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**TEXAS FOREST INDUSTRY SEEKS
TO REALIZE UNDEVELOPED POTENTIAL**

East Texas supplies some \$100 million worth of timber products annually. Although this figure is impressive, it is considerably below the potential productivity of the region. More than half of East Texas' forested acreage is devoted to commercial forest, but much of it is poorly managed and some is not managed at all. Developing this remaining potential has become a major goal of the state's forest industry.

The southern pine forest reaches its western terminus in East Texas, which is also the southern extent of the central hardwood forest. The pine forests are of primary commercial importance, however, not only because of their larger extent but also because of the consistently strong demand for pine products. In 1971, softwoods accounted for 83 percent of timber production in Texas. Pine has a good combination of lightness and strength, is easy to handle, and has a faster rate of growth and a greater consistency and clarity of lumber than most other woods.

Southern pine has the additional advantage of a long growing season, which enables foresters to produce a sawlog much more quickly than is possible in the North or West.

Texas hardwoods come mainly from the post oak region that lies just to the west of the piney woods. In 1965, this area included some 3.6 million acres of such woods as oak, elm, pecan, ash, and hickory. Contrary to the situation for pine, southern hardwoods are generally less desirable than their northern counterparts. This places the post oak region at a further disadvantage in relation to the piney woods in terms of commercial timber production.

Recent production gains

More than 60 percent of the land in the piney woods region is in commercial forests. From 1955 to 1965, the total number of commercial forest acres in East Texas held relatively steady at around 11 million acres, losing only about 1 per-

TIMBER GROWTH AND HARVEST IN EAST TEXAS

	Pine			Hardwoods		
	Growth (Million cubic feet)	Harvest	Harvest as percent of growth	Growth (Million cubic feet)	Harvest	Harvest as percent of growth
1964	405.2	199.3	49%	95.3	99.9	105%
1965	399.2	216.6	54	92.8	134.3	145
1966	410.4	234.3	57	91.5	130.2	142
1967	421.9	228.5	54	91.0	79.7	88
1968	432.9	272.7	63	91.5	75.2	82
1969	442.1	304.6	69	92.0	81.5	88
1970	451.0	307.9	68	92.5	69.2	75
1971	459.0	344.7	75	93.3	68.4	73

SOURCE: Texas Forest Service

cent as acreage gains in the northern half were almost equal to losses in the southern half. At the same time, however, there were significant production gains for softwoods in terms of both volume and quality.

The total volume of standing pine timber increased about 40 percent between 1955 and 1965 to an estimated 6.3 billion cubic feet. Since 1964, softwood growth has continued to exceed harvest, although the margin has narrowed.

Hardwood growing stock declined 11 percent in the 1955-65 period to less than 3 billion cubic feet. Much of this decline was due to loss of forestland to other uses, especially reservoir development. The inventory improved somewhat between 1964 and 1971, as the harvest rate slowed and less land was lost to alternative uses.

Total growing stocks of all types of commercial timber were estimated at 10.3 billion cubic feet at the start of 1972, up from 9.2 billion in 1965. Pine volume stood at 7.4 billion cubic feet.

Quality gains have accompanied volume increases for pine timber. Between 1955 and 1965, the share of softwood logs graded in the top two categories rose nearly three-fifths to account for about a sixth of the total inventory of softwood sawtimber. The quality of hardwood declined somewhat, with a sharp depletion of the larger-diameter logs suitable for veneer.

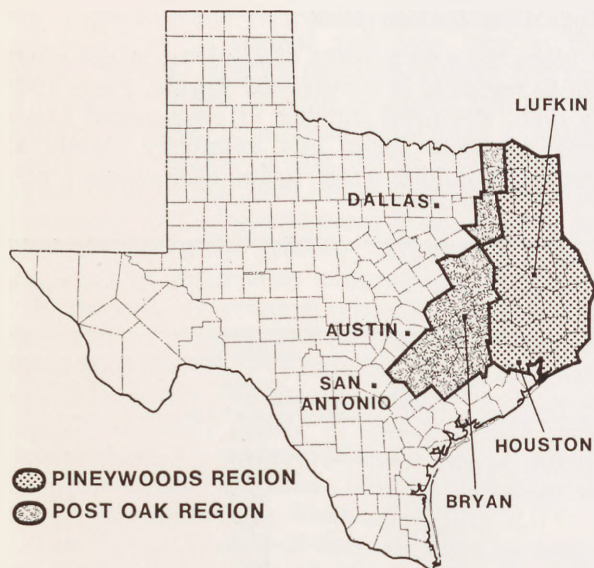
Unrealized potential

Private individual ownership is the dominant pattern of forest tenure in East Texas. Farmers and other private owners accounted for about 63 percent of all forest holdings in 1965, according to a report of the U.S. Forest Service. The forest industry held another 30 percent of the land, and the rest belonged to the public. But industrial and public lands have had better yields. In 1965, privately owned forests yielded only about 52 percent as much wood per acre as industrial lands and less than 40 percent as much as publicly owned lands.

The major difference is one of management. Although significant improvements in yields have been made by many private owners, production is generally still well below potential. For example, the 1965 study showed that some 5.7 million acres of East Texas forest were stocked with less than 40 percent desirable trees. About a million of these acres contributed almost no timber, while the remainder produced considerably below potential. Most of this low-productivity land was owned by private individuals. Productivity could be increased significantly in most cases through improved management and restocking.

