

PACIFIC RIM AND MIDDLE EAST MARKETS FOR HARDWOOD PRODUCTS

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Abstract. Dramatic changes have taken place in the U.S. hardwood export market since 1975. World demand for U.S. hardwood logs, lumber, and veneer has quadrupled. Exports to Europe and particularly the Pacific Rim, have grown significantly. In this presentation, the focus will be on the Pacific Rim and Middle East markets. Reasons for overseas demand of U.S. hardwood products will be presented. Also addressed will be the importance of exports to our primary industry and the Southern hardwood resource situation. The benefits from increasing hardwood exports of non-select species from the South will be presented along with ways to expand the Southern hardwood industry through utilization of the present quality of sawtimber and resulting lumber.

SOME OVERVIEW POINTS

1. About \$1 of every \$5 received by the hardwood sawmill industry in 1987 was a result of export sales.
2. Latest FAO world forest products data show the U.S. ranked No. 2 in hardwood lumber exports and No. 5 in log exports (based on value).
3. Export products are different from those sold on the domestic market.
4. Hardwood exports quadrupled from 1975 to 1987.
5. Hardwood exports could reach record levels of 1.3 billion board feet in 1988. These exports totaled 908 million board feet in 1987.
6. Markets have grown and shifted over the last 10+ years with major gains attained in the European and Pacific Rim markets.
7. The first four major importing countries are Canada, West Germany, Japan, and Taiwan.
8. Red oak, white oak, and a category called "other" (we speculate that much of this was cherry and red alder) made up 78% of log exports, 81 o/o of lumber exports, and 91 o/o of veneer exports in 1987.
9. Southern United States has substantial quantities of hardwood sawtimber and these resources are increasing and not decreasing.

10. By the year 2000, Southern inventories of select species sawtimber could increase by 41% to 113 billion board feet, up from 81 billion board feet in 1985.
11. However, only 21 o/o of Southern hardwood sawtimber is in the select export species. Improved markets for nonselect species are needed.
12. High-grade material is in limited supply and is highly demanded for many of our popular species.
13. For exports to continue to increase, demands need to be broadened to include more species and products made from abundant medium- and low-grade material. The products could range from rough dimension to mouldings and sub assembled furniture parts.

INTRODUCTION

Our assignments, as speakers, are to focus on our export markets, the potential benefits from increasing exports of Southern forest products, and ways to expand industry in the South. Previous speakers have covered many of these areas. I will complement their remarks by focusing on hardwood exports to the Pacific Rim and to a much lesser degree the Middle East marketing areas.

You will be told that the Pacific Rim marketing area has become one of the largest markets for primary product hardwood exports. Preferences for fine hardwoods and limited local supplies of species such as oak should assure continued strong demands for U.S. hardwoods. In contrast, the Middle East market is presently very small but stability in this region could open the door for U.S. hardwood exports.

You will also be told that we (all of us) need to develop more markets for our abundant non-select oak species and others such as yellow poplar, sweetgum, hickory, and tupelo. Furthermore, you will be told that we need to develop more export markets for value-added dimension stock to expand our resource base for the export market. Medium- and low-grade lumber can be efficiently converted to dimension products.

This paper briefly discusses how export products are different, the major U.S. hardwood export markets, Pacific Rim and Middle East demands for U.S. hardwoods, and future opportunities. It also examines the sawtimber resources that support the export market.

HARDWOOD EXPORTS ARE DIFFERENT

Specifications and preparations for export logs, lumber, and veneer are often different for the same products sold on the domestic market. Log exports are primarily veneer quality. Export veneer is cut thinner and clipped and packaged differently.

Hardwood export lumber is the most different. It is sold kiln-dried, end-coated, branded, labeled, and strapped with substantial bands and protective corner clips. The lumber is usually reinspected after kiln drying to remove poorly dried boards, and it is sometimes completely wrapped with plastic for protection. Most bundles are accompanied by a tally sheet showing the measurements of all boards. In the past, none of the above was done for domestically shipped hardwood lumber except for kiln drying. Now some of the more progressive companies are shipping their domestic lumber in the same manner as export lumber.

Shipping is also different. Most export lumber is shipped in protective containers that provide much needed security, whereas most domestic lumber shipments are made on flat beds and with tarps when kiln-dried material is being shipped.

