based on diameter at breast height (d.b.h.) in combination with total height and height to a 4-inch diameter outside bark (d.o.b.) top. Volume tables are also presented based on d.b.h. in combination with height to a 7-inch d.o.b. top for softwoods and height to a 9-inch d.o.b. top for hardwoods. Sawtimber tables display saw-log stem volume by log (16-foot) and half-log (8-foot) intervals and also show stemwood volume to a 7-inch d.o.b. top for softwoods, to a 9-inch d.o.b. top for hardwoods, and to a 4-inch d.o.b. top for all species. Pulpwood tables show stemwood volume to a 4-inch d.o.b. top in 5-feet height intervals.

Keywords: Saw-log volume, pulpwood volume, form class.

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