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Situation and Outlook Report

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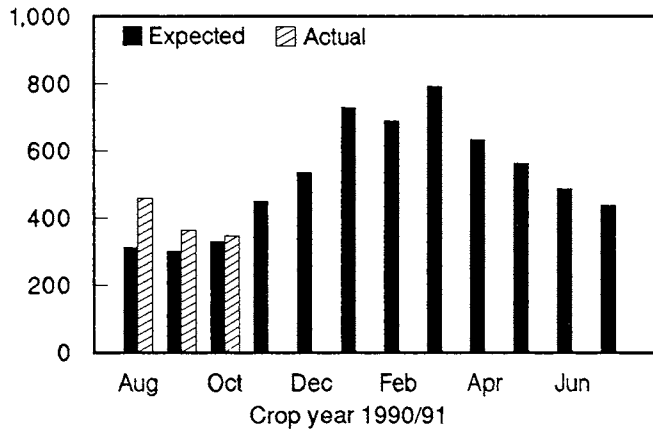
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Upland Cotton Export Pace Strong But Slowing

1,000 running bales



Adjusted to calendar month.

Contents

	Page
Summary	3
Textiles and the Economy	4
U.S. Cotton Situation and Outlook	4
Upland Cotton Situation	4
Outlook for 1991/92	7
ELS Cotton Situation	10
Foreign Cotton Situation and Outlook	11
U.S. Wool Situation and Outlook	14
Foreign Wool Situation and Outlook	17
Mohair	18
Manmade Fibers	19
Special Articles:	
U.S. Cotton Mill Consumption During Periods of Economic Contraction and Malaise	21
International Competitiveness in the Cotton Yarn Market	28
List of Tables	32

Situation coordinator

Scott Sanford (202) 219-0840

Principal contributors

John V. Lawler (202) 219-0840

Leslie A. Meyer (202) 219-0840

Carolyn L. Whitton (202) 219-0826

Statistical assistant

Mae Dean Johnson (202) 219-0840

Electronic word processing

Brenda B. Toland

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Summary

Based on November 1 conditions, 1990 U.S. cotton production is expected to total 14.9 million bales, 22 percent above last season. However, the low beginning stocks in 1990/91 are more than offsetting the increase in production, and total supply, estimated at 17.9 million bales, is down 7 percent. Upland production is estimated at 14.5 million bales, and extra-long staple at 397,000 bales. The rise in production is due largely to a lower upland cotton acreage reduction requirement this season and a substantial rebound in expected yields in Texas. Total 1990/91 area for harvest is estimated at 11.5 million acres, up 20 percent from the past season. Yields in 1990/91 are expected to average 622 pounds per harvested acre, up slightly from the 614-pound average of the previous season.

U.S. mills used nearly 8.8 million bales of cotton in 1989/90, the highest level since 1967/68. This season, the tighter supply is moderating mill use, which is expected to total a still-strong 8.4 million bales. Early-season 1990/91 monthly mill use for August, September, and October averaged 8.7 million bales on a seasonally adjusted annual rate basis.

U.S. cotton exports in 1990/91 are forecast at 7 million bales, down 700,000 from last season. Exports are being pressured by the smaller supply this season and by relatively strong domestic mill demand for available supplies. Also pressuring U.S. cotton exports in 1990/91 is a much larger foreign outturn. U.S. share of world cotton trade is expected to fall in 1990/91 to a more average 29 percent from 32 percent last year.

Through the first 3 months of 1990/91, cotton prices on the Northern European market have been about the same as a year earlier—with the A-Index averaging about 81 cents per pound and the B-Index averaging 77 cents. U.S. quotes on the Northern European market during the first quarter of the 1990/91 season have been very competitive. In early 1990/91 the adjusted world price (AWP) has stabilized at 64 to 67 cents per pound, compared with the AWP range of 66 to 69 during the first quarter of 1989/90. U.S. spot prices in 1990/91 declined through the first quarter of the season, from about 79 cents per pound in early August to about 70 cents in mid-November.

Based on estimates of production, mill use, and exports, ending stocks for 1990/91 are projected at 2.6 million bales—400,000 below last season. The 1990/91 ending stocks-to-use ratio is projected to fall to .17, the lowest in 40 years. By October 31, 363,000 bales of 1990-crop cotton had been placed under loan, compared with 200,000 bales of 1989-crop cotton at this time last season.

World cotton production in 1990/91 is forecast at 86.7 million bales, about 7 million above last season. Foreign cotton production in 1990/91 is estimated up 9 percent from last season at 71.8 million bales—the second-largest foreign crop on record.

World cotton consumption in 1990/91 is forecast at 86.3 million bales, about 1 percent below last season. Foreign consumption in 1990/91 is estimated at 77.9 million bales, slightly below last season's record. With production up, the gap between foreign production and consumption is expected to narrow dramatically, from nearly 11 million bales in 1989/90 to 6 million in 1990/91. However, foreign stocks are likely to remain extremely tight.

On November 28, 1990, President Bush signed into law the Food, Agriculture, Conservation, and Trade Act of 1990, which Congress passed in late October. The legislation covers crop years 1991-95. The cotton title continues the market-oriented provisions developed in the Food Security Act of 1985. A major new provision in the current legislation calls for increased planting flexibility, which should allow producers to better respond to market conditions.

In 1991/92, U.S. cotton consumption is expected to range from 8 to 9 million bales. U.S. cotton exports in 1991/92 are expected to improve modestly over the current season's supply-limited level, ranging from 6 to 8 million bales. Total cotton offtake next season could range from 14 to 17 million bales.

Though the 1991-92 upland acreage reduction program is yet to be announced, basic program provisions suggest larger planted acreage next season. Also, the new planting flexibility provisions are likely to result in increased cotton plantings by producers who view market conditions as favoring cotton over competing crops in their production areas. U.S. cotton plantings in 1991/92 could range between 12 and 16 million acres, and production is expected to range from 15.5 to 19.5 million bales.

Raw wool mill use in the third quarter was 29.5 million pounds, clean, 1 percent below a year earlier. Apparel mill use, 25.4 million pounds, was 2 percent below a year ago. Raw wool imports at 13.9 million pounds were one-third less than a year earlier, reflecting the policy of mills to purchase only enough raw wool to meet current orders at a time when retail apparel sales are slow. Carpet mill use was 4.1 million pounds, almost 6 percent above a year earlier, and top production, 5.1 million pounds, was down 4 percent from last year.

Textiles and the Economy

As 1990 draws to a close, the U.S. economy continues its sluggish growth. Real gross national product (GNP) rose 1.7 percent (\$18.0 billion) in third-quarter 1990, 0.4 percent (\$4.5 billion) in the previous quarter, and 1.7 percent in third-quarter 1989. The GNP rise last quarter was attributable to increases in personal consumption expenditures, particularly services and nondurable goods, and nonresidential fixed investments. Government purchases also increased in third-quarter 1990, up slightly from the previous-quarter gain of 6.2 percent. While the GNP rose slightly, the composite index of leading economic indicators fell 0.8 percent in the third quarter of 1990. The index has been falling since July.

Real disposable personal income decreased a slight 0.1 percent in third-quarter 1990 from the previous quarter. This represents the first decline of real disposable personal income in 5 quarters. Personal savings as a percentage of disposable personal income was 4.9 percent for the first 3 quarters of 1990—up from the 1989 annual average of 4.6 percent. In September, however, the latest available data indicate personal savings dropped to 3.9 percent for the month.

In third-quarter 1990, real personal consumption expenditures increased 0.8 percent (\$21.0 billion) above the previous quarter. This is the largest gain since third-quarter 1989. Expenditures on both durable and nondurable goods advanced, rising \$2.4 and \$7.1 billion, respectively, compared with declines of \$10.8 and \$4.4 billion in second-quarter 1990.

In September, U.S. merchandise exports fell to a seasonally adjusted \$31.8 billion—the lowest level since February 1990. Combined with a greater reduction in imports, the nominal merchandise trade deficit dropped to \$9.4 billion from a revised August deficit of \$9.7 billion. These 2 months are the highest since January. While imports of manufactured goods continue to surpass exports, net trade surpluses in agricultural commodities have helped to soften the overall deficit.

During the first 3 quarters of 1990, U.S. imports (square meter equivalent basis) of cotton, wool, manmade fiber, silk blends, and noncotton vegetable fiber textiles and apparel increased 1.6 percent over the corresponding period in 1989. This increase represented a 2.4-percent rise in textile imports and a gain of 0.8 percent in apparel imports. During January-September, cotton and manmade fiber imports increased 4.8 and 1.2 percent, respectively, from a year earlier, while wool imports fell 7.5 percent. By value, the first 3 quarters of 1990 show the same pattern of movement. Cotton and manmade fiber imports rose 13.9 and 4.8 percent, while the value of wool imports declined 4.6 percent.

In October 1990, U.S. industrial production weakened, falling 0.8 percent below September figures to 109.6 percent of

the 1987 annual average. The decline was widespread among the major industry groups, but the fall in output of motor vehicles and parts was particularly steep—4.5 percent. However, compared with a year earlier, industrial production was up 1.8 percent.

In third-quarter 1990, clothing production continued to decline, shrinking 4.6 percent from the previous quarter, which was down 11.7 percent from first-quarter 1990. Output of textile materials moved in the opposite direction, however, surpassing first- and second-quarter 1990 by 9.8 and 3.2 percent.

U.S. industries operated at 82.6 percent of capacity in October 1990, down slightly from September and a year ago. The utilities and manufacturing sectors showed the largest declines, with the auto industry taking the brunt of the fall. In October, nondurable manufacturing industries operated at 82.8 percent of capacity. Among these, the textile mill and apparel products sectors each declined from September and a year ago. The capacity utilization rates for these sectors were 82.8 and 75.8 percent, respectively, for October.

The U.S. unemployment rate for the civilian labor force remained unchanged from September to October at 5.7 percent. This, however, is the highest unemployment figure since November 1987. Unemployment rates in the textile mill and apparel products industries have moved in opposite directions recently. Textile mill unemployment dropped 0.8 percent to 5.2 percent in October, the lowest level since May 1990. In the apparel industry, however, unemployment jumped 1.6 percent to 10.0 percent in October, the highest level since April of the current year.

U.S. Cotton Situation and Outlook

Upland Cotton Situation

Higher Yields, Lower Abandonment Likely

Based on November 1 conditions, 1990 upland cotton production is estimated at 14.5 million bales—3 million (26 percent) above last season's crop (fig. 1). A lower upland cotton acreage reduction requirement (ARP) of 12.5 percent (versus 25 percent last season), good planting conditions and early crop development across much of the Cotton Belt, and a substantial rebound in yield and percentage of acreage harvested in Texas are all contributing to this season's larger crop.

Estimated 1990 upland acreage yield per harvested acre is down about 100 pounds in the Southeast, up about 100 pounds in the Southwest, and only marginally changed in the Delta and West from last season's levels (table A). Prospective yields this season are off 100 or more pounds per acre in Alabama, Georgia, and South Carolina due to a host of prob-

Table A--Upland cotton acreage, yield, and production, estimated 1990 and actual 1989 1/

Region	Planted ---1,000 acres---	Harvested	Yield Lbs/acre	Production 1,000 bales
Southeast: 2/ 1989	853	838	603	1,052
1990	1,136	1,127	506	1,187
Delta: 3/ 1989	2,984	2,904	664	4,019
1990	3,510	3,450	671	4,820
Southwest: 4/ 1989	5,022	4,090	357	3,043
1990	5,982	5,256	451	4,941
West: 5/ 1989	1,351	1,334	1,220	3,390
1990	1,450	1,434	1,192	3,560
Total: 1989	10,210	9,166	602	11,504
1990	12,078	11,267	618	14,508

1/ Based on November Crop Production report. 2/ Alabama, Florida, Georgia, North Carolina, South Carolina, and Virginia. 3/ Arkansas, Louisiana, Mississippi, Missouri, and Tennessee. 4/ Kansas, Oklahoma, and Texas. 5/ Arizona, California, and New Mexico.

lems, ranging from drought and plant disease early in the season to heavy late-season insect pressure. Conversely, yields in Texas are projected up 84 pounds per harvested acre. Acreage abandonment, which claimed about 1 of every 5 acres planted in Texas last season, is estimated in 1990/91 at just over 12 percent. Upland production this season in Texas is placed at 4.6 million bales, 60 percent above the 1989/90 Texas crop.

Planted acreage in 1990/91 is estimated at 12.1 million acres. National average upland yield in 1990/91 is estimated at 618 pounds per acre on 11.3 million acres. Abandonment in 1990/91 is estimated at less than 7 percent, compared with 10 percent last season.

Mill Use Strong, But Lower

After 5 seasons of strong growth, U.S. domestic mill use of upland cotton is projected to remain strong in 1990/91, falling slightly to 8.3 million bales. During August, September, and October of the 1990/91 season, monthly upland cotton mill use, on a seasonally adjusted annual rate basis, was 8.68, 8.67, and 8.59 million bales, respectively. These rates are consistent with current forecasts (fig. 2).

Mill use of upland cotton in 1990/91 is likely to fall from last season's high level due to the tighter supply this season, concern over the health of the economy, more competitive polyester prices, and continued growth in cotton textile imports. During August-October, the cotton/polyester price ratio averaged 1.1, compared with .93 during the first quarter of 1989/90.

While imports of cotton-containing textile manufactures are expected to weigh on mill use this season, U.S. exports are likely to sustain domestic mill use. Through the first 8 months of calendar 1990, the cotton content of U.S. exports

Figure 1
1990 Upland Cotton Crop Estimates Rise In November

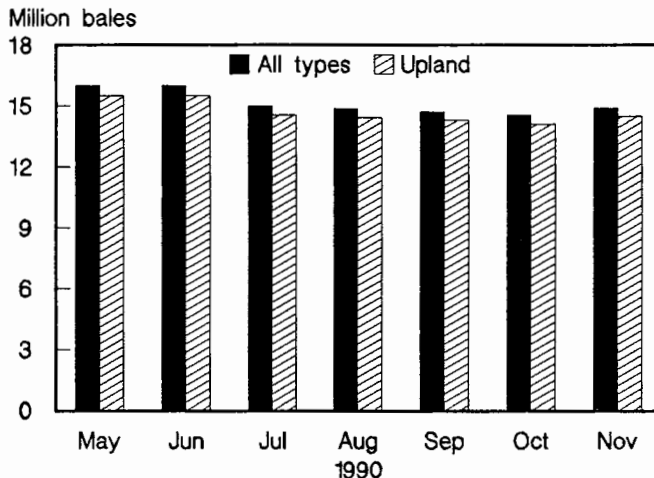
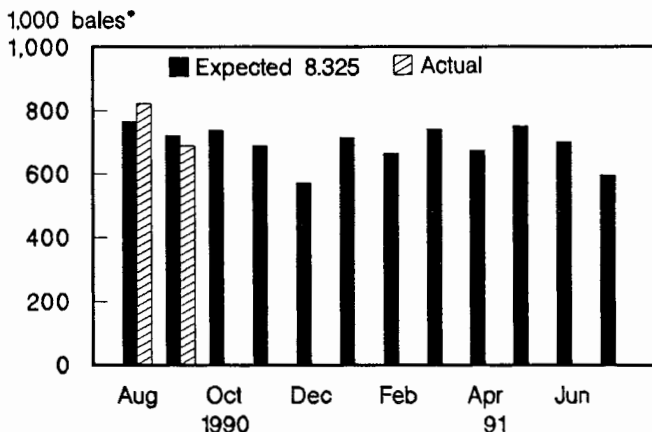


Figure 2
Upland Mill Use On Target for 8.325-million-bale Season



Adjusted to calendar month.
*1 bale = 480 lbs.

of cotton-containing textile manufactures was 345 million pounds (roughly 719,000 bales), up 31 percent (173,000 bales) over the comparable year-earlier level. Exports of yarn, thread, and fabric increased 41 percent; apparel, 20 percent; and home furnishings, 69 percent.

Upland Cotton Exports To Decline

U.S. upland cotton exports are projected at 6.6 million bales in 1990/91, down 600,000 (9 percent) from last season's 7.2 million bales. Exports in 1990/91 are being pressured by the smaller initial supply this season and the relatively strong domestic mill demand for available supplies. Also pressuring U.S. cotton exports this season is a much larger foreign outturn.

Recent sales to Far East destinations, principally China, have pushed upland export commitments for 1990/91 over 5.3 million bales in mid-November (fig. 3). Commitments have not been higher this early in the season since 1979/80.

After a very strong start this season, the pace of U.S. cotton exports slackened considerably (fig. 4). Upland cotton exports for August, September, and October, on a seasonally-adjusted annual rate basis, were 9.7, 8.0, and 6.9 million bales, respectively. The slowing pace is consistent with expectations of lower exports this season.

U.S. Cotton Prices Competitive, But Export Share To Fall

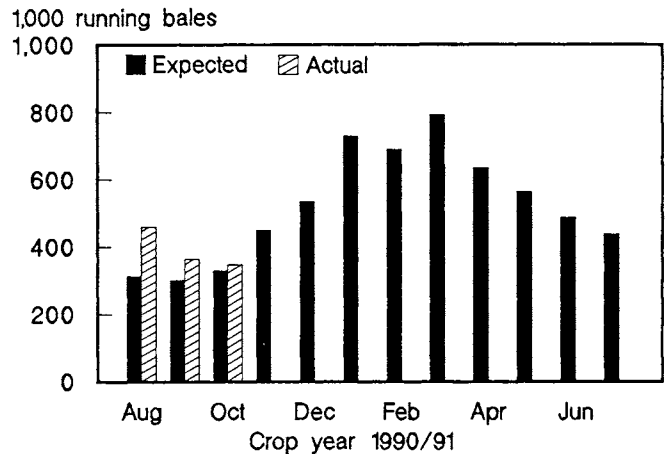
Through the first 3 months of 1990/91, cotton prices on the Northern European market, as indicated by the A-Index, were about the same as a year earlier, averaging about 81 cents per pound (fig. 5). Quotes for U.S. A-type cotton, as indicated by Memphis Territory prices, were slightly more competitive through the first 3 months of the current season (August-October)—averaging only about 20 points (0.20

cents) above the A-Index, compared with 1.5 cents during the first 3 months last season.

Northern European coarse-count cotton prices in early-season 1990/91 also were virtually identical to those of last season (fig. 5). For the first 3 months of the current and past season, the B-Index averaged 77 cents per pound. U.S. coarse-count cotton prices, as measured by Orleans/Texas quotes, are very competitive this season—averaging about 20 points below the B-Index for August through October, the same as last season.

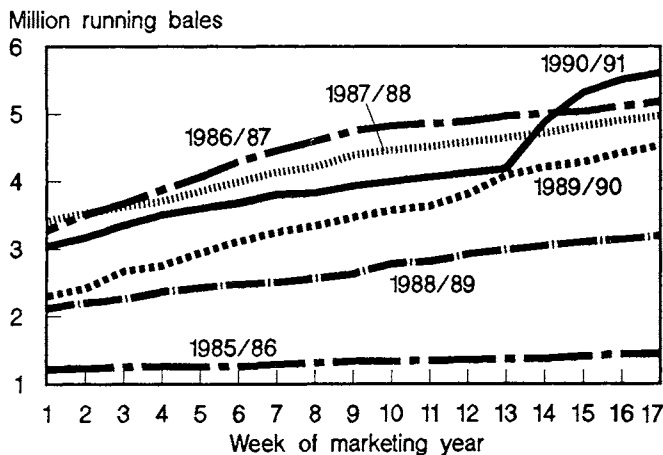
Despite competitive prices, U.S. share of world cotton trade is expected to fall this season to a more normal 29 percent from 32 percent last year. The U.S. export share among individual importers is expected to decline virtually across the board. The notable exception is China—for which the

Figure 4
Upland Cotton Export Pace Strong But Slowing



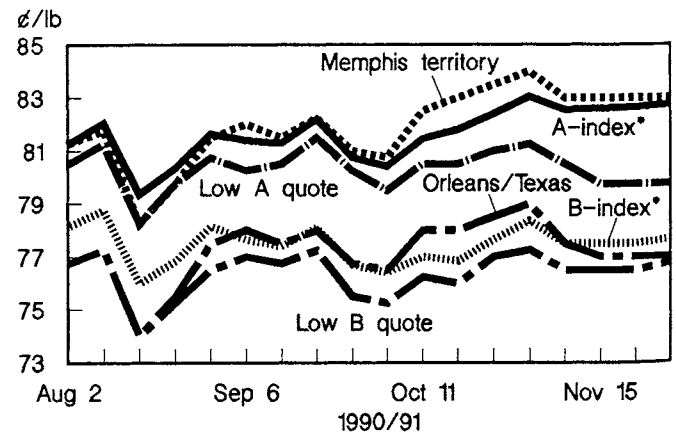
Adjusted to calendar month.

Figure 3
1990/91 Upland Export Commitments Surge



Shipments plus outstanding sales.

