U.S. HARDWOOD PRODUCT EXPORTS , HARDWOOD EXPORTS TO JAPAN, HARDWOOD RESOURCE SITUATION , AND THE FUTURE OF U.S. EXPORTS TO JAPAN

BY

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T.E.A. PROJECT IN JAPAN FOR FY90

INTRODUCTION

The following will be a reconstruction of most of the seminar presentation that was made to furniture, millwork, and cabinet producers, lumber traders and importers, and primary processors in Japan. This document was assembled due to the requests for the information that was presented. The information in the document will be published at a later date.

PRESENTATION OUTLINE

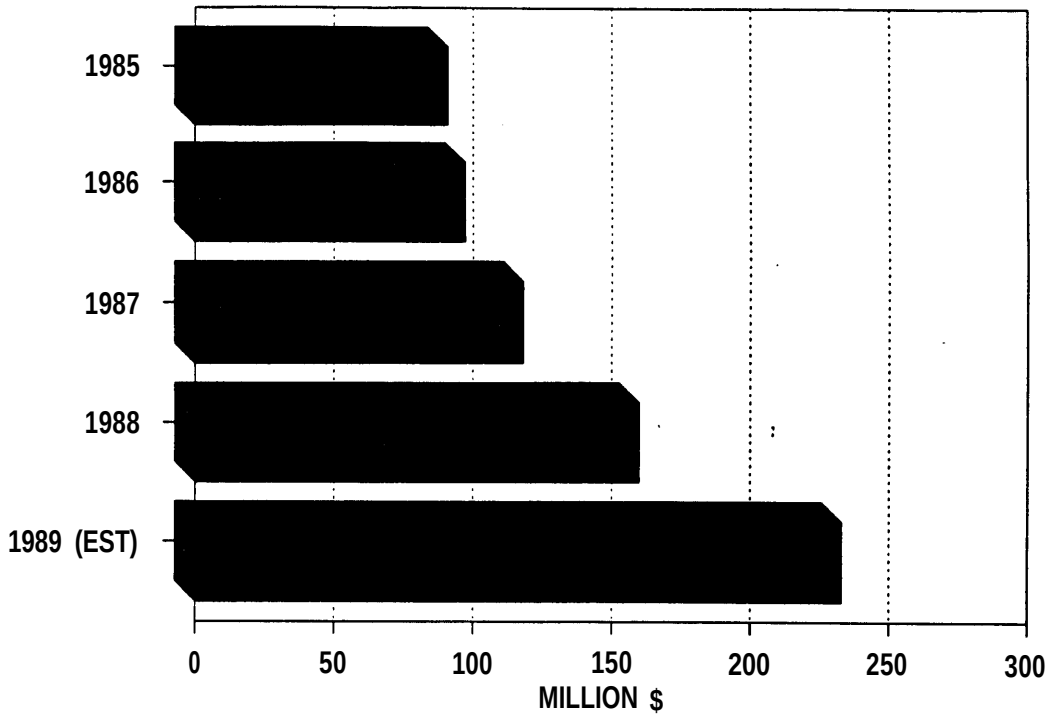
(1) We will first look at some basic information about total US hardwood exports and products.

(2) We will next look at some information on hardwood exports to Japan from the US.

(3) We will then see and discuss some information about US hardwood resources or the resource situation.

(4) In the last section we will discuss the future and how we can best work together to supply your needs with our resource base.

TOTAL U.S. HARDWOOD LOG EXPORTS in $

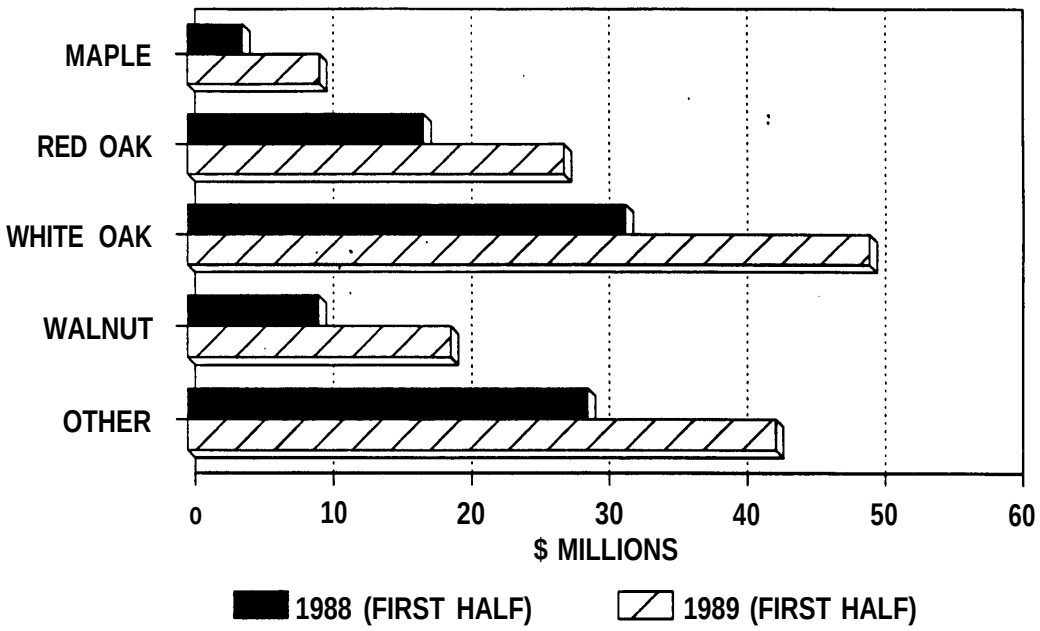


SOURCE: USDA, ITA

Hardwood log exports have been increasing over the last 5 years with much of the increase going to Japan. Hardwood log exports may reach $225,000,000 in 1989.

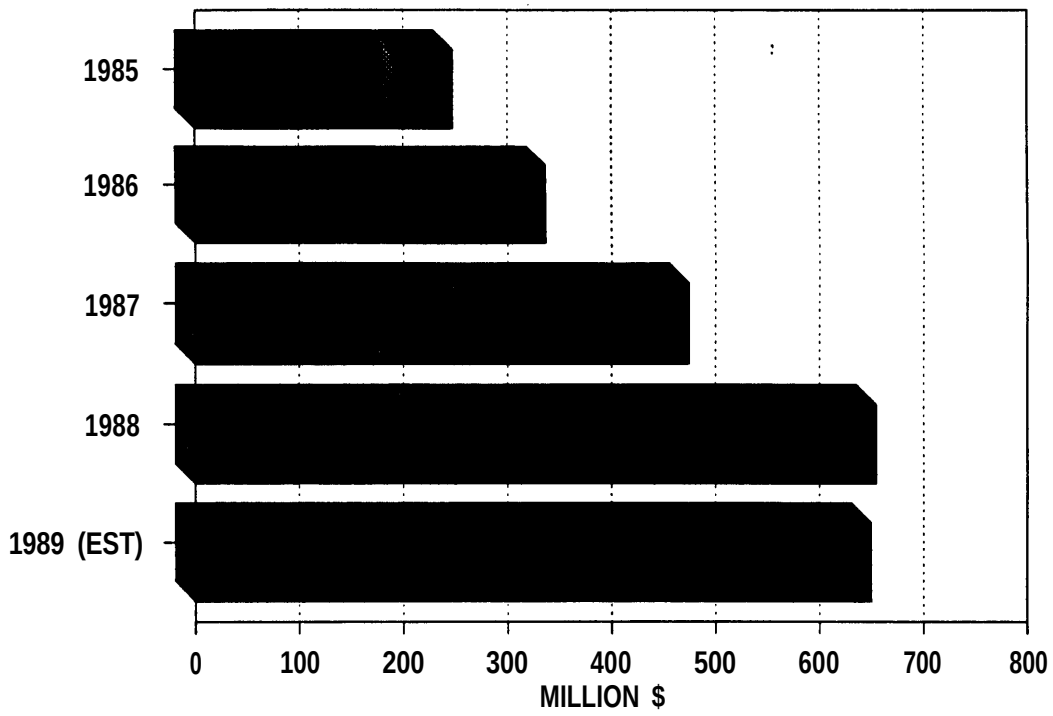
Slides of hardwood logs were presented after this slide.

U.S. HARDWOOD LOG EXPORTS BY SPECIES
1988 & 1989



This chart presents first half year data for 1988 and 1989. Note that the most popular species are white oak, red oak, walnut, and maple. However, another specie of importance is paulownia or kiri which is listed under “other. ” Also listed under ‘other” are American tulipwood, cherry, and other species. The distribution of species exported appears to be similar for 1988 and 1989.

TOTAL U.S. HARDWOOD LUMBER EXPORTS in $



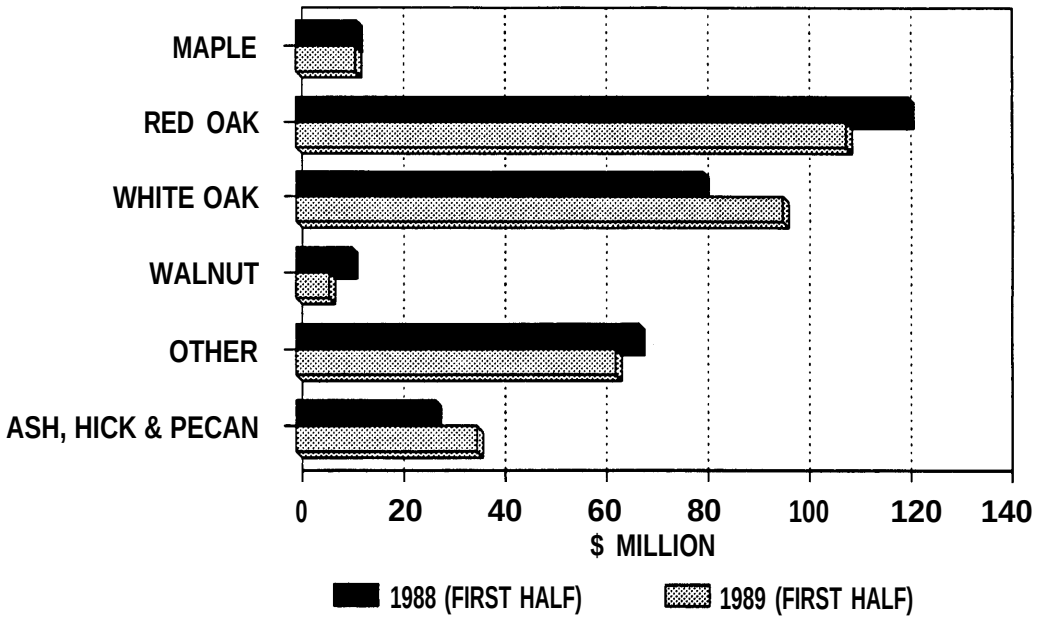
SOURCE: USDC, ITA

US hardwood lumber exports have been increasing dramatically with the last two years being recent high points. Hardwood lumber exports could reach $650,000,000 in 1989.