Economic incentives to forest management have been rather weak in the past. Timber has a long production cycle, and returns have been generally low compared with those for other land uses. Most farmers and small landowners have traditionally seen timber as a rather large type of

MAJOR TEXAS TIMBER-PRODUCING REGIONS



SOURCE: U.S. Forest Service

AVERAGE VOLUME OF EAST TEXAS TIMBER, BY MAJOR OWNERSHIP CATEGORIES, 1965

(Cubic feet per acre)

Ownership category	Standing timber	Net annual growth ¹	Annual mortality ²	Annual harvest
Pine forest				
Public	1,152	74	5	29
Industry	809	52	4	16
Small private	306	23	2	17
Hardwood forest				
Public	205	7	2	7
Industry	259	9	3	7
Small private	253	8	3	10

1. Change from natural causes in volume of sound wood in live trees

2. Loss due principally to disease, fire, and insects

SOURCE: U.S. Forest Service

weed that had to be cleared out so that land could be used for other agricultural pursuits yielding more immediate profit. The process of clearing provided the timber market with a continuing surplus supply. But this source of supply is dwindling, and the market now must depend more on forests managed on a continuous basis.

Together, the declining availability of a continuous surplus of timber and the growing demand should serve as a stimulus to small owners to improve the management of their woodlands. Prices for timber have improved, and both government and industry are offering more help to small landowners in increasing utilization and improving management of woodlands.

Returns on pine timber production in East Texas under good management have been estimated at between \$5 and \$27 an acre annually, depending on site quality. In areas just being brought under forestry management, production of pulpwood can be expected to begin in about ten years. Pole and post quality timber can be produced in 15 to 20 years, and saw or veneer logs in 25 to 30 years. While net returns to forestry are often lower than for other agricultural land uses, forestry is becoming more attractive.

In addition to the gains to be realized from better management of small holdings, there is

a large "abandoned" acreage in East Texas that is in volunteer growth, generally scrub hardwood. This land could become productive forest. And the sooner it is cleared and brought under management, the lower the cost will be, since site preparation costs rise rapidly as the size of the ground cover increases.

Total consumption of forest products is expected to increase in the future. Paper and paperboard consumption will probably rise about 70 percent by the turn of the century. Per capita lumber usage may decline about a fifth in the same period, but population growth is expected to more than offset this decline. This growing demand, accompanied by improving technology in the lumber and wood products industry and increasing knowledge of how to manage forests productively, should encourage small landowners to give more serious consideration to the possibility of tree farming as a viable enterprise.

MAJOR AGRICULTURAL TRENDS EXPECTED TO CONTINUE THROUGH 1985

Farms in the United States are expected to become increasingly larger, more specialized, and more capital-intensive through 1985, according to recent projections of the U.S. Department of Agriculture. Continuing productivity gains are also predicted. Uncertainties about the future of agriculture center on questions of control of production, environmental deterioration and health concerns, the use of substitutes and synthetics, and foreign trade.

Farm numbers are expected to decline to about 2.1 million from the 2.8 million this year. Average farm size will expand, but total acreage is expected to remain nearly constant. It is likely that fewer than a million people will claim farming as their main source of livelihood in 1985.

Increases in income

Cash receipts are projected to grow sharply to around \$90 billion, with gains in both livestock and crop production and, no doubt, some price

increases. Net income is also expected to trend upward, but its growth will probably be more erratic and more moderate.

Average sales per farm are expected to continue to rise. In 1971, some 618,000 farms had sales of \$20,000 or more, accounting for 80 percent of all cash receipts. By 1985, it is projected that 830,000 farms will be in this category, accounting for 90 percent of total sales.

Farms will have an average of about two-thirds more capital assets in 1985, necessitated by larger acreages and higher labor costs. The total average asset package on individual farms will be valued at about \$250,000 in 1985, compared with \$100,000 in 1970. The average debt load is expected to rise from \$20,000 in 1970 to more than \$70,000. Increasing control over assets is expected to be attained through leasing, contract agreements, or other custom arrangements designed to offset high fixed costs.

Market changes

Bigger and more specialized farms and a heavier debt load would seem to require that some modifications be made in the traditional production and marketing arrangements. Vertical integration has not become widespread, although it is important for certain commodities, such as broilers. It will probably become even more important in sectors where it already exists. Additional coordination can be expected in other commodities through individual or commodity group contracting. But many major crops and livestock enterprises will, no doubt, continue to follow traditional marketing patterns with only slight modifications. Broadening of the futures market and its increased use by both producers and processors may prove to be a major change aimed at minimizing risk.

For agriculture to realize its potential productivity and projected growth in income, markets must expand, especially export markets. In spite of three successive record export years, future growth rates for exports are uncertain since they are tied to several external factors.

Future levels of trade with the Soviet Union and China remain uncertain, as does trade with the European Economic Community. The possibility of increased production in the developing countries must also be taken into account. And production trends in other major exporting countries could have important effects on foreign demand for U.S. farm products. The best prospect appears to be for moderate growth.

Environmental and health concerns continue to suggest possible modifications in certain agricultural production practices. Some cost-reducing techniques—chemical applications in particular—have already been banned. Despite initial apprehensions, better control of chemical use has shown some savings, as have changes in the handling of feedlot wastes and improvements in fertilizer application to prevent leaching.

A number of major shifts in consumption are already occurring within and between agricultural sectors. Beef is increasing its dominance in the meat class, although plant protein substitutes could modify total meat demand. Synthetic fibers are also competing directly with plant and animal fibers. Estimates suggest that absolute demand for these products may hold although their relative share may continue to decline.

WORLD AGRICULTURE NOTES

- The Soviet Union's recent downward revisions in production targets for meat, milk, and wool imply that demand for feed grains may decline. Combined with reports of record spring plantings of grains, it seems likely that Soviet needs for imported grain will fall significantly from last year's level.
- Peru suspended fishing again in late April, with the month's catch well below quota. Exports of fish meal for 1972-73 are estimated at 450,000 tons, only about a fifth of 1971-72 exports. The protein content of the export loss is equal to about 117 million bushels of soybeans.

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