Figure 5
U.S. Cotton Prices Competitive on Northern Europe Market



*A and B indexes are averages of the five and the three lowest priced types offered on the Northern Europe market.

United States is expected to supply about 60 percent of imports, up from 54 percent last season (table B).

Adjusted World Price Remains Stable

Since moving higher in the last 3 months of the 1989/90 marketing year, the adjusted world price (AWP) has stabilized at about 64-67 cents per pound and has been averaging nearly 66 cents this season (table C). During the current season, the AWP, U.S. average spot prices, and December futures have followed similar patterns—weakening into September, gain-

Table B--U.S. cotton export shares to selected countries

Country	1987/88	1988/89	1989/90	1990/91 1/
Percent				
Japan	46	40	51	48
Korea	74	61	70	60
Taiwan	26	14	28	20
Hong Kong	7	8	21	17
Italy	29	16	32	32
France	9	1	6	5
Germany	39	24	36	28
Portugal	7	3	6	6
Indonesia	33	28	40	32
Thailand	28	14	29	23
China	0	69	36	59
World	28	24	32	29

1/ Based on estimates as of November, 1990

Table C--U.S. cotton prices, 1990

Month and day	Average spot market price 1/	Dec. futures price 1/	Adjusted world price 2/
Cents/lb			
Aug. 2	78.96	71.66	68.40
9	78.86	70.95	66.31
16	72.68	68.89	64.82
23	74.69	70.43	64.24
30	74.91	72.86	66.01
Sept. 6	72.95	72.71	65.94
13	70.44	72.46	65.62
20	71.57	73.80	65.75
27	70.03	72.34	65.45
Oct. 4	69.17	71.94	64.93
11	70.28	73.29	65.55
18	70.22	73.21	65.86
25	71.19	74.47	66.46
Nov. 1	71.31	74.79	67.11
8	69.55	73.87	66.64
15	69.64	74.15	66.56

1/ Spot and Dec. futures prices are for SLM 1-1/16-inch cotton, U.S. base quality. 2/ Adjusted world price is the Northern European price, adjusted to SLM 1-1/16-inch at average U.S. producing locations. Adjusted world prices are applicable for the week following the date shown.

Table D--Cotton loan statistics, 1987-89 1/

Region	Loans made			Loans repaid			Loans outstanding			Loans forfeited		
	1988	1989	1990	1988	1989	1990	1988	1989	1990	1988	1989	1990
Southeast 2/	665.9	182.7	5.2	663.6	182.0	0	0	0.3	5.2	2.4	0.4	0
Delta 3/	3,995.4	1,571.9	356.5	3,972.1	1,569.7	50.2	0.7	2.0	306.3	22.7	0.2	0
Southern Plains 4/	4,631.4	890.1	1.6	4,591.7	866.2	0	1.1	23.7	1.6	38.6	0.1	0
West 5/	1,938.5	1,087.5	0	1,936.4	1,052.2	0	0.1	35.3	0	2.0	0	0
United States	11,231.2	3,732.1	363.4	11,163.7	3,670.1	50.2	1.8	61.3	313.1	65.7	0.7	0

-- = 0.

1/ Producer and cooperative loans through October 31, 1990. Regional statistics do not reflect a backlog of loan payments for 1988 crop. 2/ Alabama, Florida, Georgia, North Carolina, South Carolina, and Virginia. 3/ Arkansas, Louisiana, Mississippi, Missouri, and Tennessee. 4/ Kansas, Oklahoma, and Texas. 5/ Arizona, California, and New Mexico.

ing in October, and falling off slightly into mid-November. The spread between the average spot price and the AWP has ranged from 291 to 1,255 points for the first 4 months of the season, compared with 34 to 299 points for the corresponding period last season.

Lower Carryover Stocks Expected

Based on current estimates of production, mill use, and exports, upland ending stocks for 1990/91 are projected at 2.5 million bales—300,000 below last season. More importantly, the 1990/91 ending stocks-to-use ratio is projected to fall to .17, the lowest in 40 years. With competitive cotton prices and a continued strong demand this season, CCC loan entries have been reduced substantially from 1989. On October 31, 363,400 bales of 1990-crop cotton (mostly in the Delta region) had been placed under loan (table D). In addition, only 63,100 bales of 1988- and 1989-crop cotton remain under loan, with the largest percentage in the West.

Outlook for 1991/92

Farm Bill Continues Market-Oriented Provisions

In late October, Congress passed the Food, Agriculture, Conservation, and Trade Act of 1990, which President Bush signed into law on November 28, 1990. The 1990 legislation covers crop years 1991-95. The cotton title continues the market-oriented provisions developed in the Food Security Act of 1985. However, some provisions have been fine-tuned to help ensure that U.S. cotton prices are competitive in international markets. In addition, increased planting flexibility rules should encourage producers to plant crops based on market prices rather than government price support programs. Basic provisions of the 1990 act for upland cotton are outlined below.

Loan Rate

Loan rates will continue to be calculated as under the Food Security Act of 1985. The minimum national average loan rate for the 1991-95 crops is 50 cents per pound for base quality cotton. The loan rate is the smaller of:

- 85 percent of the weighted-average spot market price during 3 of the preceding 5 marketing years, excluding the years when the average price was highest and lowest; or

- 90 percent of the average of the five lowest priced growths among those quoted for Middling 1-3/32 inch cotton, c.i.f. Northern Europe, during the 15-week period beginning July 1 of the year the loan rate is announced. The average is to be adjusted downward by the average difference during April 15 through October 15 between the Northern Europe prices and U.S. spot market prices of base quality cotton.

If the Northern European calculation is less than the spot market calculation, the loan rate may be set at any level between the two. However, the loan rate may not be reduced by more than 5 percent from the preceding year. The loan level must be announced not later than November 1 of the calendar year preceding the marketing year for which the loan will be effective. For the 1991 crop, the loan rate will be announced as soon as practical after enactment of the 1990 farm bill.

The loan period is 10 months and must be extended 8 more months at the producer's request, unless the spot market price during the preceding month exceeds 130 percent of the preceding 36-month average price.

Loan Repayment Rate

The loan repayment rate will be the lesser of (1) the loan rate, or (2) the higher of 70 percent of the loan rate or the world price of upland cotton as determined by the Secretary of Agriculture and adjusted for U.S. quality and location (the AWP). However, the Secretary also has the authority to set the loan repayment rate at a level (but not less than 70 percent of the loan rate) that will minimize potential loan forfeitures, minimize accumulation of CCC stocks, minimize storage costs to the Government and allow U.S. cotton to be marketed competitively. Thus, the minimum loan repayment rate is 70 percent of the announced loan rate. If the AWP falls below 70 percent of the loan rate, or below the loan repayment level set by the Secretary, first-handler certificates will be issued for the difference between the AWP and the loan repayment rate.

The new marketing loan provisions modify and combine Plan A and Plan B established in the Food Security Act of 1985. The new program should continue to make U.S. cotton competitive in world markets. In addition, three competitiveness provisions have been added:

- *Adjustment to AWP.* The Secretary is allowed to reduce the AWP when the lowest U.S. price quotation c.i.f. Northern Europe exceeds the average of the five cheapest c.i.f. Northern Europe price quotations and the AWP is less than 115 percent of the loan rate.

- *Cotton User Marketing Certificates.* The Secretary is required to issue certificates to domestic users and exporters when the lowest U.S. price quotation c.i.f. Northern Europe exceeds the average of the cheapest five Northern Europe price quotations by more than 1.25 cents per pound for 4 consecutive weeks.
- *Special Import Quota.* A special import quota is required if the lowest U.S. price c.i.f. Northern Europe (adjusted for certificate value) exceeds the average of the five cheapest Northern Europe price quotations by more than 1.25 cents per pound for 10 consecutive weeks.

Target Price

Target prices for upland cotton under the Food Security Act of 1985 were reduced from 81 cents per pound in 1986 to 72.9 cents in 1990. In contrast, the 1990 Act establishes minimum target prices at the 1990 level for the 1991-95 crops. In addition, a target option program may be used at the discretion of the Secretary. If implemented, the option allows producers to adjust acreage idled under an acreage reduction program (ARP) in exchange for limited increase or decrease in the target price level. For each 1-percent increase or decrease in the ARP percentage, the target price level would be adjusted in the same direction by 0.5-1.0 percent. The idled acreage could be increased by 10 percent or up to a total of 25 percent, or decreased by no more than 50 percent of the announced ARP.

Acreage Bases and Program Yields

The base acreage provisions of the 1985 law have been changed. Under the new law, the upland cotton acreage base for a farm is calculated as the average of cotton acreage planted and considered planted during the previous 3 years. However, producers who did not participate in the upland cotton program in 1989 and 1990 and certify acreage may use base-building rules established under the 1985 act for 1991. Also, producers who do not participate in the 1990 and 1991 programs may use 1985 act rules for the 1992 crop. However, producers will not be allowed to build base for any crop if they earn a deficiency payment for any crop.

In the 1990 act, the farm program payment yield for crop years 1991-95 is frozen at the 1990 level. Payment yields remain at the level established under the Food Security Act of 1985. In each crop year from 1991 through 1995, if the program payment yield for a farm is more than 10 percent below the 1985 farm program payment yield, a producer will be eligible for payments to maintain the same return as if the yield reduction had not occurred.

Deficiency Payments

The deficiency payment rate is equal to the target price minus the higher of: the national average market price re-

ceived by producers during the calendar year that includes the first 5 months of the marketing year, or the loan rate determined for the crop.

Deficiency payments will equal the product of the payment rate times the program yield times 85 percent of the acreage base minus any acreage idled under an ARP, not to exceed the acreage planted for harvest. Under the 1990 act, the "50/92" underplanting provision is continued. Also, a "0/92" planting provision is mandated if the Secretary determines producers are prevented from planting. Unlike the 1985 rules, producers who elect the "50/92" or "0/02" option will receive a payment guaranteed at not less than the projected deficiency rate announced at the time of program signup.

Payment Limitations

For each year during 1991-95, there is a limit of \$50,000 per person on the sum of deficiency and diversion payments from all program crops, the same as under the 1985 act. There is a new \$75,000-per-person limitation on marketing loan gains, loan deficiency payments, and Findley grain payments. An overall \$250,000 limit applies to the above payments plus any disaster, inventory reduction, resource adjustment or public access payments.

Acreage Reduction Programs

Acreage reduction programs (ARP) will remain as the primary method for controlling cotton supplies. The Secretary is directed to set an ARP which will achieve a 30-percent ending stocks-to-use ratio. The maximum reduction permitted under an ARP is 25 percent of the upland cotton acreage base and the minimum is 0 percent. The Secretary may allow producers to plant oilseeds, industrial or experimental crops, or other crops (except any fruit or vegetable crop) on up to one-half of the acreage idled under an ARP. Deficiency payments would be reduced by an amount determined by the Secretary. If multiple crops on a farm are involved, the deficiency payment adjustment is prorated among those crops.

Authority for a voluntary paid land diversion (PLD) is continued. However, if at the time of the final announcement of the ARP (January 1) ending cotton stocks are projected to be 8 million bales or more, a PLD of up to 15 percent of the upland base at a rate of not less than 35 cents per pound is required. The Secretary of Agriculture may permit producers to choose any level up to the maximum offered.

Planting Flexibility and Payment Acres

Producers have more planting flexibility under the 1990 act than in the past. A maximum of 25 percent of a participating producer's crop base may be used as flexibility acres. In general, a producer may plant up to 25 percent of his upland cotton base to another crop (except fruits and vegetables)

without losing cotton base. Producers may also plant upland cotton on up to 25 percent of another program crop base without jeopardizing cotton loans and payments. Cotton planted on the flexibility acres of another program crop, while not eligible for deficiency payments, is eligible for loans.

As in the past, a producer will not receive deficiency payments on ARP acres. In addition, the Agricultural Reconciliation Act of 1990 further limits payment acres for the 1991-95 crops. Fifteen percent of a producer's flexibility acres (normal flexible acres) will not be eligible for deficiency payments, even if planted to upland cotton. A participating producer may choose to plant an alternative crop on an additional 10 percent of upland cotton acreage base (optional flexible acres). Any crop may be planted on flexibility acres except fruits and vegetables. Soybean plantings may not exceed 15 percent of the crop base if the Secretary determines soybean prices will be less than 105 percent of the loan rate. Therefore, a participating producer's maximum payment acres are equal to the crop acreage base minus the ARP minus normal flexible acres minus optional flexible acres. For example, if the ARP is 10 percent and a producer plants all of the flexible acres to an alternative crop, the producer would not receive deficiency payments on 35 percent of his crop acreage base.

Upland Offtake May Improve

U.S. upland cotton consumption in 1991/92 is expected to continue relatively strong. Mill use may remain near recent historically high rates based on projected adequate cotton supplies, higher polyester staple prices in response to higher oil prices, and continued consumer preference for cotton fiber products. Total upland cotton mill consumption in 1991/92 could range from 8 to 9 million bales, depending to a large extent on the health of the general economy.

Exports of upland cotton in 1991/92 may improve modestly over the current season's supply-limited level. With expected competitive U.S. world market prices and an improved stock situation, exports in 1991/92 could range between 6 and 8 million bales. Based upon estimated mill use and exports, total upland offtake in 1991/92 would range from 14 to 17 million bales.

Larger Upland Production Expected

The 1991/92 outlook for upland cotton production is obscured by an as-yet-unannounced acreage reduction requirement. However, basic cotton program provisions for 1991/92 suggest substantially larger production. Specifically, the requirement that the acreage reduction program be set to attain ending stocks equivalent to 30 percent of prospective offtake will likely result in a lower ARP level in 1991/92 than in the current season and correspondingly larger production. Also, the flexibility provisions of the new farm legislation are likely to result in increased cotton plant-

ings as producers respond to what many perceive as market conditions favoring cotton over competing crops in their production areas.

With ending stocks for 1990/91 projected at 2.5 million bales, and offtake in 1991/92 estimated to range between 14 to 17 million bales, production will need to exceed offtake in 1991/92 by 1.7 to 2.6 million bales to elevate the ending stocks-to-use level from the projected 17 percent in 1990/91 to 30 percent in 1991/92.

The potentially lower acreage reduction program requirements in 1991/92, versus the current season's 12.5 percent, suggests program enrollment in 1991/92 will closely match this season's 87 percent. Correspondingly larger planting of program acres, together with anticipated cotton sowings in response to flexibility provisions and market conditions, suggest that planted acreage will increase in 1991/92. With potential yields ranging from 550 to 625 pounds per planted acre, 1991/92 acreage planted to cotton will likely range between the 12 to 16 million acres needed to achieve a 1991/92 ending stocks-to-use ratio of 30 percent.

ELS Cotton Situation

Production Down, Use Remains Strong

Extra-long staple (ELS) cotton production in 1990/91 is projected at 397,000 bales, down nearly 300,000 from last season's record production. Planted area, estimated at 236,700 acres, was down approximately 40 percent from the 1989/90 season. The average yield this season is estimated at 836 pounds per harvested acre, down 57 pounds from 1989. Lower yields are expected in Arizona and California, with increases projected for the remaining ELS producing States (table E).

Exports of ELS cotton during the first 3 months of the 1990/91 marketing year were nearly 5 times those of the corresponding period a year earlier. ELS exports for August, September, and October reached 85,100 running bales compared with 18,100 in 1989. At the beginning of November, 1990/91 ELS export commitments (shipments plus outstanding sales) were near last season's level (fig. 6). Based on the early-season strength in shipments and sales, 1990/91 ELS exports are expected to reach 425,000 480-pound bales.

Domestic mill consumption of ELS cotton during the first 3 months of the 1990/91 season was 16,692 bales. This season's mill use represents nearly a 10-percent decline from the 18,523 bales consumed during the corresponding period a year earlier. Nonetheless, current-season monthly mill consumption continues at historically high levels and could reach 75,000 bales for the 1990/91 season.

Figure 6
ELS Export Commitments Near Last Year's Level

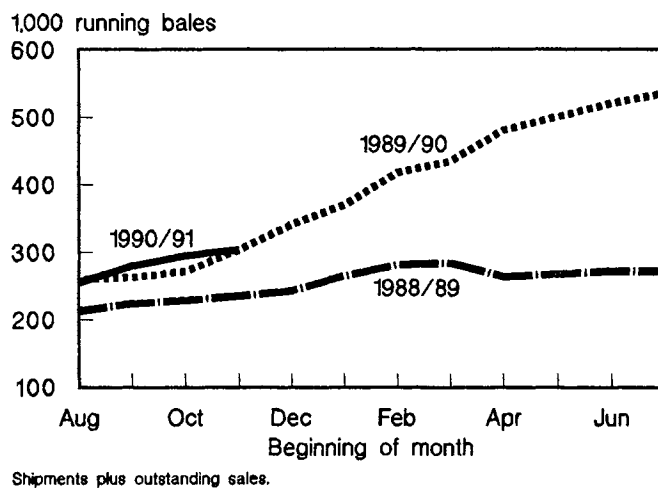


Table E--ELS cotton acreage, yield, and production, estimated 1990 and actual 1989 1/

State	Planted	Harvested	Yield	Production
	-----1,000 acres-----		Lbs/acre	1,000 bales
Arizona:				
1989	245.0	244.5	936	477.0
1990	130.0	123.5	816	210.0
Texas:				
1989	82.0	78.0	794	129.0
1990	60.0	58.0	828	100.0
New Mexico:				
1989	30.3	30.2	707	44.5
1990	20.0	20.0	720	30.0
California:				
1989	18.0	17.9	1,078	40.2
1990	25.7	25.5	1,050	55.8
Mississippi: 2/				
1989	1.6	1.1	436.0	1.0
1990	1.0	1.0	528.0	1.1
Total:				
1989	376.9	371.7	893	691.7
1990	236.7	228.0	836	396.9

1/ Based on November Crop Production report. 2/ Estimates began with 1989 crop.

Based on current estimates, total supply of ELS cotton this season could approach 604,000 bales. With another season of strong offtake projected at 500,000 bales, ELS ending stocks are expected to shrink over 54 percent from last season to 94,000 bales.

Farm Bill's ELS Provisions Little Changed from 1985 Act; 1991 Loan Rate Announced

The provisions for ELS cotton under the Food, Agriculture, Conservation, and Trade Act of 1990 remain essentially unchanged from the previous legislation with several exceptions. The new legislation prohibits strict and limited cross compliance as well as offsetting compliance. An amendment was included prohibiting any increase in the ELS cotton crop acreage base in a subsequent year on farms that receive a deficiency payment. As with upland cotton, authority now exists for a zero ARP for ELS cotton.

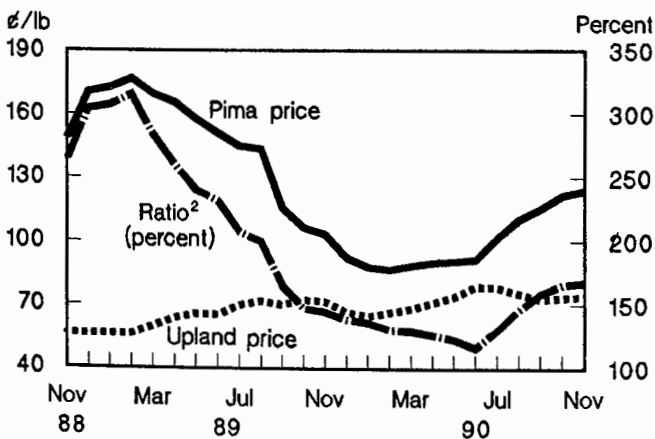
The Secretary of Agriculture announced the 1991 ELS cotton loan rate on November 30, 1990. The 1991 rate will be 82.99 cents per pound. Other ELS program provisions are expected to be announced soon.

Higher ELS Prices, Strong Demand Dominate 1991/92 Outlook

Notwithstanding the 1991 program provisions, continued strong demand will likely dominate the 1991/92 outlook. Early indications show 1991/92 ELS planted acreage expanding 25,000-75,000 acres from this season's level to more than 250,000 acres. Many producers may elect to return to ELS production in 1991 in lieu of upland since ELS/upland price ratios currently favor ELS production (fig. 7).

ELS cotton production in 1991/92, assuming trend yields and normal abandonment, could range from 475,000 to 525,000 bales. With ending stock levels for the current season estimated at 94,000 bales, total ELS supplies in 1991/92 could range from 570,000 to 620,000 bales—near this season's historically strong levels.

Figure 7
U.S. Cotton Prices, 1988-90¹



1/ Pima (46-03) and Desert SW Spot.
2/ Pima/upland price ratio in percentage.

Foreign ELS Production and Consumption Expected To Rebound

According to the International Cotton Advisory Committee (ICAC) estimates, 1990/91 ELS production and consumption in foreign-producing countries are expected to rise following last season's decline. ELS cotton production in foreign-producing countries is projected at 4.4 million bales this season, up 2 percent from 1989/90 (table F). Consumption among foreign producers is expected to total 3.5 million bales, up only slightly from last season. As a result, stocks at the beginning of 1991/92 could reach 763,000 bales—up 10 percent from their low level at the beginning of the current season.

