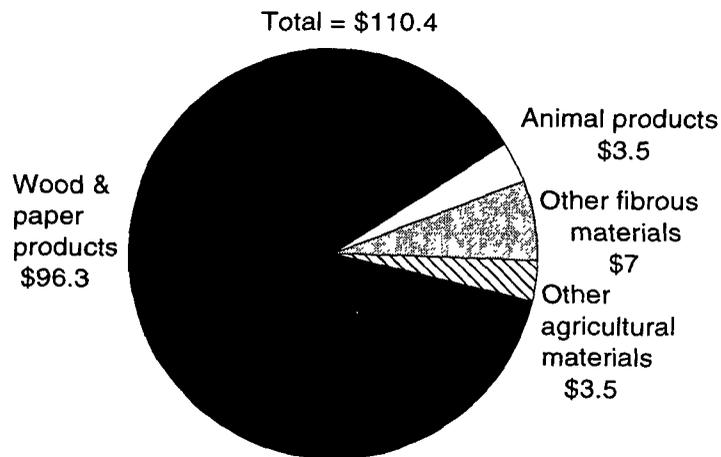




Industrial Uses of Agricultural Materials

Situation and Outlook Report

**Value and Type of Agricultural and Forestry
Materials Used in Manufacturing in 1992
(Billion dollars)**



**Last Issue!
See page 2.**

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Summary

Industrial Use of Agricultural and Forestry Materials Estimated at \$110 Billion in 1992

An estimated \$110 billion worth of agricultural and forestry products were used as raw materials in the manufacture of industrial (nonfood, nonfeed) products in 1992, according to the most recent census data available. Wood and paper products accounted for \$96 billion, more than 87 percent of the total. Other fibrous materials, animal products, natural rubber, and vegetable oils were among the other agricultural materials used in the manufacture of nonfood items.

After wood and paper products, other fibrous materials (with a total value of nearly \$7 billion) were the next largest category of agricultural materials used by industry in 1992. Raw cotton use (estimated at \$3.1 billion) accounted for 45 percent of all fibers. Other cotton products, including cotton yarns, fabrics, felt, linters, and waste, added another \$3.3 billion. Animal products were the third largest category of agricultural materials used as industrial inputs in 1992, totaling nearly \$3.5 billion. Hides, skins, and pelts, valued at \$1.2 billion, were purchased by the leather and leather products industry. Another \$1.5 billion of finished leather was used in the manufacture of leather products and apparel.

The extraordinary 5.9-percent growth in the U.S. Gross Domestic Product (GDP) in the first quarter of 1997 will give way to more moderate growth for the rest of 1997 and 1998. Even as GDP growth moderates, the economy will support manufacturing output growth of 4.0 percent for 1997. Forces driving the manufacturing sector will spur modest growth in industries that use agricultural inputs.

Industrial uses of corn in 1996/97 are expected to total 681 million bushels, up from the 642 million used in 1995/96. Ethanol production has rebounded from the low levels experienced in 1995/96, averaging 81,000 barrels per day from January to June 1997. Markets are growing for citric and lactic acids, two organic chemicals usually derived from starch and sugar feedstocks.

Soybean meal is being used to make adhesives and composites. Soybean oil is finding its way into plastics, inks, and

solvents. In 1996, about 300 million pounds of soybean oil were used in inedible applications, accounting for 2.5 percent of total consumption.

In the United States, composite building materials are being made from straw. Straw bales are being used in the construction of buildings. Researchers are investigating straw as a raw material for paper. Uses of kenaf continue to expand. Numerous companies are producing and selling kenaf-based products.

Crambe is a new industrial oilseed being grown in North Dakota. A special article presents analysis, using an input-output model, estimating the economic effects of crambe production, the construction of an oilseed processing plant to handle the crop, and the crushing of the crop in a 15-county region in central North Dakota. The results indicate that nearly \$10 million in total sales and 42 new wage and salary jobs will be added to the region as a direct result of the increase in the production and processing of the 1997 crambe crop. Through local purchases of supplies and the spending of crambe-related income, the industry will generate an estimated additional \$2.8 million in total sales and 46 wage and salary jobs. Building the plant added an estimated 46 temporary construction positions in the region, which generated an estimated increase of \$2.2 million in sales and another 40 jobs in various industries as the workers spent their wages.

Lesquerella is a new oilseed crop under development in the southwestern United States. A second special article evaluates the possibility of growing lesquerella in 21 counties in Arizona, New Mexico, and Texas. A sensitivity analysis was prepared to estimate lesquerella's net returns per acre given varying combinations of production costs, seed yields, and seed prices. Estimated net returns of traditional crops in these counties were analyzed to assess lesquerella's chances of being economically competitive with other crops.

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