HARDWOOD EXPORT OVERVIEW

According to some of the latest FAO world forest products data, the United States in 1985 ranked No. 2 in the world in hardwood lumber exported based on value of shipments, and No. 1 in the world in sawn hardwood production. About \$1 of every \$5 received by the hardwood sawmill industry is a result of the export market.

The export market for hardwoods has changed dramatically since 1975 (table 1). Combined European, Canadian, and Pacific Rim demand for U.S. hardwood logs, lumber, and veneer has quadrupled. Exports to Europe, and particularly the Pacific Rim, have grown significantly. Exports to Canada have increased at a lower rate; however, they started at a much higher level in 1975. Pacific Rim demands have increased from 8 million board feet in 1975 to 281 million board feet in 1987.

PRIMARY PRODUCT EXPORTS TO THE PACIFIC RIM AND MIDDLE EAST

Why have hardwood exports to the Pacific Rim been increasing at tremendous paces during the 1980s? Or, why have our hardwood producers turned to this market to sell their products, and why have they been so successful in the last 8 years? On a dollar basis, Japan and Taiwan were the No. 3 and 4 importers of hardwood products (logs, lumber, and veneer) from the United States in 1987. In 1986, Taiwan was No. 1 and Japan was No. 4.

During this period, American hardwood sales in Europe and Canada were hurt by the increased value of the U.S. dollar and the slowed economic growth in these countries. At the same time, U.S. imports of furniture and furniture parts were increasing, thus reducing domestic demand for U.S. hardwood logs, lumber, dimension and veneer. On the other side of the globe, log embargoes and cheaper plywood production caused restructuring and redirection of industries from plywood to furniture in Taiwan and Korea. This created needs for different materials, such as our temperate hardwoods. Japan's hardwood consumption was putting pressure on their limited hardwood resources, causing them to turn to America as a supplier since our woods are similar in many respect to those of Japan and are readily available.

Let's take a closer look at recent U.S. hardwood exports to the Pacific Rim and the Middle East.

Exports to Japan

Japanese imports of American hardwoods have been mainly in lumber form (table 2). On a value basis, 1987 exports to Japan totaled \$98 million. Of this total, 81 percent was lumber, 17 percent log, and 2 percent veneer exports. On a quantity basis, 89 percent was lumber, 10 percent log, and less than 1 percent veneer exports.

Unlike other major hardwood lumber export markets, the oaks do not dominate U.S. exports to Japan. Rather, they account for less than forty percent of these exports (this is almost doubling of oak demand since 1985 on a percentage basis). Forty-two percent of our exports are listed in the "other" category, and two-thirds of this lumber is shipped in dressed form. Much of this material appears to be red alder produced in the Pacific Northwest. The remainder of the "other" category wood is predominantly yellow poplar, black cherry, and cottonwood. Information showing the exact species and quantities by species is not available.

Most of these exports are destined for use in furniture or cabinet products, as showings at the 1985 Tokyo Furniture Show confirmed. Fine-grained hardwoods and oak were the predominant woods, but the oak appeared to be mostly Japanese white oak. Japanese industry people stated they need and use U.S. oak for legs and trim work, and they use the more expensive and preferred Japanese oak for the larger, more visible surfaces.

The Japanese furniture manufacturers using oak prefer and pay more for quarter-sawn lumber and/or quarter-sliced veneer with tight growth rings. In the production of domestic oak material in Japan, producers cut and separate quarter- and flat-sawn material. The material is then sold separately with the quarter-sawn obtaining a premium.

Table 1. Hardwoods (log, lumber, and veneer) exports from the United States in 1975, 1980, 1986, and 1987, in million board feet

Destinations	1975 exports	1980 exports	1986 exports	1987 exports
Canada	147	202	175	239
Europe	51	256	238	320
Pacific Rim	8	33	203	281
Total	206	491	616	840

Source: U. S. Department of Commerce

Table 2. U.S. log, lumber, and veneer exports to Japan in 1987

Species	Logs		Lumber		Veneer	
	Quantity (MBF)	Value (M\$)	Quantity (MBF)	Value (M\$)	Quantity (MSqFt)	Value (M\$)
Birch	62	22	in "Maple"		5	2
Maple	521	265	10,139	3,101	30	4
Red Oak	1,944	1,339	33,708	22,932	816	71
White Oak	3,722	4,243	7,936	7,207	4,917	582
Ash/Hickory	in "Other"		20,603	12,688	in "Other"	
Walnut	859	2,439	2,265	1,642	7,623	399
Other	6,470	8,533	48,666	31,734	16,081	902
Total	13,578	16,841	123,317	79,304	29,472	1,960

Source: U. S. Department of Commerce

Japanese furniture manufacturers also like to use uniform, light-colored, fine-grained hardwoods that can be given a natural finish or stained. Several U.S. hardwoods meeting these criteria that were seen at the Tokyo Furniture Show included red alder, black cherry, cottonwood, maple, and sap-one-side yellow poplar. Most of these hardwoods are being used as substitutes for Japanese hardwoods, which are either in short supply and/or are more expensive to purchase. U.S. promotional efforts are also introducing additional hardwoods such as gum, aspen, and soft maple.