In 1991/92, ELS production is estimated to increase 8 percent to 4.7 million bales, while consumption is expected to remain near the 3.5-million-bale level. Among individual countries, Egypt and the USSR are projected to show the largest increases in production both this season and next. Production in Sudan, however, is expected to fall dramatically due to adverse weather this season. While consumption in Egypt is expected to rise, use in the USSR and other major producing countries is projected to decline.

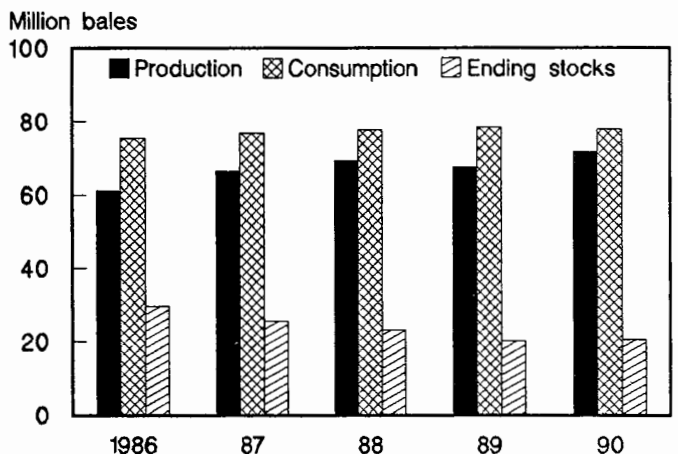
Exports of ELS cotton among foreign producers are expected to drop 14 percent to 844,000 bales in 1990/91 before returning to more normal levels in 1991/92. Based on ICAC data, the United States will likely remain the world's leading exporter of ELS cotton this season and in 1991/92.

Foreign Cotton Situation and Outlook

Production Up Sharply

Foreign cotton production in 1990/91 is estimated to rise 9 percent to 71.8 million bales, second only to the record 76 million produced in 1984/85 (fig. 8). Production is up primarily in response to high prices which reflect low stocks at

Figure 8
Foreign Production and Consumption High, Stocks Low



*1 bale = 480 lbs.

the end of last season. Some of the advance is due to an increase in area, estimated up 2 percent, but the gain primarily reflects the 4-percent growth in foreign yields.

Production gains are expected in India, Pakistan, the Soviet Union, China, Australia, Brazil, Argentina, Paraguay, and Egypt. China's output is forecast to exceed last year's poor crop, but by less than earlier anticipated. Area was reduced again in the Soviet Union, but yields are up. India is expecting its second consecutive record crop, primarily as a result of expanded irrigation. Record output for Pakistan is also forecast. Egypt expects better yields because it successfully identified and treated a mold that had been attacking the crop in recent years.

Southern Hemisphere producers have just planted, and area in most cases has been increased as much as possible. Plantings in Australia appear to have exceeded expectations. Ar-

gentine area, however, has been inundated by heavy rain and standing water, so area gains there may be less than earlier anticipated.

Prices Stabilize at a High Level

As of November, 1990/91 world prices as measured by the A-Index on the Northern European market at Liverpool remain steady at about 82 cents per pound (fig. 9). Although prices are below those at the end of last season, they approximate last season's high average price. Tight supplies are expected to continue throughout 1990/91, keeping pressure on prices.

Consumption and Imports Contract Slightly

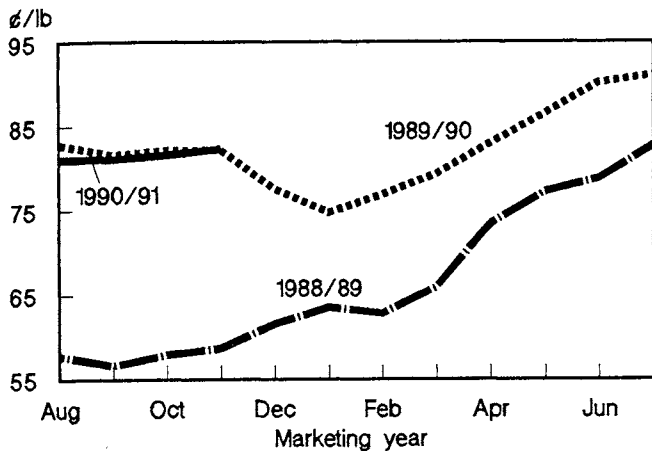
Consumption demand remains strong but is projected just under last season's record. Foreign consumption is projected at 77.9 million bales, off nearly 500,000 bales. Contracting demand and prices will hold imports down. Foreign imports

Table F--ELS cotton supply and use in foreign producing countries, 1987-91

Year beginning August 1	1987	1988	1989 est.	1990 proj.	1991 proj.
	1,000 480-lb bales				
Beginning stocks:					
Egypt, L. Stpl.	200	181	149	133	156
India	89	164	207	282	255
Israel	5	5	7	10	10
Peru	18	5	11	41	33
PRC	11	4	4	4	18
Sudan	189	87	10	61	39
USSR	162	268	340	72	191
Others	29	27	23	27	21
Subtotal	703	741	751	630	723
Egypt, ELS	132	109	80	63	40
Total	835	850	831	693	763
Production:					
Egypt, L. Stpl.	1,218	1,039	938	1,102	1,146
India	1,000	878	979	975	1,022
Israel	58	85	143	67	57
Peru	49	106	150	117	98
PRC	116	115	161	177	195
Sudan	195	186	222	88	95
USSR	1,704	1,792	1,241	1,400	1,625
Others	59	49	50	57	61
Subtotal	4,399	4,250	3,884	3,983	4,299
Egypt, ELS	379	370	371	367	420
Total	4,778	4,620	4,255	4,350	4,719
Consumption:					
Egypt, L. Stpl.	1,080	966	903	980	1,020
India	925	811	786	843	793
Israel	0	0	0	0	0
Peru	54	34	80	70	55
PRC	40	65	93	90	95
Sudan	7	3	6	9	5
USSR	1,450	1,500	1,380	1,290	1,265
Others	41	22	22	22	22
Subtotal	3,597	3,401	3,270	3,304	3,255
Egypt, ELS	163	200	232	225	240
Total	3,760	3,601	3,502	3,529	3,495
Exports:					
Egypt, L. Stpl.	195	106	50	100	100
India	0	0	117	160	176
Israel	58	83	140	67	55
Peru	12	51	40	55	38
PRC	100	60	83	87	115
Sudan	290	241	165	100	90
USSR	218	259	176	37	200
Others	52	63	57	73	70
Subtotal	925	863	828	679	844
Egypt, ELS	233	200	156	165	170
Total	1,158	1,063	984	844	1,014

Source: International Cotton Advisory Committee, Washington, DC.

Figure 9
Prices Stable at High Level



A—index prices.

are projected to fall slightly from 1989/90, reaching only 24.2 million bales. But imports also are still relatively high historically.

Prices of manmade fibers in some foreign markets have risen recently as oil prices skyrocketed. Although cotton prices remain relatively high, the higher prices of competitive fibers favor cotton use.

Use among producing countries is projected marginally below last year (table G). China's consumption is forecast down. Reduced consumption in the Soviet Union is also likely because of the current internal confusion over new

marketing procedures, even though domestic demand may remain strong. But large consumption gains are again expected in Pakistan, India, and Brazil, where use has been expanding rapidly.

A larger drop in importers' use is forecast. Much of the decline will occur in Eastern Europe where textile industries are struggling to find foreign exchange to purchase cotton. Some East Asian textile producers are also expected to cut use because of rising competition in their own markets from imported textiles and because appreciation of their currencies against the dollar is reducing their textile export competitiveness. But use seems to be expanding slightly in Western Europe as the West steps in to supply textiles for the pent-up demand of Eastern European countries which their own industries are as yet unable to meet.

Foreign Exports Rise Sharply

Foreign exports are expected to rise to 17.3 million bales, up 5 percent from last year. But these exports will remain well below the 19.7-million-bale record, as tight beginning stocks restrict export gains to equal production gains. Nevertheless, the foreign share of the market is projected at 71.3 percent, up from 68.2 percent last season, and U.S. exports and market share will decline.

Exports from Pakistan and China continue to be off sharply from the levels of recent seasons as rising domestic use absorbs production gains. Despite a larger crop, Soviet exports as well as domestic use are expected to be restrained by the internal confusion over new policies.

Table G--World cotton supply and use, 1989/90 and 1990/91 1/

Year beginning August 1	United States	Major importers 2/	Major exporters 3/	Other	Total foreign	World
Million 480-lb bales						
1989/90:						
Supply--						
Beginning stocks	7.1	5.2	9.2	8.7	23.1	30.2
Production	12.2	1.6	43.6	22.4	67.6	79.8
Imports	4/	16.0	2.9	6.0	24.9	24.9
Use--						
Mill use	8.8	17.2	39.7	21.5	78.4	87.2
Exports	7.7	1.0	8.6	6.9	16.5	24.2
Ending stocks	3.0	4.4	7.2	8.6	20.2	23.2
1990/91:						
Supply--						
Beginning stocks	3.0	4.4	7.2	8.6	20.2	23.2
Production	14.9	1.7	46.3	23.8	71.8	86.7
Imports	4/	15.2	2.8	6.2	24.2	24.3
Use--						
Mill use	8.4	16.1	39.4	22.4	77.9	86.3
Exports	7.0	1.1	8.5	7.8	17.4	24.3
Ending stocks	2.6	3.9	8.2	8.5	20.6	23.2

1/ Based on November 8, 1990, World Agricultural Supply and Demand Estimates report, 1990/91 projected. Totals may not add and stocks may not balance because of rounding, a small quantity of cotton destroyed, and unaccounted differences. 2/ Eastern Europe, Japan, Hong Kong, Republic of Korea, and Taiwan. 3/ Australia, China, Central America, Egypt, Mexico, Pakistan, Sudan, Turkey, and the USSR. 4/ Less than 50,000 bales.

U.S. Wool Situation and Outlook

Exports from India are forecast up markedly because of the record crop. The French-speaking countries of West Africa and the Southern Hemisphere producers are also expected to expand exports significantly as their production rises and supplies of other exporters tighten.

Stocks Remain Low

A limited recovery is projected for low foreign ending stocks. The stocks-to-use ratio is forecast at the second-lowest level on record, 26.5 percent. This will be up from last season's record low 25.8 percent. Beginning stocks for 1991/92 are forecast to remain nearly as tight as at the beginning of 1990/91.

Gains in foreign stocks may just be sufficient to push world stocks up slightly, despite the considerable tightening of U.S. stocks expected this season. But world stocks-to-use ratios will also still remain the second lowest historically. This tight supply relative to use will encourage production growth.

Production Expected To Rise Again in 1991/92

Foreign producers are likely to increase output again in 1991/92. Following trends, yield growth is expected to outpace area growth, because expansion for much foreign area is limited by the high cost of adding irrigation.

India, Pakistan, the Southern Hemisphere producers, and the French-speaking countries of west Africa seem most likely to raise output, even though they are producing records or near records this season. India will continue expanding irrigated area, raising yields, and Pakistan's yields are rising because of continued improvements in cropping practices. In the Southern Hemisphere and French-speaking Africa, as long as cotton prices continue strong, cotton seems likely to remain attractive relative to competing crops.

But foreign gains will be exceptional only if the largest producers—China and the Soviet Union—also increase output. China probably will try again to increase incentives relative to other crops in order to achieve production that at least matches consumption levels. Soviet area likely will be reduced again, so production there will rise only if yield gains remain above average.

But, some of the foreign production gains likely will continue to be absorbed by producers' consumption growth in 1991/92. Thus, unless an offsetting recession sharply depresses importers' demand, overall use is likely to remain strong. And, world stocks would still be relatively tight at the end of 1991/92 unless U.S. production also shows additional gains.

Wool Business Slow

The latest data show third-quarter 1990 raw wool mill consumption at 29.5 million pounds, clean basis, 10 percent below the second quarter and 1 percent less than a year earlier. The worsted system used 15.1 million pounds, 14 percent below the second quarter and 6 percent less than third-quarter 1989. The woolen system used 10.3 million pounds, 18 percent lower than the second quarter but 5 percent above a year earlier (table H). Carpet mills consumed 4.1 million pounds, 40 percent more than the second quarter and 6 percent above the previous year. It is estimated that raw wool mill consumption in 1990 will be 123 million pounds (table I).

Worsted-system mill consumption share of the more expensive 60's-and-finer grades was 70 percent in the third quarter, down from 73 percent in the second and 76 percent in the first. The woolen-system share of the 60's-and-finer grades was 52 percent, down slightly from the second-quarter share but above 45 percent in the first. Sixties-and-finer

Table H--U.S. mill consumption of raw wool, clean basis, 1984-89

Year	Apparel wool	Carpet wool	Total

1,000 lbs			
Jan.-Dec.:			
1984	128,982	13,088	142,070
1985	106,051	10,562	116,613
1986	126,768	9,960	136,728
1987	129,677	13,092	142,769
1988	117,069	15,633	132,702
1989	112,998	14,122	127,120
Jan.-Mar.:			
1984	36,623	3,438	40,061
1985	26,846	3,000	29,846
1986	32,465	2,583	35,048
1987	33,801	2,828	36,629
1988	30,925	4,479	35,404
1989	32,103	3,294	35,397
1990	29,948	3,779	33,727
Apr.-June:			
1984	36,252	3,940	40,192
1985	27,882	2,537	30,419
1986	33,653	2,387	36,040
1987	34,175	3,333	37,508
1988	30,087	3,819	33,906
1989	29,991	3,979	33,970
1990	29,998	2,923	32,921
July-Sept.:			
1984	29,326	2,721	32,047
1985	25,025	2,887	27,912
1986	30,106	2,739	32,845
1987	30,041	3,748	33,789
1988	27,427	4,414	31,841
1989	25,983	3,865	29,848
1990 1/	25,431	4,088	29,519
Oct.-Dec.:			
1984	26,781	2,989	29,770
1985	26,298	2,138	28,436
1986	30,544	2,251	32,795
1987	31,660	3,183	34,843
1988	28,630	2,921	31,551
1989	24,921	2,984	27,905

1/ Preliminary.

Table I--U.S. wool supply and disappearance, clean content, 1984-90

Item	1984	1985	1986	1987	1988	1989	1990 1/
Million lbs							
Stocks, January 1	58.9	51.6	50.6	46.8	45.3	55.9	77
Production	51.1	47.1	45.3	45.3	48.0	47.8	51
Imports	94.2	79.5	97.0	105.1	96.7	106.9	67
Diff. unacc.	-10.0	-9.6	-8.6	-8.1	-0.2	-5.4	0
Total supply	194.2	168.6	184.3	189.1	189.8	205.2	195
Mill use	142.1	116.6	136.7	142.8	132.7	127.1	123
Exports	0.5	1.4	0.8	1.0	1.2	1.2	2
Total use	142.6	118.0	137.5	143.8	133.9	128.3	125
Stocks, December 31	51.6	50.6	46.8	45.3	55.9	76.9	70

1/ Estimated by USDA. All projections are rounded.

Source: USDA and Bureau of the Census.

grades are mostly used in the finer suiting and coating fabrics.

Noncellulosic fibers used by apparel mills per pound of raw wool were 1.46 pounds in the third quarter, 1.44 in the second quarter, and 1.42 in the first. A greater share of non-cellulosic fibers tends to be used when wool prices are relatively high. This ratio averaged 1.45 in 1989, 1.38 in 1988, and 1.17 in 1987.

U.S. prices of clean, mill-delivered territory raw wool by mid-November declined every week since the end of the last season. The slide in price is a reflection of sluggish mill demand and the unusually large supply overseas. Mid-November prices declined 7 to 14 percent from their June level. The 64's were \$2.30; the 62's, \$1.75; and the 60's, \$1.40. The simple average price received by farmers in November for raw wool, greasy basis, was \$0.58 per pound compared with \$0.835 in October and \$1.02 a year earlier (table J).

Australian raw wool prices in the United States during the first 4.5 months of this season peaked in August-September

because of the then relatively strong Australian dollar. By mid-November, however, prices had generally declined to levels of 3 years ago because of a weaker currency and slower demand. The 80's dropped the most, 27 percent from the average August price to the mid-November \$5.71. The 70's at \$4.56 were down 15 percent; the 64's at \$3.21, were down 7 percent; the 58's at \$2.35 and the 56's at \$2.09, both down 7 percent.

New Farm Bill Provisions

The Food, Agriculture, Conservation, and Trade Act of 1990 authorizes commodity programs for marketing years 1991 through 1995. A major change is that for the first time, wool and mohair price support payments will be subject to a payment limitation. The following limits will be in effect for the respective marketing years: \$200,000-1991; \$175,000-1992; \$150,000-1993; \$125,000-1994 and 1995. Separate payment limitations will apply for wool and mohair. For example, in 1991, a person may receive a price support payment of \$200,000 for wool and another \$200,000 for mohair. The Secretary of Agriculture is directed to issue regulations

Table J--Average U.S. farm prices per pound for shorn wool, greasy basis, 1984-90

Month	1984	1985	1986	1987	1988	1989	1990 2/
Cents/lb							
January	58.4	59.2	52.2	58.7	84.8	109.0	65.8
February	67.1	58.7	54.4	69.1	109.0	131.0	70.6
March	79.3	61.0	61.9	78.7	140.0	133.0	83.4
April	87.9	67.9	70.0	99.7	153.0	135.0	92.6
May	86.5	68.5	73.7	106.0	166.0	136.0	99.5
June	86.6	69.8	75.5	108.0	161.0	134.0	93.4
July	82.3	64.0	67.5	87.0	134.0	121.0	80.4
August	78.5	60.2	65.9	83.1	122.0	112.0	74.4
September	74.3	59.5	57.6	93.6	113.0	115.0	71.9
October	80.2	66.6	69.7	95.5	123.0	147.0	83.5
November	67.5	58.5	64.0	84.1	119.0	102.0	58.0
December	69.4	56.8	59.4	81.4	116.0	94.0	
Average	79.5	63.3	66.8	91.7	138.0	124.0	

1/ Weighted average market price. 2/ Preliminary and unweighted prices.

Source: Agricultural Prices, National Agricultural Statistics Service, USDA.

requiring that wool and mohair producers meet a "person" requirement, consistent with that in effect for wheat, feed grains, cotton and rice, in order to qualify for payments. Price support payments for wool and mohair will not count against the payment limit in effect for any other price support commodities.

An amendment was also made to the 1985 provisions concerning the producer referendum held periodically to authorize deduction of a portion of wool and mohair price support payments to fund the advertising and promotion programs of the American Sheep Industry Association and the Mohair Council of America. Previously, for the referendum to pass, approval was required from at least two-thirds of the voting producers, or the producers accounting for two-thirds of the volume of production represented in the referendum. The new legislation changes the requirement from "2/3" to "a majority."

The new legislation retained the parity-based formula used to determine the shorn wool support price, and mohair will continue to be supported at a level between 85 and 115 percent of the percentage of shorn wool parity.

Raw Wool Imports Down

U.S. imports of raw wool in the third quarter were 13.9 million pounds, clean, down 23 percent from the second quarter and 33 percent below a year earlier. Imports of the 48's-and-finer grades (formerly "duty-free"), at 9.6 million pounds, were 37 percent lower than a year earlier (table K). Almost 94 percent came from three countries: Australia, 87 percent; New Zealand, 4 percent; and Uruguay, 3 percent.

Imports of unimproved and other grades not finer-than-46's (formerly "duty-free") were 4.3 million pounds, 22 percent less than a year earlier. More than 94 percent was imported from two countries: New Zealand, 82 percent; and the United Kingdom, 12 percent.

The share of raw wool imports entering the United States in third-quarter 1990 through New England and Middle Atlantic customs districts was 31 percent (table L). The amount

entering through the South Atlantic and other customs districts constituted a 69-percent share.

The share of raw wool imports not finer-than-46's in the third quarter of 1990 entering through the New England and Middle Atlantic customs districts was 62 percent, down from an average of 70 percent in the first 2 quarters.