Slides showing the following were then presented.

Slides 1-7	These slides showed several examples of US hardwood export lumber packages. They illustrated different species form several states.
Slide 8	Lumber is sorted by grade and market after it is sawn from a log.
Slide 9	Lumber for many export markets is generally clear.
Slide 10	The next step is to dry the lumber which includes kiln drying.
Slide 11	The lumber is then usually re-graded to remove poorly dried and below grade boards.
Slide 12	The lumber is then packed by length and packaged for shipment. Sometime tallies of the boards in each pack are included with the lumber. Lumber packages are end coated, heavy strapped and a logo is put on the lumber.
Slides 13&14	The lumber is then placed in a protective container for export shipment.

U.S. HARDWOOD LUMBER EXPORT BY SPECIES
1988 & 1989



You can see that red and white oak lumber is highly demanded from the US. Ash is also a very important lumber export species. some of the 'other" species are American tulipwood, red alder, cottonwood and cherry.

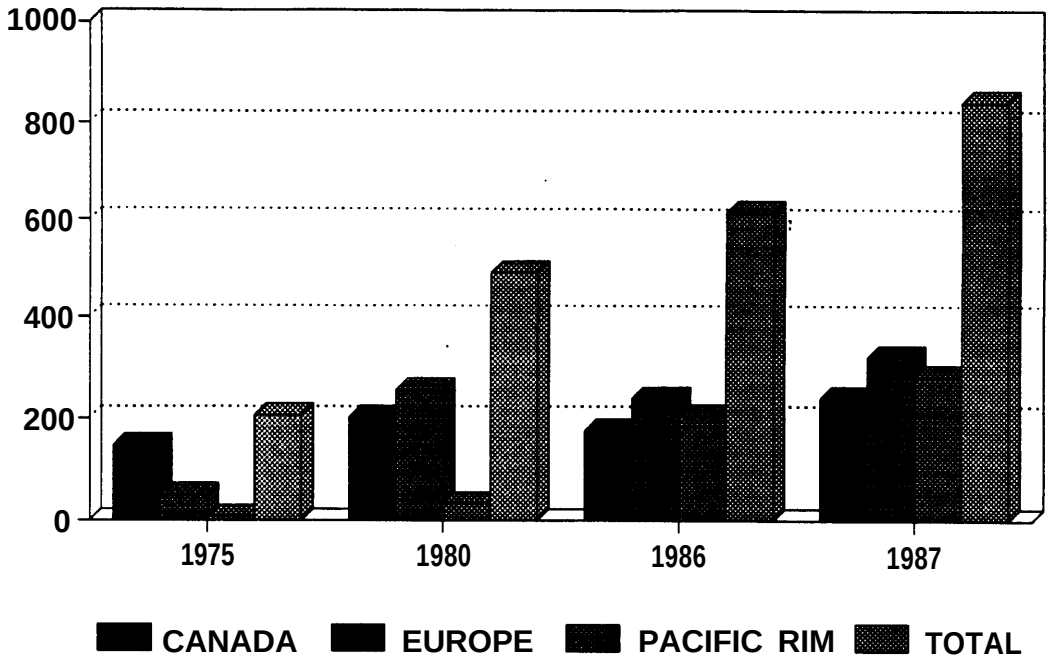
Demands for red oak are decreasing with increases for white oak and ash in 1989. Overall quantity demands are about the same for 1988 and 1989.

US Hardwood Veneer

The previous slide was followed by hardwood veneer slides showing a slicing operation and packages of veneer ready for inspection by an overseas buyer.

It was pointed out that veneer producers cut veneer generally thinner for export customers than for the domestic US market. Examples of veneer thicknesses were presented. Veneer is also presented differently for the two markets. Over 1/2 of our sliced veneer production is currently being exported.

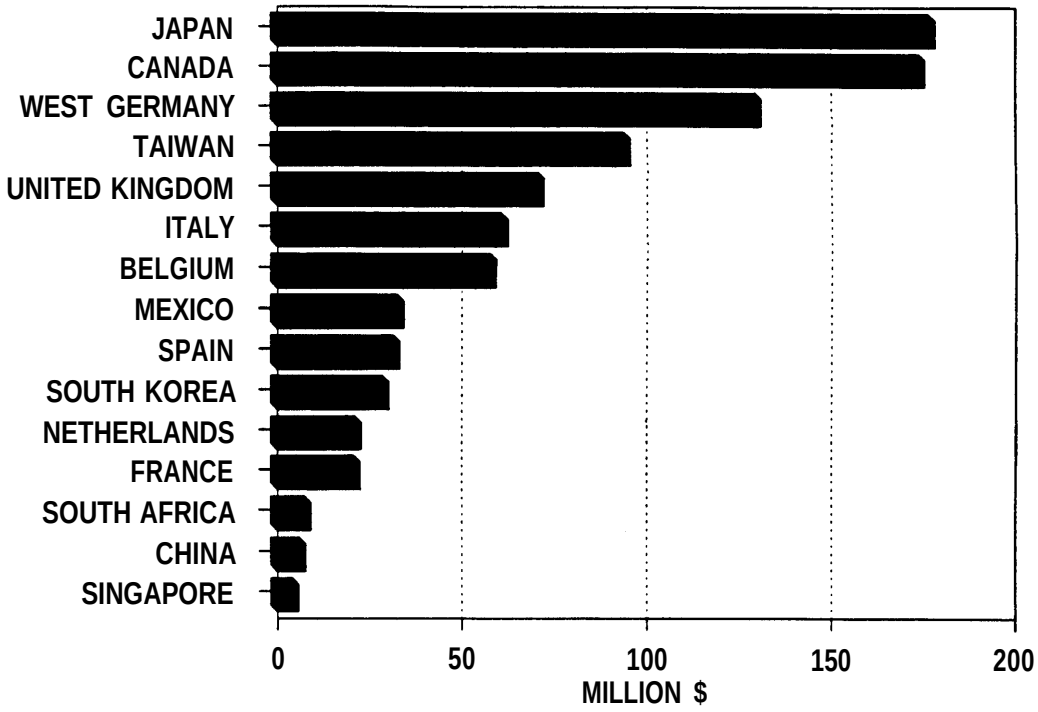
HARDWOOD (LOG, LUMBER & VENEER) EXPORTS
(Million Board Feet)



US hardwood product export trade has been growing and shifting. Hardwood exports have been growing since 1975.

The Pacific Rim market has developed from nearly nothing in the mid and late 1970's and the early 1980's to being a major marketing area at present. Japan is the largest demander in the Pacific Rim area.

1988 U.S. HARDWOOD PRODUCT EXPORTS



Japan and Canada are our top two hardwood product export markets. Taiwan and South Korea are also important purchasers of American hardwoods.

Why have US hardwood exports been increasing? Because:

(1) The US is the #1 producer of hardwood lumber in the world.

(2) US hardwood lumber production capacity is increasing.

(3) US dry kiln capacity is increasing.

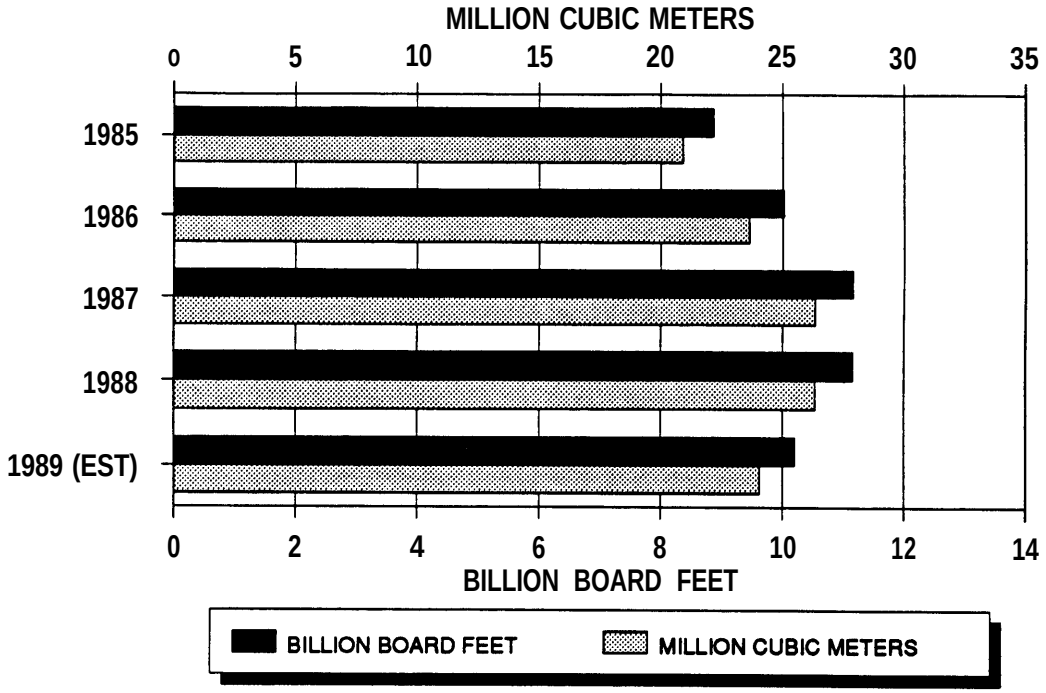
(4) US producers and suppliers are aggressively marketing their products.

(5) US promotional efforts are making customers aware of our species and products.

(6) The US has abundant hardwood resources.

(7) US producers and suppliers can produce competitively priced products.

