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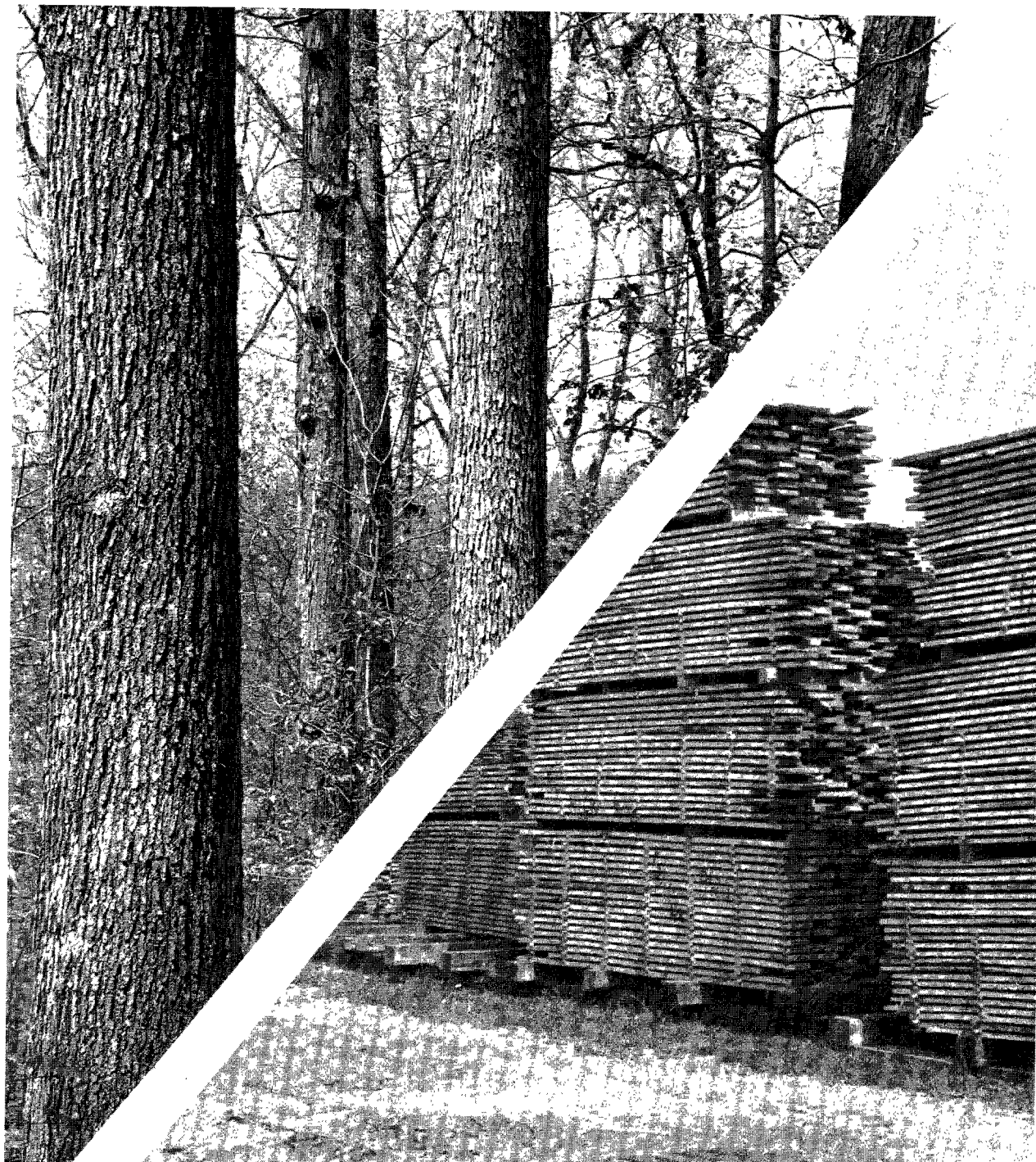
**Northeastern Forest
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Research Paper NE-645



Tree Value Conversion Standards Revisited

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Abstract

Updated tree value conversion standards (TVCS) are presented for 12 major hardwood species of the central hardwood forest. TVCS measure a tree's worth in dollars based on the quantity and quality of its expected yield of 4/4 (1-inch) lumber. The updated standards—developed for each species by butt-log grade, merchantable height, and diameter at breast height—reflect the changes in lumber prices and in conversion costs which have occurred since 1976 when the original TVCS were published.

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Introduction

In 1976, USDA Forest Service published a set of tree value conversion standards (TVCS) for 12 important hardwood species. These standards measure a tree's worth in dollars based on the quantity and quality of its expected yield of 4/4 (1-inch) lumber (Mendel et al. 1976). They have been used to calculate rates of value increase and financial maturity diameters for various species, to incorporate value summaries into timber inventory and management planning systems, to assess the impacts of insect attacks, and to evaluate timber management alternatives.

TVCS pertain only to lumber and not to veneer. It also is important to note that TVCS are not stumpage values as they make no allowances for profit or risk. Nor do TVCS apply to a particular logging chance.

Much of the lumber-price data used in developing the TVCS had been collected during the late 1960's when price levels generally were rising at moderate rates. Since then, spurts of inflation and oil-price shocks have jolted our Nation's economy. Hardwood lumber prices—along with the prices of most other things—have risen drastically. So have logging and milling costs. In short, the original TVCS are out of date.

The purpose of this paper is to update the original TVCS using current lumber prices and conversion costs, and to examine the relative changes in tree values, both within and among species.

The Update

The original TVCS stem from the quality-index (Q.I.) approach developed by Herrick (1956). They were calculated by the process described by Mendel et al. (1976) that is outlined in Figure 1. The updated TVCS were calculated by the same process, using the same lumber-grade recovery and sample-tree data. Only the lumber-price and conversion-cost inputs were changed (Appendix A). Thus, the updated TVCS reflect the net results of changes in prices and costs during the past decade. Briefly, the adjusted TVCS were calculated as follows:

1. Log Q.I. is a weighted average price index. Adjusted log Q.I.'s were developed for individual logs by species, log grade, and log diameter using the formula

$$\text{Log Q.I.} = (\% \text{FAS} \times \text{P.R.}_{\text{FAS}}) + (\% \text{SEL} \times \text{P.R.}_{\text{SEL}}) + (\% \#1\text{C} \times \text{P.R.}_{\#1\text{C}}) + \dots (\% \#3\text{B} \times \text{P.R.}_{\#3\text{B}})^*$$

The percentages are the proportion of a log's lumber that would meet the specifications for each lumber grade. The percentages used in the update are the same as those used in the original TVCS.

The P.R. is price relative or price index derived for each species by dividing the price of each lumber grade by the price of No. 1 Common. The P.R.'s used in the update are

based on the average prices of 4/4 rough sawn lumber over the period 1980-84, f.o.b. mills in the Johnson City, Tennessee area, as reported in the Hardwood Market Report (1980-84). The original P.R.'s, from the same source, had been based on averages for 1964-68.

2. Tree Q. I. also is a weighted average price index. Updated tree Q.I.'s were developed for the same set of sample trees that was used for the original tree Q.I.'s. The following formula was used:

$$\begin{aligned} \text{Tree Q.I.} = & (\% \text{ of tree volume in 1st log} \times \text{Log Q.I. 1st log}) \\ & + (\% \text{ of tree volume in 2nd log} \times \text{Log Q.I. 2nd log}) \\ & + (\% \text{ of tree volume of nth log} \times \text{Log Q.I. nth log}). \end{aligned}$$

The percentages are based on the same volume table used to derive the original tree Q.I.'s; the log Q.I.'s are the updated log Q.I.'s from the previous step. Through regression analysis, the updated tree Q.I.'s were then used to develop tree-quality indexes for each species, by butt-log grade, d.b.h., and merchantable height. The regression equations are shown in Appendix B, Table 8.

3. The updated tree Q.I.'s were converted to gross values per thousand board feet (mbf) by multiplying each tree Q.I. by the 1984 price of No. 1 Common 4/4 lumber for each species. The original gross values had been based on 1972 prices.

4. The updated gross values were then converted to net values per thousand by subtracting conversion costs—the costs of converting standing timber into 4/4 lumber. Conversion costs per Mbf vary with tree size; they include logging, transporting, and milling costs. The conversion costs used in the update averaged \$175 per thousand. The costs used in the original calculations had averaged \$70 per thousand.

5. Finally, updated TVCS were calculated by multiplying net tree values per thousand by appropriate tree volumes. The same volume table was used for both the original and the adjusted TVCS. The adjusted TVCS are shown in Appendix C, Tables 9 through 44.

Changes

Lumber prices

Lumber prices have increased considerably since the original TVCS were developed (Table 1), but the price increases have not been consistent among species. At one extreme, red oak showed the largest increase: the 1984 price of No. 1 Common 4/4-inch red oak was more than 3½ times the 1972 price—an average annual change of 11.5 percent. At the other extreme, yellow-poplar showed the smallest increase: the 1984 price was 1½ times the 1972 price—an average annual increase of 3.6 percent.

During the same 12-year period, the producer price index (PPI) rose at an average annual rate of 8.3 percent. If we

LUMBER-GRADE-RECOVERY TABLE;
PRICE REPORTS FOR A 5-YEAR PERIOD

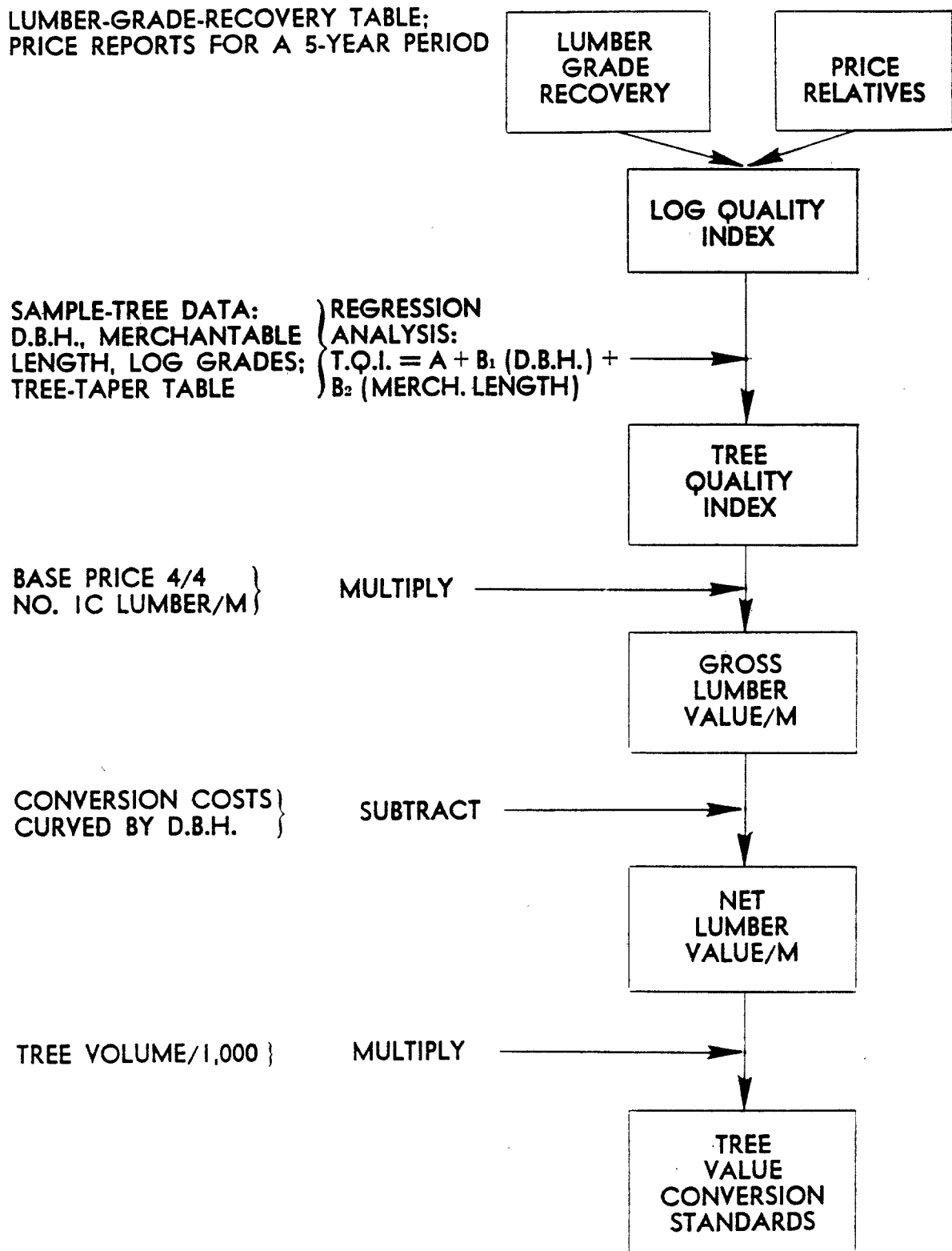


Figure 1.—Calculation of tree value conversion standards.