The share of the 48's-and-finer entering the United States through the New England and Middle Atlantic customs districts in third quarter was 17 percent, up from 10 percent in both the first and second quarters. This change reflects a

Table K--U.S. imports of raw wool for consumption, clean content, 1985-89

Year	1,000 lbs			Total
	48's and finer 1/	Not finer than 46's 2/	Misc. 3/	
Jan.-Dec.:				
1985	50,164	29,308	NA	79,472
1986	66,090	30,901	NA	96,991
1987	74,054	31,066	NA	105,120
1988	72,323	24,418	NA	96,741
1989	77,003	29,889	48	106,940
Jan.-Mar.:				
1985	15,169	7,397	NA	22,536
1986	19,749	6,910	NA	26,658
1987	20,434	5,805	NA	26,239
1988	26,763	6,753	NA	33,516
1989	20,166	8,815	1	28,982
1990	14,465	6,697	33	21,195
Apr.-June:				
1985	9,661	7,951	NA	17,612
1986	16,744	7,401	NA	24,145
1987	21,829	9,126	NA	30,954
1988	19,150	5,965	NA	25,115
1989	22,507	9,265	17	31,789
1990	10,962	7,070	0	18,031
July-Sept:				
1985	11,573	7,158	NA	18,731
1986	12,922	8,235	NA	21,157
1987	13,974	9,761	NA	23,735
1988	9,940	6,141	NA	16,081
1989	15,328	5,500	30	20,859
1990	9,607	4,275	0	13,882
Oct.-Dec.:				
1985	13,790	6,803	NA	20,593
1986	16,676	8,355	NA	25,032
1987	17,818	6,374	NA	24,192
1988	16,470	5,558	NA	22,028
1989	19,002	6,309	--	25,312

NA = Not available.
 1/ Formerly "Duty-free." 2/ Formerly "Duty-free."
 3/ Raw wool, not carded or combed, but processed beyond the degreased condition e.g. dyed. Grade is not identified, Harmonized TSUSA 5101.21.6000, 5101.29.6000, and 5101.30.6000.

Source: Bureau of the Census.

Table L--Raw wool imports by region, 1986-90 1/

Region	Not finer than 46's					48's and finer					Misc. 2/			Total										
	1990					1990					1990			1990										
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990	1989	1990	1986	1987	1988	1989	1990							
				1q	2q	3q				1q	2q	3q				1q	2q	3q						
New England	34	30	30	24	21	20	28	25	16	13	15	9	9	15	D	D	D	D	28	20	17	18	13	13
Middle Atlantic	33	38	34	38	47	52	34	2	2	1	1	1	1	2	D	D	D	D	12	12	10	11	16	21
South Atlantic and other 3/	33	32	36	38	32	28	38	73	82	86	84	90	90	83	D	D	D	D	60	67	73	71	71	65
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

D = Data withheld to avoid disclosing figures for individual companies.

1/ Imports entered through customs districts in the respective regions. 2/ Data not available for earlier years.

3/ Includes customs districts along the Gulf Coast, the Mexican border, the Pacific Coast, and the Canadian border.

Source: Bureau of the Census.

larger use of finer wool grades in the Northeast States in the third quarter compared with the first 2.

Top production in the third quarter was 14.5 million pounds, down 12 percent from the second and 4 percent less than a year earlier. Top production in the first 3 quarters of 1990, 48 million pounds, was 1 percent less than a year earlier. Top exports in the third quarter were 2.4 million pounds, down 7 percent from the second but 58 percent more than a year earlier. Top exports in the first 9 months of 1990 were 6.2 million pounds, 32 percent below the period a year ago. Five countries accounted for more than 82 percent of exports: Japan, 52 percent; Korea, 12 percent; Canada, 9 percent; Taiwan and Turkey, 5 percent each. The average unit value of the January-September top exports was \$3.22 compared with \$4.43 a year earlier.

Top imports in the January-September 1990 period were 262,000 pounds, down 48 percent from a year ago. Five countries accounted for more than 95 percent: Chile, 30 percent; Uruguay and the United Kingdom, 23 percent each; and Israel and Australia, 10 percent each. The average unit value for the January-September 1990 period was \$3.03 compared with \$4.08 a year earlier.

Foreign Wool Situation and Outlook

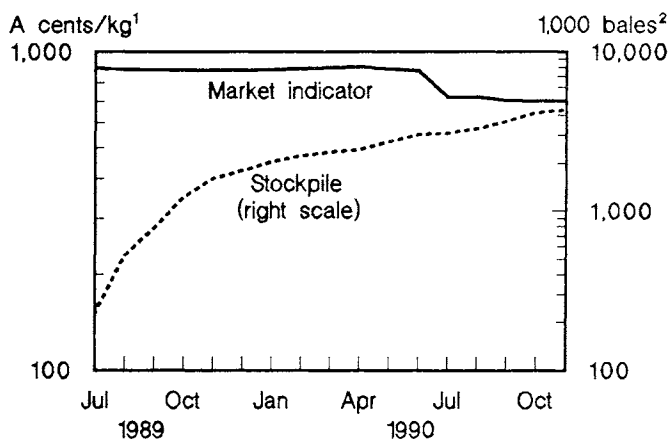
Continued Excess Supply

Four and one-half months into the 1990/91 season, the world wool market continues deeply depressed, with supply greatly exceeding demand. The situation is most acute in Australia, the world's largest producer and exporter. The percent of the offering that had to be purchased by the Australian Wool Corporation (AWC) increased each month this season from 47 percent in July to more than 72 percent in October. By mid-November the proportion purchased averaged 66 percent. This large purchasing effort caused the AWC stockpile to rise to more than 4.3 million bales, 43 percent above the close of last season (fig. 10). Such massive market support was necessary to maintain the Australian Market Indicator (a weighted-average index of 13 wool categories) above the AWC-designated floor price of A700 cents per kg. The market indicator fell from A724 cents in July to A703 cents in October and early November.

The latest Australian Bureau of Agricultural and Resource Economics forecast estimated 1990/91 wool production to be slightly less than 2.4 billion pounds, 1.7 percent below last season. The number of sheep shorn is expected to be 216 million, just slightly above last year. Average fleece weight will be down more than 3 percent because of dry conditions in some areas. AWC closing stocks for the 1990/91 season are forecast to be 4.7 million bales, 76 percent of the season's production and 55 percent above the June 1990 level. The number of sheep operators is not expected to de-

Figure 10

Australian Wool Corporation Stockpile and Market Indicator



November 1990 figures are mid-month.
1/ Clean basis. 2/ Greasy basis.

cline significantly despite the 25-percent tax on their gross sales and the lower floor price, because alternative agricultural activities such as cattle or grains offer less economic incentives.

In early November the Australian Wool Corporation announced a series of production control steps "to ensure that the quantity of wool offered for sale next year will not exceed global demand." Individual sheep producers will be assigned a quota calculated from a base period such that the total 1991/92 production will not exceed 1.65 billion pounds (750 million kilograms). The 1990/91 production is forecast to be about 2.23 billion pounds, 3.5 percent below last year. The production goal for next season will mean a reduction of 26 percent from this season's production.

To achieve this 1991/92 production ceiling, the AWC plans to remove 15 to 20 million sheep from Australian flocks, which were forecast to be about 175 million at the start of the 1990/91 season. It is estimated that the flock reduction will result in a removal of at least 110 million pounds, greasy basis, from shorn wool offerings.

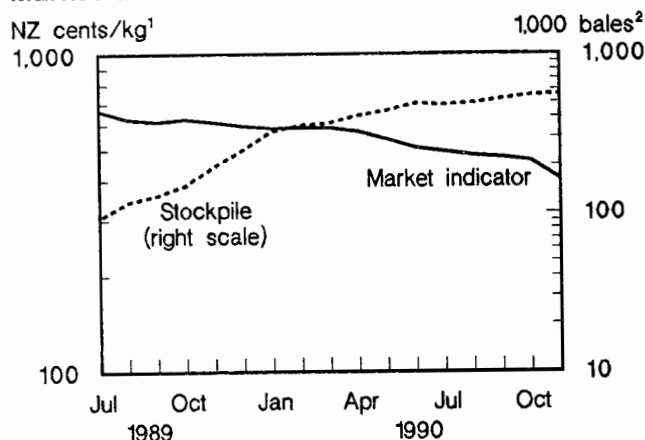
In order to finance this proposal, the 25-percent tax on sheep producers' wool sales will be continued and the AWC will borrow up to A\$2.5 billion. In addition, negotiations with the USSR will address Soviet financial problems that could otherwise curb their relatively large imports of recent years. The Australian Government and the Australian Council of Wool Exporters plan to offer the Soviet Union a revolving credit plan of \$A400 million to enable them to buy wool. The discussions will include resolving the current Soviet debt of \$A84 million for previous wool purchases.

New Zealand's wool market exhibited continued sluggish behavior with almost 40 percent of the 1990/91 season completed by mid-November. The New Zealand Wool Board

(NZWB) had to increase its purchases of the offering from 20 percent in August to 25 percent in September and 27 percent in October. In first-half November the purchase was 15 percent. The market intervention caused the NZWB stockpile to rise 14 percent during the season to about 560,000 bales (fig. 11). The New Zealand market indicator dropped from the opening of NZ493 cents per kg. clean, to NZ486 cents in August, NZ473 cents in September, and NZ475 cents through October 19. In late October the NZWB then lowered its support, causing the indicator to drop to NZ418 cents. By mid-November it averaged NZ403 cents.

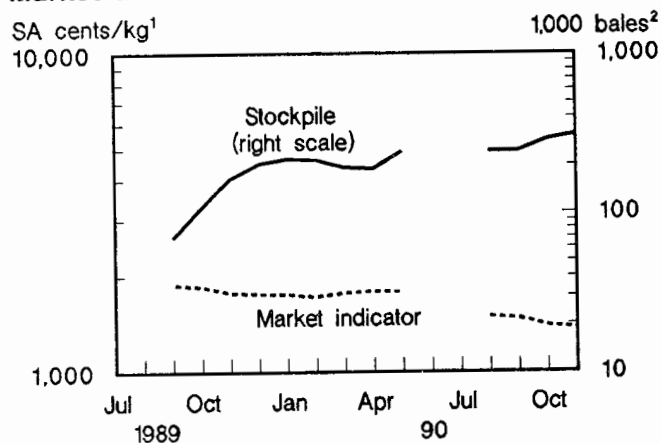
New Zealand 1990/91 wool production is forecast at 669 million pounds, 2 percent less than last year. This decline resulted from a switch by sheep growers to cattle and a lower clip per head. The sheep population at the start of the season was 58.2 million, down 4 percent from a year earlier.

Figure 11
New Zealand Wool Board Stockpile and Market Indicator



November 1990 figures are mid-month.
1/ Clean basis. 2/ Greasy basis.

Figure 12
South African Wool Board Stockpile and Market Indicator



November 1990 figures are mid-month.
1/ Clean basis. 2/ Greasy basis.

Performance of the South African wool market in September and October was quite similar to the Australian and New Zealand markets. The market indicator opened the season averaging SA1,467 cents per kg in September, then declined to an average of SA1,403 cents in October. By mid-November it reached SA1,378 cents (fig. 12). The South African raw wool stockpile in this 2.5-month period rose almost 65 percent, reaching 311,000 bales by mid-November. The South African Wool Board bought 62 percent of the wool offered in August, 75 percent in September, and an average of 70 percent in early November.

Mohair

U.S. mohair exports in the 9 months January-September 1990 were 9 million pounds, clean, 75 percent more than a year earlier. The value of these shipments was \$11 million, with an average unit value of \$1.22 per pound, one-half the average unit value a year earlier. More than 95 percent went to five countries: the United Kingdom, 78 percent; India, 8 percent; Belgium, 4 percent; France and Italy, 3 percent each. Exports in 1990 are expected to be 12.5 million pounds, 17 percent more than last year (table M).

Exports of fine animal hair (including mohair), carded or combed, in the first 9 months of 1990 were almost 1.4 million pounds, almost 4 times a year earlier. The average unit value was \$2.64 per pound, 23 percent below a year ago. About 90 percent went to five countries: India, 63 percent; Taiwan and the United Kingdom, 8 percent each; Germany, 7 percent; and Mexico, 5 percent.

Mohair sales this year, especially in the third quarter, have been sluggish. This depressed mohair state reflects not only the current low popularity of mohair in the apparel market but also the depressed textile industry conditions worldwide. November adult hair prices averaged \$0.75 (down 32 percent from last spring); young goat, \$1.10 (down 25 percent); and kid, \$4.00 (unchanged).

The depressed world demand had a particularly severe impact on the South African mohair market. Mohair sales have been estimated to be 25 percent of this year's production. Furthermore, the current South African stockpile has been estimated at 25 million pounds, up from 6 million a year earlier. The cumulative clearance for the first six winter season mohair sales (September to mid-November) was 21 percent compared to 38 percent in the previous season (March-July 1990), 49 percent in the September 1989-February 1990 season, and 55 percent in March-July 1989.

Table M--U.S. mohair supply and disappearance, clean content, 1984-90

Item	1984	1985	1986	1987	1988	1989	1990 1/
Million lbs							
Stocks Jan. 1/	1,250	1,020	1,304	1,541	1,778	1,404	1,700
Production	9,250	10,990	13,510	13,990	13,170	13,110	13,500
Imports	5	20	13	7	59	3	1
Diff. unacc.	-1,035	-1,035	1,436	352	975	-1,317	-5
Total supply	9,470	10,995	16,263	15,890	15,982	13,200	15,200
Mill use	700	700	100	100	200	800	800
Exports	7,750	8,991	14,622	14,012	14,378	10,700	12,500
Total use	8,450	9,691	14,722	14,112	14,578	11,500	13,300
Stocks, Dec. 31	1,020	1,304	1,541	1,778	1,404	1,700	1,900

1/ Estimated by USDA. All projections are rounded.

Source: USDA and Bureau of the Census.

Manmade Fibers

Manmade fiber sales in third-quarter 1990 declined from the second quarter but were about the same level as the first quarter. Production was 6 percent below the second quarter and 5 percent below a year earlier. Fiber stocks in producers' plants at the end of the third quarter were down 1 percent from a year earlier. However, stock change varied by fiber group. Nylon filament and staple stocks rose 20 percent, while polyester filament and staple stocks declined about 16 percent, and acrylic stocks rose 30 percent. The rise in nylon stocks was principally in carpet fibers while the polyester and acrylic stock changes were in apparel-type fibers. Mill consumption in the third quarter was 2.23 billion pounds, 2.3 percent below the second, and 1.4 percent below a year earlier.

Producer plants operated at an average capacity of 80 percent, compared with 86 percent in both the second quarter and a year earlier. Staple plants operated at an average of 79 percent while filament plants were at 82 percent. To obtain a reasonable rate of return, producers must generally operate at 85 to 90 percent of capacity.

The carpet industry continues to be the largest market for manmade fibers (appendix table 15). In second-quarter 1990, it accounted for 37 percent of domestic shipments. About 743 million pounds were used in the second quarter, 1 percent below the first. Most of this decline occurred in polyester staple carpet shipments. Nylon is the most important carpet fiber, but its share, currently about 62 percent, has been declining from a decade ago when the share was more than 70 percent. Olefin fiber is the second-largest carpet fiber, and its second-quarter market share was almost 33 percent, double the share in the late 1970's. Preliminary data for the third quarter indicate about 454 million pounds of nylon were used, down 1.4 percent from the second quarter.

Woven textiles remain the second-largest manmade fiber market. Noncellulosic fiber use in the second quarter was 504 million pounds, up 9 percent from the first. Polyester fibers in this market, 285 million pounds, were up 6 percent from the previous quarter. However, polyester use in woven textile products is 10-15 percent below a few years ago, reflecting increased use of cotton. Olefin fiber in woven textiles, at 126 million pounds, was a record high. Its biggest growth has been filament use in upholstery and industrial fabric. Second-quarter filament woven use, 111 million pounds, was almost one-third above the average quarterly use in 1988 and 1989. This increase, however, reflected reporting by new producers rather than growth in end use.

The knit market took 331 million pounds in the second quarter, 4 percent above the first. About 200 million pounds of polyester, the major knit fiber, were used in the second quarter, up 8 percent from the first quarter. Polyester fibers were 60 percent of the knit market. Nylon fibers increased almost 15 percent from the first quarter, accounting for 18 percent of the knit market.

The prices of raw materials used to make noncellulosic fibers continued to be influenced by the crisis in the Middle East. The price of benzene, a starting point for many chemicals, is very sensitive to the volatile oil market as well as to the demand of its derivatives. The average October spot price of oil was double the July price while the price of benzene increased 67 percent (table N).

In late November, the average price of petroleum dropped 10 percent from the average October price while the comparable benzene price dropped 23 percent. The explanation is that the price of the higher octane gasoline blends has risen more than the lower octane grades, causing less demand for the former and more for the latter. As a result there is more xylene (an octane enhancer) available as a supply source of benzene.

The price of para-xylene (a raw material for polyester fiber) increased in November and October about 28 percent from July to about 28 cents per pound. Producers wanted a higher price but consumers facing poor fiber demand and bottle prices at a ceiling competitive with glass and aluminum caused a compromise. The price of cyclohexane (a basic chemical for nylon production) rose 42 percent in October-November above the July level. Caprolactam's price remained unchanged because of the depressed nylon demand. Caprolactam is a raw material used to make nylon. Industry

contacts report that the list price of \$0.89 per pound is discounted as much as 25 percent.

Propylene, a precursor for acrylonitrile (a raw material for acrylic fibers and olefin fibers) rose in price about 50 percent to \$0.25 per pound from the July average. The price of acrylonitrile remained at 0.35 because of sluggish demand. Ethylene glycol's low price in the fiber market, 26 cents, is unusual. This price has remained at that level because of depressed fiber demand despite the price of 32 cents in the anti-freeze and industrial markets.

Table N--Reported spot prices of raw materials for manmade fibers, 1990

Product	Jan	Feb	Mar	Apr	May	Jun
Para-xylene 1/	25.5	25.5	23	23	23	21.5
Propylene 1/	15.5	15.5	13.5-14	13.5-14	15.5	16
Ethylene glycol 1/	40-56	40-56	30-34	26-29	26-29	29
Cyclohexane 2/	1.42-1.47	1.46-1.51	1.38-1.43	1.38-1.43	1.38-1.43	1.38-1.39
Acrylonitrile 1/	42	35	35	35	35	35
Caprolactam 1/	89-91	89-91	91	91	91	89
Benzene 2/	1.40-1.50	1.20-1.32	1.27-1.35	1.25-1.30	1.48-1.50	1.30-1.45
	Jul	Aug	Sept	Oct	Nov	Dec
Para-xylene 1/	21.5	21.5	23.5-24	27.5	27.5	NA
Propylene 1/	16.5	20	20.5	20.5	24.5	NA
Ethylene glycol 1/	26-29	20	20	21	26	NA
Cyclohexane 2/	1.33-1.39	1.33-1.39	1.67-1.71	1.91-1.96	1.91-1.96	NA
Acrylonitrile 1/	35	35	35	35	35	NA
Caprolactam 1/	89	89	89	89	89	NA
Benzene 2/	1.25-1.36	1.63	1.82	2.16	1.66	NA

NA = Not available.

1/ Cents per pound. 2/ Dollars per gallon.

Source: Chemical Marketing Reporter.

U.S. Cotton Mill Consumption During Periods of Economic Contraction and Malaise

by
Leslie A. Meyer and Scott Sanford*

Abstract: The domestic mill consumption of cotton has changed dramatically over the past 20 years. This article profiles cotton mill use and cotton's share of fibers consumed, and compares these data with several other economic variables during periods of economic contraction. During the previous 3 contractions, cotton mill use weakened while cotton's share actually expanded.

Keywords: Cotton, mill consumption, economic contractions, economic indicators

Domestic mill consumption of cotton in the United States is forecast to decline in 1990/91, following 5 years of strong growth. Several factors support the anticipated decline. Among them are: a tighter supply of cotton in 1990/91, competition from manmade fibers, and larger cotton textile imports. Perhaps the dominant consideration influencing this season's forecast of lower mill use is extremely limited supply. However, there are now growing concerns about the strength of the general economy. This article qualitatively examines domestic mill consumption of cotton and cotton's share of fibers used over the past 2 decades, with emphasis on the last 3 economic contractions. In addition, the historical movement of mill use and share is presented in comparison with several economic variables that are of current interest.

Data and Methodology

The principal data presented here are monthly domestic mill use of cotton on a seasonally adjusted annual rate basis, and the share of fibers used on the cotton spinning system. These measures of cotton use are compared with several closely watched leading indicators of the general economy's strength, such as the price of crude oil, the price of common stocks, the level of personal consumption expenditures, and inventory/sales ratios at apparel and accessory stores.

In most cases, the impact of any one of these variables on cotton consumption is neither immediate nor direct, and in some instances the measure presented here may be viewed as a proxy for a more relevant determinant of cotton use. For instance, a rise in current oil prices may be viewed as a harbinger of higher polyester prices in the future, which, taken into consideration with any change in cotton fiber prices, may greatly influence mill use of cotton.

The data presented here correspond to cotton crop years 1971/72 to date. Data sources include the U.S. Department of Commerce's Bureau of the Census and Bureau of Economic Analysis, and the U.S. Department of Agriculture's Economic Research Service. The periods of economic contraction presented here are those so determined by the National Bureau of Economic Research at Cambridge, Massachusetts and are: November 1973 through February 1975; January 1980 through June 1980; and July 1981 through October 1982 (all months inclusive).