Exports to Taiwan

In 1987, almost \$95 million worth of hardwood logs, lumber, and veneer were shipped to Taiwan from U.S. ports (table 3). As with Japan, the order of importance of exports to Taiwan was lumber (72 percent), logs (18 percent), and veneer (10 percent). On a quantity basis, 78 percent was lumber, 19 percent log, and 3 percent veneer exports.

Species sent to Taiwan were mainly red and white oak. On a quantity basis, 81 percent of the lumber, 70 percent of the logs, and 84 percent of the veneer were oak exports with the majority being red oak. The remaining demands were for woods such as maple, ash, walnut, cherry, and yellow poplar.

Why are there such great demands for American oak? Taiwan's major furniture producers are export oriented, and we are the largest market in the world for furniture. Oak furniture is in the greatest demand in the United States and is also very popular in Europe and Japan (other markets for the Taiwanese); therefore, Taiwan manufacturers want and need oak. Regional supplies of oak from Japan are too expensive and are available only in limited quantities. So, they have turned to the United States for their rapidly growing oak needs.

Observations at a recent Taiwan Furniture Show in Taipei and a fall Southern Furniture Show in High Point, NC, revealed that rubberwood and other Southeast Asian species are being used in the furniture parts and furniture produced in Taiwan for export. It appears, however, that the companies using a great deal of rubberwood are those selling to retailers in the United States and not those dealing with U.S. manufacturers. Most of the companies selling to U.S. manufacturers are using U.S. hardwoods that American consumers are accustomed to seeing in furniture products.

Exports to South Korea

In 1987, almost \$21 million worth of hardwood logs, lumber, and veneer were shipped to South Korea (table 4). On a value basis, 49 percent was log, 34 percent lumber, and 17 percent veneer exports. On a quantity basis, 51 percent was log, 45 percent lumber, and 4 percent veneer exports. Species demanded in Korea were more evenly distributed than to Taiwan and Japan. On a percentage basis, maple and walnut were more highly demanded.

Korean demands have the same roots as the Taiwanese demands. Manufacturers need raw materials to manufacture furniture, cabinets, and pianos for the export market. Many of the Korean manufacturers are quite large and also control more of their final product marketing. Given this situation, these producers can dictate their species usage. Therefore, they have used cheaper Southeast Asian hardwoods as solids mixed with U.S. and other fine hardwood veneers in many of their products. This situation is changing with increased difficulties in securing desired hardwood from Southeast Asia.

Exports to the Middle East

Middle East purchasers of U.S. hardwood products are shown in table 5. This is presently not a strong marketplace for hardwood products, but there could be some excellent market opportunities in this area if things in the region calm down. Only \$8.9 million or 1.2 percent of our exports were sent to the Middle East in 1987. Israel, Egypt, Turkey, and Saudi Arabia are

Table 3. U.S. log, lumber, and veneer exports to Taiwan in 1987

Species	Logs		Lumber		Veneer	
	Quantity (MBF)	Value (M\$)	Quantity (MBF)	Value (M\$)	Quantity (MSqFt)	Value (M\$)
Birch	1,513	659	in "Maple"		-	-
Maple	1,027	401	5,389	432	2,859	120
Red Oak	14,157	10,515	60,416	45,755	41,985	3,911
White Oak	2,267	2,639	16,548	14,029	28,541	2,108
Ash/Hickory	in "Other"		4,324	2,877	in "Other"	
Walnut	207	497	2,927	1,849	1,526	119
Other	<u>4,334</u>	<u>2,666</u>	<u>5,667</u>	<u>2,934</u>	<u>35,468</u>	<u>3,470</u>
Total	23,505	17,377	95,271	67,876	110,379	9,728