Table 1.—Price of No. 1 Common 4/4-inch lumber, 1972 and 1984,^a and average annual change in price by species, 1972-84

Species	Price per Mbf		Ave. annual change ^b
	1972	1984	
	----- Dollars -----		Percent
White ash	195	580	9.5
Beech	142	235	4.3
Black cherry	175	580	10.5
Elm	145	520	9.8
Hickory	140	290	6.3
Red maple	190	320	4.4
Sugar maple	185	342	5.2
Red oak ^c	155	570	11.5
White oak ^d	140	495	11.1
Yellow-poplar	170	260	3.6

^aPrices from Hardwood Market Report, f.o.b. mills in the Johnson City, Tennessee area.

^br in the compound interest formula: 1984 price = 1972 price (1 + r)¹²

^cIncludes black oak.

^dIncludes chestnut oak.

use that rate to gauge inflation, we find that the price of No. 1 Common lumber increased faster than inflation in one-half of the species—white ash, black cherry, elm, and the oaks. And that the price of No. 1 Common increased slower than inflation in the other half of the species—beech, hickory, the maples, and yellow-poplar. In view of how their No. 1 Common lumber prices fared against inflation, let's call the first half leaders—they helped to fuel inflation. Let's call the other half laggards—they helped to dampen inflation. These labels will serve as reference points throughout the following discussion and help us better understand the effect of price changes on TVCS.

If we look at price changes between 1972 and 1984 in real terms (1984 dollars as measured by the PPI), we find that with few exceptions, real prices in the various lumber grades have increased among the leaders. And that without exception, real prices in the various lumber grades have declined among the laggards (Table 2). The largest increases in real prices by the leaders were in No. 1 Common lumber. Increases in the real price of No. 2 Common generally were smaller, and those in FAS were smaller yet. Among the laggards, decreases generally were greatest in FAS lumber, slightly less in No. 1 Common, and least in No. 2 Common lumber.

Table 2.—Real price (1984 dollars) of 4/4-inch lumber and percent change in real price, by species and lumber grade, 1972-84

Species	1972			1984			Percent change		
	FAS	1C	2C	FAS	1C	2C	FAS	1C	2C
<i>Dollars</i>									
LEADERS									
White ash	781	508	253	735	580	245	-5.9	14.2	-3.2
Black cherry	690	456	234	760	580	285	10.1	27.2	21.8
Elm	495	443	208	585	520	175	18.2	17.4	-15.9
Red oak	651	404	227	660	570	255	1.4	41.1	12.3
White oak	612	365	227	585	495	255	-4.4	35.8	12.3
LAGGERS									
Beech	448	370	221	275	235	175	-38.6	-36.5	-20.8
Hickory	417	365	161	310	290	155	-25.7	-20.5	-3.7
Red maple	638	495	234	385	320	185	-39.7	-35.4	-20.9
Sugar maple	716	482	232	432	342	215	-39.7	29.0	-7.3
Yellow-poplar	612	443	198	420	260	150	-31.4	-41.3	-24.2

The variation in real-price change results largely from change in demand. Some of the changes in demand reflect transitions in consumer preferences. Among species, for example, the demand for oak lumber has grown in both domestic and export markets (Luppold 1985). At the same time, the demand for hard maple lumber has declined. In the domestic market, colonial furniture has lost some of its appeal. In the export market, the Japanese bowling craze, which had helped to drive up prices for maple through the 1960's, has subsided.

Some of the changes in demand reflect efforts to lower costs and to combat the high prices of traditional species, such as black walnut. Switching to lower grades of lumber when possible can result in big savings, as can switching from one species to another when possible.

Price relatives

Because of the varied changes in price by lumber grade, the 1980-84 price relatives for most of the species differ from the 1964-68 P.R.'s. Except for yellow-poplar, the P.R.'s of better-grade lumber declined. (Table 3).

Those species with originally high P.R.'s for FAS lumber (1.50 or more, 1964-68) displayed declines approaching

20 percent. Species with originally low P.R.'s for FAS lumber showed declines of 10 percent or less.

At the same time, half of the species showed declines in the P.R.'s of lower grade lumber, while half showed increases. Generally, species with originally high P.R.'s for No. 2 Common lumber (0.50 or more, 1964-68) showed declines, some quite large. Species with originally low P.R.'s showed the increases, nearly all of them substantial.

Developing tree quality index values from Log Q.I.'s amplified the changes in PH's. Consider 24-inch, two-log trees, for example (Table 4).¹ We will refer to 24-inch, two-log trees through the remainder of this discussion. Note that with few exceptions, the Tree Q.I.'s of the leaders declined while the Tree Q.I.'s of virtually all of the laggards increased.

¹Black oak and chestnut oak are included in Tables 4 through 7 but not in the previous tables. Price data are not available for those two species, but lumber yield and sample tree data are. Black oak entries in Table 4 and subsequent tables are based on lumber yield and sample tree data for black oak and on price data for red oak. Entries for chestnut oak are based on lumber yield and sample tree data for chestnut oak and on price data for white oak.

Table 3.—Lumber price relatives for FAS and 2C lumber, by species, 1972 and 1984

Species	FAS		2C		Percent change	
	1972	1984	1972	1984	FAS	2C
LEADERS						
White ash	1.63	1.37	0.53	0.49	-16	-8
Black cherry	1.45	1.30	.46	.49	-10	6
Elm	1.28	1.15	.52	.43	-10	-17
Red oak	1.65	1.34	.64	.46	-19	-28
White oak	1.82	1.49	.66	.52	-18	-21
LAGGERS						
Beech	1.25	1.17	0.54	0.74	-6	37
Hickory	1.19	1.07	.40	.59	-10	48
Red maple	1.28	1.20	.47	.58	-6	23
Sugar maple	1.53	1.26	.44	.63	-18	43
Yellow-poplar	1.42	1.54	.67	.65	8	-3

Tree Values per Mbf

In converting tree-quality indexes to gross tree values, the changes in P.R.'s were offset by changes in the price of No. 1 common lumber. Because the leader species experienced big increases in the price of No. 1 Common, their gross tree

values per Mbf grew. Recall that the price of No. 1 Common of each of the leaders outgrew inflation during the past decade. The laggards, with their smaller price increases in No. 1 Common, showed only slight gains in gross tree values. In real terms, the lagger species declined in gross value per Mbf during the past decade (Table 5).

Table 4.—Tree-quality index values for 24-inch, two-log trees, by butt-log grade and species, 1972 and 1984

Species	1972			1984			Percent change		
	Grade 1	Grade 2	Grade 3	Grade 1	Grade 2	Grade 3	Grade 1	Grade 2	Grade 3
LEADERS									
White ash	1.11	1.04	0.75	0.99	0.95	0.70	-11	-9	-7
Black cherry	1.08	.89	.74	1.02	.93	.81	-6	4	10
Elm	.85	.72	.62	.78	.68	.58	-8	-6	-6
Black oak	.95	.72	.59	.77	.57	.52	-19	-21	-12
Chestnut oak	.90	.71	.62	.79	.61	.50	-12	-14	-19
Red oak	1.01	.80	.61	.85	.68	.46	-16	-15	-25
White oak	1.03	.78	.65	.94	.75	.61	-9	-4	-6
LAGGERS									
Beech	0.83	0.68	0.58	0.87	0.74	0.66	5	9	14
Hickory	.79	.60	.46	.84	.70	.62	6	17	35
Red maple	.86	.63	.46	.95	.73	.65	10	16	41
Sugar maple	.92	.71	.53	.88	.77	.62	-4	8	17
Yellow-poplar	.86	.74	.61	.90	.76	.62	5	3	2

Table 5.—Gross tree value per thousand board feet (1984 dollars) for 24-inch, two-log trees, by butt-log grade and species, 1972 and 1984

Species	1972			1984			Percent change		
	Grade 1	Grade 2	Grade 3	Grade 1	Grade 2	Grade 3	Grade 1	Grade 2	Grade 3
LEADERS									
White ash	564	528	381	579	551	409	3	4	7
Black cherry	492	406	337	594	543	473	21	34	40
Elm	321	272	234	408	355	305	27	31	30
Black oak	384	291	238	441	329	301	15	13	26
Chestnut oak	328	259	226	393	303	249	20	17	10
Red oak	408	323	246	487	388	266	19	20	8
White oak	376	285	237	468	375	305	24	32	29
LAGGERS									
Beech	307	252	215	205	176	157	-33	-30	-27
Hickory	288	219	168	246	204	180	-15	-7	-7
Red maple	426	312	228	306	236	210	-28	-24	-8
Sugar maple	443	342	255	302	266	214	-32	-22	-16
Yellow-poplar	381	328	270	235	198	163	-38	-40	-40

The declines in the real prices of the lagger species were amplified further when conversion costs were subtracted to calculate net tree values per Mbf. In 1972, the ratios of conversion costs to gross tree values were about the same for both the leaders and the laggers (Table 6). The same ratios held for the leaders in 1984—conversion costs had escalated at about the same rate as inflation. But because lumber prices in the lagger species failed to keep pace with inflation, the ratios of conversion costs to gross tree values among the lagger species rose substantially.

Results

The TVCS calculated by multiplying net tree values per Mbf by appropriate tree volumes reflect the interaction of all of the changes discussed. Among the leaders, nearly all TVCS have increased at rates greater than inflation during the past decade. Among the laggers, few even approached the 8.3 percent increase in the PPI (Table 7).

The changes in TVCS have resulted in a wider spread in the 12 species, a change in the ranking of individual species, and some fairly distinct groupings among the species (Fig. 2).

The wider spread was caused partly by increases in the TVCS of higher valued species, but mostly by decreases in the TVCS of lower valued species. However, these were notable changes among individual species. Black cherry, for example, has closed a big gap and edged white ash as the new value leader. Together they form a class by themselves.

The oaks, especially white oak, had substantial increases in TVCS, while the maples and yellow-poplar showed substantial decreases. As a result, the oaks now make up a distinct segment which, except for elm, is entirely oak. Among the oaks, red and white are the leaders. The maples now occupy a separate segment. Beech and hickory, having been joined by yellow-poplar, make up a fourth (low value) segment.