Issues Considered

Through the first 3 months of the current crop year, domestic mill consumption of cotton has been remarkably strong, causing some apprehension among forecasters over estimates of lower mill use this season. Mill use is expected to decline—the key questions are: When, and in what magnitude? Also, what historical patterns corroborate econometric forecasts of lower mill consumption in 1990/91. These and other questions are considered in this article, among them:

- What has happened to domestic mill use of cotton during economic contractions?
- What has happened to cotton's share of fibers consumed during contractions?
- Are movements in domestic mill use a reflection of the status of the general economy?

Mill Use and Share Over the Past 20 Years

Domestic mill consumption of cotton on the cotton spinning system has shown significant change over the past 2 decades in response to shifts in consumer tastes and preferences as well as business cycles. Monthly domestic mill consumption of cotton, at a seasonally adjusted annual rate, trended downward in the 1970's, but made a recovery in the 1980's. The general decline and subsequent rise in cotton mill use

*Agricultural economists, Commodity Economics Division, Economic Research Service, USDA.

during the 1970's and 1980's is largely attributed to polyester's favor among consumers in the first decade and cotton's rise to prominence in the latter.

In addition to the impact of these longer term changes in consumer tastes, relatively short-term changes, such as business cycles, have impacted mill use of cotton. For instance, during the 3 periods of economic contraction shown in fig. A-1, cotton consumption by mills weakened substantially.

A cursory analysis of the declines in cotton mill use since 1971 indicates that in each of the 3 contraction periods mill consumption fell. However, cotton mill use also declined in other periods during the 1980's which were not associated with contractions. Thus, while we may associate contractions with declines in mill use, declines in mill use are not necessarily associated with contractions.

Mirroring domestic mill consumption, cotton's share of fibers consumed on the cotton system declined in the 1970's but made a comeback in the 1980's. However, cotton's share actually increased during the economic contractions irrespective of the divergent overall trends exhibited between the 2 decades. The rise in cotton's share during the contractions, despite an absolute decrease in cotton use, is due to an overall larger reduction in manmade fiber use.

Part of the explanation is that during periods of contraction, consumption of industrial end-use products tends to take a disproportionately large cut as expenditures on durables fall

more rapidly than expenditures on nondurables. Cotton is a relatively small contributor to fiber consumed in industrial end uses. For instance, cotton contributed less than 25 percent of the fiber used in industrial end uses in 1974, while manmade fibers accounted for most of the remainder. In 1980 and 1982, cotton's share of industrial end uses fell to less than 20 percent, and the 1989 estimate is less than 15 percent.

Domestic mill use of cotton and manmade fibers for the first and last 3 months of the most recent economic contractions are presented in table A-1. Cotton consumption by mills during the 1973-75 contraction declined 100 million pounds between the first and last 3 months of the period, a drop of over 33 percent. Manmade fiber use during this contraction also declined dramatically. Although consumption of manmade fibers fell only 58 million pounds during the period, this represents a 37-percent fall from the first 3 months of the contraction.

During the 6-month contraction in 1980, cotton use between the first and last half of the period decreased 2 percent while manmade fiber use dropped 7 percent. For the most recent economic contraction (1981-82), cotton mill use declined about 12 million pounds (5 percent) between the first and last 3 months of the period, while manmade fiber use for the same period slipped 25 million pounds, a decrease of nearly 16 percent.

Figure A-1
Cotton Mill Use and Share of Fibers
Consumed on the Cotton System

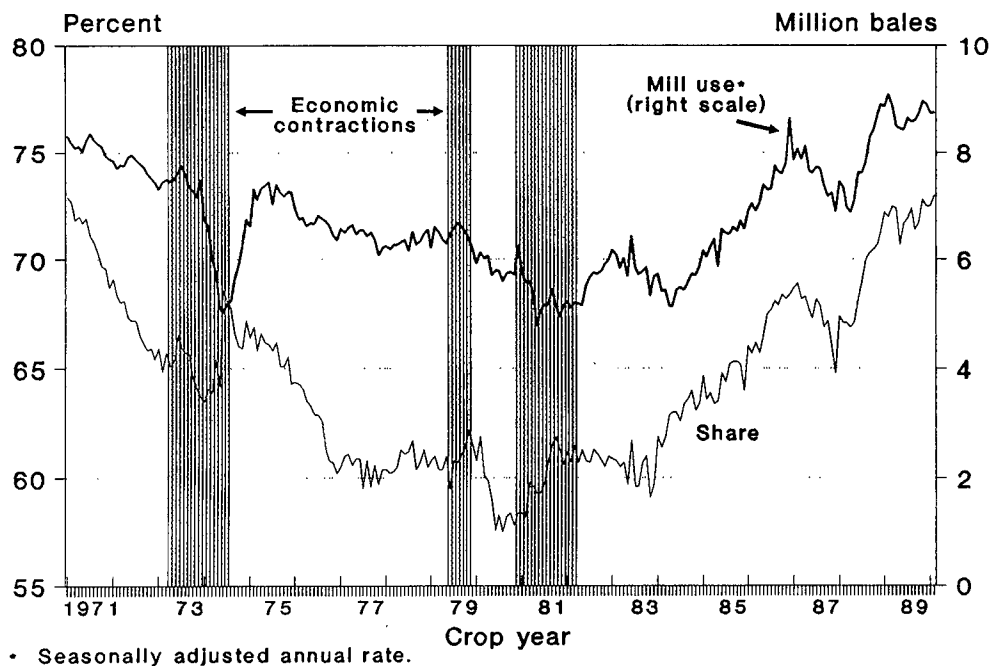


Table A-1--Cotton and manmade fiber consumption and unemployment during economic contractions

Economic contraction	Cotton	Manmade	Unemployment
	---Million pounds---		Percent
Nov. 1973 - Feb. 1975			
First 3 months average	301.3	157.6	4.9
Last 3 months average	201.3	99.2	7.8
Percent change	-33.2	-37.1	59.2
Jan. 1980 - Jun. 1980			
First 3 months average	271.7	178.9	6.3
Last 3 months average	265.8	166.1	7.3
Percent change	-2.2	-7.2	15.9
Jul. 1981 - Oct. 1982			
First 3 months average	225.9	161.3	7.4
Last 3 months average	214.0	136.1	10.1
Percent change	-5.3	-15.6	36.5

Also presented in table A-1 are the average unemployment rates during the 3 contractions. These figures indicate larger declines in cotton and manmade fiber consumption as unemployment rates surge. During the 1973-75 contraction, unemployment rose from 4.9 percent in the first 3 months to 7.8 percent in the last 3 months—an increase of over 59 percent. To illustrate the severity of this contraction, the most recent economic contractions showed much smaller jumps in unemployment (and correspondingly smaller drops in fiber use). During 1980, unemployment increased about 15.9 percent, while in 1981-82, unemployment rose 36.5 percent. From mid-1988 through mid-1990, monthly unemployment rates averaged 5.3 percent. Since July 1990, however, the rate has been rising and is currently at 5.7 percent.

These examples indicate the differing effects of contractions on domestic mill use of fibers. As previously indicated, cotton increased its share during these periods. Although cotton's share subsequently declined following the first 2 economic contractions and continued its downward trend, this was not the case after the most recent contraction. Cotton share reversed the downward trend and moved upward, reflecting a shift in consumer preference toward cotton fiber.

Real Personal Consumption Expenditures

The level of real personal consumption expenditures, like cotton mill use and its share, has also experienced some changes over the past 20 years. But unlike cotton consumption, these expenditures have trended upward since crop year 1971 (figs. A-2 and A-3). The level of real personal consumption expenditures on a seasonally adjusted annual rate basis has risen 76 percent to date from August 1971, while cotton consumption on a seasonally adjusted annual rate basis has only recently returned to 1971 levels. Although consumption expenditures have continued upward, the pace stabilized or dipped slightly during the last 3 economic contractions.

A closer look at real personal consumption expenditures reveals that its three components (durables, nondurables, and services) have progressed differently over time and have been affected in various ways during economic contractions (fig. A-4). As illustrated, expenditures on durables, nondurables, and services increased during the past 2 decades; however, each component's share of total expenditures has been altered.

In August 1971, durables, nondurables, and services accounted for approximately 12, 42, and 47 percent of total expenditures, respectively. Currently, the respective percentages are 16, 34, and 50. As expenditures on nondurables, the principal end use for cotton fiber, become a smaller proportion of total expenditures, economic contractions have a lesser effect on this sector and a greater influence on durables. Service expenditures, even during contractions, have continued to climb as more individuals and families become reliant upon this sector. As expenditures for the services sector continue to rise, they may become more of a stabilizing effect on personal consumption expenditures during economic contractions in the future.

Inventory/Sales Ratios and Mill Use

Inventory-to-sales ratios (I/S) for apparel and accessory stores are available only since late 1980 and thus provide limited observation on their behavior during economic contractions. However, one would expect these ratios to increase before and/or during a contraction as inventory builds and sales decline. This is what happened during the 1981-82 contraction (fig. A-5).

It is also expected that domestic mill consumption of cotton would exhibit an inverse relationship with the I/S ratio. That is, as inventory builds, mills would cut back on output and consumption of cotton until conditions improve—and respond similarly when sales are soft. On at least two occasions in which mill use declined in the 1980's, I/S ratios increased—crop years 1981 and 1983.

Since the early 1980's I/S ratios have generally decreased. While they appear to bear some relationship to domestic mill use, I/S ratios may lose some of their significance for this comparison in the future. Advances in computer technology

are enabling retail store managers to monitor stocks more closely than was earlier possible. When the industry's "quick response" inventory management system becomes widely adopted, I/S ratios may stabilize at lower levels and

Figure A-2
U.S. Mill Consumption of Cotton and Personal Consumption Expenditures

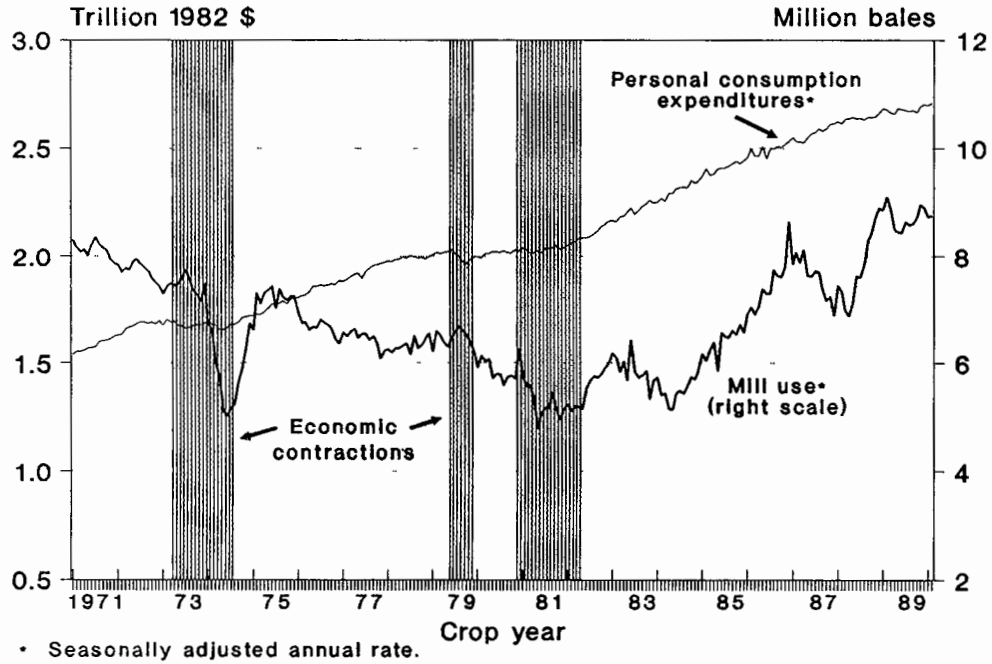
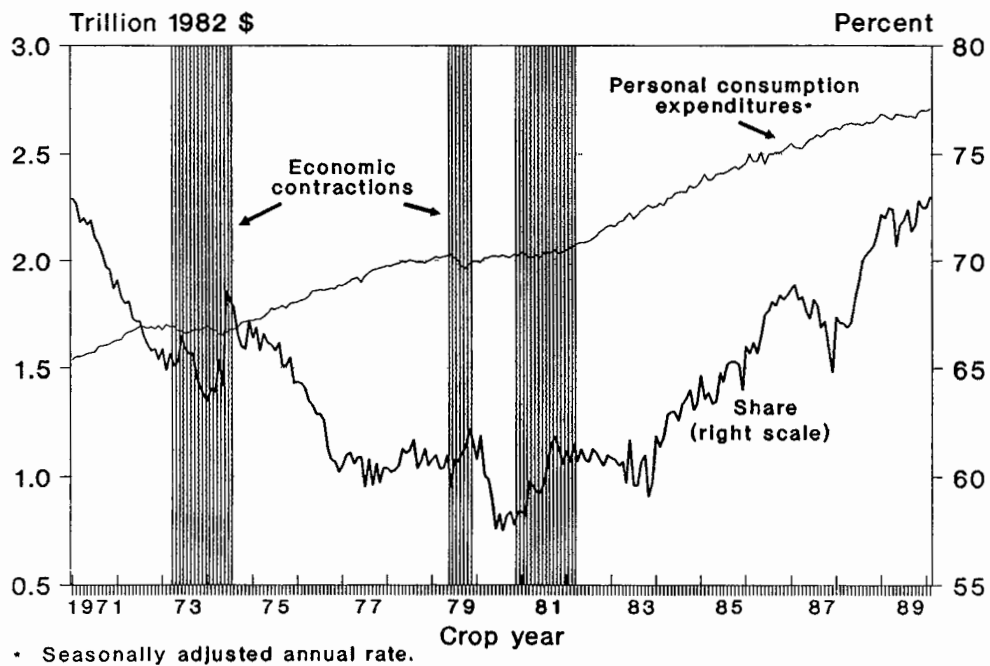


Figure A-3
Cotton's Share of Mill Consumption and Personal Consumption Expenditures



lose some of their significance as indicators of future mill use.

Stock Prices and Mill Use

The level of cotton mill use, and stock prices as measured by the Standard and Poor's index of 500 common stocks (S&P 500), both exhibit a tendency to decline during contractions in the economy (fig. A-6). However, neither has a particularly good track record as an indicator of economic contraction. The obvious case in point is the dramatic dip in each that occurred in 1987, a year when the general economy experienced no contraction.

Since around 1983, the S&P 500 and mill use of cotton have followed very similar patterns. If this pattern of movement were to persist, then the recent dip in the value of stocks would lend support to the forecasts of lower mill consumption this season.

The Price of Oil and Cotton Mill Use

The doubling of crude oil prices during the past few months has focused much attention on this commodity and its relationship to the health of the general economy. Based upon the visual evidence of the past 2 decades, concern seems warranted. Each of the last 3 contractions has been either accompanied or preceded by a runup in oil prices.

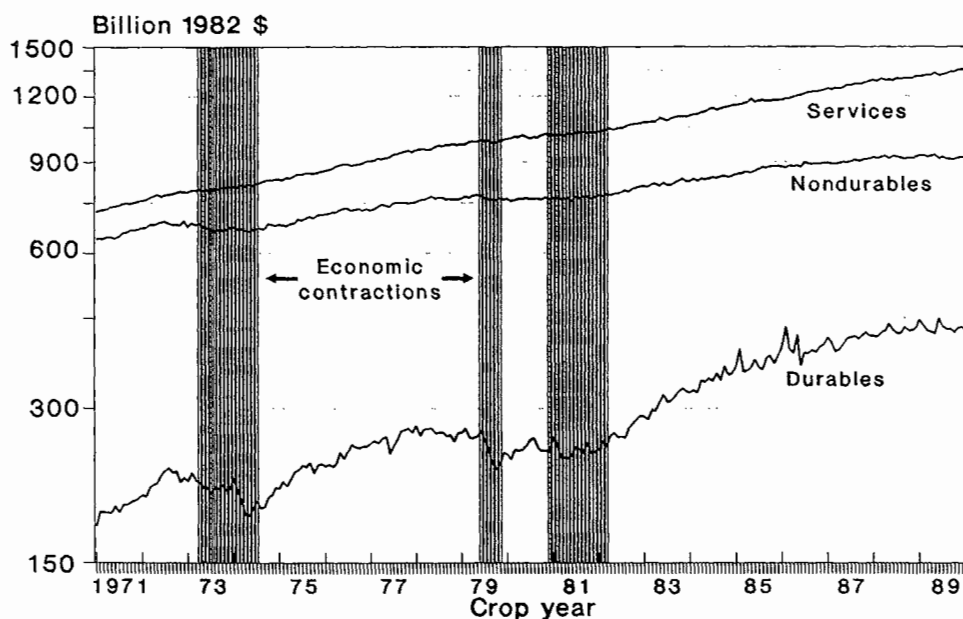
More complicated is a visual interpretation of the relationship between oil prices and mill use of cotton over this pe-

riod. Through 1985, these variables appear to be inversely related—that is, as oil prices rise, mill use of cotton falls (fig. A-7). However, the changing trends in consumer tastes and preferences during this period may obscure the true relationship. Since 1985, mill consumption of cotton and the index of oil prices have moved in a similar manner. Economic theory, as outlined earlier, suggests that such movement may be expected. Rises in oil prices push manmade fiber prices higher, which, other factors being constant, should induce substitution in favor of cotton, (the relatively lower priced fiber). Thus, the recent rise in oil prices would be expected to boost cotton mill use assuming cotton supplies were adequate and the general economy stable.

Beyond the immediate potential impact upon domestic mill use of cotton through higher manmade fiber prices, rising oil prices may influence cotton use more substantially, and over a much longer period, through their potential impact on the general economy. Higher real oil prices tend to reduce growth in disposable income, which in turn may cause personal consumption expenditures to soften. The graphic evidence presented here lends support to this scenario.

Prior to their recent rise, real oil prices had fallen to levels of the early 1970's, about 70 percent below their peak in the early 1980's. Falling real oil prices were accompanied by substantial growth in personal consumption expenditures and domestic mill use of cotton. While the recent oil price rise is substantial, real prices were higher through much of the 1980's. Thus, while the recent oil price runup may weigh on

Figure A-4
U.S. Personal Consumption Expenditures*
on Durables, Nondurables, and Services



* Seasonally adjusted annual rate.

cotton mill use this season, recent price levels are relatively modest by historical standards and may not hold mill use down over the long run. Interestingly, current levels of domestic mill use of cotton are nearly identical with those of the early 1970's.