Source: U. S. Department of Commerce

Table 4. U.S. log, lumber, and veneer exports to South Korea in 1987

Species	Logs		Lumber		Veneer	
	Quantity (MBF)	Value (M\$)	Quantity (MBF)	Value (M\$)	Quantity (MSqFt)	Value (M\$)
Birch	42	14	in "Maple"			
Maple	5,006	2,195	2,752	1,095	(103)*	103
Red Oak	976	577	2,644	1,838	10,869	676
White Oak	1,853	1,847	1,026	805	8,673	1,216
Ash/Hickory	in "Other"		233	134	in "Other"	
Walnut	1,615	3,739	1,908	1,118	7,384	1,321
Other	<u>3,485</u>	<u>1,866</u>	<u>2,933</u>	<u>1,994</u>	<u>1,670</u>	<u>205</u>
Total	12,977	10,258	11,496	6,984	28,699	3,521

Source: U. S. Department of Commerce

* Maple veneer quality is not correct.

Table 5. Middle East market for U.S. hardwood products in 1987, in dollars

Country	Value (\$)	
Cypress	156,000	
Egypt	2,545,000	
Israel	2,928,000	
Iran	3,000	
Jordan	149,000	
Lebanon	179,000	
Saudi Arabia	1,372,000	
Syria	14,000	
Turkey	1,404,000	
Turks & Caicos Islands	26,000	
United Arab Emirates	120,000	
Middle East	8,896,000	(1 %)
World	743,200,000	(100%)

Source: U. S. Department of Commerce

the largest purchasers. This market needs cultivation with samples, example products, and visits by American producers. Presently, there is a general lack of knowledge about American hardwoods and the products that we offer.

MARKET SUMMARY

One-third of the U.S. hardwood log, lumber, and veneer exports in 1987 were shipped to the Pacific Rim market, primarily Japan, Taiwan, and South Korea. Taiwan manufacturers are purchasing mainly red and white oak to process into finished parts and furniture for the export market. Their largest furniture export market is the United States. According to Taiwan statistics, a majority of their wood furniture exports were shipped to the United States. However, they also export furniture to Japan, Canada, and Europe.

Japanese purchasers are buying large amounts of our "other" species such as red alder, black cherry, yellow poplar, and cottonwood. Two-thirds of these purchases are dressed or planed, kiln-dried lumber. In contrast with Taiwan, the U.S. hardwoods going to Japan are used as substitutes for their hardwoods in the production of furniture for domestic sales.

South Korean purchasers are more interested in logs and veneer than Japanese and Taiwanese purchasers, but their use of U.S. hardwood lumber is also increasing substantially. Lumber exports to Korea have increased almost threefold since 1985. The Koreans are purchasing maple and walnut along with the oaks. Main uses of U.S. hardwoods are for export furniture, cabinets, and pianos.

Middle East markets for U.S. hardwood products are minor at this time but have potential. Presently, \$8.9 million or 1.2 percent of our exports are being sent to the Middle East. Israel, Egypt, Turkey, and Saudi Arabia are the largest purchasers. This market needs cultivation with samples, example products, and visits by American producers. Now may be the time to start.

SOUTHERN HARDWOOD SAWTIMBER RESOURCES

Generally, the same select hardwood species are popular on both the domestic and export markets. The major select species are the select red and white oaks, yellow birch, hard maple, black walnut, black cherry, and the ashes. Stronger demands have stirred many supply-side concerns. For instance, can U.S. forests continue to supply both the domestic and export markets—can U.S. exports increase? Are U.S. resources being depleted? What is the grade output picture? The answers to these questions are just as important to producers in the United States as they are to export customers.

Sawtimber Quantity

Resource data were compiled on Southern hardwood sawtimber from USDA Forest Service state resource evaluation reports. The data were then adjusted to a 1985 base and combined into the summary with projections in table 6. Results show that 21 percent, or 81 billion board feet (International 1/4-inch rule), of the 1985 estimated sawtimber inventories are in the select sawtimber species. About 307 billion board feet are in nonselect species of hardwood sawtimber.

Sawtimber Species

Table 7 presents the estimated sawtimber distribution by species in the South. Only 21 percent is in the select export species, while we estimate that over 90 percent of our exports are select export species. The South has major quantities of yellow poplar, hickory, sweetgum, tupelo, black gum, and nonselect red and white oaks.