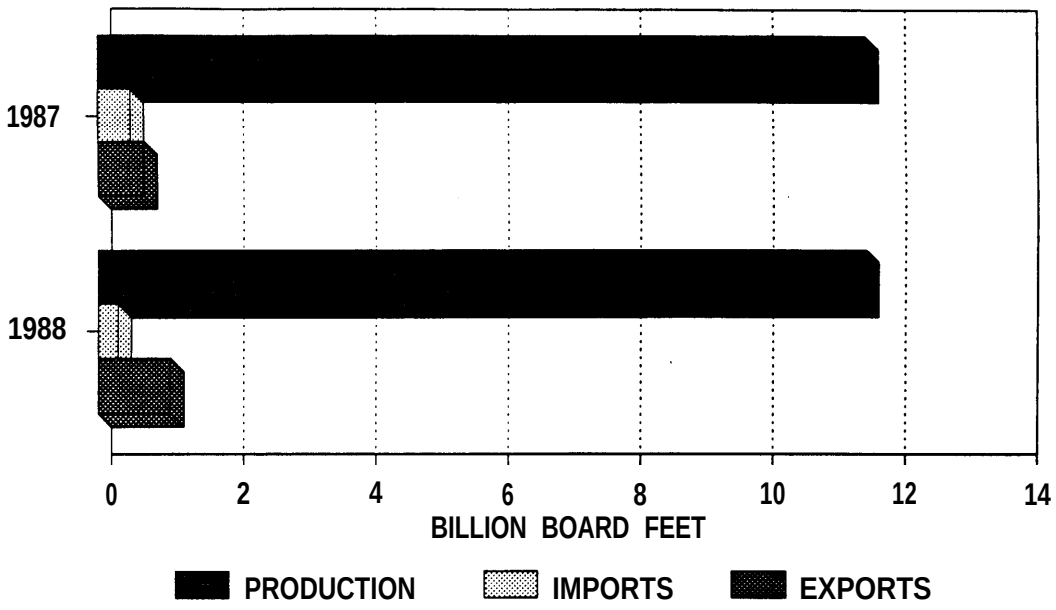
U.S. HARDWOOD LUMBER PRODUCTION



SOURCE: NFPA

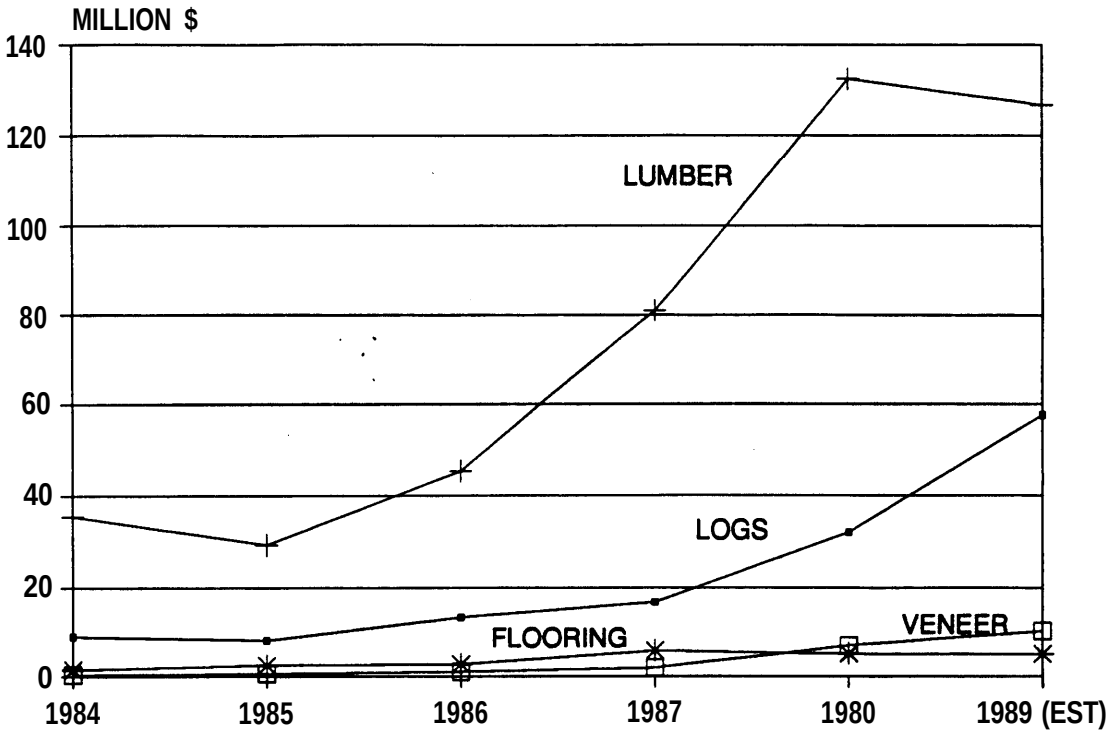
US hardwood lumber production is around 10-11 billion board feet or 26-28 million cubic meters per year.

ESTIMATED U.S. HARDWOOD LUMBER PRODUCTION, IMPORTS & EXPORTS



In the US, we exports around 7-8% of our production. On a value basis exports return around 20% of the total value received from our lumber production. Imports are less than exports and have recently gone down.

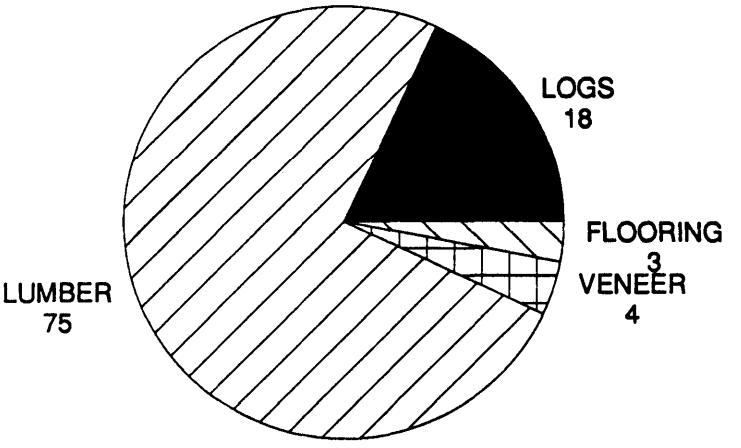
TRENDS IN U.S. HARDWOOD EXPORTS TO JAPAN



This chart shows the trends in US exports to Japan since 1984.

- Your demands of our hardwood products have been increasing.
- Lumber and logs are the most important products.
- Veneer and flooring are also important.
- Dimension or furniture parts are mixed into the statistics for lumber and flooring.

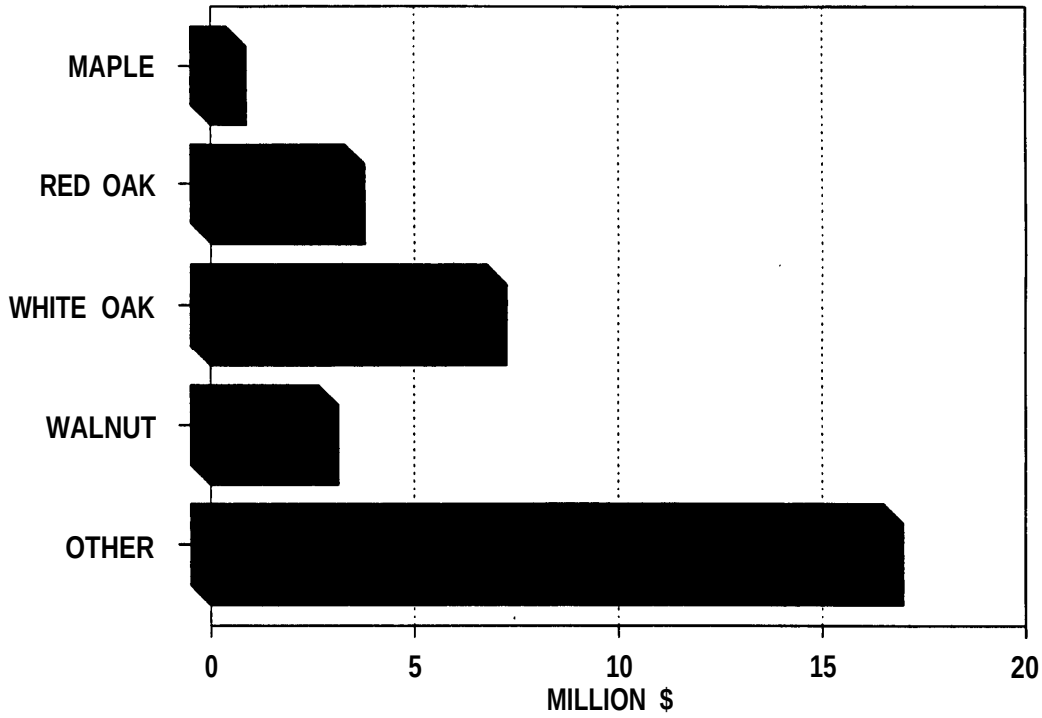
1988 U.S. HARDWOOD EXPORTS TO JAPAN



$177,000,000

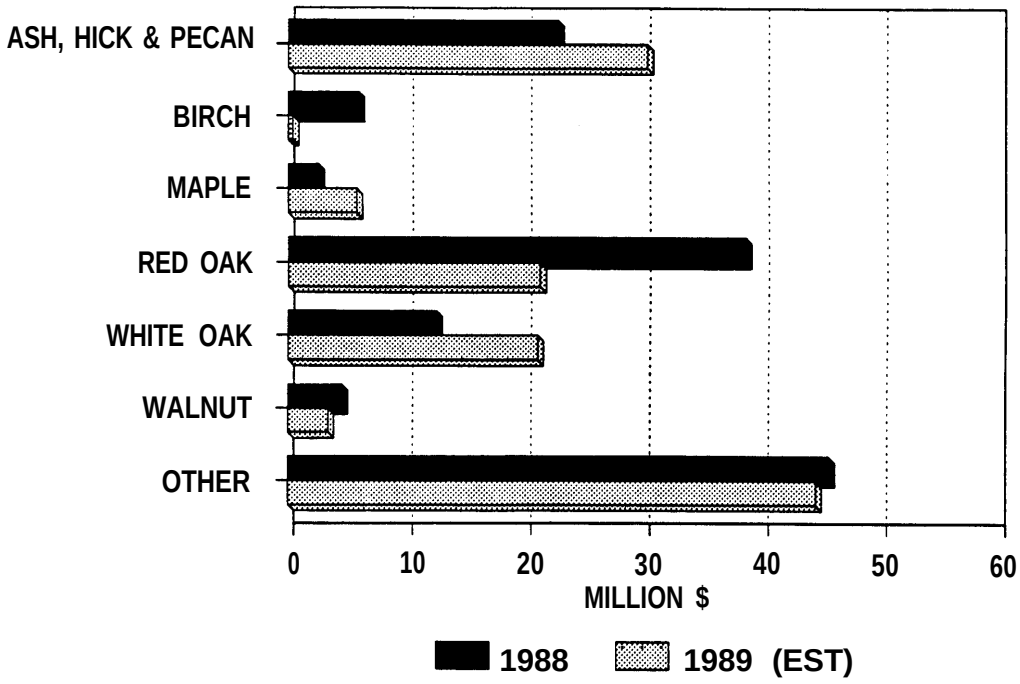
Hardwood export to Japan in 1988 on a dollar basis were 75% lumber, 18% logs, 4% veneer, and 3% flooring products. As I previously mentioned, dimension stock is mixed into lumber and flooring statistics. Around $177,000,000 of hardwood products were exported to Japan in 1988.