Concluding Observations

Domestic mill consumption of cotton made dramatic strides in the 1980's. After overcoming the downward trend of the 1970's, cotton mill use and its share generated a comeback

Figure A-5
Cotton Mill Use and the Inventory/Sales Ratio for Apparel and Accessory Stores

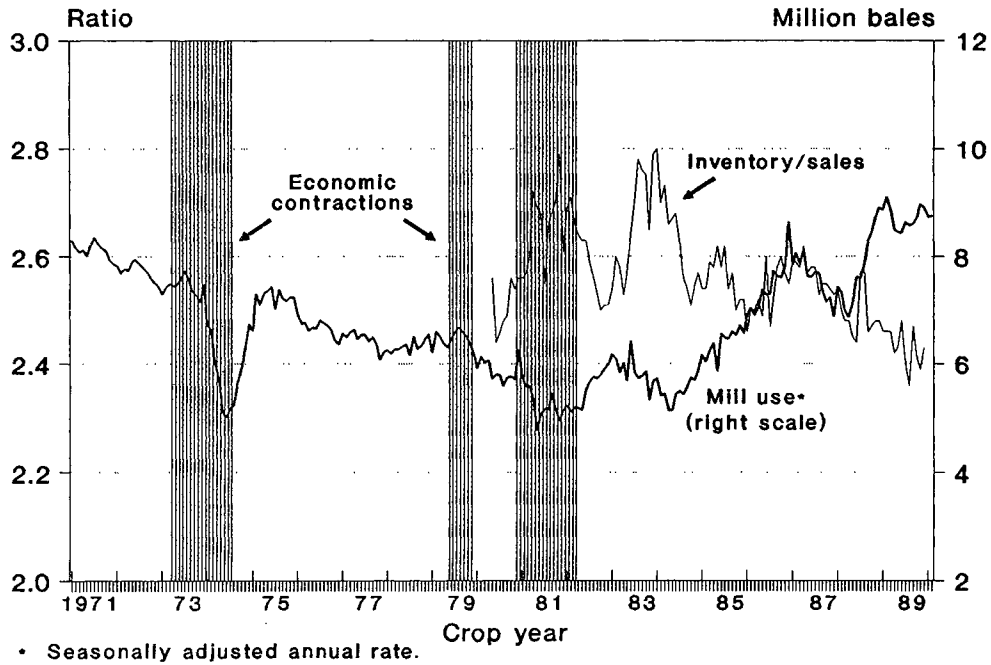


Figure A-6
Cotton Mill Use and the S&P 500 Index

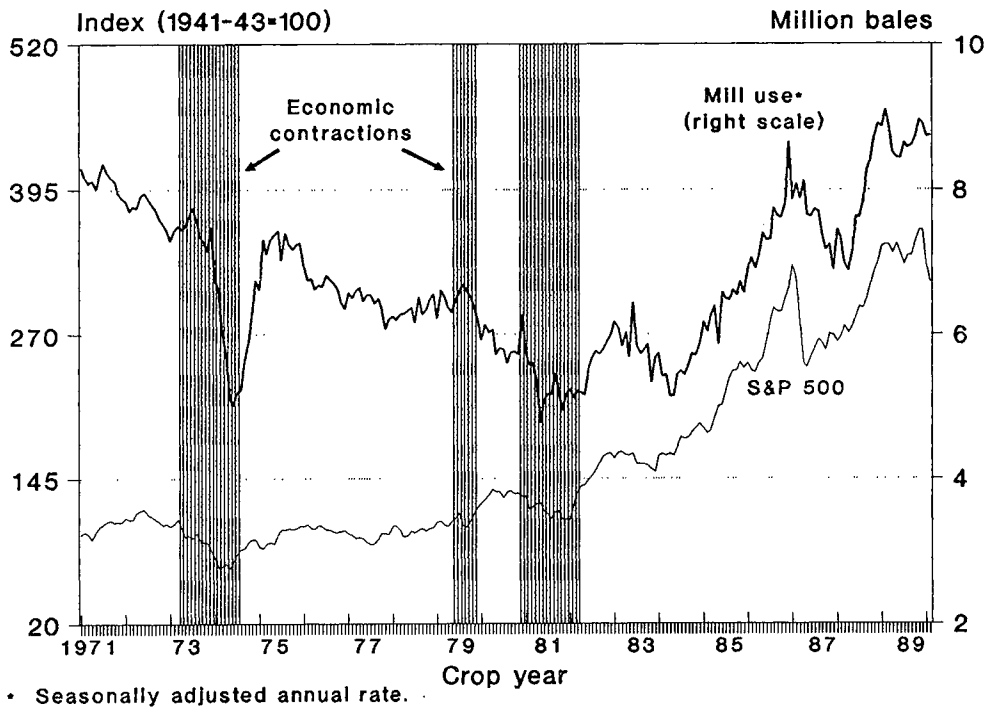
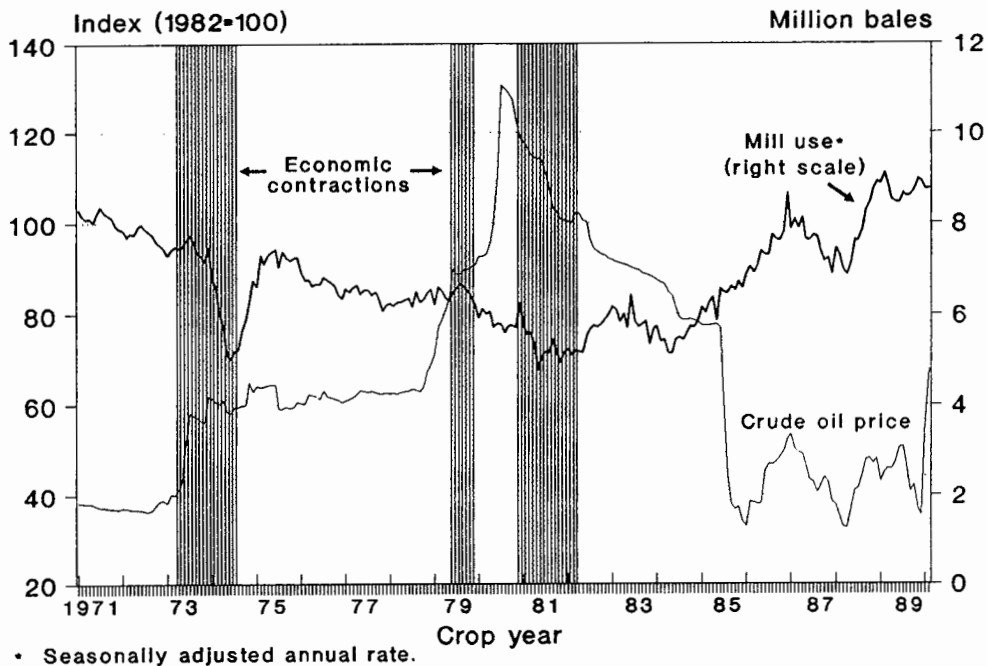


Figure A-7
 U.S. Mill Consumption of Cotton and
 Index of Real Domestic Crude Oil Price



as consumers' tastes and preferences increasingly turned to natural fibers. Although cotton mill use and share generally move in the same direction over the period of the data presented, they have moved in opposite directions during economic contractions. Cotton's share rose during periods of contraction due to larger declines in manmade fiber use than in cotton use.

While total personal consumption expenditures stabilized or decreased slightly during economic contractions, expenditures for durable goods have historically seen a larger cutback than for nondurables. Service expenditures, on the other hand, have continued upward, becoming more of a stabilizing factor in total expenditures.

The economic indicators presented here give some insight into the future direction of cotton mill use and its share based on their historical concurrent movement. However, there is little conclusive evidence, and some indicators may be viewed as having offsetting effects. For instance, the recent rise in oil prices should bolster cotton mill use by generating higher polyester prices. However, should the oil price rise induce an economic downturn, mill use may instead decline.

The value of common stocks and mill use of cotton have moved similarly in recent years, and should this pattern persist, mill use of cotton may be expected to decline. Inventory/sales ratios generally move in the opposite direction of mill use, and these ratios are currently low and stable.

Perhaps the most significant indicator, personal consumption expenditures, has been somewhat stagnant recently, implying a similar pattern in mill use. In general, based on the most recent available statistics, few of the indicators presented here imply substantial downturns in domestic mill use of cotton this season, but rather suggest stagnant to slightly declining levels of cotton mill use.

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International Competitiveness in the Cotton Yarn Market

by
Edward H. Glade, Jr.*

Abstract: Information on U.S. and foreign yarn production capacity and comparative costs of production are presented. Results indicate that U.S. textile mills remain a strong competitor in the global cotton yarn market.

Keywords: Cotton yarn, spinning capacity, international competition, yarn costs

Introduction

In textile and apparel manufacturing, the yarn spinning operation is the most critical step in turning individual fibers into usable consumer products. Virtually all fiber is spun into yarn before further fabrication. Costs associated with this process and the quality of the yarn produced are key factors in the competitiveness of textile firms and of textile producing nations.

Two primary methods of yarn spinning are used throughout the world: ring spinning and open-end spinning. Approximately 80-85 percent of cotton yarn is produced by ring spinning, and 15-20 by the open-end process.

The traditional ring spinning process involves passing fibers through rollers of the spinning frame where the strands are twisted 10-30 times per inch to form a strong yarn. The yarn is then wound onto conical, foot-long bobbins. Yarn produced by this method ranges from the coarsest yarns for such products as mops and ropes, to the finest yarns for use in specialty fabrics and fine apparel. Improvements in technology over the years have greatly increased processing speeds and yarn quality while significantly reducing labor requirements. Modern ring spinning equipment operates at approximately 10,000-20,000 revolutions per minute, more than double the speeds of 20 years ago.

Open-end spinning eliminates some of the earlier steps in ring spinning, resulting in lower processing costs and shorter manufacturing runs. With speeds of 60,000 revolutions per minute, the production rate of open-end equipment is significantly higher than with ring spinning.

To produce open-end spun yarn, fibers are drawn into the system, where a small roller pulls off individual fibers which then enter an airstream and finally a rapidly spinning rotor.

Fibers are deposited on the perimeter of the rotor where they are evenly distributed in a small groove. Then, using a started yarn, the rotor twists the fibers together with a spinning action. Yarn from open-end spinning is much more uniform than ring-spun yarn but is considerably weaker and has a harsher feel. Its properties are well suited for heavier fabrics such as denim and corduroy.

In recent years, especially since 1980, most major cotton consuming countries have substantially modernized their textile industries. Today, most large mills worldwide use similar processing technologies and equipment, resulting in highly competitive yarn and fabric markets.

This article examines the competitive position of U.S. cotton yarn producers with respect to producers in five other major countries. Information is developed on processing capacity of the different methods of spinning, and on comparative costs of yarn manufacturing among countries. The data were obtained largely from reports of the International Textile Manufacturers Federation, Zurich, Switzerland, and are based on industry information supplied by member countries.

Global Yarn Spinning Capacity

Cotton yarn processing capacity as measured by the number of spindles and rotors in place in major areas of the world is presented in table B-1. During the period 1983 to 1988, the number of ring spindles increased only about 1.5 percent to 154 million, while open-end rotors grew by over 51 percent to 8 million rotors. Overall, combined world capacity (ring spindles and rotors) increased 3 percent while world cotton consumption increased by over 21 percent during the same period. The significantly higher capacity utilization can be attributed to improvements in machine speed, longer hours operated per spindle or rotor, and especially the continued growth of open-end equipment in most producing countries.

For the major developed textile producing areas (United States and Europe), a sharp decline in the number of ring

*Agricultural economist, Commodity Economics Division, Economic Research Service, USDA.

Table B-1--World cotton yarn processing capacity by method of spinning

Area	Ring spinning			Open-end spinning		
	1983	1988	Change 1983-88	1983	1988	Change 1983-88
	Mil. spindles		%	Mil. rotors		%
Africa	6.9	7.5	+8.7	.09	.14	+55.6
United States	14.9	12.9	-13.4	.25	.66	+164.0
Other North America	4.3	4.8	+11.6	.05	.09	+80.0
South America	8.8	9.1	+3.4	.13	.18	+38.5
China	21.4	26.1	+22.0	.08	.20	+150.0
Other Asia and Oceania	54.7	59.7	+9.1	.57	.76	+33.3
Western Europe	13.9	12.3	-11.5	.56	.68	+21.4
Eastern Europe	23.7	17.6	-25.7	3.54	5.18	+46.3
Turkey	3.1	3.9	+25.8	.02	.11	+450.0
World	151.7	153.9	+1.5	5.29	8.00	+51.2

Source: International Textile Manufacturers Federation

spinning spindles has been partially offset by increases in the number of open-end installations. In many cases, especially in the United States, rapidly rising textile imports have displaced domestic production. In the United States, combined capacity shrank by about 10.5 percent over the 5-year period 1983-89, while the volume of raw cotton spun into yarn increased by over 30 percent. A number of U.S. textile mills have closed, although those remaining have operated at a high level of capacity. Also, the continued strong demand for coarse-yarn fabrics such as denim has encouraged further adoption of open-end spinning technology.

While a number of emerging textile producing nations such as Turkey, China, Brazil, India, and some Caribbean countries continue to develop their textile industries, the United States has also improved its share of world cotton yarn output. For example, in 1983, the United States accounted for about 10 percent of world spinning capacity and about 8.5 percent of global yarn production. By 1988, the U.S. share of capacity dropped to just over 8 percent, but its share of world output totaled over 10 percent. In contrast, China, the world's largest cotton producer and consumer, experienced an increase in share of world spinning capacity from 13.7 percent in 1983 to about 16.3 percent by 1988. However, China's share of output did not grow, remaining at about 23 percent of the total.

U.S. Average Yarn Costs

The level of costs associated with spinning yarn is a primary competitive factor within the U.S. textile sector as well as among foreign producers. One pound of yarn can yield between 1.5 and 4.5 square yards of fabric depending on fabric type or construction. Therefore, cost of yarn production plays a critical part in the selling price of fabric and apparel.

Data from the International Textile Manufacturers Federation (ITMF) survey indicate that in the United States, raw materials, or cotton, represented about 55 percent of total yarn manufacturing costs in 1990 (fig. B-1). Labor, the next-largest single cost, accounted for 16 percent, while interest and depreciation, power, and other costs combined were 29 percent of spinning costs. The ITMF cost data for the United States and other member nations surveyed are for the production of ring-spun 20's yarn, using mid-South type SLM 1-1/16 inch cotton to facilitate comparisons among countries.

On a per-pound basis, U.S. yarn costs have increased from \$1.03 in 1985 to \$1.28 a pound in 1990 (fig. B-2). Between

Figure B-1 Raw Materials a Major Part of U.S. Cotton Yarn Costs, 1990

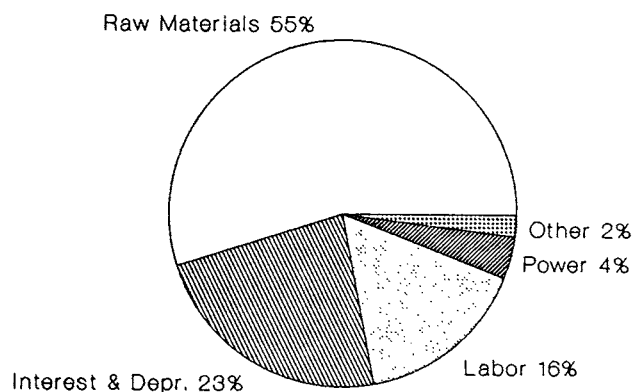
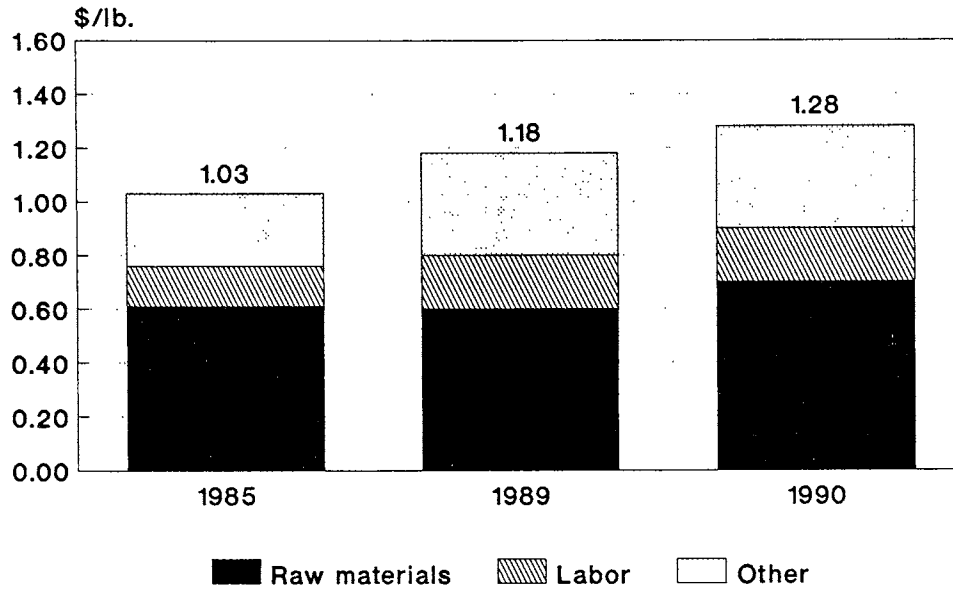


Figure B-2
**U.S. Cotton Yarn Production
 Costs Rising**



1985 and 1989, however, raw materials or cotton costs were almost constant at 60 cents a pound, labor increased only about 5 cents, while other costs rose by 11 cents a pound. Most of the increase in "other costs" since 1985 reflects higher interest and depreciation associated with continued investment in new equipment by the textile industry. The sharply higher U.S. cotton prices in 1990, shown in fig. B-2, accounted for all of the increase in total spinning costs from a year earlier.

The United States is not an isolated producer in the world yarn market. Many of the same factors affecting domestic costs are also felt by foreign competitors.

Comparative Yarn Costs

Since most producing countries have access to similar modern equipment, the cost of raw materials (cotton) and labor are the two primary inputs determining the relative levels of costs among countries. The ITMF reported cost data from six open- or free-market textile producing countries. They include the United States, Korea, Japan, India, Germany, and Brazil. In 1990 these countries accounted for over 31 percent of world yarn output, and if China and the USSR are excluded from the world total, these six countries represent nearly 50 percent of all output.

A breakdown of the comparative cost per pound of producing cotton yarn in the six countries is presented in table B-2 for 1985, 1989, and 1990. In each of the 3 years shown, only two countries, Korea and India, have a lower cost of production than the United States. Higher raw materials

costs in both Korea and India were more than offset by the substantially lower labor costs which averaged only 3 to 6 cents a pound compared with 15 to 20 cents in the United States.

Since the early 1980's, the Japanese textile industry has experienced sharp increases in costs of raw materials, labor, and energy. Total reliance on imported fibers and oil supplies, combined with strong appreciation of the yen, has significantly reduced Japan's competitiveness in world textile production. Currently, Japanese raw cotton imports have been reduced while imports of cotton yarn, fabric, and finished goods have increased sharply. Because of high manufacturing costs, it is now less expensive to import selected intermediate goods and apparel than to produce them locally from imported raw cotton.

In Germany and Brazil, total yarn costs are also above those of the United States. Higher raw material costs in Germany, where all cotton supplies must be imported, account for the entire difference, offsetting somewhat lower labor costs per pound of yarn produced. Most cotton yarn produced in Germany, however, is for domestic consumption, with very little sold on the international market. Brazil grows most of its raw cotton, with mills able to obtain supplies at competitive prices. Also, labor costs per pound are comparatively low, averaging less than one-half those in the United States. But Brazil's "other" costs are significantly above similar costs in other producing countries. High interest rates and inflation have pushed up the cost of producing cotton yarn in Brazil to about \$1.40 per pound in 1990.

Table B-2--Comparative costs of producing cotton yarn, selected countries 1/

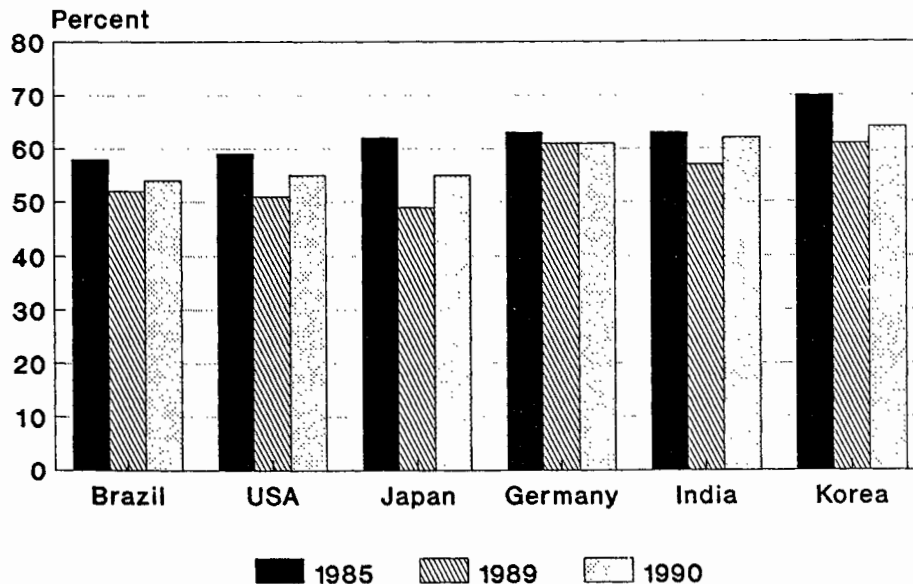
Country	Cost item			Total cost
	Raw materials	Labor	Other	
Dollars per pound				
United States:				
1985	.61	.15	.27	1.03
1989	.60	.20	.38	1.18
1990	.70	.20	.38	1.28
Korea:				
1985	.70	.05	.25	1.00
1989	.68	.06	.37	1.11
1990	.78	.06	.38	1.22
Japan:				
1985	.70	.14	.29	1.13
1989	.68	.22	.48	1.38
1990	.78	.20	.44	1.42
India:				
1985	.55	.03	.29	.87
1989	.63	.04	.43	1.10
1990	.73	.04	.40	1.17
Germany:				
1985	.77	.13	.32	1.22
1989	.71	.12	.33	1.16
1990	.80	.14	.37	1.31
Brazil:				
1985	.64	.06	.40	1.10
1989	.65	.08	.52	1.25
1990	.76	.09	.55	1.40

1/ Ring spinning, 20's yarn using Mid-South type SLM 1-1/16 inch cotton.

Source: International Textile Manufacturers Federation.

Data presented in table B-2 show the relative importance of raw fiber costs to the total cost of producing cotton yarn. For each of the countries shown, raw materials accounted for about 50 to 70 percent of total costs, depending on the country and year involved (fig. B-3). From 1985 to 1989, raw cotton costs as a share of total manufacturing costs have declined overall, but the sharp runup in world cotton prices during 1990 added about 10 cents a pound to total costs, causing the fiber share to increase.

Figure B-3
Raw Cotton Costs as a Share
of Yarn Manufacturing Costs



The relative impact of changing fiber prices among yarn producing countries affects the final prices of finished goods, and consequently the degree of competition among producers.