Table 6.—Conversion cost/gross tree-value ratios for 24-inch, two-log trees, by butt-log grade and species, 1972 and 1984

Species	1972			1984		
	Grade 1	Grade 2	Grade 3	Grade 1	Grade 2	Grade 3
LEADERS						
White ash	.25	.26	.36	.27	.29	.39
Black cherry	.28	.34	.41	.27	.29	.34
Elm	.43	.51	.59	.39	.47	.52
Black oak	.36	.48	.58	.36	.48	.53
Chestnut oak	.42	.54	.61	.40	.52	.64
Red oak	.34	.43	.56	.33	.41	.60
White oak	.37	.49	.58	.34	.42	.52
Average	.35	.44	.53	.34	.41	.51
LAGGERS						
Beech	.45	.55	.65	.77	.90	1.01
Hickory	.48	.63	.82	.64	.78	.88
Red maple	.32	.44	.60	.52	.67	.76
Sugar maple	.31	.40	.54	.52	.60	.74
Yellow-poplar	.37	.42	.51	.67	.80	.97
Average	.39	.49	.62	.62	.75	.87

Table 7.—Tree value conversion standards for 24-inch, two-log trees, by butt-log grade and species, 1972–84

Species	1972			1984			Ave. annual change		
	Grade 1	Grade 2	Grade 3	Grade 1	Grade 2	Grade 3	Grade 1	Grade 2	Grade 3
----- Dollars -----						----- Percent -----			
LEADERS									
White ash	70.32	64.05	40.30	178.51	166.75	106.20	8.1	8.3	8.4
Black cherry	58.47	44.00	33.05	184.96	163.24	133.32	10.1	11.5	12.3
Elm	29.87	22.17	15.96	106.00	83.27	62.36	11.1	11.7	12.0
Black oak	40.48	24.95	16.17	119.74	72.21	60.59	9.5	9.3	11.6
Chestnut oak	31.26	19.44	14.49	99.73	61.27	38.25	10.2	10.0	8.4
Red oak	44.32	30.11	17.61	139.40	97.29	45.70	10.0	10.3	8.3
White oak	38.89	24.00	16.07	131.52	91.74	62.25	10.7	11.8	11.9
LAGGERS									
Beech	27.87	18.40	12.23	20.19	7.53	2.96	-2.7	-7.2	-11.2
Hickory	24.61	13.24	4.69	37.21	19.29	9.07	3.5	3.2	5.6
Red maple	47.47	28.57	14.73	62.75	33.05	21.81	2.4	1.2	3.3
Sugar maple	49.97	33.57	19.41	60.99	45.76	23.41	1.7	2.6	1.6
Yellow-poplar	39.64	30.79	21.36	32.49	16.88	2.33	-1.6	-4.9	-16.9

The general pattern in Figure 2 holds in the poorer butt-log grades and across diameter classes. Thus, the TVCS have changed as Mendel et al. (1976) had warned they might. However, the magnitude of the changes and the variation among species were greater than expected.

The changes in TVCS among species point out the importance of maintaining species diversity as a hedge against changes in market conditions. As we have noted, the adjusted TVCS resulted largely from changes in

demand during the past decade. Who knows what the next decade may bring?

The changes in TVCS within a given species point out the importance of managing for quality timber. Even though the PR's of better grade lumber have declined in the current market, the differences in TVCS from one butt-log grade to another are still substantial, and the prospect of increased value through grade improvement is still appealing.

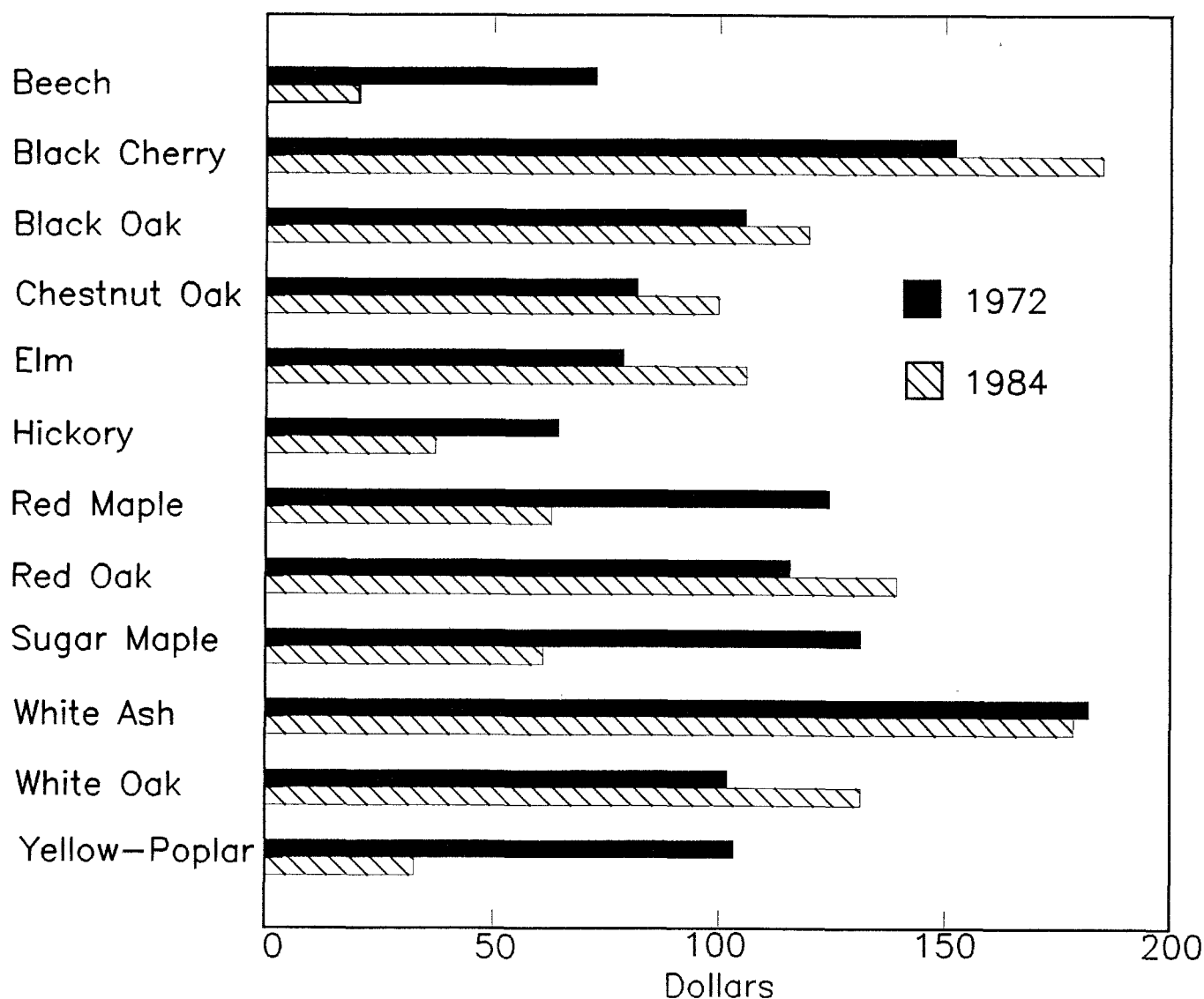


Figure 2.—Real TVCS for 24-inch, two-log trees; butt-log grade 1 (1984 dollars).

Literature Cited

- Mendel, Joseph J.; DeBald, Paul S.; Dale, Martin E. 1976. **Tree value conversion standards for hardwood lumber.** Res. Pap. NE-337. Upper Darby, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station. 74 p.
- Herrick, Allyn. 1956. **The quality index in hardwood sawtimber management.** Bull. 632. West Lafayette, IN: Indiana Agricultural Experiment Station. 26 p.
- Hardwood Market Reports. 1980-84. Memphis, TN: Hardwood Market Report.
- Luppold, William G.; Jacobsen, Jennifer M. 1985. **The determinants of hardwood lumber price.** Res. Pap. NE-558. Broomall, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station. 6 p.
- Vaughan, C.L., Wollin, A. C., McDonald, K. A. and Bulgrin, E. H. 1966. **Hardwood log grades for standard lumber.** Res. Pap. FPL-63. Madison, WI: U.S. Department of Agriculture, Forest Service, Forest Products Laboratory. 52 p.

Appendix A

Summary of Inputs to TVCS Calculations, 1976 and 1986

<i>Input</i>	<i>1976</i>	<i>1986</i>
Lumber Grade Recovery	Hardwood Lumber Grades for Standard Lumber (Vaughn et al. 1966)	Same
Price Relatives	Hardwood Market Report (1964–68)	Hardwood Market Report (1980–84)
Tree Volume Table	International (¼ inch)	Same
Sample Trees	Various, Regionwide	Same
No. 1 Common 4/4 Lumber Price	Hardwood Market Report (1972)	Hardwood Market Report (1984)
Conversion Cost Level (dollars)	70 per thousand	175 per thousand

Appendix B

Table 8.—Regression coefficients used to derive tree-quality index (TQI) values, by butt-log grade and species

Species	Butt-log grade	Regression coefficient			r ²
		b ₀	b ₁	b ₂	
White ash	1	.51465	.02075	-.00060	.42
	2	.42072	.02374	-.00140	.82
	3	.23233	.01266	.00511	.90
Beech	1	.78810	.01310	-.00730	.94
	2	.75633	.00234	-.00211	.41
	3	.59873	.00770	-.00381	.57
Black cherry	1	.63639	.01817	-.00165	.52
	2	.45454	.02411	-.00318	.61
	3	.25277	.02456	-.00101	.63
Elm	1	.69457	.00843	-.00365	.57
	2	.48593	.01050	-.00190	.98
	3	.39014	.00821	-.00015	.95
Hickory	1	.57180	.01583	-.00337	.86
	2	.63325	.00523	-.00189	.91
	3	.52600	.00400	-.00021	.89
Red Maple	1	.63744	.01680	-.00276	.56
	2	.81290	.00118	-.00336	.42
	3	.52571	.01171	-.00487	.94
Sugar maple	1	.64032	.01553	-.00420	.45
	2	.53545	.01294	-.00226	.48
	3	.50973	.00845	-.00290	.47
Black oak	1	.53939	.01486	-.00400	.74
	2	.38523	.00983	-.00155	.92
	3	.26818	.01160	-.00072	.95
Chestnut oak	1	.76802	.00670	-.00434	.45
	2	.45565	.00758	-.00096	.53
	3	.40109	.00318	.00062	.55
Red oak	1	.57060	.01676	-.00386	.49
	2	.47732	.01190	-.00274	.59
	3	.36518	.00414	-.00008	.43
White oak	1	.49021	.03026	-.00860	.66
	2	.31868	.02121	-.00237	.73
	3	.27079	.01593	-.00130	.69
Yellow-poplar	1	.51630	.01716	-.00091	.30
	2	.68190	.00658	-.11257	.25
	3	.45370	.00853	-.00112	.34

TQI = b₀ + b₁(dbh) + b₂(merch. height).

Appendix C

Table 9.—White ash TVCS, butt-log grade 1

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
<i>Dollars</i>							
16	31.80	44.28	55.89	66.61	76.45	85.39	93.36
17	37.71	52.52	66.33	79.08	90.80	101.46	110.98
18	44.32	61.75	78.02	93.05	106.88	119.46	130.72
19	51.68	72.03	91.03	108.62	124.79	139.54	152.75
20	59.83	83.42	105.46	125.87	144.66	161.81	177.18
21	68.82	95.98	121.37	144.90	166.58	186.38	204.15
22	78.69	109.78	138.85	165.82	190.68	213.41	233.82
23	89.50	124.89	158.00	188.73	217.09	243.02	266.33
24	101.07	141.07	178.51	213.27	245.37	274.74	301.17
25	113.51	158.46	200.56	239.66	275.79	308.87	338.64
26	126.84	177.10	224.19	267.94	308.39	345.44	378.82
27	141.14	197.10	249.55	298.30	343.39	384.71	421.96
28	156.48	218.55	276.75	330.88	380.95	426.86	468.26
29	172.93	241.56	305.93	365.82	421.24	472.08	517.94
30	190.51	266.15	337.12	403.18	464.33	520.44	571.09
31	209.29	292.43	370.46	443.10	510.38	572.13	627.89
32	229.30	320.43	405.99	485.66	559.47	627.25	688.48
33	250.60	350.24	443.81	530.96	611.74	685.94	752.99
34	273.23	381.92	484.00	579.12	667.30	748.32	821.57
35	297.24	415.52	526.65	630.22	726.26	814.54	894.37

^a8-inch top d.i.b.