Table 6. Estimated inventories of hardwood sawtimber in the South in 1985, and projections for 1990, 1995, and 2000

billion board feet (International 1/4-inch rule)

Year	All commercial hardwoods	All select hardwoods	Select oaks	Hard maple	Ash, walnut, cherry	Yellow birch
1985	387.4	80.6	65.4	3.1	11.9	0.2
1990	431.9	90.3	73.3	3.6	13.3	0.22
1995	481.6	101.2	82.1	4.3	14.9	0.24
2000	536.9	113.4	92.0	5.0	16.7	0.27

Table 7. Estimated hardwood sawtimber in the South by species

Species	% of total	Species	% of total
Select White Oaks	10.6	Hard Maple	0.8
Select Red Oaks	6.3	Soft Maple	3.5
Other White Oaks	8.8	Beech	1.9
Other Red Oaks	20.9	Yellow Birch	-
Hickory	7.4	Basswood	0.4
Ash	2.7	Cottonwood/Aspen	0.8
Yellow Poplar	10.7	Black Walnut	0.3
Sweetgum	10.1	Black Cherry	0.1
Tupelo & Black Gum	7.9	Other Hardwoods	6.8

Sawtimber Quality

Two hardwood grading systems are used to present information on the quality of standing sawtimber hardwood resources. The first is a log grading system and the second is a lumber grading system. The Southern data are shown in table 8. The lumber-grade results were derived by assuming that lumber would be produced from all the logs that are in sawtimber stands. In actual practice, many small-diameter, low-grade logs and many other larger, low-grade logs are never removed from the forests. Consequently, the quality of logs removed is better than that found in the woods. The actual distribution of sawn lumber, therefore, is unknown but somewhat better than the numbers in table 8.

The Resource Answers

The South has substantial quantities of select species, and these resources are increasing, not decreasing. Thus, it would appear we have the resources necessary to continue to supply domestic and export markets. However, to alleviate problems from timber sales through primary processing and selling primary products, improved markets for nonselect species are needed in both the export and domestic markets. This is further brought home by the fact that only 21 percent of Southern hard wood sawntimber inventories are in select export species.

When considering the quality of the standing sawtimber in our forests and the potential output by lumber grade, about 50 percent of the output is secondary-quality material (1C/2C), and 42 percent is below this quality level. The vitality of markets for material of secondary quality dictates the overall economic performance of a sawmill and, therefore, is important.

MARKETS FOR STANDARD-SIZED ROUGH DIMENSION IN JAPAN AND EUROPE COULD HELP ANSWER THE LIMITED HIGH-GRADE RESOURCES PROBLEMS

Exports of further manufactured products such as rough-dimension material have been limited, while the potential to supply rough dimension from the United States seems excellent. We have abundant resources (medium- and low-grade lumber), kiln-drying capacity, and rough-dimension production capacity, and more could be added.

The potential demand for U.S. rough dimension, especially in Europe and Japan, appears to be excellent on the basis of demand for U.S. lumber and inquiries for material such as strip stock and squares. Another major reason for a favorable outlook is that these countries currently use standardized short- and medium-length rough-dimension stock that is produced at their domestic primary processing facilities.

We will quickly describe a set of proposed standard sizes of rough dimension that could be manufactured in the United States for the European and Japanese markets. Also, the benefits of the production and sale of standard sizes of export rough dimension are highlighted.

Proposed Standard Sizes

Working with standard-size rough dimension needs for the European and Japanese markets, a condensed set of standard sizes was developed that could be used for both markets. The proposed sizes are shown in table 9 in English and metric measurements.

The lengths range from 12 to 72 inches in 4-inch increments, and from 84 to 108 inches in 12-inch increments. Overseas requirements for longer pieces can be satisfied with lumber. The widths are in groupings 2+, 2-3/8+, 2-3/4+, and 3-1/8+ inches, or they could be provided in random sizes with a 2-inch minimum. The thicknesses are listed at 4/4 and 5/4. It should be noted that atmospheric conditions in Europe and Japan dictate the need for a 10 to 12 percent kiln-dried moisture content rather than the customary 6 to 8 percent needed for most of the United States.

The goal in developing the proposed standards was to reduce the number of different sizes for production and inventory. The approximate amounts produced per size can be estimated

Table 8. Estimated quality of hardwood sawtimber of select species in the South by log grade, and potential output of sawn lumber by lumber grade

Species	Log grade			Lumber grade ^a				
	1	2	3&4	FAS&Sel	1	C	2C	Below 2C
	<i>Percent</i>							
All select hardwoods	16	23	61	9	24	25	42	
Select oaks	16	22	62	9	24	25	42	
Hard maple	10	18	72	10	21	26	43	
Ash, walnut, cherry ^b	19	27	54					
Yellow birch	15	29	56	14	22	23	41	

^a Grade 4 not included, all logs grades 3 and 4 were considered as grade 3 in calculations.