Conclusions

The United States is a strong competitor in the world yarn market. While the U.S. share of global production capacity has fallen since 1985, high levels of utilization and investment in new equipment have enabled U.S. mills to account for a growing share of world yarn output.

Yarn manufacturing costs in the United States are also competitive with those in other major countries, despite generally higher labor costs. This helps account for the growth of U.S. exports of yarn and fabric in recent years.

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List of Tables

Table	Page
A. Upland cotton acreage, yield, and production, estimated 1990 and actual 1989	5
B. U.S. cotton export shares to selected countries	7
C. U.S. cotton prices, 1990	7
D. Cotton loan statistics, 1987-89	7
E. ELS cotton acreage, yield, and production, estimated 1990 and actual 1989	10
F. ELS cotton supply and use in foreign producing countries, 1987-91	12
G. World cotton supply and use, 1989/90 and 1990/91	13
H. U.S. mill consumption of raw wool, clean basis, 1984-89	14
I. Wool supply and disappearance, clean content, 1984-90	15
J. Average U.S. farm prices per pound for shorn wool, greasy basis, 1984-90	15
K. U.S. imports of raw wool for consumption, clean content, 1985-89	16
L. Raw wool imports by region, 1986-90	16
M. U.S. mohair supply and disappearance, clean content, 1984-90	19
N. Reported spot prices of raw materials for manmade fibers, 1990	20

Appendix Tables

1. Cotton acreage, production, and yield, by State, 1984-89	33
2. U.S. cotton supply and use, by type, 1980/81-1990/91	34
3. Cotton supply and disappearance, all kinds, by month, 1988/89-1990/91	35
4. Index of prices of selected cotton growth and qualities, and price per pound of U.S. cotton, c.i.f. Northern Europe, 1984-90	36
5. C.i.f. Northern Europe price quotations for principal growth of "A"-type cotton, weekly, August 1990 to date	37
6. C.i.f. Northern Europe price quotation for principal growth of coarse count cotton, weekly, August 1990 to date	37
7. Strict low middling spot prices in designated U.S. markets, loan rates, and prices received by farmers for upland cotton, 1984/85-1990/91	38
8. Fiber prices: Group B mill points, cotton prices, and manmade staple fiber prices at f.o.b. producing plants, 1984-90	39
9. Upland cotton and manmade staple fibers: Mill consumption on cotton-system spinning spindles	40
10. Cotton and manmade staple fibers: Daily rate of mill consumption, unadjusted and seasonally adjusted	41
11. Cotton system spindles in place and active, and hours operated, 1988-90	42
12. Mill consumption of cotton, wool, and manmade fibers, quarterly, 1985-90	43
13. U.S. fiber consumption: Total and per capita, by type of fiber, 1986-89	44
14. Manmade fiber production and capacity, quarterly, 1989-91	45
15. Domestic shipments of manmade fibers by major category, 1986-90	47
16. Raw cotton equivalent of U.S. textile imports, 1989-90	48
17. Raw linen equivalent of U.S. textile imports, 1989-90	49
18. Raw wool equivalent of U.S. textile imports, 1989-90	50
19. Raw silk equivalent of U.S. textile imports, 1989-90	51
20. Raw manmade fiber equivalent of U.S. textile imports, 1989-90	52
21. Raw cotton equivalent of U.S. textile exports, 1989-90	53
22. Raw linen equivalent of U.S. textile exports, 1989-90	54
23. Raw wool equivalent of U.S. textile exports, 1989-90	55
24. Raw silk equivalent of U.S. textile exports, 1989-90	56
25. Raw manmade fiber equivalent of U.S. textile exports, 1989-90	57

Appendix table 1--Cotton acreage, production, and yield, by State, 1984-89

State	Planted acres				Harvested acres				Lint yield per harvested acre				Production			
	Average 1984-88	1987	1988	1989 1/	Average 1984-88	1987	1988	1989 1/	Average 1984-88	1987	1988	1989 1/	Average 1984-88	1987	1988	1989 1/
	1,000 acres								Pounds				1,000 480-lb bales 2/			
Alabama	336	335	390	350	331	333	375	340	612	572	486	551	420	397	380	390
Arizona 3/	336	290	350	240	335	289	349	239	1,274	1,410	1,190	1,326	883	849	865	660
Arkansas	535	555	695	610	522	550	675	595	706	786	742	686	772	901	1,044	850
California 3/	1,248	1,150	1,350	1,050	1,237	1,140	1,335	1,040	1,099	1,259	1,015	1,223	2,817	2,989	2,824	2,650
Florida	25	30	33	26	23	29	29	25	692	646	566	653	33	39	34	34
Georgia	251	250	350	270	234	245	315	265	638	662	564	634	309	338	370	350
Kansas	1	1	1	2	1	1	1	1	359	480	373	400	1	1	1	1
Louisiana	642	605	735	645	618	600	645	620	681	782	705	677	879	977	948	875
Mississippi	1,073	1,020	1,230	1,050	1,054	1,010	1,190	1,020	733	829	736	734	1,613	1,745	1,825	1,560
Missouri	188	200	245	214	183	199	242	209	640	796	607	618	245	330	306	269
New Mexico 3/	71	66	77	61	61	62	69	55	646	689	710	698	82	89	102	80
North Carolina	98	96	126	112	97	95	124	110	580	495	515	611	115	98	133	140
Oklahoma	411	400	460	380	381	385	435	330	333	431	334	262	265	346	303	180
South Carolina	122	120	145	120	120	119	142	118	553	428	473	631	137	106	140	155
Tennessee	399	440	535	455	392	435	530	450	579	700	529	505	474	634	584	473
Texas 3/	5,100	4,700	5,600	4,600	4,500	4,400	5,300	3,700	422	506	472	376	3,995	4,635	5,215	2,900
Virginia	2	2	3	3	2	2	3	3	482	373	510	609	2	1	3	3
Total:																
Upland	10,837	10,259	12,325	10,187	10,091	9,894	11,759	9,120	618	702	615	609	13,041	14,475	15,077	11,570
American-Pima	121	138	190	374	120	137	189	390	883	1,000	848	861	222	285	334	663
United States	10,957	10,397	12,515	10,561	10,211	10,030	11,948	9,489	622	706	619	619	13,263	14,760	15,412	12,233

1/ Crop Production report, November 8, 1990. 2/ Bales of 480 pounds net weight. 3/ Upland only.

Appendix table 2--U.S. cotton supply and use, by type, 1980/81-1990/91

Crop year	Area			Supply				Disappearance					Farm price 5/
	Planted	Harvested	Yield	Begin-ning stocks 1/	Produc-tion 2/	Imports	Total	Mill use 3/	Exports	Total	Unac-counted 4/	Ending stocks	
	--1,000 acres--		Lbs/acre	-----1,000 480 lb bales-----									Cents/lb
All kinds:													
1980	14,534	13,215	404	3,000	11,122	27	14,149	5,891	5,926	11,817	336	2,668	74.7
1981	14,330	13,841	542	2,668	15,646	26	18,340	5,264	6,567	11,831	123	6,632	54.3
1982	11,345	9,734	590	6,632	11,963	20	18,615	5,512	5,207	10,719	41	7,937	59.4
1983	7,926	7,348	508	7,937	7,771	12	15,721	5,928	6,786	12,714	-232	2,775	66.4
1984	11,145	10,379	600	2,775	12,982	24	15,781	5,540	6,215	11,755	76	4,102	57.8
1985	10,685	10,229	630	4,102	13,432	33	17,567	6,399	1,960	8,359	140	9,348	56.3
1986	10,045	8,468	552	9,348	9,731	3	19,082	7,452	6,684	14,136	80	5,026	52.4
1987	10,397	10,030	706	5,026	14,760	2	19,788	7,617	6,582	14,199	182	5,771	64.3
1988	12,515	11,948	619	5,771	15,411	5	21,187	7,782	6,148	13,930	-165	7,092	56.6
1989	10,587	9,538	614	7,092	12,196	2	19,290	8,759	7,694	16,453	163	3,000	65.6
1990 6/	12,315	11,495	622	3,000	14,905	20	17,925	8,400	7,000	15,400	75	2,600	77
Upland:													
1980	14,461	13,143	402	2,962	11,018	26	14,006	5,828	5,893	11,721	329	2,614	75.8
1981	14,272	13,783	542	2,614	15,566	18	18,198	5,216	6,555	11,771	140	6,567	55.4
1982	11,274	9,663	589	6,567	11,864	12	18,443	5,457	5,194	10,651	52	7,844	59.5
1983	7,863	7,285	506	7,844	7,676	8	15,529	5,861	6,750	12,611	-225	2,693	65.3
1984	11,065	10,299	599	2,693	12,851	21	15,566	5,491	6,125	11,616	74	4,024	58.7
1985	10,601	10,145	628	4,024	13,277	33	17,334	6,338	1,855	8,193	148	9,289	56.8
1986	9,933	8,357	547	9,289	9,525	3	18,817	7,385	6,570	13,955	80	4,942	51.5
1987	10,259	9,894	702	4,942	14,475	2	19,419	7,565	6,345	13,910	209	5,718	63.7
1988	12,325	11,759	615	5,718	15,077	5	20,800	7,711	5,883	13,594	-180	7,026	55.6
1989	10,210	9,166	602	7,026	11,504	2	18,532	8,686	7,242	15,928	189	2,793	63.6
1990 6/	12,078	11,267	618	2,793	14,508	20	17,321	8,325	6,575	14,900	85	2,506	77
Extra-long staple:													
1980	72.5	71.7	698	38	104.2	1	143	63	33	96	7	54	108.0
1981	58.6	58.0	659	54	79.6	8	142	48	12	60	-17	65	96.9
1982	70.9	70.5	672	65	98.7	8	172	56	13	69	-10	93	101.0
1983	63.0	62.7	725	93	94.7	4	192	67	36	103	-7	82	107.0
1984	80.1	79.6	786	82	130.4	3	215	49	90	139	2	78	92.8
1985	84.0	83.6	891	78	155.1	0	233	61	105	166	-8	59	91.8
1986	111.5	111.1	890	59	205.9	0	265	67	114	175	0	84	89.9
1987	137.9	136.6	1,000	84	284.6	0	369	52	237	289	-27	53	104.0
1988	189.6	189.1	848	53	334.2	0	387	71	265	336	15	66	118.0
1989	376.9	371.7	893	66	691.7	0	758	73	452	525	-26	207	97.1
1990 6/	236.7	228.0	836	207	397.0	0	604	75	425	500	-10	94	77

1/ Compiled from Bureau of the Census data and adjusted to an August 1 480-lb. net weight basis. Excludes preseason ginnings.
2/ Includes preseason ginnings. 3/ Adjusted to August 1-July 31 marketing year. 4/ Difference between ending stocks based on census data and preceding season's supply less disappearance. 5/ Marketing year average, with no allowance for unredeemed loans. 6/ Estimated.
7/ USDA is prohibited by law from publishing cotton price forecasts.

Appendix table 3--U.S. cotton supply and disappearance of all kinds, by months, 1988/89-1990/91 1/

Date	Supply						Disappearance					
	Beginning stocks 2/			Total	Ginnings 5/	Imports	Total supply	Mill use 6/	Exports	Total use	Unac- counted	Ending stocks 7/
	At mills	Public storage 3/	Other 4/									
1,000 480-lb bales												
1988/89:												
Aug	737	4,863	170	5,771	826	0	6,597	692	265	957		5,639
Sep	677	4,614	348	5,639	1,515	0	7,154	634	265	899		6,256
Oct	607	5,235	414	6,256	4,734	0	11,990	603	235	838		10,151
Nov	589	8,569	992	10,151	4,940	0	15,092	597	398	995		14,096
Dec	580	12,241	1,275	14,096	2,618	0	16,714	512	670	1,182		15,533
Jan	596	14,074	863	15,533	674	1	16,208	648	483	1,131		15,077
Feb	614	12,677	787	15,077	104	0	15,181	609	738	1,347		13,834
Mar	654	12,491	689	13,834	0	1	13,835	722	629	1,351		12,484
Apr	636	11,029	819	12,484	0	0	12,484	650	627	1,277		11,207
May	652	9,744	810	11,207	0	1	11,208	771	682	1,453		9,755
Jun	671	8,501	583	9,755	0	1	9,756	731	254	985		8,770
Jul	631	7,085	1,054	8,770	0	1	8,771	613	902	1,515	(165)	7,092
Season	737	4,863	170	5,771	15,411	5	21,187	7,782	6,148	13,930	(165)	7,092
1989/90:												
Aug	632	6,179	281	7,092	392	0	7,484	831	507	1,338	0	6,146
Sep	626	5,190	330	6,146	613	0	6,759	753	492	1,245	0	5,514
Oct	616	4,658	240	5,514	4,944	0	10,458	792	522	1,314	0	9,144
Nov	575	7,694	875	9,144	4,658	0	13,802	731	520	1,251	0	12,551
Dec	566	10,997	988	12,551	1,224	0	13,775	579	682	1,261	0	12,514
Jan	607	11,187	720	12,514	229	0	12,743	754	875	1,629	0	11,114
Feb	687	9,898	529	11,114	136	0	11,250	690	797	1,487	0	9,763
Mar	717	8,371	675	9,763	0	1	9,764	757	997	1,754	0	8,010
Apr	723	6,822	465	8,010	0	0	8,010	711	734	1,445	0	6,565
May	712	5,662	191	6,565	0	0	6,565	800	590	1,390	0	5,176
Jun	701	4,385	90	5,176	0	1	5,177	721	538	1,259	0	3,918
Jul	694	3,314	(90)	3,918	0	0	3,918	641	440	1,081	163	3,000
Season	632	6,179	281	7,092	12,196	2	19,290	8,759	7,694	16,453	163	3,000
1990/91: 8/												
Aug	697	2,270	33	3,000	597	0	3,597	829	544	1,373	0	2,224
Sep	644	1,679	(99)	2,224	2,083	0	4,307	692	412	1,104	0	3,203

1/ Compiled from Bureau of the Census data and adjusted to 480-lb. net weight bales. 2/ August stocks adjusted to an August 1 basis, excluding preseason ginnings. 3/ Adjusted to 480-lb. bales by use of monthly conversion factors for mill stocks. 4/ Primarily cotton on farms and in transit. Estimated by subtracting public storage and mill stocks from total stocks. 5/ August data include preseason ginnings. 6/ Adjusted to a calendar month. 7/ Supply less disappearance. End-of-season stocks adjusted by Bureau of the Census data. Differences primarily reflect varying bale weights. Monthly data are rounded. 8/ Preliminary and estimated.

Appendix table 4--Index of prices of selected cotton growth and qualities, and price per pound of U.S. cotton, c.i.f. Northern Europe, 1984-90 1/

Year beginning August 1	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Average
Cents/lb													
A Index: 2/													
1984	75.52	73.16	73.63	72.64	71.98	71.40	69.21	67.34	66.26	65.07	62.85	61.10	69.18
1985	56.97	53.43	49.01	48.04	48.25	51.82	54.52	52.35	48.50	45.42	41.04	37.44	48.90
1986	37.16	43.50	51.23	52.81	59.17	65.68	65.85	63.09	66.21	76.60	79.30	83.24	61.99
1987	86.60	83.61	76.19	75.83	75.29	72.19	67.49	66.34	65.75	65.58	68.78	63.43	72.26
1988	57.74	56.75	57.64	58.61	61.26	63.13	62.96	66.02	73.75	77.34	78.82	83.01	66.42
1989	82.97	81.45	82.10	82.13	77.30	74.92	76.92	79.21	83.01	86.85	90.30	90.88	82.34
1990	80.97	81.41	81.51										
Memphis: 3/													
1984	75.85	74.00	74.69	73.25	74.00	74.75	72.94	73.70	75.94	74.80	72.44	70.38	73.90
1985	68.20	67.94	68.56	68.45	67.67	69.15	70.07	71.75	72.88	73.55	41.25	38.05	64.79
1986	37.75	44.69	52.35	54.25	62.08	65.31	64.75	62.56	65.30	75.06	76.19	81.75	61.84
1987	87.38	83.06	76.75	76.44	74.95	72.75	69.81	70.75	72.38	75.31	79.95	76.56	76.34
1988	60.75	60.45	62.13	63.94	65.81	67.19	68.06	69.95	74.06	76.88	77.85	82.75	69.15
1989	85.15	82.56	83.31	82.10	76.34	75.19	77.12	80.15	84.56	88.90	92.69	95.88	83.57
1990	80.5	81.69	82.44										
Calif./Ariz.: 3/													
1984	75.90	74.38	75.19	74.00	74.08	74.25	72.13	72.94	75.81	73.70	71.94	70.63	73.75
1985	68.55	67.38	68.25	68.15	67.17	68.45	69.19	70.75	72.25	73.25	40.25	35.95	64.13
1986	36.69	45.44	54.55	57.00	65.75	69.25	68.44	64.69	67.65	78.75	80.63	86.65	64.62
1987	91.81	87.81	80.95	79.19	78.25	76.25	73.50	74.80	76.13	78.63	81.80	76.75	79.66
1988	64.19	64.10	65.94	66.13	67.31	69.13	69.94	72.10	76.56	80.50	82.40	86.19	72.04
1989	87.00	84.38	85.31	84.10	79.42	79.50	81.12	84.10	88.19	92.20	95.38	95.13	86.25
1990	85.45	87.31	88.00										
B Index: 4/													
1984	69.26	66.11	65.18	64.50	63.48	61.96	58.58	54.55	54.78	54.98	52.21	48.98	59.55
1985	47.03	45.35	43.61	41.42	40.83	43.15	45.14	43.19	40.88	38.70	33.03	28.77	40.93
1986	27.46	32.55	40.19	43.95	52.32	60.88	61.41	58.00	61.33	71.40	72.90	76.96	54.95
1987	81.55	78.44	70.77	71.73	71.08	68.15	64.21	62.69	61.30	59.50	62.73	57.88	67.50
1988	52.76	51.75	53.24	53.28	56.18	58.45	57.55	61.64	67.56	71.89	74.56	77.15	61.33
1989	78.64	76.70	77.08	77.19	73.49	71.20	73.01	74.98	77.14	80.55	83.21	84.39	77.30
1990	77.58	77.44	76.98										
Orleans/Texas: 5/													
1984	68.65	66.44	66.25	65.40	65.08	65.94	63.88	62.15	62.69	62.40	61.13	60.50	64.21
1985	60.90	61.00	61.69	61.65	61.58	61.50	61.75	62.07	62.13	63.85	31.32	27.80	56.44
1986	27.44	32.56	41.55	44.81	53.17	59.13	60.81	57.50	60.10	68.94	70.56	75.40	54.33
1987	80.94	77.44	71.40	70.69	69.65	68.19	65.56	66.95	67.38	69.88	72.30	66.25	70.55
1988	54.56	53.30	54.50	55.56	57.88	59.94	60.81	62.40	67.19	71.31	73.35	76.63	62.29
1989	79.15	76.31	76.88	75.90	72.92	72.19	73.62	75.50	78.87	82.65	84.50	84.69	77.68
1990	76.20	77.56	77.75										

1/ All prices are based on Thursday quotes. 2/ The A Index is an average of the five cheapest types of SLM 1-3/32 in. staple length cotton offered on the European market. 3/ The Memphis and California/Arizona territories are based on middling 1-3/32 in. 4/ The B-Index is based on coarse grades of cotton varying in staple length from 1 to 1-3/32 in. 5/ Based on SLM 1 in. cotton.

Source: Cotton Outlook, Liverpool Cotton Services, Ltd.

Appendix table 5--C.i.f. Northern Europe price quotations for principal growth of A-type cotton, weekly, August 1990 to date

Month & week	California/ Arizona	Memphis territory	USSR	China	Africa	Central America	Australia	Turkey	Paraguay	Mexico	Pakistan 1/	A Index 2/
U.S. cents/lb												
Aug. 2	85.50	81.25	83.00	85.00	80.50	80.50	NQ	NQ	NQ	83.50	82.00	81.45
9	86.25	81.75	82.50	85.00	81.00	81.25	NQ	NQ	NQ	84.00	82.50	82.05
16	83.75	78.25	81.50	83.50	78.75	79.00	NQ	NQ	NQ	81.00	79.75	79.35
23	85.00	79.75	81.75	83.50	79.50	80.25	NQ	NQ	NQ	82.25	80.50	80.35
30	86.75	81.50	82.50	85.00	80.75	81.25	NQ	NQ	NQ	83.75	82.25	81.65
Sept. 6	87.25	82.00	81.00	85.50	80.25	81.00	NQ	NQ	NQ	83.50	82.75	81.40
13	87.25	81.50	81.00	85.50	80.50	81.00	NQ	NQ	NQ	83.00	82.50	81.30
20	88.00	82.25	82.00	86.50	81.50	82.25	NQ	NQ	NQ	84.00	83.00	82.20
27	86.75	81.00	80.50	85.00	80.25	80.75	NQ	NQ	NQ	83.00	81.25	80.75
Oct. 4	86.50	80.75	80.50	85.00	79.50	80.25	NQ	87.00	NQ	82.75	81.00	80.40
11	88.00	82.50	81.00	86.00	80.50	81.25	NQ	87.00	NQ	83.50	82.00	81.45
18	88.50	83.00	81.50	86.25	80.50	81.75	NQ	86.00	NQ	83.50	82.25	81.80
25	89.00	83.50	82.00	87.00	81.00	82.25	NQ	87.50	NQ	83.50	83.25	82.40
Nov. 1	89.50	84.00	83.00	87.00	81.50	83.00	NQ	87.50	NQ	84.25	83.75	83.05
8	88.00	83.00	83.00	86.50	81.50	83.00	NQ	87.50	NQ	83.25	82.25	82.55
15	88.00	83.00	83.00	86.50	82.00	82.75	NQ	86.00	NQ	83.00	82.25	82.60

NQ = No quotes.