Table 10.—White ash TVCS, butt-log grade 2

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
<i>Dollars</i>							
14	19.03	26.03	32.26	37.73	42.45	46.45	49.72
15	23.37	32.02	39.75	46.57	52.50	57.56	61.74
16	28.33	38.88	48.34	56.72	64.06	70.36	75.60
17	33.97	46.68	58.12	68.29	77.24	84.97	91.45
18	40.34	55.49	69.17	81.38	92.16	101.52	109.43
19	47.47	65.37	81.58	96.09	108.94	120.16	126.69
20	55.43	76.40	95.44	112.52	127.71	141.02	152.37
21	64.26	88.64	110.83	130.79	148.58	164.22	177.64
22	74.00	102.16	127.84	150.99	171.69	189.93	205.64
23	84.73	117.05	146.58	173.26	197.17	218.30	236.56
24	96.26	133.07	166.75	197.23	224.60	248.85	269.87
25	108.72	150.38	188.54	223.14	254.27	281.91	305.91
26	122.12	169.00	212.00	251.04	286.22	317.52	344.76
27	136.55	189.06	237.29	281.13	320.69	355.94	386.70
28	152.09	210.67	264.53	313.55	357.84	397.38	431.93
29	168.81	233.93	293.86	348.47	397.87	442.03	480.70
30	186.74	258.88	325.33	385.95	440.85	490.00	533.10
31	205.96	285.62	359.07	426.14	486.96	541.47	589.35
32	226.50	314.21	395.16	469.14	536.29	596.56	649.57
33	248.42	344.74	433.69	515.06	589.00	655.43	713.94
34	271.77	377.26	474.76	564.02	645.21	718.22	782.62
35	296.60	411.86	518.46	616.13	705.04	785.08	855.76

^a8-inch top d.i.b.

Table 11.—White ash TVCS, butt-log grade 3

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
<i>----- Dollars -----</i>							
11	3.74	6.82	10.67	15.22	20.40	26.11	32.26
12	5.01	8.90	13.71	19.35	25.72	32.72	40.23
13	6.54	11.38	17.30	24.17	31.90	40.36	49.39
14	8.35	14.29	21.47	29.75	39.00	49.09	59.84
15	10.48	17.67	26.28	36.13	47.10	59.00	71.64
16	12.94	21.56	31.77	43.39	56.25	70.17	84.90
17	15.78	26.00	38.00	51.58	66.54	82.68	99.71
18	19.00	31.02	45.01	60.75	78.03	96.60	116.15
19	22.66	36.67	52.87	70.99	90.80	112.03	134.32
20	26.76	42.98	61.61	82.34	104.93	129.05	154.31
21	31.35	50.01	71.29	94.88	120.47	147.73	176.21
22	36.45	57.78	81.98	108.67	137.53	168.19	200.13
23	42.09	66.36	93.72	123.78	156.18	190.50	226.19
24	48.10	75.47	106.20	139.82	175.97	214.16	253.80
25	54.55	85.25	119.56	156.99	197.11	239.42	283.24
26	61.45	95.69	133.81	175.27	219.61	266.27	314.53
27	68.87	106.90	149.08	194.83	243.64	294.93	347.88
28	76.86	118.93	165.44	215.76	269.34	325.52	383.44
29	85.46	131.87	183.00	238.18	296.82	358.20	421.38
30	94.69	145.72	201.78	262.12	326.11	392.99	461.74
31	104.59	160.55	221.85	287.67	357.34	430.04	504.65
32	115.18	176.39	243.25	314.87	390.55	469.39	550.20
33	126.50	193.29	266.03	343.80	425.82	511.14	598.47
34	138.57	211.27	290.26	374.52	463.23	555.37	649.56
35	151.42	230.39	315.97	407.08	502.84	602.17	703.57

^a8-inch top d.i.b.**Table 12.—Beech TVCS, butt-log grade 1**

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
<i>----- Dollars -----</i>							
16	3.37	3.37	3.37	3.37	3.37	3.37	3.37
17	4.42	4.42	4.42	4.42	4.42	4.42	4.42
18	5.66	5.66	5.66	5.66	5.66	5.66	5.66
19	7.10	7.18	7.18	7.18	7.18	7.18	7.18
20	8.75	9.18	9.18	9.18	9.18	9.18	9.18
21	10.64	11.49	11.49	11.49	11.49	11.49	11.49
22	12.76	14.13	14.13	14.13	14.13	14.13	14.13
23	15.16	17.12	17.12	17.12	17.12	17.12	17.12
24	17.62	20.19	20.19	20.19	20.19	20.19	20.19
25	20.23	23.43	23.50	23.50	23.50	23.50	23.50
26	22.96	26.84	27.29	27.29	27.29	27.29	27.29
27	25.87	30.48	31.35	31.35	31.35	31.35	31.35
28	29.00	34.40	35.74	35.74	35.74	35.74	35.74
29	32.37	38.65	40.53	40.53	40.53	40.53	40.53
30	35.99	43.22	45.70	45.70	45.70	45.70	45.70
31	39.89	48.16	51.32	51.32	51.32	51.32	51.32
32	44.07	53.48	57.38	57.38	57.38	57.38	57.38
33	48.54	59.18	63.91	63.91	63.91	63.91	63.91
34	53.31	65.29	70.93	70.93	70.93	70.93	70.93
35	58.41	71.83	78.47	78.72	78.72	78.72	78.72

^a8-inch top d.i.b.

Table 13.—Beech TVCS, butt-log grade 2

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
<i>Dollars</i>							
14	-.04	-.04	-.04	-.04	-.04	-.04	-.04
15	0.18	0.18	0.18	0.18	0.18	0.18	0.18
16	.48	.48	.48	.48	.48	.48	.48
17	.86	.86	.86	.86	.86	.86	.86
18	1.32	1.32	1.32	1.32	1.32	1.32	1.32
19	1.88	1.88	1.88	1.88	1.88	1.88	1.88
20	2.53	2.65	2.65	2.65	2.65	2.65	2.65
21	3.29	3.62	3.62	3.62	3.62	3.62	3.62
22	4.16	4.75	4.75	4.75	4.75	4.75	4.75
23	5.17	6.05	6.17	6.17	6.17	6.17	6.17
24	6.09	7.23	7.53	7.53	7.53	7.53	7.53
25	7.00	8.39	8.86	8.86	8.86	8.86	8.86
26	7.87	9.50	10.10	10.10	10.10	10.10	10.10
27	8.76	10.61	11.35	11.35	11.35	11.35	11.35
28	9.68	11.76	12.65	12.65	12.65	12.65	12.65
29	10.66	13.00	14.04	14.04	14.04	14.04	14.04
30	11.69	14.29	15.50	15.50	15.50	15.50	15.50
31	12.78	15.68	17.08	17.08	17.08	17.08	17.08
32	13.95	17.16	18.75	18.81	18.81	18.81	18.81
33	15.18	18.72	20.53	20.70	20.70	20.70	20.70
34	16.48	20.38	22.42	22.72	22.72	22.72	22.72
35	17.86	22.14	24.44	24.86	24.86	24.86	24.86

^a8-inch top d.i.b.

Table 14.—Beech TVCS, butt-log grade 3

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
<i>Dollars</i>							
11	-1.79						
12	-1.92						
13	-2.00						
14	-2.03						
15	-1.98						
16	-1.87						
17	-1.66						
18	-1.36						
19	-.94						
20	-.41						
21	0.25	0.25	0.25	0.25	0.25	0.25	0.25
22	1.06	1.06	1.06	1.06	1.06	1.06	1.06
23	2.03	2.03	2.03	2.03	2.03	2.03	2.03
24	2.96	2.96	2.96	2.96	2.96	2.96	2.96
25	3.91	3.91	3.91	3.91	3.91	3.91	3.91
26	4.87	4.87	4.87	4.87	4.87	4.87	4.87
27	5.89	5.89	5.89	5.89	5.89	5.89	5.89
28	6.99	6.99	6.99	6.99	6.99	6.99	6.99
29	8.21	8.21	8.21	8.21	8.21	8.21	8.21
30	9.54	9.57	9.57	9.57	9.57	9.57	9.57
31	10.99	11.33	11.33	11.33	11.33	11.33	11.33
32	12.58	13.27	13.27	13.27	13.27	13.27	13.27
33	14.31	15.40	15.40	15.40	15.40	15.40	15.40
34	16.18	17.72	17.72	17.72	17.72	17.72	17.72
35	18.21	20.25	20.25	20.25	20.25	20.25	20.25

^a8-inch top d.i.b.

Table 15.—Black cherry TVCS, butt-log grade 1

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
<i>Dollars</i>							
16	35.54	48.84	60.83	71.49	80.86	8.97	95.78
17	41.78	57.46	71.62	84.24	95.37	105.03	113.19
18	48.72	67.05	83.63	98.44	111.55	122.95	132.61
19	56.39	77.66	96.93	114.18	129.48	142.83	154.19
20	64.83	89.34	111.59	131.54	149.27	164.79	178.03
21	74.09	102.16	127.68	150.61	171.03	188.94	204.27
22	84.21	116.18	145.28	171.48	194.85	215.39	233.03
23	95.23	131.46	164.48	194.25	220.85	244.29	264.46
24	106.99	147.76	184.96	218.54	248.60	275.14	298.02
25	119.58	165.21	206.90	244.58	278.35	308.21	334.01
26	133.01	183.84	230.33	272.38	310.12	343.55	372.48
27	147.37	203.76	255.38	302.13	344.13	381.38	413.68
28	162.72	225.06	282.18	333.96	380.52	421.88	457.79
29	179.12	247.83	310.83	367.99	419.46	465.22	505.01
30	196.59	272.09	341.37	404.29	460.99	511.46	555.42
31	215.20	297.94	373.92	442.97	505.27	560.78	606.19
32	234.98	325.42	408.52	484.12	552.38	613.26	666.43
33	255.97	354.58	445.26	527.81	602.42	669.03	727.27
34	278.21	385.50	484.22	574.15	655.50	728.20	791.84
35	301.74	418.22	525.46	623.23	711.72	790.89	860.26

^a8-inch top d.i.b.**Table 16.—Black cherry TVCS, butt-log grade 2**

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
<i>Dollars</i>							
14	19.50	25.80	30.83	34.64	37.29	38.84	39.35
15	23.93	31.77	38.13	43.04	46.59	48.84	49.84
16	28.99	38.63	46.53	52.74	57.35	60.44	62.06
17	34.75	46.44	56.11	63.83	69.69	73.79	76.17
18	41.24	55.25	66.95	76.41	83.73	89.01	92.30
19	48.52	65.15	79.16	90.59	99.59	106.24	110.61
20	56.63	76.20	92.80	106.48	117.38	125.62	131.24
21	65.62	88.47	107.97	124.17	137.23	147.27	154.34
22	75.55	102.04	124.77	143.79	159.28	171.36	180.09
23	86.47	116.98	143.29	165.45	183.65	198.04	208.64
24	98.22	133.07	163.24	188.79	209.95	226.83	239.48
25	110.90	150.45	184.82	214.07	238.43	258.05	272.97
26	124.55	169.16	208.06	241.31	269.16	291.76	309.14
27	139.26	189.33	233.13	270.72	302.37	328.23	348.31
28	155.08	211.06	260.17	302.46	338.22	367.63	390.68
29	172.11	234.46	289.29	336.68	376.92	410.19	436.49
30	190.38	259.56	320.57	373.45	418.53	456.00	485.82
31	209.94	286.48	354.12	412.92	463.23	505.24	538.90
32	230.85	315.26	390.03	455.20	511.14	558.05	595.87
33	253.17	346.00	428.39	500.38	562.38	614.57	656.88
34	276.95	378.75	469.30	548.60	617.08	674.96	722.11
35	302.23	413.61	512.85	599.96	675.39	739.35	791.70

^a8-inch top d.i.b.