1988 U.S. HARDWOOD LOG EXPORTS TO JAPAN



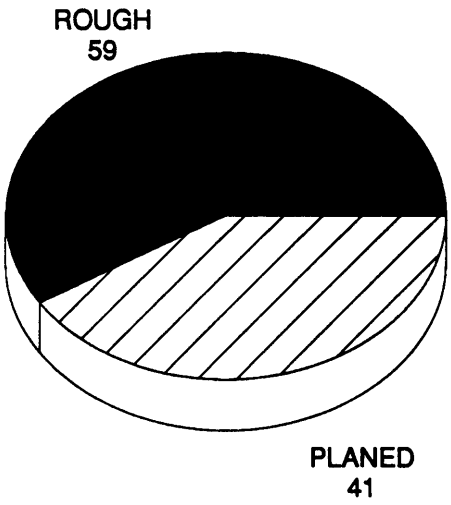
Log exports to Japan in 1988 were mostly “other” (paulownia or kiri and other species) followed by white oak, red oak and walnut.

U.S. HARDWOOD LUMBER EXPORTS TO JAPAN



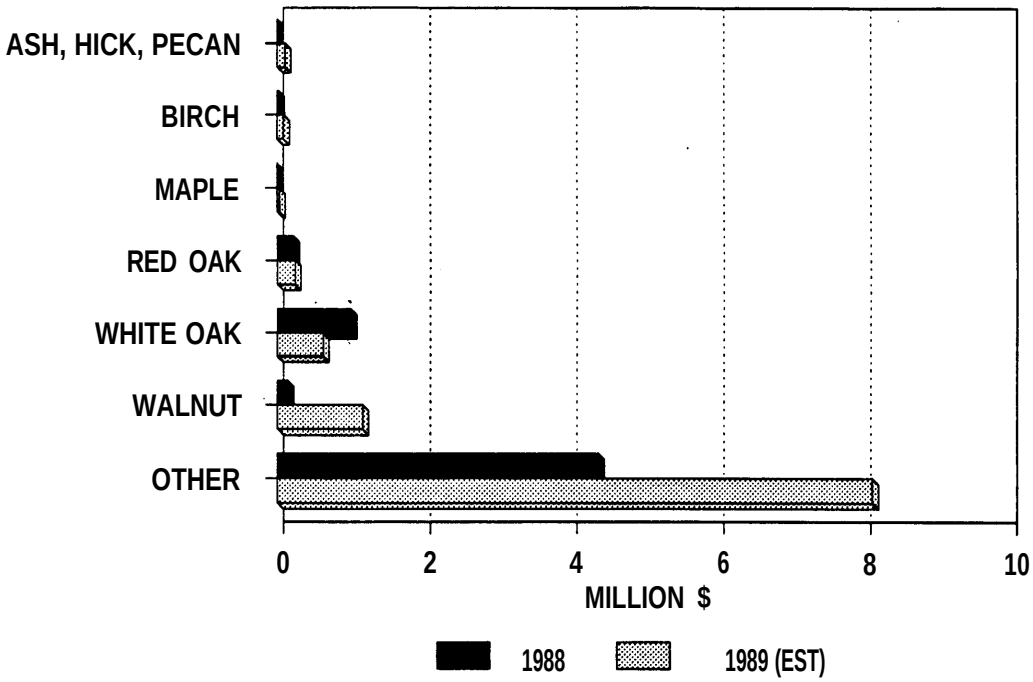
This chart shows 1988 and 1989 US hardwood lumber exports to Japan . The main species in 1988 were red oak, ash and "other." The "other" category contains species such as cherry, red alder, cottonwood, and American tulipwood. In 1989 so far, the big change has been a drop in red oak and increase in white oak and ash lumber.

U.S. HARDWOOD LUMBER EXPORTS TO JAPAN



Over 40% of the hardwood lumber imported from the US is dressed or planed. Japan is somewhat unique in demanding planed hardwood lumber. We need to know more about some of your other special needs.

U.S. HARDWOOD VENEER EXPORTS TO JAPAN



A vast majority of the veneer exports are in the "other" group. This could be any number of species, including cherry. We also believe that some ash, and white oak veneer may be improperly included in the 'other" category. Walnut and white oak veneer export to Japan are gaining.

Concerns of the buyer of US wood products

Many purchasers or potential purchasers of American hardwoods have many questions about our resources. The major questions follow.

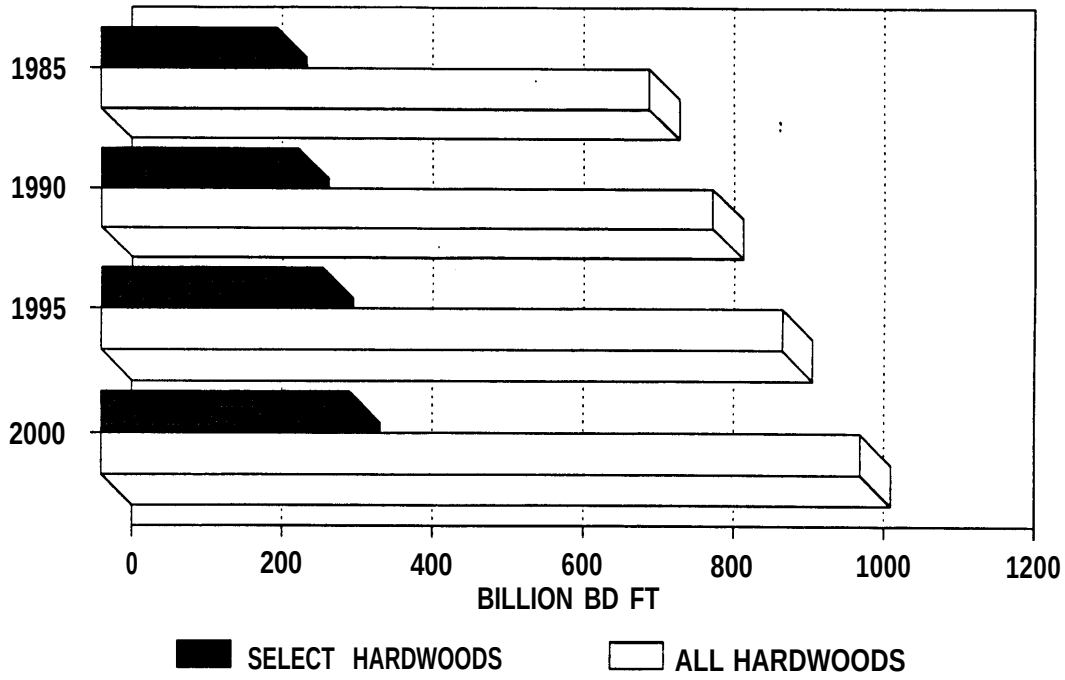
(1) Are standing hardwood sawtimber inventories in the US increasing or decreasing?

(2) Of our species composition, can exports of our select species increase, and are other species available?

(3) What is the quality hardwood situation in regards to standing timber, logs in the yard (exports taking best), and the lumber and veneer we produce?

In the next section we will try to answer these question based upon data collected by US Forest Service on timber stand inventories and other analysis.

ESTIMATED HARDWOOD SAWTIMBER INVENTORIES

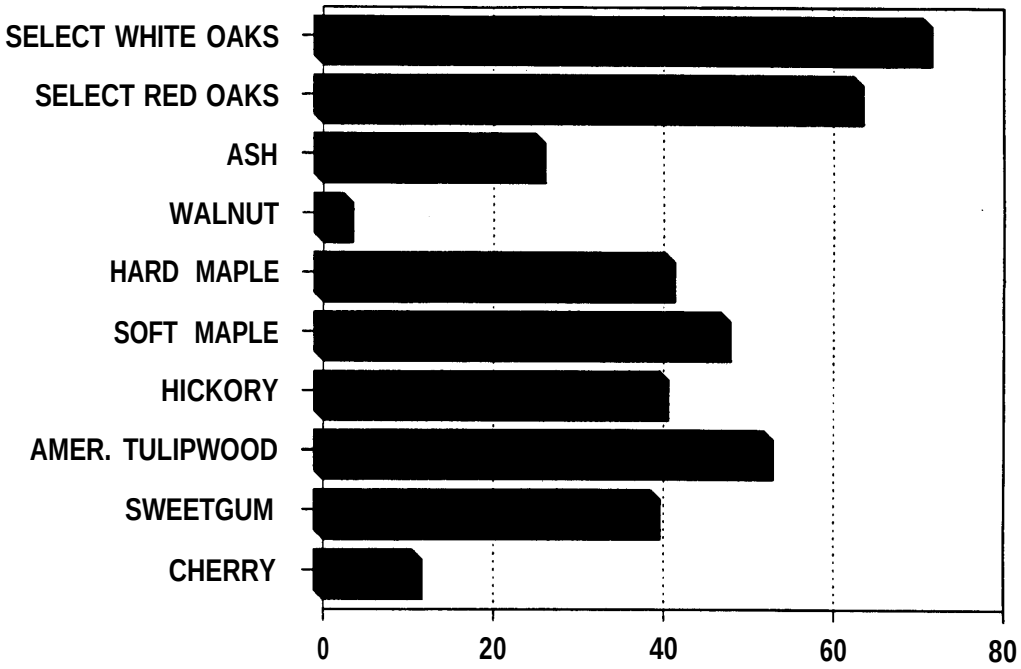


33% SELECT

Estimated hardwood sawtimber inventories - 1985 to 2000

As you can see from this chart, based upon past resource use that the US hardwood sawtimber resource base should continue to increase. You can also see that the group labelled as select species should also continue to grow. This group only represents about 33% of our standing sawtimber. Therefore, you can see the need to more fully use all of our hardwood species to take pressure off the select Hardwoods.