^b Data not available to computer lumber yields.

Table 9. Proposed standard export rough dimension for Japanese and European markets (AD or KD-10-12 percent moisture content)

Standard export rough dimension	English sizes	Metric size
Length	12-72 in. in 4-in. increments 84-108 in. in 12-in. increments	30-180 cm in 10-cm increments 210-270 cm in 30-cm increments
Width	2 in. + 2-3/8 in. + or random 2-3/4 in. + width 3-1/8 in. + (2 in. +)	50 mm + 60 mm + or random 70 mm + width 80 mm + (50 mm +)
Thickness	4/4 in. 5/4 in.	25 mm 32 mm

and then refined based on eventual demand or overseas distributor recommendations.

Advantages of Making Standard Sizes

The proposed standard sizes can be made from abundant, below- export-grade lumber from which domestic producers can obtain good yields because:

- Many standard lengths can be cut at one time using either the longest length first or an optimizing cut-off technique.
- Random-width cuttings can be produced.
- The gang-ripping-first option can be used.
- This material also can be made in the green condition and then dried, eliminating the need to dry non-usable material.
- The dimension can be manufactured to fill and maintain an inventory. Therefore, undercutting and overcutting of requirements can be tolerated.

The high yields will help lower product costs, and the inventory advantages will make this product more acceptable overseas.

Advantages of Buying Standard Sizes

The overseas user of the standard sizes will not have to purchase, grade (or even know our grades), sort, and stack lumber; air-dry, pre-dry, kiln-dry, and store lumber; or process lumber into dimension parts in a rough mill. Rather, the purchaser need only buy the standard—sized dimension and then match, glue, and cut specific dimension parts, or just cut what is needed from the standard-size dimension.

Other advantages are reduced shipping volume, reduced waste disposal problems, and reduced requirements for raw material inventory. The overseas purchasing end-user also could order and receive quick shipments from distributors tied to U.S. producers who maintain inventories of the standard sizes.

Requirements for Successful Marketing of Standard Sizes

The key requirements for successfully marketing standard sizes in Europe and Japan include developing efficient low-cost product manufacturing, product pricing, aggressive marketing techniques, strong distributors in receiving nations, and strong promotional efforts at international trade fairs and exhibitions.

Product pricing, which will be affected by exchange rates and tariffs, is especially important. In setting prices, the exporter will need to position his or her product between the prices of export lumber (kiln-dried FAS/Sel) and specifically sized rough dimension. To minimize tariffs, the product should be left as rough as possible on top and bottom surfaces.

All of these steps would be necessary for successful marketing of standard-sized rough dimension from the United States, even though similar products are currently being produced and used in the target markets.

Additionally

There will be initial resistance to this product from both overseas distributors and end users because they are accustomed to receiving and using long, clear, export-quality lumber or clear long strips that are 3, 4, and 5 inches wide from U.S. producers. We can continue to supply these lumber products, but, with the addition of the standard-sized rough dimension, we can expand our product offerings from the South and the United States, make the products from our abundant medium- and low-grade lumber, and create a value-added product for our dimension industry or expanding primary producers.

For Taiwan, South Korea, and others in the Pacific Rim area making Western-styled furniture for export, we recommend standard-length, random-width dimension or glued panels in sizes developed for use by American furniture manufacturers (write the author for information on these products).

Although standard dimension from the United States has many resource advantages, successful introduction of standard-size dimension on the export market will depend largely on competitive advantage and aggressive marketing.

CONCLUSIONS

It is clear that the Pacific Rim is a major market for hardwood from the United States. We believe ample supplies of hardwood exist to meet future increases in demand, especially in the South, providing ways can be found to accommodate a greater variety of grades and species. Standard-size rough dimension could help with the grade utilization situation by providing a means to make nonexportable lumber into an exportable product. Tightening of hardwood supplies from Southeast Asia should help provide opportunities for a greater variety of American species in the Pacific Rim area. However, in both the Pacific Rim and Middle East marketing areas, increased promotion of our wide variety of species is needed. In the Middle East, we also need to provide samples of our products along with example uses or final products.

PROCEEDINGS

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