Table 17.—Black cherry TVCS, butt-log grade 3

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
<i>Dollars</i>							
11	5.19	6.99	8.51	9.76	10.76	11.51	12.03
12	7.13	9.65	11.82	13.65	15.16	16.35	17.23
13	9.49	12.90	15.88	18.43	20.58	22.33	23.68
14	12.33	16.81	20.77	24.20	27.13	29.57	31.52
15	15.68	21.44	26.56	31.05	34.93	38.21	40.88
16	19.59	26.85	33.35	39.09	44.09	48.36	51.90
17	24.11	33.11	41.21	48.41	54.72	60.17	64.73
18	29.29	40.29	50.24	59.11	66.95	73.76	79.52
19	35.17	48.46	60.51	71.31	80.89	89.28	96.42
20	41.81	57.67	72.11	85.10	96.67	106.85	115.57
21	49.25	68.02	85.14	100.59	114.41	126.61	137.13
22	57.55	79.55	99.68	117.89	134.24	148.73	161.27
23	66.76	92.37	115.84	137.13	156.30	173.34	188.15
24	76.72	106.23	133.32	157.95	180.18	199.98	217.26
25	87.54	121.29	152.32	180.59	206.15	228.98	248.95
26	99.24	137.57	172.88	205.09	234.26	260.38	283.28
27	111.91	155.22	195.17	231.66	264.76	294.44	320.53
28	125.63	174.33	219.30	260.44	297.81	331.37	360.94
29	140.46	195.00	245.42	291.59	333.59	371.38	404.72
30	156.45	217.29	273.58	325.19	372.20	414.55	451.98
31	173.66	241.28	303.91	361.39	413.81	461.09	502.93
32	192.13	267.05	336.49	400.29	458.52	511.11	557.72
33	211.93	294.66	371.42	441.99	506.47	564.77	616.51
34	233.10	324.20	408.78	486.61	557.79	622.22	679.46
35	255.69	355.73	448.68	534.28	612.62	683.60	746.74

^a8-inch top d.i.b.**Table 18.—Elm TVCS, butt-log grade 1**

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
<i>Dollars</i>							
16	23.19	30.41	35.98	39.96	42.45	43.52	43.52
17	27.06	35.56	42.17	46.96	50.03	51.49	51.49
18	31.33	41.25	49.02	54.72	58.47	60.38	60.54
19	36.03	47.52	56.59	63.31	67.84	70.28	70.72
20	41.17	54.39	64.90	72.77	78.17	81.22	82.02
21	46.78	61.90	73.98	83.13	89.51	93.26	94.49
22	52.88	70.08	83.90	94.45	101.93	106.47	108.21
23	59.49	78.96	94.69	106.79	115.49	120.93	123.26
24	66.43	88.27	106.00	119.73	129.70	136.08	139.02
25	73.77	98.13	117.97	133.43	144.76	152.15	155.75
26	81.51	108.52	130.60	147.89	160.65	169.11	173.41
27	89.70	119.53	143.98	163.22	177.53	187.13	192.20
28	98.39	131.21	158.20	179.52	195.48	206.32	212.22
29	107.61	143.63	173.32	196.87	214.61	226.80	233.62
30	117.38	156.78	189.35	215.28	234.93	248.57	256.39
31	127.72	170.72	206.35	234.83	256.52	271.73	280.64
32	138.65	185.45	224.35	255.53	279.40	296.30	306.41
33	150.18	201.03	243.37	277.43	303.64	322.35	333.75
34	162.35	217.45	263.45	300.57	329.28	349.92	362.72
35	175.16	234.76	284.63	324.99	356.35	379.07	393.38

^a8-inch top d.i.b.

Table 19.—Elm TVCS, butt-log grade 2

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
14	10.51	13.91	16.63	18.69	20.13	20.98	21.27
15	12.80	16.99	20.39	23.01	24.91	26.11	26.64
16	15.41	20.52	24.70	27.98	30.41	32.02	32.86
17	18.35	24.51	29.59	33.63	36.68	38.80	39.99
18	21.66	29.00	35.10	40.01	43.79	46.48	48.12
19	25.36	34.02	41.28	47.18	51.78	55.15	57.31
20	29.47	39.61	48.17	55.18	60.73	64.87	67.63
21	34.01	45.79	55.80	64.06	70.67	75.69	79.14
22	39.01	52.61	64.22	73.88	81.68	87.69	91.94
23	44.50	60.11	73.50	84.71	93.84	100.97	106.12
24	50.28	68.01	83.27	96.12	106.65	114.96	121.06
25	56.45	76.43	93.70	108.29	120.33	129.91	137.03
26	62.98	85.36	104.76	121.22	134.86	145.79	154.01
27	69.96	94.90	116.58	135.03	150.40	162.78	172.19
28	77.41	105.10	129.23	149.83	167.05	181.01	191.71
29	85.39	116.03	142.78	165.70	184.93	200.60	212.70
30	93.90	127.68	157.25	182.65	204.04	221.55	235.17
31	102.97	140.13	172.71	200.77	224.49	243.98	259.25
32	112.63	153.37	189.18	220.09	246.29	267.92	284.97
33	122.89	167.46	206.70	240.65	269.52	293.45	312.40
34	133.78	182.42	225.32	262.51	294.23	320.61	341.63
35	145.32	198.27	245.06	285.71	320.47	349.48	372.69

^a8-inch top d.i.b.

Table 20.—Elm TVCS, butt-log grade 3

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
11	3.06	4.25	5.37	6.39	7.33	8.18	8.94
12	4.02	5.60	7.06	8.42	9.67	10.80	11.81
13	5.16	7.20	9.09	10.85	12.46	13.93	15.25
14	6.51	9.08	11.48	13.71	15.76	17.63	19.30
15	8.08	11.28	14.27	17.04	19.60	21.94	24.04
16	9.90	13.81	17.48	20.89	24.04	26.92	29.51
17	11.97	16.71	21.16	25.29	29.12	32.62	35.78
18	14.31	20.00	25.33	30.29	34.88	39.09	42.89
19	16.96	23.70	30.03	35.92	41.38	46.39	50.92
20	19.92	27.85	35.29	42.23	48.66	54.57	59.91
21	23.22	32.47	41.16	49.26	56.77	63.69	69.94
22	26.88	37.59	47.66	57.05	65.77	73.80	81.06
23	30.92	43.25	54.85	65.67	75.73	84.98	93.37
24	35.14	49.17	62.36	74.68	86.13	96.68	106.24
25	39.64	55.46	70.35	84.26	97.20	109.11	119.92
26	44.38	62.10	78.79	94.39	108.89	122.25	134.38
27	49.44	69.19	87.80	105.19	121.36	136.27	149.80
28	54.85	76.78	97.43	116.74	134.70	151.26	166.30
29	60.66	84.91	107.76	129.13	149.01	167.35	184.01
30	66.86	93.59	118.79	142.36	164.30	184.54	202.92
31	73.48	102.88	130.59	156.51	180.64	202.91	223.15
32	80.54	112.77	143.16	171.59	198.06	222.50	244.71
33	88.06	123.31	156.54	187.65	216.61	243.36	267.68
34	96.05	134.50	170.77	204.72	236.34	265.54	292.09
35	104.53	146.38	185.87	222.83	257.27	289.08	318.01

^a8-inch top d.i.b.

Table 21.—Hickory TVCS, butt-log grade 1

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
<i>Dollars</i>							
16	5.08	6.03	6.26	6.26	6.26	6.26	6.26
17	6.54	7.93	8.49	8.49	8.49	8.49	8.49
18	8.25	10.16	11.13	11.20	11.20	11.20	11.20
19	10.21	12.75	14.22	14.65	14.65	14.65	14.65
20	12.46	15.74	17.78	18.67	18.67	18.67	18.67
21	15.02	19.13	21.86	23.28	23.47	23.47	23.47
22	17.89	22.97	26.49	28.54	29.21	29.21	29.21
23	21.12	27.29	31.73	34.51	35.75	35.75	35.75
24	24.50	31.82	37.21	40.76	42.59	42.80	42.80
25	28.12	36.66	43.08	47.46	49.94	50.61	50.61
26	31.95	41.81	49.32	54.59	57.76	58.93	58.93
27	36.08	47.34	56.05	62.68	66.21	67.96	67.95
28	40.52	53.32	63.31	70.61	75.38	77.74	77.83
29	45.33	59.79	71.20	79.67	85.37	88.45	89.02
30	50.50	66.76	79.71	89.45	96.18	100.05	101.19
31	56.07	74.28	88.90	100.04	107.91	112.66	114.43
32	62.04	82.36	98.79	111.45	120.56	126.29	128.78
33	68.44	91.03	109.41	123.73	134.20	141.01	144.29
34	75.29	100.31	120.80	136.90	148.86	156.85	161.03
35	82.61	110.23	132.99	151.02	164.58	173.87	179.03

^a8-inch top d.i.b.**Table 22.—Hickory TVCS, butt-log grade 2**

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
<i>Dollars</i>							
14	1.40	1.49	1.49	1.49	1.49	1.49	1.49
15	1.94	2.18	2.18	2.18	2.18	2.18	2.18
16	2.60	3.02	3.05	3.05	3.05	3.05	3.05
17	3.37	4.03	4.22	4.22	4.22	4.22	4.22
18	4.27	5.20	5.61	5.61	5.61	5.61	5.61
19	5.32	6.58	7.24	7.34	7.34	7.34	7.34
20	6.52	8.16	9.13	9.45	9.45	9.45	9.45
21	7.88	9.96	11.29	11.89	11.89	11.89	11.89
22	9.41	12.01	13.75	14.67	14.84	14.84	14.84
23	11.14	14.32	16.54	17.85	18.30	18.30	18.30
24	12.86	16.61	19.29	20.96	21.69	21.69	21.69
25	14.63	18.96	22.13	24.17	25.17	25.19	25.19
26	16.44	21.36	25.01	27.42	28.69	28.88	28.88
27	18.33	23.88	28.03	30.83	32.39	32.76	32.76
28	20.34	26.54	31.23	34.46	36.32	36.89	36.89
29	22.49	29.41	34.68	38.37	40.56	41.36	41.36
30	24.77	32.45	38.35	42.53	45.09	46.14	46.14
31	27.21	35.72	42.29	47.00	49.98	51.30	51.30
32	29.81	39.19	46.49	51.79	55.20	56.84	56.84
33	32.58	42.90	50.98	56.90	60.79	62.77	62.93
34	35.52	46.84	55.75	62.35	66.77	69.13	69.52
35	38.64	51.02	60.83	68.15	73.14	75.92	76.57

^a8-inch top d.i.b.

Table 23.—Hickory TVCS, butt-log grade 3

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
11	-0.93						
12	-0.93						
13	-0.87						
14	-0.77						
15	-0.59						
16	-0.34						
17	0.00						
18	0.42	0.50	0.52	0.52	0.52	0.52	0.52
19	0.95	1.24	1.45	1.59	1.67	1.68	1.68
20	1.60	2.13	2.58	2.93	3.20	3.38	3.49
21	2.36	3.20	3.92	4.53	5.02	5.42	5.71
22	3.26	4.45	5.50	6.40	7.18	7.82	8.33
23	4.31	5.91	7.34	8.60	9.70	10.64	11.41
24	5.30	7.29	9.07	10.67	12.06	13.28	14.29
25	6.30	8.67	10.82	12.74	14.45	15.93	17.19
26	7.28	10.04	12.54	14.79	16.79	18.54	20.04
27	8.30	11.46	14.33	16.92	19.22	21.25	23.00
28	9.39	12.96	16.22	19.17	21.80	24.13	26.13
29	10.56	14.60	18.28	21.62	24.61	27.25	29.54
30	11.82	16.34	20.48	24.23	27.60	30.59	33.19
31	13.17	18.23	22.86	27.06	30.85	34.22	37.15
32	14.63	20.25	25.42	30.11	34.34	38.11	41.40
33	16.19	22.43	28.16	33.38	38.10	42.30	45.98
34	17.87	24.76	31.11	36.89	42.12	46.80	50.90
35	19.66	27.26	34.26	40.65	46.44	51.62	56.17

^a8-inch top d.i.b.**Table 24.—Red maple TVCS, butt-log grade 1**

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
16	10.40	13.60	16.04	17.75	18.77	19.14	19.14
17	12.66	16.65	19.75	22.00	23.46	24.16	24.16
18	15.24	20.13	24.00	26.89	28.86	29.96	30.22
19	18.16	24.07	28.83	32.46	35.04	36.62	37.23
20	21.44	28.51	34.28	38.76	42.05	44.19	45.23
21	25.10	33.48	40.38	45.85	49.95	52.75	54.29
22	29.16	39.01	47.20	53.76	58.79	62.35	64.49
23	33.67	45.15	54.77	62.57	68.65	73.09	75.91
24	38.41	51.61	62.75	71.86	79.05	84.40	87.95
25	43.49	58.53	71.28	81.80	90.19	96.53	100.87
26	48.88	65.88	80.36	92.38	102.05	109.46	114.64
27	54.65	73.76	90.10	103.73	114.79	123.35	129.47
28	60.84	82.22	100.57	115.95	128.51	138.33	145.46
29	67.51	91.32	111.85	129.13	143.32	154.52	162.77
30	74.64	101.08	123.94	143.27	159.23	171.93	181.40
31	82.28	111.54	136.91	158.45	176.33	190.66	201.46
32	90.45	122.73	150.80	174.71	194.65	210.74	223.00
33	99.16	134.67	165.63	192.10	214.26	232.25	246.08
34	108.43	147.39	181.45	210.65	235.20	255.25	270.78
35	118.29	160.93	198.28	230.41	257.53	279.77	297.15

^a8-inch top d.i.b.