EASTERN HARDWOOD RESOURCES FOR SELECTED SPECIES (BILLION BOARD FEET, INT. 1/4")



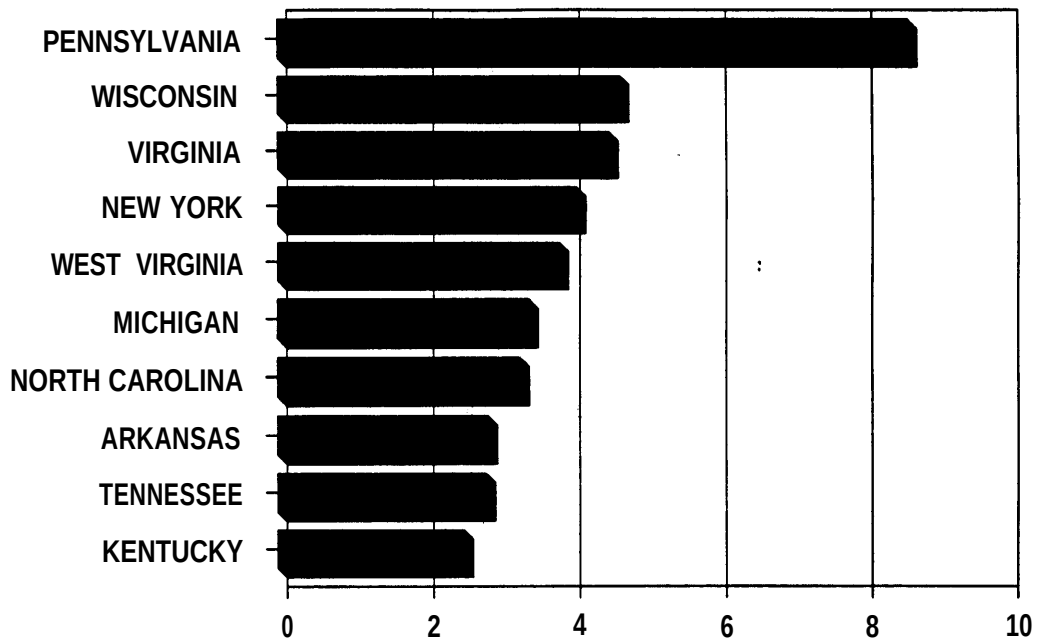
U.S. FOREST SERVICE - RPA

In this chart we show the amounts of our hardwood trees in the six select species and some of the secondary species. The select, or favorite hardwoods are white oak, red oak, walnut, cherry, ash, and maple. We have abundant resources in some of the secondary species.

Species Information Charts and Tables

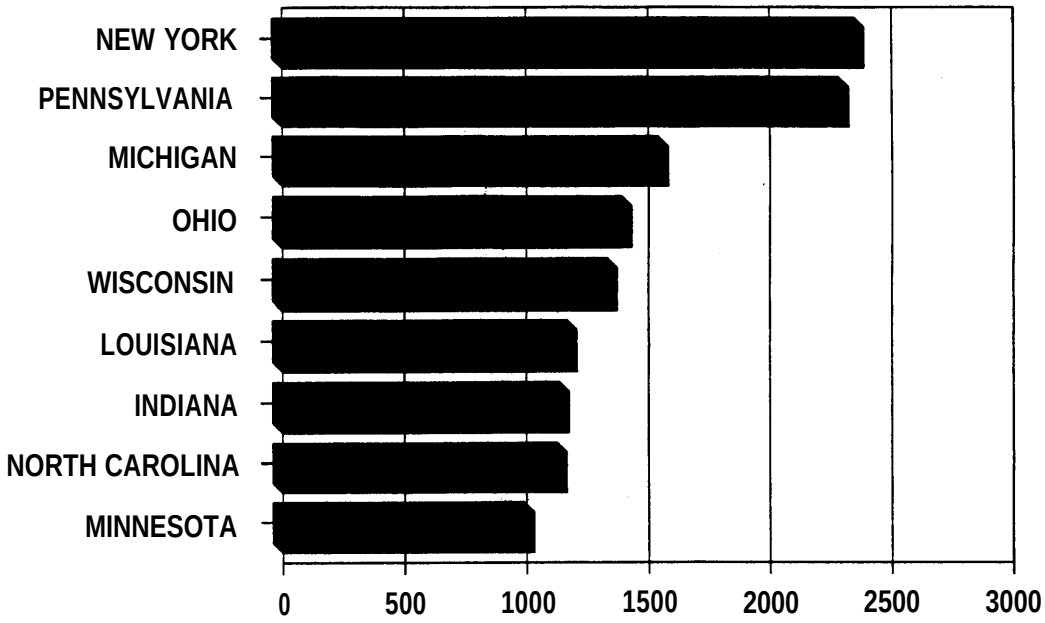
Next will be a series of charts showing the major US States containing the largest volumes of sawtimber for selected species. These charts will be followed by a table that will present the percentage of hardwood sawtimber by species on timberlands of the US and the percent change from 1977-1987 in these inventories. The last two tables will present tabular data on our commercially important hardwood species form recently released US Forest Service studies. If you are interested in further detail for a particular state or region, please contact me and I will direct you to the proper people.

MAJOR SELECT RED OAK STATES
(SAWTIMBER--BILLION BOARD FEET, INT 1/4)



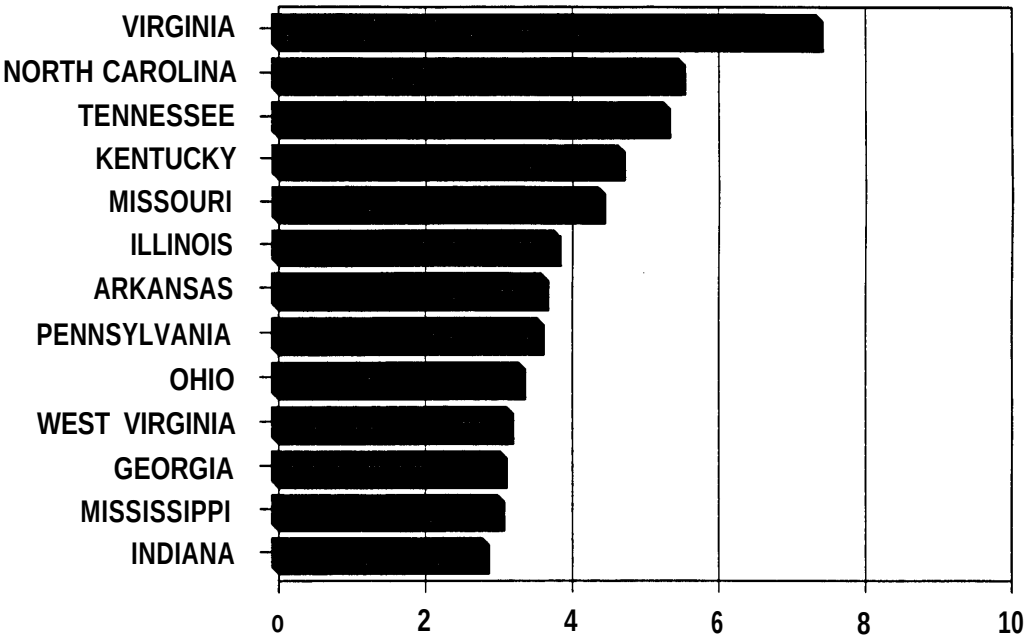
1987 (TOTAL = 63.5 BILLION BF)

MAJOR ASH SAWTIMBER STATES
(MILLION BOARD FEET, INT 1/4)



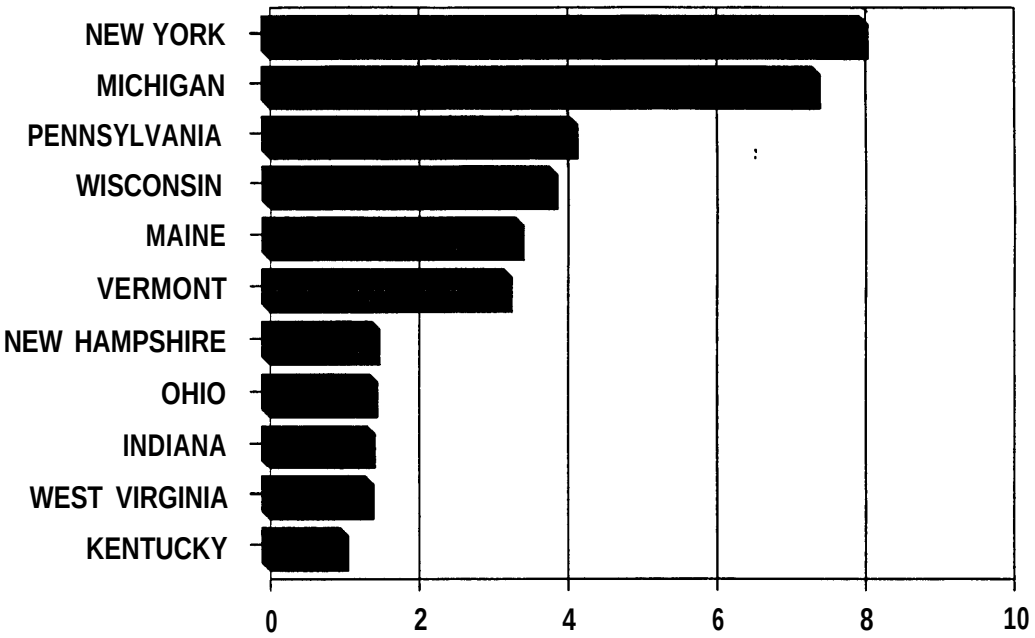
1987 (TOTAL = 26,142 MILLION BF)

MAJOR SELECT WHITE OAK STATES
(SAWTIMBER--BILLION BOARD FEET, INT 1/4)



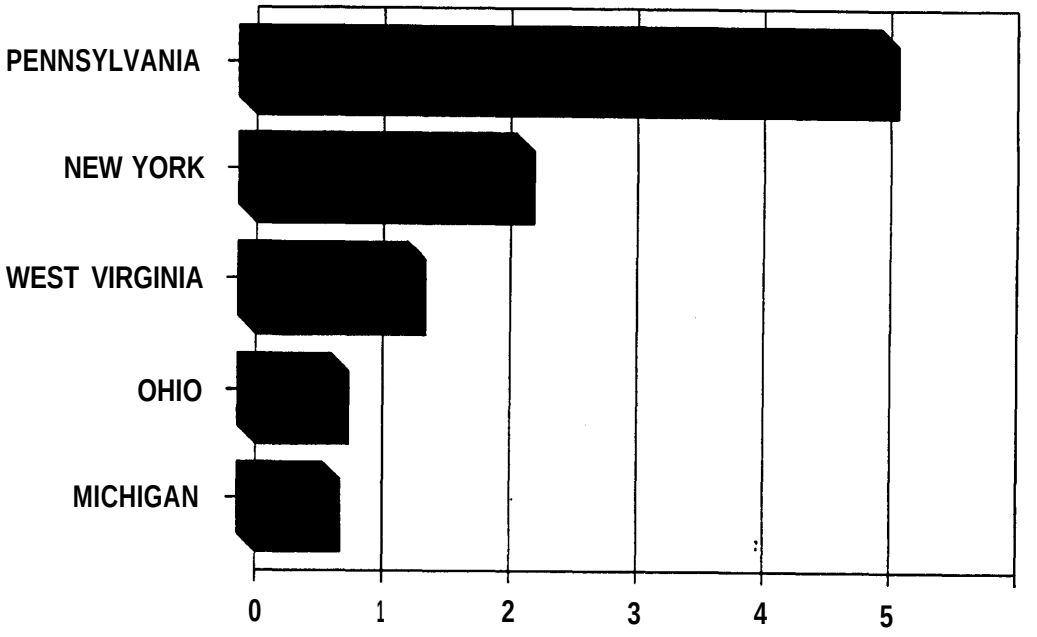
1987 (TOTAL = 71.6 BILLION BF)

MAJOR HARD MAPLE STATES
(SAWTIMBER--BILLION BOARD FEET, INT 1/4)



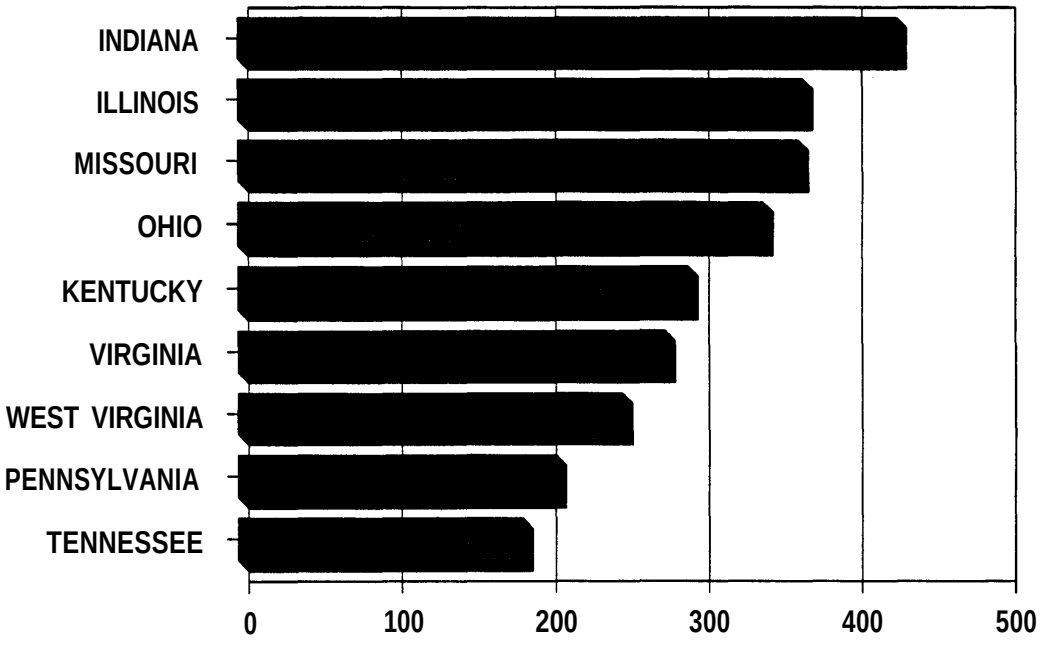
1987 (TOTAL = 41.3 BILLION BF)

MAJOR BLACK CHERRY STATES
(SAWTIMBER--BILLION BOARD FEET, INT 1/4)



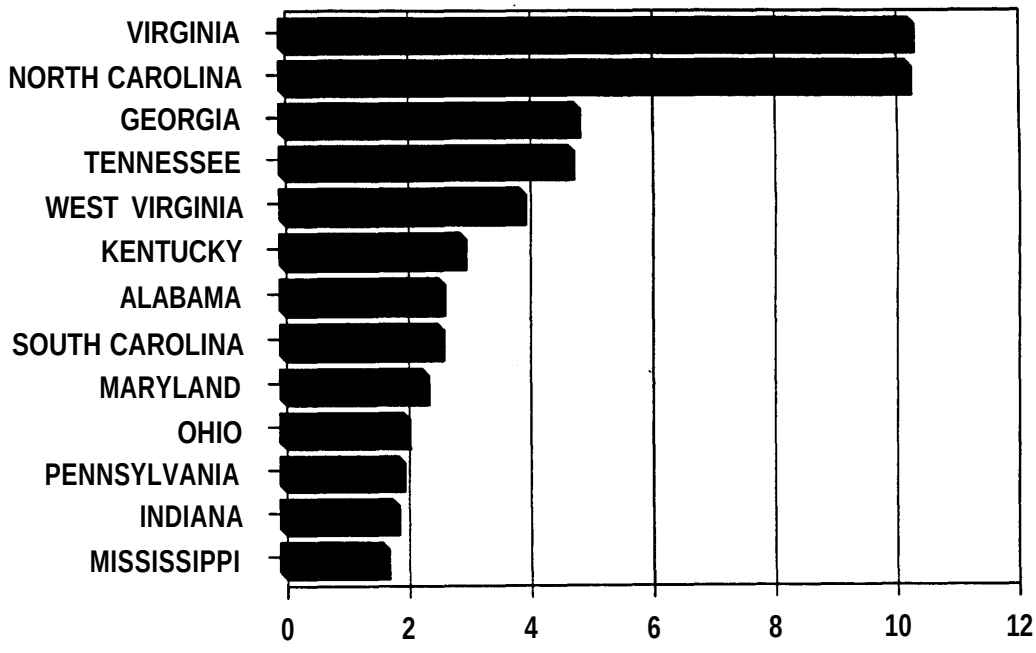
1987 (TOTAL =11 .6 BILLION BF) .

MAJOR BLACK WALNUT STATES
(SAWTIMBER--MILLION BOARD FEET, INT 1/4)



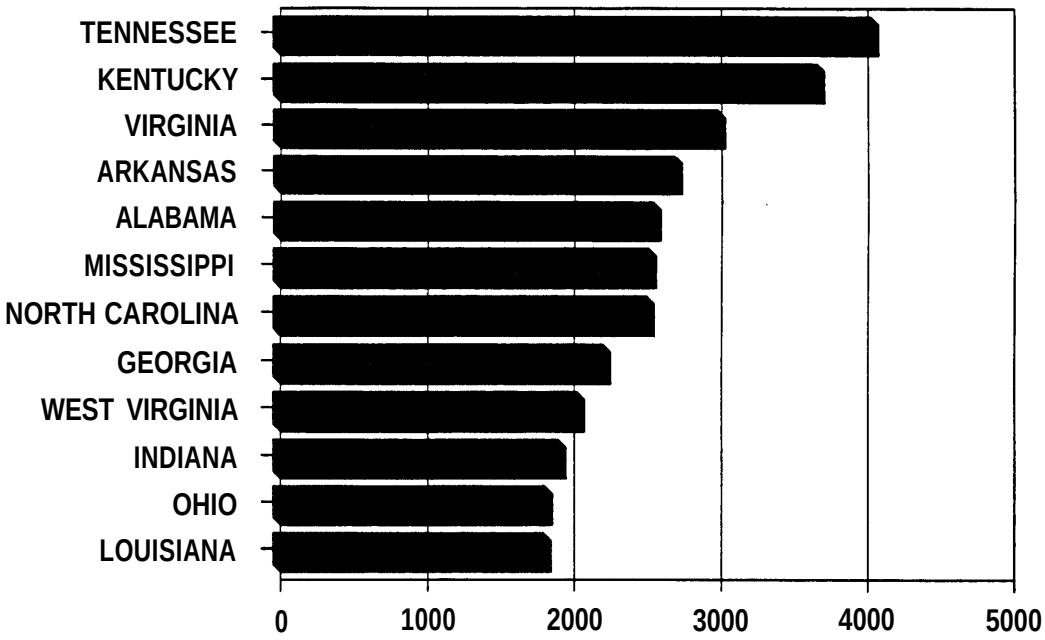
1987 (TOTAL = 3,457 MILLION BOARD FEET)

MAJOR TULIPWOOD SAWTIMBER STATES
(BILLION BOARD FEET, INT 1/4)



1987 (TOTAL = 52.9 BILLION BF)

MAJOR HICKORY SAWTIMBER STATES
(MILLION BOARD FEET, INT 1/4)



1987 (TOTAL = 40,616 MILLION BF)

This table presents the percentage of hardwood sawtimber on timberlands of the US and the percent change 1977-1987.