Table 25.—Red maple TVCS, butt-log grade 2

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
14	5.42	6.69	7.33	7.40	7.40	7.40	7.40
15	6.48	8.03	8.86	9.02	9.02	9.02	9.02
16	7.67	9.55	10.60	10.87	10.87	10.87	10.87
17	8.99	11.24	12.55	12.96	12.96	12.96	12.96
18	10.46	13.12	14.72	15.31	15.31	15.31	15.31
19	12.08	15.21	17.14	17.93	17.93	17.93	17.93
20	13.86	17.52	19.82	20.85	20.85	20.85	20.85
21	15.81	20.04	22.77	24.07	24.07	24.07	24.07
22	17.93	22.81	26.01	27.63	27.77	27.77	27.77
23	20.25	25.83	29.56	31.54	31.89	31.89	31.89
24	22.55	28.82	33.05	35.36	35.87	35.87	35.87
25	24.90	31.86	36.60	39.24	39.90	39.90	39.90
26	27.28	34.93	40.16	43.10	43.90	43.90	43.90
27	29.73	38.09	43.83	47.08	48.00	48.00	48.00
28	32.27	41.37	47.63	51.20	52.25	52.25	52.25
29	34.95	44.82	51.63	55.54	56.73	56.73	56.73
30	37.73	48.41	55.80	60.06	61.39	61.39	61.39
31	40.65	52.18	60.17	64.80	66.30	66.30	66.30
32	43.70	56.11	64.74	69.77	71.43	71.43	71.43
33	46.89	60.22	69.52	74.96	76.80	76.80	76.80
34	50.21	64.51	74.51	80.39	82.43	82.43	82.43
35	53.67	68.99	79.71	86.05	88.30	88.30	88.30

^a8-inch top d.i.b.**Table 26.—Red maple TVCS, butt-log grade 3**

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
11	0.01	0.01	0.01	0.01	0.01	0.01	0.01
12	0.35	0.35	0.35	0.35	0.35	0.35	0.35
13	0.80	0.80	0.80	0.80	0.80	0.80	0.80
14	1.39	1.39	1.39	1.39	1.39	1.39	1.39
15	2.12	2.12	2.12	2.12	2.12	2.12	2.12
16	3.03	3.03	3.03	3.03	3.03	3.03	3.04
17	4.12	4.12	4.12	4.12	4.12	4.12	4.12
18	5.40	5.40	5.40	5.40	5.40	5.40	5.40
19	6.91	7.16	7.16	7.16	7.16	7.16	7.16
20	8.65	9.32	9.32	9.32	9.32	9.32	9.32
21	10.64	11.81	11.81	11.81	11.81	11.81	11.81
22	12.90	14.66	14.66	14.66	14.66	14.66	14.66
23	15.45	17.91	17.98	17.98	17.98	17.98	17.98
24	18.10	21.28	21.81	21.81	21.81	21.81	21.81
25	20.92	24.86	25.90	25.90	25.90	25.90	25.90
26	23.90	28.66	30.23	30.23	30.23	30.23	30.23
27	27.09	32.73	34.90	34.90	34.90	34.90	34.90
28	30.54	37.14	39.97	39.97	39.97	39.97	39.97
29	34.27	41.94	45.52	45.52	45.52	45.52	45.52
30	38.29	47.12	51.52	51.74	51.74	51.74	51.74
31	42.63	52.73	58.05	58.85	58.85	58.85	58.85
32	47.29	58.77	65.11	66.57	66.57	66.57	66.57
33	52.29	65.28	72.72	74.93	74.93	74.93	74.93
34	57.65	72.26	80.93	83.97	83.97	83.97	83.97
35	63.37	79.75	89.75	93.71	93.71	93.71	93.71

^a8-inch top d.i.b.

Table 27.—Sugar maple TVCS, butt-log grade 1

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
<i>Dollars</i>							
16	10.93	13.71	15.38	15.99	15.99	15.99	15.99
17	13.26	16.77	18.99	19.99	19.99	19.99	19.99
18	15.90	20.25	23.13	24.61	24.79	24.79	24.79
19	18.89	24.20	27.83	29.89	30.46	30.46	30.46
20	22.24	28.64	33.15	35.88	36.92	36.92	36.92
21	25.97	33.60	39.12	42.62	44.24	44.24	44.24
22	30.12	39.13	45.78	50.18	52.46	52.76	52.76
23	34.70	45.25	53.19	58.61	61.67	62.52	62.52
24	39.53	51.71	60.99	67.49	71.37	72.80	72.80
25	44.69	58.61	69.34	77.00	81.78	83.83	83.83
26	50.16	65.94	78.22	87.12	92.86	95.61	95.61
27	56.02	73.80	87.74	98.00	104.79	108.29	108.67
28	62.31	82.23	97.98	109.71	117.65	122.00	122.92
29	69.06	91.31	109.02	122.35	131.56	136.86	138.41
30	76.29	101.03	120.85	135.93	146.52	152.87	155.13
31	84.02	111.45	133.56	150.52	162.64	170.14	173.21
32	92.28	122.59	147.15	166.16	179.93	188.70	192.67
33	101.09	134.47	161.68	182.90	198.46	208.62	213.59
34	110.46	147.14	177.18	200.77	218.27	229.96	236.03
35	120.42	160.61	193.68	219.82	239.42	252.76	260.06

^a8-inch top d.i.b.**Table 28.—Sugar maple TVCS, butt-log grade 2**

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
<i>Dollars</i>							
14	4.24	5.29	5.88	6.05	6.05	6.05	6.05
15	5.47	6.92	7.83	8.24	8.24	8.24	8.24
16	6.93	8.85	10.15	10.86	11.01	11.01	11.01
17	8.62	11.11	12.87	13.95	14.39	14.39	14.39
18	10.56	13.71	16.03	17.56	18.33	18.41	18.41
19	12.78	16.70	19.66	21.71	22.91	23.31	23.31
20	15.30	20.09	23.80	26.47	28.17	28.94	28.94
21	18.12	23.91	28.47	31.86	34.14	35.38	35.61
22	21.29	28.19	33.73	37.93	40.89	42.67	43.30
23	24.81	32.98	39.61	44.75	48.49	50.89	52.01
24	28.50	37.98	45.76	51.87	56.43	59.49	61.11
25	32.43	43.32	52.32	59.49	64.91	68.68	70.84
26	36.60	48.98	59.28	67.56	73.92	78.44	81.18
27	41.06	55.04	66.74	76.22	83.59	88.94	92.32
28	45.85	61.56	74.77	85.55	94.02	100.27	104.36
29	51.01	68.59	83.45	95.65	105.32	112.56	117.43
30	56.55	76.13	92.76	106.49	117.47	125.80	131.53
31	62.49	84.24	102.78	118.17	130.57	140.09	146.77
32	68.84	92.91	113.51	130.70	144.64	155.45	163.17
33	75.63	102.20	125.00	144.12	159.73	171.94	180.80
34	82.87	112.10	137.28	158.48	175.87	189.60	199.69
35	90.59	122.66	150.37	173.79	193.12	208.48	219.92

^a8-inch top d.i.b.

Table 29.—Sugar maple TVCS, butt-log grade 3

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
11	0.29	0.29	0.29	0.29	0.29	0.29	0.29
12	0.63	0.63	0.63	0.63	0.63	0.63	0.63
13	1.07	1.07	1.07	1.07	1.07	1.07	1.07
14	1.64	1.64	1.64	1.64	1.64	1.64	1.64
15	2.34	2.34	2.34	2.34	2.34	2.34	2.34
16	3.19	3.35	3.35	3.35	3.35	3.35	3.35
17	4.20	4.61	4.61	4.61	4.61	4.61	4.61
18	5.38	6.12	6.12	6.12	6.12	6.12	6.12
19	6.76	7.88	7.98	7.98	7.98	7.98	7.98
20	8.35	9.92	10.34	10.34	10.34	10.34	10.34
21	10.15	12.26	13.08	13.08	13.08	13.08	13.08
22	12.19	14.92	16.21	16.21	16.21	16.21	16.21
23	14.49	17.94	19.77	20.08	20.08	20.08	20.08
24	16.84	21.02	23.41	24.10	24.10	24.10	24.10
25	19.33	24.27	27.25	28.36	28.36	28.36	28.36
26	21.93	27.68	31.26	32.80	32.80	32.80	32.80
27	24.70	31.31	35.55	37.56	37.56	37.56	37.56
28	27.67	35.20	40.17	42.70	42.95	42.95	42.95
29	30.87	39.42	45.19	48.30	48.93	48.93	48.93
30	34.31	43.96	50.58	54.33	55.39	55.39	55.39
31	38.01	48.84	56.41	60.87	62.42	62.42	62.42
32	41.97	54.09	62.69	67.92	70.02	70.02	70.02
33	46.21	59.71	69.42	75.52	78.22	78.22	78.22
34	50.74	65.72	76.65	83.67	87.06	87.06	87.06
35	55.56	72.15	84.37	92.42	96.55	97.02	97.02

^a8-inch top d.i.b.**Table 30.—Black oak TVCS, butt-log grade 1**

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
16	23.78	30.81	35.93	39.23	40.82	40.82	40.82
17	28.20	36.67	42.95	47.13	49.36	49.74	49.74
18	33.14	43.24	50.85	56.06	59.04	59.91	59.91
19	38.65	50.58	59.69	66.09	69.95	71.41	71.41
20	44.75	58.73	69.53	77.28	82.16	84.34	84.34
21	51.48	67.73	80.43	89.71	95.76	98.77	98.88
22	58.86	77.64	92.45	103.44	110.83	114.82	115.55
23	66.95	88.51	105.66	118.57	127.47	132.59	134.06
24	75.56	100.08	119.74	134.70	145.23	151.55	153.84
25	84.78	112.48	134.84	152.03	164.33	171.99	175.19
26	94.62	125.73	150.98	170.56	184.77	193.89	198.09
27	105.15	139.92	168.30	190.46	206.76	217.47	222.79
28	116.42	155.13	186.87	211.84	230.41	242.88	249.45
29	128.49	171.44	206.81	234.82	255.87	270.27	278.23
30	141.38	188.87	228.14	259.43	283.16	299.67	309.17
31	155.14	207.48	250.95	285.77	312.41	331.23	342.44
32	169.78	227.32	275.28	313.91	343.69	365.01	378.10
33	185.35	248.43	301.20	343.90	377.08	401.12	416.25
34	201.88	270.86	328.76	375.84	412.65	439.63	457.01
35	219.41	294.66	358.02	409.77	450.50	480.65	500.46

^a8-inch top d.i.b.