Species	All Regions	% Change 1977-1987
Select oaks	17.0	
Other oaks	22.1	
(All oaks)	(39.1)	(+35)
Hickory	5.1	+22
Yellow birch	1.1	+11
Hard maple	5.0	+38
Soft maple	6.0	+66
Beech	2.6	+23
Sweetgum	5.0	+22
Tupelo and blackgum	3.9	+14
Ash	3.2	+43
Basswood	1.5	+42
American tulipwood	6.7	+54
Cottonwood and aspen	6.5	+46
Black walnut	.4	+60
Black cherry	1.5	+75
Red alder	393	+18
Other species	9.1	+11
All species	100.0	+33

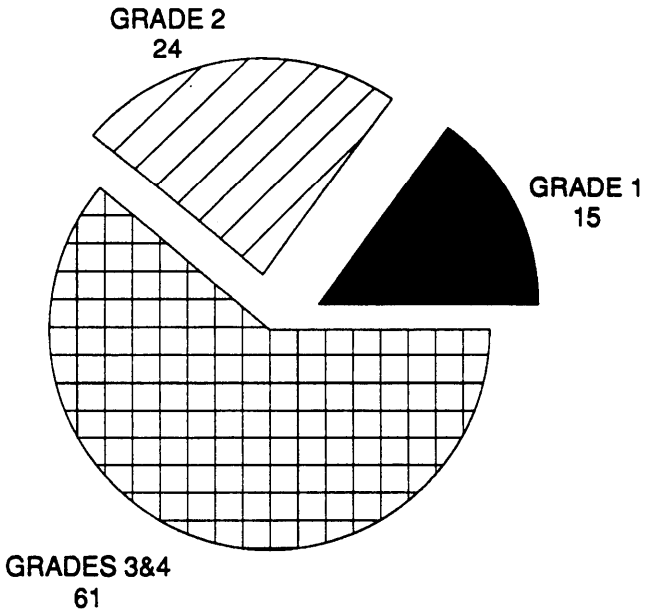
Table 14 —Net volume of hardwood sawtimber on timberland in the Eastern United States, by species, region, and State, 1987

Region and State	Total	Select white oaks	Select red oaks	Other white oaks	Other red oaks	Hickory	Yellow birch	Hard maple	Soft maple	Beech
				Million board feet, International 1/4-inch rule						
Northeast:										
Connecticut	6,140	530	1,458	0	826	304	65	303	1,380	152
Delaware	1,259	210	52	19	237	18	0	0	216	36
Maine	13,991	0	0	23	783	0	2,153	3,406	2,553	1,198
Maryland	11,167	1,208	988	701	1,653	362	0	128	1,235	525
Massachusetts	5,872	0	1,430	216	652	76	160	417	1,496	245
New Hampshire	8,268	155	1,402	0	0	0	1,010	1,475	1,423	971
New Jersey	2,740	438	415	316	679	116	0	61	137	36
New York	35,399	1,042	4,077	633	600	701	1,670	8,038	5,954	3,315
Pennsylvania	47,351	3,616	8,626	4,280	4,020	1,303	184	4,133	5,628	2,202
Rhode Island	727	0	169	73	209	7	5	2	178	15
Vermont	8,732	58	539	0	0	0	1,062	3,245	1,065	755
West Virginia	30,072	3,204	3,847	3,324	4,029	2,069	197	1,394	1,306	1,752
Total	171,718	10,461	23,003	9,585	13,688	4,956	6,506	22,602	22,571	11,202
North Central:										
Illinois	17,165	3,850	1,401	488	3,092	1,560	0	534	1,233	55
Indiana	18,602	2,873	1,315	532	2,161	1,943	0	1,413	810	606
Iowa	4,270	889	594	4	211	179	0	167	488	0
Michigan	34,053	1,443	3,435	0	593	333	1,392	7,395	5,394	1,209
Minnesota	19,804	1,258	2,177	0	47	40	58	774	328	0
Missouri	19,229	4,448	1,251	1,880	6,458	1,406	0	170	430	9
Ohio	21,382	3,369	1,719	1,278	2,501	1,849	0	1,447	962	989
Wisconsin	27,342	2,241	4,674	0	1,815	370	647	3,855	2,185	112
Total	161,847	20,371	16,566	4,182	16,878	7,680	2,097	15,755	11,830	2,980
Great Plains:										
Kansas	2,980	445	208	38	102	111	0	7	119	0
Nebraska	1,186	134	21	1	1	4	0	0	15	0
North Dakota	570	79	0	0	0	0	0	0	0	0
South Dakota	204	11	0	0	0	0	0	0	3	0
Total	4,940	669	229	39	103	115	0	7	137	0
Southeast:										
Florida	14,850	113	16	2,012	3,390	427	0	46	928	40
Georgia	39,418	3,113	1,328	2,743	9,894	2,246	0	22	1,717	244
North Carolina	52,930	5,542	3,308	4,055	7,093	2,544	122	380	3,883	842
South Carolina	26,697	2,077	837	968	5,904	1,189	0	15	1,319	117
Virginia	49,553	7,428	4,525	5,775	7,154	3,026	31	526	2,449	1,371
Total	183,448	18,273	10,014	15,553	33,435	9,432	153	989	10,296	2,614
South Central:										
Alabama	24,724	2,470	1,070	1,570	6,050	2,586	0	44	330	287
Arkansas	28,804	3,677	2,874	3,003	7,290	2,730	0	41	173	202
Kentucky	31,681	4,714	2,543	3,435	5,983	3,705	0	1,050	953	2,078
Louisiana	25,293	1,091	1,039	1,621	6,254	1,842	0	14	336	542
Mississippi	30,137	3,073	2,111	1,799	7,572	2,556	0	20	279	453
Oklahoma	3,011	243	291	558	802	312	0	6	42	0
Tennessee	34,793	5,336	2,849	3,827	6,347	4,073	40	765	865	674
Texas	15,121	1,199	928	1,903	5,126	629	0	7	51	170
Total	193,564	21,803	13,705	17,716	45,424	18,433	40	1,947	3,029	4,406
Eastern total:	715,517	71,577	63,517	47,075	109,528	40,616	8,796	41,300	47.863	21,202

Table 14 —Net volume of hardwood sawtimber on timberland in the Eastern United States, by species, region, and State, 1987, continued

Region and State	Sweetgum	Tupelo and black gum	Ash	Basswood	Yellow poplar	cotton-wood and aspen	Black walnut	Black Cherry	Other eastern hard-woods
	Million board feet, International l/&in1/4-inchch rule								
Northeast									
Connecticut	0	0	310	0	0	31	0	42	739
Delaware	205	47	0	0	145	0	0	0	74
Maine	0	0	571	71	0	2,030	0	0	1,203
Maryland	769	304	0	0	2,336	0	0	0	958
Massachusetts	0	0	375	0	0	120	0	273	412
Now hampshire	0	0	500	37	0	426	0	0	869
New Jersey	167	54	0	0	112	0	16	11	182
New York	0	0	2,387	1,313	0	1,411	0	2,187	2,071
Pennsylvania	0	207	2,324	834	1,942	578	207	5,064	2,203
Rhode Island	0	0	45	0	0	6	0	0	18
Vermont	0	0	593	76	0	395	0	0	944
West Virginia	0	355	709	501	3,927	0	250	1,337	1,871
Total	1,141	967	7,814	2,832	8,462	4,997	473	8,914	11,544
North Central:									
Illinois	156	101	784	209	220	713	368	233	2,168
Indiana	222	156	1,175	254	1,845	698	429	317	1,853
Iowa	0	0	138	259	0	403	93	50	795
Michigan	0	0	1,582	2,205	53	6,380	90	669	1,880
Minnesota	0	0	1,030	1,682	0	9,042	27	23	3,318
Missouri	37	19	323	46	4	264	365	44	2,075
Ohio	0	0	1,432	0	2,027	485	342	733	2,249
Wisconsin	0	0	1,373	2,467	0	4,792	78	271	2,462
Total	415	276	7,837	7,122	4,149	22,777	1,792	2,340	16,800
Great Plains:									
Kansas	0	0	216	24	0	719	186	5	800
Nebraska	0	0	103	29	0	697	16	0	165
North Dakota	0	0	102	57	0	180	0	0	152
South Dakota	0	0	32	3	0	141	0	0	14
Total	0	0	453	113	0	1,737	202	5	1,131
Southeast:									
Florida	1,313	3,825	815	34	173	3	0	7	1,708
Georgia	5,364	5,311	716	28	4,821	28	17	59	1,767
North Carolina	5,052	5,260	1,165	354	10,250	76	92	127	2,785
South Carolina	4,761	4,711	860	6	2,586	270	14	6	1,057
Virginia	2,073	991	732	463	10,306	12	278	129	2,284
Total	18,563	20,098	4,288	885	28,136	389	401	328	9,601
South Central:									
Alabama	2,974	1,737	863	65	2,608	55	22	0	1,993
Arkansas	4,120	932	667	53	37	596	39	0	2,370
Kentucky	328	639	818	317	2,959	0	293	0	1,866
Louisiana	4,226	2,999	1,208	13	203	611	0	0	3,294
Mississippi	3,844	1,878	673	63	1,677	749	25	0	3,365
Oklahoma	81	57	139	0	0	196	17	0	267
Tennessee	1,295	591	984	223	4,718	260	185	0	1,761
Texas	2,584	786	398	1	0	200	8	0	1,131
Total	19,452	9,619	5,750	735	12,202	2,667	589	0	16,047
Eastern total:	39,571	30,960	26,142	11,687	52,949	32,567	3,457	11,587	55,123

SAWTIMBER LOG GRADES IN EASTERN FORESTS FOR SELECT HARDWOODS

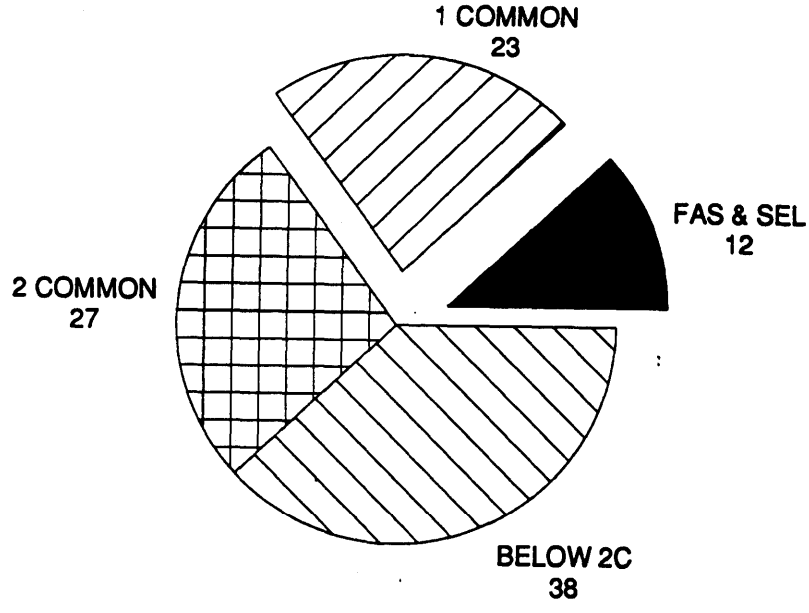


What about quality? (This is material quality - not production quality, like poorly manufactured products.)

Sawtimber log grades in Eastern forests for select hardwoods

When we examine the sawtimber logs grades, we quickly realize that less than 1/3 of our logs coming from the forests are in the upper grades. Over 1/2 are in grades 3 and 4. This tells us, we need to work with all our wood demanders, overseas and domestic, to find ways to better utilize the medium and lower grades and not just the uppers.

POTENTIAL LUMBER GRADE OUTPUT FROM U.S. SELECT HARDWOOD SAWTIMBER RESOURCES



potential lumber output from US select hardwoods and sawtimber resources

If we processed the previous log grade mix into lumber, 12% of the lumber sawn from our select hardwood inventories would be FAS and Select lumber grades, 23% #1 Common, and finally 65% in #2 Common and below. Actual production is better because we leave some of the lower grade logs in the woods.