Table 31.—Black oak TVCS, butt-log grade 2

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
14	8.26	10.84	12.84	14.27	15.17	15.58	15.58
15	10.22	13.48	16.05	17.95	19.22	19.91	20.03
16	12.47	16.52	19.76	22.22	23.95	24.98	25.34
17	15.05	19.99	24.01	27.13	29.39	30.85	31.52
18	17.96	23.94	28.85	32.73	35.62	37.58	38.63
19	21.23	28.39	34.32	39.07	42.69	45.24	46.75
20	24.89	33.37	40.46	46.20	50.67	53.90	55.95
21	28.97	38.92	47.31	54.17	59.59	63.62	66.28
22	33.47	45.07	54.91	63.04	69.53	74.46	77.85
23	38.45	51.87	63.33	72.86	80.57	86.52	90.74
24	43.70	59.04	72.21	83.23	92.23	99.25	104.34
25	49.31	66.71	81.70	94.33	104.70	112.89	118.92
26	55.27	74.86	91.80	106.13	117.97	127.41	134.45
27	61.64	83.58	102.61	118.78	132.21	143.00	151.14
28	68.47	92.93	114.22	132.37	147.52	159.76	169.11
29	75.81	102.99	126.70	146.99	164.01	177.84	188.51
30	83.65	113.74	140.06	162.66	181.69	197.24	209.33
31	92.04	125.25	154.38	179.45	200.65	218.07	231.71
32	100.99	137.54	169.67	197.40	220.94	240.36	255.69
33	110.53	150.64	185.98	216.57	242.60	264.20	281.33
34	120.67	164.58	203.34	236.98	265.70	289.62	308.72
35	131.44	179.40	221.81	258.70	290.29	316.70	337.90

^a8-inch top d.i.b.**Table 32.—Black oak TVCS, butt-log grade 3**

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
11	1.69	2.15	2.47	2.64	2.67	2.67	2.67
12	2.51	3.27	3.83	4.21	4.42	4.47	4.47
13	3.54	4.67	5.56	6.22	6.66	6.90	6.94
14	4.80	6.39	7.68	8.70	9.44	9.94	10.18
15	6.31	8.46	10.26	11.71	12.84	13.65	14.16
16	8.11	10.93	13.32	15.31	16.90	18.11	18.96
17	10.21	13.82	16.92	19.54	21.69	23.39	24.64
18	12.64	17.16	21.10	24.46	27.27	29.54	31.28
19	15.43	21.00	25.90	30.13	33.71	36.66	38.98
20	18.59	25.38	31.38	36.60	41.06	44.80	47.80
21	22.17	30.32	37.57	43.92	49.40	54.04	57.82
22	26.18	35.87	44.53	52.16	58.80	64.46	69.13
23	30.66	42.07	52.32	61.39	69.33	76.15	81.84
24	35.42	48.66	60.59	71.20	80.52	88.58	95.35
25	40.54	55.76	69.51	81.77	92.59	101.99	109.93
26	46.02	63.36	79.05	93.09	105.52	116.36	125.56
27	51.93	71.55	89.36	105.32	119.49	131.89	142.46
28	58.31	80.41	100.49	118.54	134.60	148.70	160.76
29	65.22	89.99	112.55	132.86	150.98	166.92	180.61
30	72.65	100.31	125.53	148.29	168.63	186.58	202.04
31	80.65	111.42	139.53	164.93	187.68	207.79	225.17
32	89.24	123.36	154.57	182.80	208.15	230.61	250.05
33	98.45	136.15	170.69	201.98	230.12	255.10	276.77
34	108.29	149.84	187.94	222.52	253.65	281.33	305.41
35	118.80	164.46	206.37	244.45	278.79	309.38	336.04

^a8-inch top d.i.b.

Table 33.—Chestnut oak TVCS, butt-log grade 1

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
16	22.96	29.81	34.86	38.17	39.86	40.03	40.03
17	26.68	34.71	40.67	44.66	46.79	47.19	47.19
18	30.77	40.10	47.09	51.83	54.48	55.15	55.15
19	35.24	46.01	54.14	59.75	62.98	63.98	63.98
20	40.12	52.47	61.86	68.43	72.33	73.73	73.73
21	45.43	59.50	70.28	77.91	82.57	84.43	84.43
22	51.18	67.13	79.44	88.24	93.75	96.14	96.14
23	57.40	75.40	89.38	99.47	105.93	108.94	108.94
24	63.88	84.02	99.73	111.18	118.61	122.25	122.28
25	70.72	93.11	110.65	123.52	131.99	136.30	136.64
26	77.89	102.64	122.11	136.47	146.02	151.04	151.72
27	85.46	112.71	134.20	150.15	160.87	166.64	167.69
28	93.45	123.35	147.01	164.64	176.60	183.20	184.66
29	101.91	134.62	160.58	180.03	193.33	200.82	202.74
30	110.84	146.53	174.93	196.29	211.04	219.49	221.93
31	120.27	159.11	190.10	213.52	229.80	239.31	242.33
32	130.21	172.37	206.12	231.72	249.65	260.29	263.95
33	140.67	186.35	223.00	250.92	270.61	282.48	286.85
34	151.68	201.06	240.79	271.16	292.73	305.92	311.07
35	163.23	216.52	259.49	292.47	316.04	330.64	336.64

^a8-inch top d.i.b.**Table 34.—Chestnut oak TVCS, butt-log grade 2**

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
14	7.20	9.71	11.84	13.61	15.04	16.13	16.89
15	8.83	11.94	14.60	16.83	18.65	20.08	21.12
16	10.70	14.49	17.77	20.54	22.83	24.65	26.01
17	12.82	17.39	21.37	24.77	27.59	29.88	31.61
18	15.21	20.67	25.45	29.55	33.00	35.81	37.99
19	17.89	24.35	30.03	34.93	39.08	42.51	45.20
20	20.87	28.46	35.15	40.95	45.90	50.01	53.29
21	24.18	33.01	40.83	47.64	53.48	58.38	62.32
22	27.83	38.04	47.12	55.05	61.89	67.66	72.34
23	31.85	43.59	54.05	63.23	71.18	77.92	83.44
24	36.04	49.37	61.27	71.75	80.85	88.61	95.00
25	40.48	55.49	68.92	80.78	91.11	99.94	107.25
26	45.15	61.93	76.98	90.29	101.91	111.88	120.16
27	50.12	68.79	85.55	100.40	113.41	124.59	133.91
28	55.42	76.10	94.70	111.20	125.68	138.16	148.61
29	61.08	83.93	104.49	122.77	138.84	152.73	164.38
30	67.12	92.26	114.93	135.10	152.87	168.26	181.20
31	73.55	101.15	126.06	148.27	167.86	184.85	199.19
32	80.39	110.60	137.91	162.28	183.82	202.54	218.37
33	87.65	120.65	150.50	177.18	200.79	221.36	238.79
34	95.36	131.31	163.87	193.01	218.83	241.35	260.49
35	103.52	142.60	178.03	209.78	237.95	262.57	283.52

^a8-inch top d.i.b.

Table 35.—Chestnut oak TVCS, butt-log grade 3

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
11	1.75	2.62	3.54	4.51	5.51	6.53	7.57
12	2.30	3.43	4.61	5.84	7.11	8.40	9.70
13	2.96	4.39	5.88	7.42	9.00	10.60	12.20
14	3.74	5.52	7.37	9.27	11.21	13.16	15.12
15	4.65	6.84	9.10	11.41	13.76	16.12	18.47
16	5.69	8.35	11.08	13.86	16.68	19.50	22.29
17	6.89	10.08	13.34	16.65	19.99	23.33	26.62
18	8.25	12.03	15.89	19.80	23.73	27.64	31.49
19	9.77	14.23	18.77	23.34	27.92	32.47	36.95
20	11.49	16.70	21.98	27.29	32.59	37.86	43.01
21	13.39	19.43	25.54	31.66	37.77	43.81	49.72
22	15.51	22.47	29.49	36.51	43.49	50.39	57.12
23	17.85	25.82	33.85	41.85	49.80	57.63	65.26
24	20.21	29.21	38.25	47.25	56.18	64.96	73.50
25	22.65	32.72	42.81	52.86	62.81	72.58	82.07
26	25.17	36.33	47.52	58.63	69.63	80.43	90.90
27	27.81	40.12	52.44	64.68	76.78	88.65	100.16
28	30.60	44.12	57.65	71.07	84.33	97.33	109.92
29	33.57	48.38	63.18	77.86	92.35	106.55	120.29
30	36.70	52.88	69.03	85.04	100.82	116.28	131.24
31	40.04	57.66	75.24	92.65	109.81	126.61	142.84
32	43.57	62.71	81.81	100.70	119.31	137.51	155.09
33	47.30	68.06	88.75	109.21	129.35	149.03	168.03
34	51.24	73.71	96.08	118.19	139.94	161.18	181.68
35	55.41	79.67	103.81	127.65	151.10	173.99	196.06

^a8-inch top d.i.b.**Table 36.—Red oak TVCS, butt-log grade 1**

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
16	27.47	36.08	42.77	47.59	50.67	52.10	52.10
17	32.51	42.83	50.93	56.89	60.84	62.89	63.13
18	38.14	50.38	60.09	67.36	72.33	75.12	75.83
19	44.41	58.80	70.32	79.08	85.22	88.88	90.17
20	51.33	68.12	81.68	92.12	99.60	104.28	106.27
21	58.96	78.41	94.24	106.55	115.56	121.41	124.22
22	67.33	89.71	108.06	122.48	133.20	140.38	144.16
23	76.49	102.10	123.22	139.98	152.62	161.32	166.20
24	86.25	115.30	139.40	158.67	173.38	183.71	189.80
25	96.71	129.48	156.78	178.77	195.71	207.83	215.25
26	107.89	144.62	175.37	200.27	219.63	233.69	242.57
27	119.85	160.85	195.30	223.36	245.35	261.52	272.01
28	132.66	178.24	216.69	248.15	272.99	291.47	303.72
29	146.38	196.89	239.63	274.78	302.71	323.71	337.91
30	161.02	216.80	264.16	303.27	334.54	358.28	374.61
31	176.65	238.07	290.38	333.75	368.64	395.34	414.00
32	193.28	260.72	318.33	366.28	405.05	434.96	456.16
33	210.96	284.82	348.09	400.94	443.89	477.27	501.22
34	229.73	310.43	379.72	437.82	485.24	522.35	549.28
35	249.62	337.58	413.30	476.98	529.19	570.31	600.46

^a8-inch top d.i.b.

Table 37.—Red oak TVCS, butt-log grade 2

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
14	12.74	16.54	19.35	21.21	22.16	22.28	22.28
15	15.49	20.20	23.75	26.17	27.55	27.94	27.94
16	18.61	24.37	28.77	31.88	33.76	34.50	34.50
17	22.15	29.09	34.49	38.38	40.87	42.03	42.03
18	26.11	34.40	40.92	45.73	48.93	50.60	50.83
19	30.53	40.34	48.14	54.00	58.02	60.31	60.93
20	35.44	46.95	56.19	63.23	68.20	71.21	72.33
21	40.86	54.26	65.11	73.49	79.54	83.38	85.08
22	46.82	62.31	74.96	84.84	92.12	96.91	99.30
23	53.36	71.16	85.80	97.36	106.01	111.89	115.09
24	60.29	80.54	97.29	110.63	120.75	127.79	131.85
25	67.70	90.57	109.59	124.85	136.56	144.86	149.85
26	75.58	101.26	122.70	140.01	153.42	163.08	169.09
27	84.01	112.69	136.73	156.26	171.51	182.65	189.78
28	93.03	124.93	151.78	173.70	190.94	203.70	212.06
29	102.69	138.05	167.92	192.43	211.84	226.36	236.09
30	113.00	152.07	185.18	212.47	234.23	250.66	261.88
31	124.00	167.04	203.64	233.92	258.21	276.73	289.57
32	135.72	182.99	223.32	256.82	283.84	304.60	319.22
33	148.18	199.97	244.28	281.22	311.17	334.37	350.91
34	161.40	218.01	266.56	307.19	340.28	366.10	384.73
35	175.42	237.14	290.21	334.78	371.24	399.86	420.75

^a8-inch top d.i.b.**Table 38.—Red oak TVCS, butt-log grade 3**

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
11	2.36	3.29	4.16	4.96	5.71	6.39	7.00
12	3.07	4.29	5.43	6.48	7.46	8.35	9.15
13	3.92	5.48	6.94	8.29	9.54	10.69	11.72
14	4.92	6.87	8.71	10.41	11.99	13.43	14.74
15	6.08	8.49	10.76	12.87	14.83	16.63	18.25
16	7.41	10.36	13.13	15.71	18.10	20.30	22.29
17	8.93	12.48	15.83	18.94	21.84	24.50	26.90
18	10.64	14.89	18.88	22.60	26.06	29.24	32.13
19	12.57	17.59	22.31	26.72	30.81	34.59	38.01
20	14.73	20.61	26.15	31.32	36.13	40.56	44.58
21	17.13	23.97	30.41	36.44	42.04	47.21	51.90
22	19.78	27.69	35.14	42.11	48.59	54.57	60.00
23	22.71	31.79	40.35	48.36	55.82	62.70	68.95
24	25.71	36.00	45.70	54.78	63.23	71.03	78.13
25	28.86	40.41	51.30	61.50	71.00	79.77	87.74
26	32.13	45.00	57.14	68.50	79.08	88.86	97.75
27	35.59	49.85	63.30	75.89	87.62	98.46	108.31
28	39.26	54.99	69.83	83.73	96.68	108.64	119.53
29	43.18	60.48	76.81	92.10	106.36	119.53	131.51
30	47.34	66.31	84.22	100.99	116.63	131.08	144.23
31	51.77	72.52	92.11	110.45	127.56	143.38	157.77
32	56.46	79.10	100.47	120.50	139.17	156.43	172.14
33	61.44	86.08	109.35	131.15	151.47	170.27	187.39
34	66.72	93.48	118.75	142.42	164.51	184.93	203.53
35	72.29	101.29	128.68	154.35	178.29	200.44	220.61

^a8-inch top d.i.b.