Hardwood Lumber Grades and uses

Grades	Uses
High (FAS & Sel) (15-20%)	Moldings, millwork, export market and other clear or almost clear wood demanders
Medium (#lC & #2C) (45-55%)	Dimension, furniture, and cabinet parts and flooring and other products
Low (Below #2C) (25-40%)	Sleepers (RR ties), pallets, mine timbers and flooring

What about the future?

We know that worldwide demand for our North American Timber resources will increase dramatically in the future. We believe the future looks good if:

(1) We can convince US hardwood customers to use more of our medium grade material,

(2) We can sell our overseas customers more products such as veneer, plywood, and dimension or component parts,

(3) We can expand markets to include some of the lesser used species and again medium grade material or purchase further processed products that US manufacturers could make from the medium grade material.

Restating what was just said for US producers or --

How will we meet these increased demands?

* **We need to export more species in higher volumes and not just mainly the oaks.**

* **We need to produce more upgraded lumber for the export market.**

* **We need to sell more dimension stock or furniture parts on the export market. We can make these products from our abundant medium grade material.**

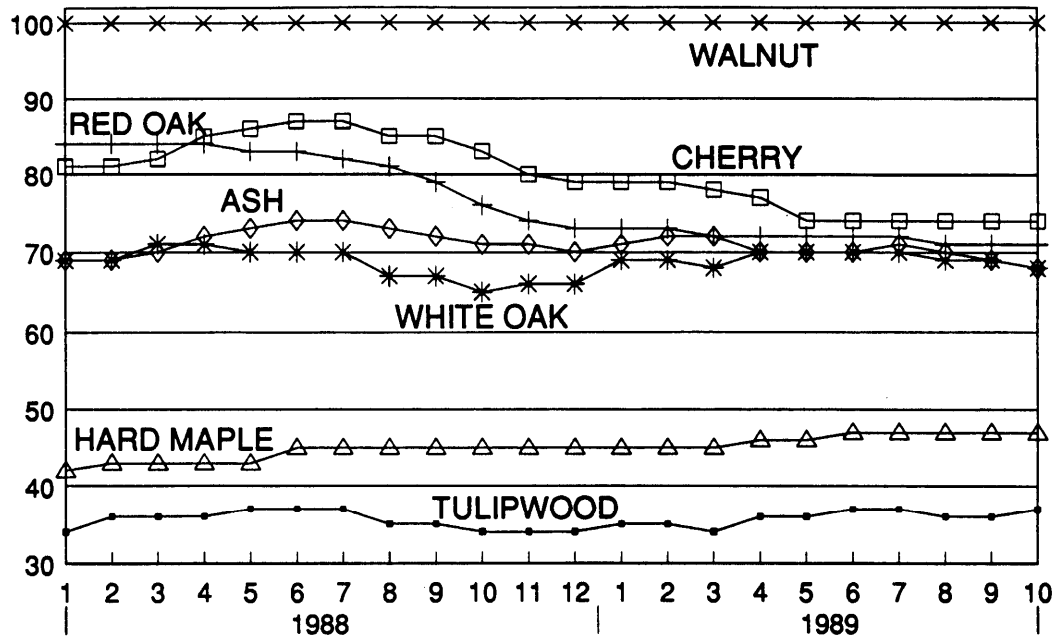
* **We need to have accepted and produce character marked hardwood products for the export market.**

* **We need to improve our processing and the utilization of our resources. Improved markets for our secondary species and medium grade material will help us improve the utilization of our resources.**

Cost Comparison Charts

The next three charts were added to show the relative differences in costs at American suppliers of different species for FAS/1F and #1 Common kiln dried lumber, and to show the relative differences in costs for FAS/1F, #1 Common, and #2 Common lumber. The data is based upon information taken from the ‘Weekly Hardwood Review” and is based upon average costs. Actual values from individual suppliers could vary greatly from these values for may reasons.

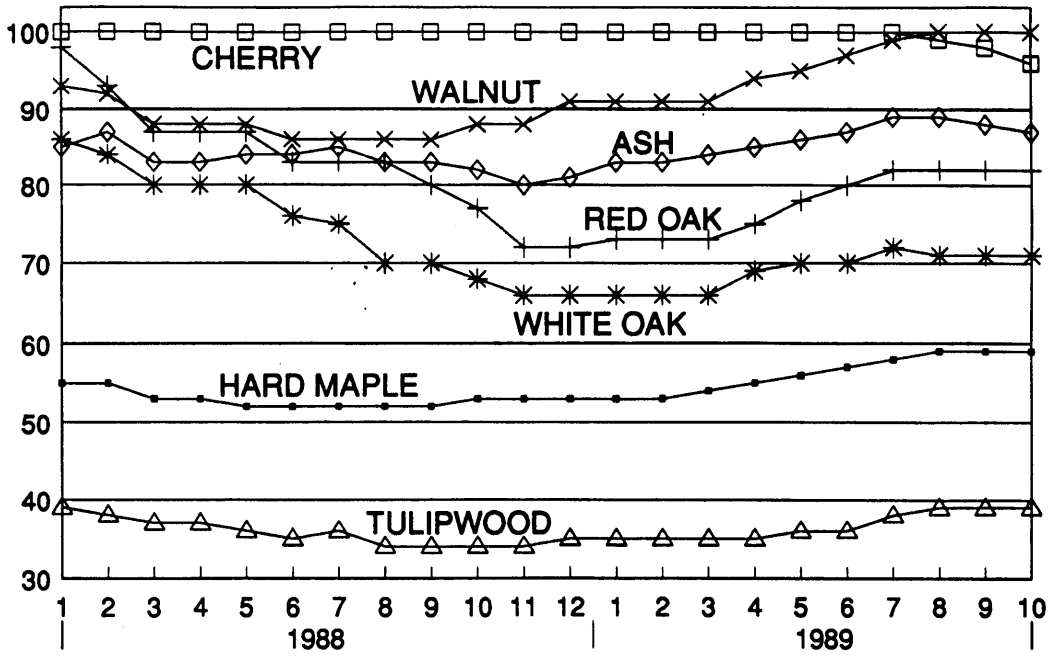
RELATIVE COST COMPARISON FOR 4/4 FAS/1F KILN DRIED LUMBER (APP)



SOURCE: WEEKLY HARDWOOD REVIEW

This chart shows the relative cost comparisons for 4/4 FAS/1F kiln dried hardwood lumber from the Appalachian region for 1988 and 1989. The range in costs is from 1 to 100 with the most expensive specie (walnut) having the value of 100. This chart gives you a feel for the cost movements for the past two years. This chart also shows you the relative cost differences between species. For example, American tulipwood has consistently cost about 50% less than white oak. You can also see that cherry, red oak, ash, and white oak are very similar in cost at this time. Please remember that these are average costs and that actual costs based upon special requirements might be quite different.

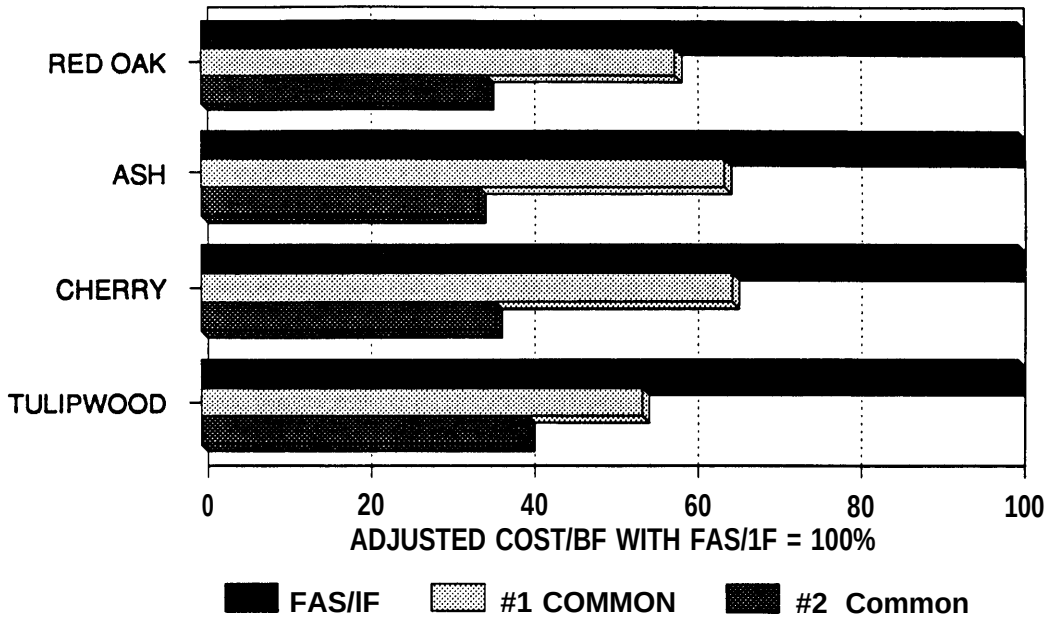
RELATIVE COST COMPARISONS FOR 4/4 #1 COMMON KILN DRIED LUMBER (APP)



SOURCE: WEEKLY HARDWOOD REVIEW

This chart shows the relative cost comparisons for 4/4 #1 Common kiln dried hardwood lumber from the Appalachian region for 1988 and 1989. The range in costs is from 1 to 100 with the most expensive specie starting out as cherry and ending with walnut as the most costly having the value of 100. This chart gives you a feel for the cost movements for the past two years. This chart also shows you the relative cost differences between species. For example, #1 Common hard maple has cost about 55-60% less than cherry. You can also see that costs per specie are now quite different at this time l Please remember that these are average costs and that actual costs based upon special requirements might be quite different.

RELATIVE COST COMPARISONS FOR 4/4 KILN DRIED HARDWOOD LUMBER BY GRADE



SOURCE: WEEKLY HARDWOOD REVIEW

This chart shows the relative cost comparisons for 4/4 kiln dried hardwood lumber by grade. The costs have been adjusted with the cost of FAS/1F being equal to 100%. Please note that this does not mean that the costs for FAS/1F are the same for each species on the chart. They are not. You can see that the cost of #1 Common is between 54 to 65% of the cost of FAS/1F and that the cost of #2 Common ranges from 34 to 40% of the cost of FAS/1F. Depending on the product that you are trying to produce from your lumber, your yields in parts or cuttings by grade in many situations will indicate based on costs that you could use #1 or #2 common lumber and reduce your part costs. This is a complicated subject.