Table 39.—White oak TVCS, butt-log grade 1

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
<i>Dollars</i>							
16	24.52	29.60	31.51	31.51	31.51	31.51	31.51
17	29.79	36.35	39.28	39.28	39.28	39.28	39.28
18	35.78	44.07	48.23	48.50	48.50	48.50	48.50
19	42.55	52.83	58.45	59.66	59.66	59.66	59.66
20	50.14	62.71	70.03	72.38	72.38	72.38	72.38
21	58.61	73.78	83.07	86.79	86.79	86.79	86.79
22	68.02	86.12	97.66	102.99	102.99	102.99	102.99
23	78.42	99.80	113.91	121.11	121.87	121.87	121.87
24	89.65	114.60	131.52	140.80	142.94	142.94	142.94
25	101.82	130.68	150.70	162.30	166.03	166.03	166.03
26	114.96	148.07	171.49	185.66	191.18	191.18	191.18
27	129.17	166.91	194.06	211.08	218.64	218.64	218.64
28	144.51	187.29	218.53	238.72	248.58	248.75	248.75
29	161.07	209.34	245.06	268.76	281.20	283.07	283.07
30	178.89	233.09	273.69	301.25	316.57	320.40	320.40
31	198.02	258.65	304.57	336.35	354.89	360.94	360.94
32	218.53	286.09	337.77	374.17	396.25	404.82	404.82
33	240.48	315.49	373.39	414.83	440.80	452.18	452.18
34	263.90	346.92	411.54	458.44	488.69	503.20	503.20
35	288.87	380.47	452.31	505.13	540.04	558.01	559.83

^a8-inch top d.i.b.**Table 40.—White oak TVCS, butt-log grade 2**

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
<i>Dollars</i>							
14	8.39	10.78	12.44	13.40	13.72	13.72	13.72
15	10.81	14.01	16.36	17.88	18.63	18.66	18.66
16	13.64	17.83	21.00	23.21	24.51	24.95	24.95
17	16.93	22.27	26.43	29.47	31.44	32.40	32.41
18	20.72	27.39	32.72	36.73	39.51	41.11	41.60
19	25.03	33.25	39.92	45.08	48.81	51.20	52.28
20	29.92	39.90	48.11	54.59	59.45	62.75	64.55
21	35.40	47.38	57.35	65.35	71.51	75.88	78.54
22	41.54	55.76	67.71	77.45	85.08	90.71	94.36
23	48.37	65.10	79.28	90.97	100.30	107.34	112.16
24	55.72	75.15	91.74	105.54	116.70	125.29	131.37
25	63.67	86.04	105.26	121.37	134.53	144.83	152.31
26	72.25	97.80	119.86	138.48	153.82	165.98	175.01
27	81.53	110.53	135.68	157.03	174.76	188.97	199.70
28	91.57	124.31	152.83	177.16	197.50	213.96	266.56
29	102.44	139.24	171.41	199.00	222.19	241.13	255.80
30	114.14	155.33	191.46	222.58	248.89	270.51	287.46
31	126.75	172.68	213.09	248.03	277.72	302.28	321.72
32	140.28	191.31	236.35	275.42	308.77	336.52	358.67
33	154.78	211.30	261.30	304.83	342.13	373.35	398.44
34	170.30	232.69	288.03	336.34	377.91	412.86	441.15
35	186.87	255.54	316.59	370.05	416.20	455.18	486.92

^a8-inch top d.i.b.

Table 41.—White oak TVCS, butt-log grade 3

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
11	1.27	1.44	1.44	1.44	1.44	1.44	1.44
12	2.08	2.52	2.69	2.69	2.69	2.69	2.69
13	3.12	3.90	4.36	4.52	4.52	4.52	4.52
14	4.41	5.63	6.47	6.93	7.03	7.03	7.03
15	5.98	7.75	9.06	9.91	10.34	10.37	10.37
16	7.85	10.30	12.18	13.53	14.37	14.73	14.73
17	10.06	13.31	15.89	17.84	19.18	19.96	20.19
18	12.64	16.82	20.23	22.90	24.85	26.14	26.78
19	15.61	20.88	25.26	28.77	31.46	33.37	34.51
20	19.01	25.53	31.03	35.53	39.08	41.72	43.46
21	22.85	30.81	37.60	43.23	47.78	51.27	53.72
22	27.18	36.76	45.01	51.95	57.63	62.11	65.39
23	32.04	43.44	53.34	61.75	68.74	74.35	78.59
24	37.23	50.58	62.25	72.24	80.63	87.46	92.73
25	42.84	58.32	71.90	83.61	93.52	101.69	108.10
26	48.88	66.64	82.30	95.86	107.43	117.04	124.68
27	55.42	75.65	93.56	109.16	122.52	133.71	142.71
28	62.50	85.43	105.79	123.58	138.92	151.84	162.33
29	70.18	96.03	119.06	139.27	156.76	171.58	183.70
30	78.47	107.49	133.40	156.22	176.06	192.95	206.86
31	87.41	119.85	148.90	174.56	196.94	216.09	231.96
32	97.04	133.16	165.59	194.31	219.45	241.05	259.05
33	107.37	147.46	183.53	215.56	243.67	267.92	288.23
34	118.44	162.79	202.78	238.36	269.68	296.79	319.60
35	130.28	179.19	223.37	262.77	297.54	327.74	353.23

^a8-inch top d.i.b.**Table 42.—Yellow-poplar TVCS, butt-log grade 1**

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
16	2.85	3.74	4.42	4.90	5.20	5.32	5.32
17	4.00	5.32	6.38	7.21	7.80	8.18	8.36
18	5.37	7.20	8.73	9.97	10.93	11.63	12.08
19	6.97	9.41	11.49	13.23	14.64	15.73	16.51
20	8.83	11.98	14.71	17.04	18.97	20.52	21.70
21	10.97	14.94	18.42	21.42	23.97	26.07	27.72
22	13.41	18.31	22.65	26.44	29.69	32.42	34.62
23	16.17	22.14	27.46	32.14	36.21	39.66	42.50
24	19.05	26.13	32.49	38.11	43.02	47.23	50.73
25	22.14	30.42	37.87	44.50	50.32	55.34	59.56
26	25.43	34.97	43.60	51.29	58.08	63.98	68.96
27	28.96	39.88	49.77	58.62	66.46	73.30	79.11
28	32.79	45.20	56.46	66.56	75.54	83.41	90.12
29	36.96	50.98	63.73	75.21	85.44	94.43	102.13
30	41.45	57.22	71.59	84.55	96.13	106.34	115.13
31	46.31	63.97	80.10	94.67	107.72	119.26	129.22
32	51.54	71.24	89.27	105.58	120.22	133.20	144.43
33	57.16	79.07	99.13	117.32	133.68	148.21	160.83
34	63.20	87.47	109.73	129.94	148.15	164.35	178.46
35	69.66	96.46	121.08	143.46	163.66	181.66	197.38

^a8-inch top d.i.b.

Table 43.—Yellow-poplar TVCS, butt-log grade 2

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
14	0.96	0.96	0.96	0.96	0.96	0.96	0.96
15	1.45	1.45	1.45	1.45	1.45	1.45	1.45
16	2.06	2.13	2.13	2.13	2.13	2.13	2.13
17	2.78	3.04	3.04	3.04	3.04	3.04	3.04
18	3.63	4.13	4.13	4.13	4.13	4.13	4.13
19	4.63	5.42	5.51	5.51	5.51	5.51	5.51
20	5.78	6.91	7.26	7.26	7.26	7.26	7.26
21	7.10	8.63	9.28	9.28	9.28	9.28	9.28
22	8.60	10.59	11.61	11.69	11.69	11.69	11.69
23	10.29	12.82	14.26	14.66	14.66	14.66	14.66
24	11.97	15.03	16.88	17.57	17.57	17.57	17.57
25	13.71	17.32	19.59	20.58	20.58	20.58	20.58
26	15.49	19.65	22.34	23.64	23.64	23.64	23.64
27	17.36	22.11	25.25	26.86	27.06	27.06	27.06
28	19.35	24.72	28.34	30.30	30.72	30.72	30.72
29	21.50	27.54	31.69	34.04	34.70	34.70	34.70
30	23.78	30.55	35.27	38.04	38.98	38.98	38.98
31	26.23	33.79	39.13	42.36	43.61	43.61	43.61
32	28.85	37.25	43.26	46.99	48.60	48.60	48.60
33	31.64	40.94	47.68	51.97	53.97	53.97	53.97
34	34.62	44.89	52.41	57.31	59.74	59.85	59.85
35	37.78	49.09	57.46	63.01	65.91	66.33	66.33

^a8-inch top d.i.b.**Table 44.—Yellow-poplar TVCS, butt-log grade 3**

D.b.h. (inches)	Merchantable height (feet) ^a						
	16	24	32	40	48	56	64
	<i>Dollars</i>						
11	-2.18						
12	-2.37						
13	-2.50						
14	-2.58						
15	-2.59						
16	-2.52						
17	-2.35						
18	-2.08						
19	-1.70						
20	-1.18						
21	-0.53						
22	0.28	0.28	0.28	0.28	0.28	0.28	0.28
23	1.26	1.26	1.26	1.26	1.26	1.26	1.26
24	2.21	2.33	2.33	2.33	2.33	2.33	2.33
25	3.21	3.66	3.66	3.66	3.66	3.66	3.66
26	4.22	5.01	5.21	5.21	5.21	5.21	5.21
27	5.31	6.46	6.96	6.96	6.96	6.96	6.96
28	6.49	8.05	8.88	9.03	9.03	9.03	9.03
29	7.82	9.83	11.04	11.50	11.50	11.50	11.50
30	9.27	11.78	13.41	14.22	14.26	14.26	14.26
31	10.88	13.94	16.05	17.26	17.62	17.62	17.62
32	12.63	16.32	18.96	20.61	21.33	21.33	21.33
33	14.55	18.92	22.15	24.30	25.43	25.61	25.61
34	16.65	21.76	25.64	28.34	29.93	30.48	30.48
35	18.92	24.85	29.44	32.75	34.86	35.82	35.82

^a8-inch top d.i.b.

DeBald, Paul S.; Dale, Martin E. 1991. **Tree value conversion standards revisited**. Res. Pap. NE-645. Radnor, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station. 28 p.

Updated tree value conversion standards (TVCS) are presented for 12 important hardwood species of the oak-hickory forest. These updated standards—developed for each species by butt-log grade, merchantable height, and diameter at breast height—reflect the changes in lumber prices and in conversion costs which have occurred since 1976 when the original TVCS were published.

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