1/ Since August 1, 1987 Pakistan type 1505 has been included in the A-index selection.

2/ The A-Index is an average of the five cheapest types of SLM 1-3/32 in. staple cotton offered on the European market.

Source: Cotton Outlook, Liverpool Cotton Services, Ltd.

Appendix table 6--C.i.f. Northern Europe price quotation for principal growth of coarse count cotton, weekly, August 1990 to date

Month & week	Orleans/ Texas	Pakistan	China	USSR	Turkey	Southern Brazil	Argentina	B Index 1/
U.S. cents/lb								
Aug. 2	76.75	76.75	NQ	81.00	NQ	NQ	NQ	78.15
9	77.25	77.25	NQ	81.75	NQ	NQ	NQ	78.75
16	74.00	74.50	NQ	79.50	NQ	NQ	NQ	76.00
23	75.50	75.25	NQ	79.75	NQ	NQ	NQ	76.85
30	77.50	76.50	NQ	80.50	NQ	NQ	NQ	78.15
Sept. 6	78.00	77.00	NQ	78.00	79.50	NQ	NQ	77.65
13	77.50	76.75	NQ	78.00	79.50	NQ	NQ	77.40
20	78.00	77.25	NQ	79.00	80.00	NQ	NQ	78.10
27	76.75	75.50	NQ	77.50	78.00	NQ	NQ	76.60
Oct. 4	76.50	75.25	NQ	77.50	78.00	NQ	NQ	76.40
11	78.00	76.25	NQ	78.25	76.75	NQ	NQ	77.00
18	78.00	76.50	NQ	78.75	76.00	NQ	NQ	76.85
25	78.50	77.50	NQ	79.00	77.00	NQ	NQ	77.65
Nov. 1	79.00	78.00	NQ	80.00	78.00	NQ	NQ	78.35
8	77.50	76.50	NQ	80.50	78.50	NQ	NQ	77.50
15	77.00	76.50	NQ	80.00	79.00	NQ	NQ	77.50

NQ = No quotes.

1/ The B-Index is based on coarse grades of cotton varying in staple length from 1 in. to 1-3/32 in. It is an average of the three cheapest types of seven styles, so marked.

Source: Cotton Outlook, Liverpool Cotton Services, Ltd.

Appendix table 7--Strict low middling spot prices in designated U.S. markets, loan rates, and prices received by farmers for upland cotton, 1984/85-1990/91

Year beginning August 1	Average spot market prices per pound (net weight) 1/						Price received by farmers (net weight) 2/
	15/16 inch	1 inch	1-1/32 inch	1-1/16 inch	1-3/32 inch	1-1/8 inch	
	Cents/lb						
1984/85	52.39	55.98	58.30	60.51	60.29	60.49	3/ 58.7
1985/86	52.16	55.81	57.87	60.01	59.62	59.77	3/ 56.8
1986/87	44.80	47.77	50.78	53.16	53.81	55.89	3/ 51.5
1987/88	57.38	59.33	60.81	63.13	63.63	64.45	3/ 63.7
1988/89	49.02	52.32	53.99	57.67	58.14	59.51	3/ 55.6
1989/90:							
August	61.03	64.79	66.63	69.88	70.42	72.27	60.2
September	60.56	63.79	65.37	68.46	69.00	70.29	63.9
October	61.11	64.85	66.28	69.40	69.89	70.94	65.8
November	61.54	64.33	65.34	68.33	68.75	68.85	65.4
December	57.37	59.82	60.54	63.56	63.99	64.08	61.4
January	55.19	58.24	59.20	62.21	62.63	62.72	59.9
February	56.87	60.69	61.90	64.95	65.37	65.46	61.0
March	59.43	63.21	64.79	68.06	68.48	68.57	64.1
April	61.33	66.09	68.08	71.31	71.73	71.82	65.0
May	62.77	68.60	71.28	74.61	75.03	75.12	65.4
June	63.37	70.77	73.57	77.06	77.48	77.57	62.3
July	68.23	73.45	76.51	79.53	79.95	80.04	62.9
Season	60.73	64.89	66.62	69.78	70.23	70.64	63.6
1990/91:							
August	66.02	71.01	73.30	76.27	76.69	76.78	64.6
September	59.22	66.21	67.50	71.01	71.43	71.52	65.0
October	58.99	66.13	67.09	70.54	70.97	71.06	66.9
Loan rate 4/	43.87	45.52	48.32	50.27	50.72	50.87	

1/ Spot market loan rates and prices are for cotton with micronaire readings of 3.5 through 4.9.
 2/ Prices do not include an allowance for loans outstanding and Government purchases. 3/ Weighted market average. U.S. prices based on U.S. monthly prices weighted by monthly marketings from August through the following July. 4/ SLM 1-1/16 in. average location.

Source: Agricultural Stabilization and Conservation Service, Agricultural Marketing Service, and National Agricultural Statistics Service, USDA.

Appendix table 8--Fiber prices: Landed Group B mill points, cotton prices, and manmade staple fiber prices, f.o.b. producing plants, actual and estimated raw fiber equivalent, 1984-90

Calendar year	Cotton 1/		Rayon 2/		Polyester 3/		Price ratios 4/	
	Actual	Raw fiber equivalent 5/	Actual	Raw fiber equivalent 5/	Actual	Raw fiber equivalent 5/	Cotton/rayon	Cotton/polyester
					Cents/lb		Percent	
1984	76	84	84	88	79	82	.95	1.02
1985	66	73	79	82	66	69	.89	1.06
1986	61	68	76	79	62	65	.86	1.04
1987	73	81	81	84	66	69	.96	1.18
1988	65	72	91	94	74	77	.77	.94
1989:								
January	64	71	100	104	81	84	.68	.84
February	63	70	100	104	81	84	.67	.83
March	66	73	100	104	81	84	.70	.87
April	69	77	110	115	81	84	.67	.91
May	72	80	110	115	81	84	.70	.95
June	73	81	110	115	89	93	.71	.87
July	76	84	110	115	89	93	.74	.91
August	79	88	110	115	89	93	.77	.95
September	76	84	110	115	89	93	.74	.91
October	78	87	119	124	89	93	.70	.93
November	76	84	119	124	89	93	.68	.91
December	72	80	119	124	89	93	.65	.86
Average	72	80	110	114	86	89	.70	.89
1990:								
January	70	78	119	124	89	93	.63	.84
February	72	80	119	124	89	93	.65	.86
March	76	84	119	124	89	93	.68	.91
April	78	87	119	124	89	93	.70	.94
May	82	91	119	124	85	89	.74	1.03
June	87	97	119	124	82	85	.78	1.13
July	87	96	119	124	78	81	.78	1.19
August	84	93	119	124	78	81	.75	1.14
September	79	88	119	124	78	81	.71	1.08
October	78	87	122	127	78	81	.68	1.07

1/ SLM 1-1/16" at Group B mill points, net weight. 2/ 1.5 and 3.0 denier, regular rayon staple.
 3/ Reported average market price for 1.5-denier polyester staple for cotton blending. 4/ Raw fiber equivalent.
 5/ Actual prices converted to estimated raw fiber equivalent as follows: cotton, divided by 0.90; rayon and polyester, divided by 0.96.

Source: Agricultural Marketing Service, USDA and trade reports.

Appendix table 9--Upland cotton and manmade staple fibers: Mill consumption on cotton-system spinning spindles

Year beginning August 1	Cotton	Manmade		Total	Total fibers	Cotton's share of total
		Rayon and acetate	Non-cellulosic			
-----1,000 lbs-----						
						Percent
1984/85	2,618,685	231,197	1,336,595	1,567,792	4,186,477	62.6
1985/86	3,086,842	253,459	1,465,228	1,718,687	4,805,529	64.2
1986/87	3,544,852	256,711	1,481,822	1,738,593	5,283,445	67.1
1987/88	3,631,397	268,813	1,481,923	1,750,736	5,382,133	67.5
1988/89	3,687,330	285,742	1,397,434	1,683,176	5,370,506	68.7
1989/90:						
August	341,268	22,314	110,610	132,924	474,192	72.0
September	426,587	27,016	139,980	166,996	593,583	71.9
October	342,841	22,158	108,625	130,783	473,624	72.4
November	318,521	21,230	100,920	122,150	440,671	72.3
December	338,660	24,509	115,126	139,635	478,295	70.8
January	311,880	20,837	103,387	124,224	436,104	71.5
February	326,173	21,676	106,984	128,660	454,833	71.7
March	408,802	28,199	129,921	158,120	566,922	72.1
April	322,064	22,513	107,950	130,463	452,527	71.2
May	330,531	24,393	107,200	131,593	462,124	71.5
June	410,050	28,345	126,947	155,292	565,342	72.5
July	277,834	18,640	87,503	106,143	383,977	72.4
Season	4,155,211	281,830	1,345,153	1,626,983	5,782,194	71.9
1990/91:						
August	338,321	24,197	105,064	129,261	467,582	72.4
September	414,261	30,511	126,528	157,039	571,300	72.5
October 1	333,106	23,364	101,389	124,753	457,859	72.8

1/ Preliminary.

Source: Bureau of the Census.

Appendix table 10--Cotton and manmade staple fibers: Daily rate of mill consumption, on cotton-system spinning spindles, unadjusted and seasonally adjusted

Year	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
480-lb bales												
Upland cotton												
Unadjusted--												
1986/87	27,748	27,200	28,357	27,444	23,949	28,338	29,043	30,381	29,676	30,331	29,501	28,038
1987/88	31,498	31,307	32,246	31,735	25,358	29,516	30,618	30,514	28,827	28,532	27,394	22,319
1988/89	29,719	28,589	28,462	26,949	23,511	29,209	30,094	31,076	32,220	33,270	33,026	28,922
1989/90	35,549	35,549	35,713	33,179	28,222	32,489	33,976	34,067	33,548	34,430	34,171	28,941
1990/91 1/	35,242	34,522	34,699									
Adjusted--												
1986/87	26,604	26,931	26,232	26,905	28,208	28,197	27,819	29,439	29,010	29,053	29,773	32,717
1987/88	29,998	30,844	30,109	31,235	29,486	29,282	29,441	29,426	28,206	27,461	27,811	26,043
1988/89	28,304	28,001	26,625	26,266	27,660	29,093	28,964	29,795	31,588	32,176	33,292	33,946
1989/90	33,568	34,682	33,883	32,656	33,281	32,136	32,764	32,663	32,794	33,234	34,308	34,048
1990/91 1/	33,373	33,355	33,047									
1,000 lbs												
Manmade staple												
Rayon and acetate:												
Unadjusted--												
1986/87	1,073	1,024	1,089	1,121	844	1,041	951	997	961	948	952	867
1987/88	1,038	1,020	1,061	1,066	975	987	1,053	1,057	1,092	1,023	1,106	903
1988/89	1,129	1,129	1,153	1,110	987	1,149	1,110	1,173	1,109	1,133	1,133	868
1989/90	1,116	1,081	1,108	1,100	980	1,042	1,083	1,128	1,127	1,220	1,134	932
1990/91 1/	1,210	1,220	1,168									
Adjusted--												
1986/87	1,051	1,019	1,008	1,074	987	1,046	914	963	955	902	923	1,035
1987/88	1,010	1,015	984	1,003	1,144	977	1,033	1,026	1,090	998	1,110	1,011
1988/89	1,098	1,109	1,061	1,042	1,165	1,141	1,109	1,159	1,100	1,127	1,121	972
1989/90	1,053	1,051	1,026	1,032	1,126	1,014	1,092	1,104	1,128	1,237	1,125	1,082
1990/91 1/	1,148	1,184	1,106									
Noncellulosic: 2/												
Unadjusted--												
1986/87	5,817	5,849	5,948	5,835	4,990	5,552	5,770	5,919	5,845	5,818	5,706	5,400
1987/88	5,907	5,815	6,254	6,006	4,861	5,953	5,849	5,897	5,789	5,699	5,667	4,961
1988/89	5,856	5,671	5,599	5,347	4,617	5,430	5,451	5,288	5,469	5,613	5,498	4,766
1989/90	5,530	5,599	5,431	5,091	4,605	5,169	5,349	5,197	5,398	5,360	5,078	4,375
1990/91 1/	5,253	5,061	5,069									
Adjusted--												
1986/87	5,664	5,763	5,569	5,847	5,809	5,508	5,418	5,724	5,742	5,654	5,655	6,200
1987/88	5,757	5,690	5,878	5,935	5,626	5,983	5,508	5,725	5,457	5,555	5,644	5,644
1988/89	5,708	5,554	5,218	5,186	5,375	5,457	5,216	5,104	5,346	5,487	5,471	5,510
1989/90	5,333	5,468	5,119	5,001	5,305	5,103	5,224	5,021	5,287	5,234	5,028	4,972
1990/91 1/	5,036	4,904	4,818									

1/ Preliminary. 2/ Includes nylon, acrylic and modacrylic, polyester, and other manmade fibers.

Source: Bureau of the Census.

Appendix table 11--Cotton spindles in place and active, and hours operated, 1988-90

Date	Spindles		Percentage of active spindles used on			Daily average spindle hours operated		Total fiber spun per spindle hour
	In place	Active	100-percent cotton	100-percent manmade	Other fibers and blends	Actual	Seasonally adjusted	
	-----1,000-----		-----Percent-----			-----Millions-----		Lbs
1988:								
January	12,712	11,607	39.6	13.7	46.7	308	305	.069
February	12,621	11,515	39.8	13.8	46.4	319	298	.068
March	12,708	11,733	40.0	14.0	46.0	321	307	.068
April	12,684	11,741	39.9	13.8	46.3	334	325	.062
May	12,566	11,724	39.7	14.4	45.9	324	314	.063
June	12,508	11,674	39.5	14.6	45.9	313	315	.064
July	12,578	11,737	38.9	14.9	46.2	252	291	.066
August	12,286	11,635	39.5	14.1	46.4	299	292	.070
September	12,287	11,599	39.4	13.8	46.8	301	300	.068
October	12,190	11,478	37.9	14.0	48.1	299	283	.068
November	12,216	11,406	38.1	13.5	48.4	300	298	.064
December	12,402	11,537	38.2	13.3	48.5	251	290	.066
1989:								
January	12,077	11,267	38.4	13.8	47.8	288	286	.071
February	11,963	11,183	37.9	14.0	48.1	293	275	.071
March	11,925	11,102	38.5	14.0	47.5	289	276	.073
April	11,940	11,114	39.0	13.6	47.3	296	287	.074
May	11,866	11,072	39.3	13.6	47.1	300	289	.075
June	11,812	11,211	38.7	13.4	48.0	299	300	.075
July	11,669	10,794	39.7	14.0	46.2	301	257	.064
August	11,554	10,750	39.5	13.9	46.6	313	310	.074
September	11,468	10,735	39.4	13.8	46.8	317	314	.073
October	11,507	10,705	39.0	13.6	47.4	279	268	.083
November	11,509	10,676	39.4	14.1	46.5	293	284	.074
December	11,549	10,699	39.1	14.3	46.6	254	293	.073
1990:								
January	11,373	10,588	40.0	14.6	45.4	272	271	.079
February	11,287	10,700	39.8	15.7	44.5	278	264	.079
March	11,336	10,575	39.9	15.8	44.3	276	266	.080
April	11,287	10,520	39.6	15.7	44.8	271	262	.082
May	11,180	10,371	40.0	15.7	44.3	267	257	.085
June	11,167	10,265	40.0	16.2	43.7	255	252	.089
July	11,058	10,130	38.8	15.5	45.7	220	256	.088
August	10,894	10,018	38.7	15.2	46.2	264	257	.089
September	10,891	10,051	39.6	15.0	45.4	255	247	.090
October 1/	10,753	9,938	39.4	15.1	45.5	258	246	.089

1/ Preliminary.

Source: Bureau of the Census.

Appendix table 12--Mill consumption of cotton, wool, and manmade fibers, quarterly, 1985-90

Year	Cotton	Wool	Cellulosic	Noncellulosic	Total manmade	Total fibers	Cotton's share of total	
							Percent	
-----Million lbs-----								
1985	1Q	663.8	29.9	127.0	1,818.7	1,945.7	2,639.4	25.1
	2Q	695.6	30.4	132.5	1,934.4	2,066.9	2,792.9	24.9
	3Q	710.3	27.9	138.2	1,956.7	2,094.9	2,833.1	25.1
	4Q	740.8	28.4	147.9	1,970.1	2,118.0	2,887.2	25.7
	Total	2,810.5	116.6	545.6	7,679.9	8,225.5	11,152.6	25.2
1986	1Q	790.6	35.0	150.8	1,944.4	2,095.2	2,920.8	27.1
	2Q	810.7	36.0	153.5	1,976.1	2,129.6	2,976.3	27.2
	3Q	808.0	32.9	153.6	2,049.1	2,202.7	3,043.6	26.5
	4Q	849.7	32.8	150.4	2,074.8	2,225.2	3,107.7	27.3
	Total	3,259.0	136.7	608.3	8,044.4	8,652.7	12,048.4	27.0
1987	1Q	904.4	36.6	140.2	2,095.2	2,235.4	3,176.4	28.5
	2Q	939.8	37.5	143.2	2,152.2	2,295.4	3,272.7	28.7
	3Q	967.5	33.8	146.2	2,134.3	2,280.5	3,281.8	29.5
	4Q	941.5	34.9	156.0	2,098.4	2,254.4	3,230.8	29.1
	Total	3,753.2	142.8	585.6	8,480.1	9,065.7	12,961.7	29.0
1988	1Q	950.7	35.4	152.3	2,100.4	2,252.7	3,238.8	29.3
	2Q	883.5	33.9	159.0	2,152.2	2,311.2	3,228.6	27.4
	3Q	852.1	31.8	151.7	2,108.6	2,260.3	3,197.2	26.7
	4Q	821.7	31.6	149.9	2,233.8	2,383.7	3,237.0	25.4
	Total	3,508.0	132.7	612.9	8,595.0	9,207.9	12,901.6	27.2
1989	1Q	949.9	35.4	165.7	2,166.0	2,331.7	3,317.0	28.6
	2Q	1,033.3	34.0	159.7	2,225.7	2,385.4	3,452.7	29.9
	3Q	1,054.2	29.8	140.7	2,126.5	2,267.2	3,351.2	31.5
	4Q	1,008.7	27.9	133.9	2,066.3	2,200.2	3,236.8	31.2
	Total	4,046.1	127.1	600.0	8,584.5	9,184.5	13,357.7	30.3
1990	1Q	1,056.6	33.7	143.1	2,066.5	2,209.6	3,299.9	32.0
	2Q	1,071.1	32.9	146.0	2,140.8	2,286.8	3,390.8	31.6
	3Q	1,037.6	29.5	144.8	2,090.1	2,234.9	3,302.0	31.4

Source: Bureau of the Census, and Fiber Organon.

Appendix table 13--U.S. fiber consumption: Total and per capita, by type of fiber, 1986-89

Fiber and year	U.S. mill use Million lbs	Percent of fibers Percent	Textile trade 1/		Total domestic consumption 2/ Million lbs	Percent of fibers Percent	Per capita 3/	
			Exports	Imports			Mill use Lbs	Domestic consumption Lbs
Cotton:								
1986	3,259.0	27.0	274.8	1,910.5	4,894.7	31.0	13.5	20.3
1987	3,753.2	29.0	298.0	2,335.7	5,790.9	33.7	15.4	23.7
1988	3,508.0	27.4	325.3	2,121.7	5,316.7	32.1	14.3	21.6
1989	4,046.1	29.6	NA	NA	NA	NA	16.0	NA
Wool:								
1986	136.7	1.2	16.0	275.6	396.3	2.5	0.6	1.6
1987	142.8	1.1	23.5	276.1	395.4	2.3	0.6	1.6
1988	132.7	1.0	30.7	248.7	350.7	2.1	0.5	1.5
1989	127.1	0.9	NA	NA	NA	NA	0.5	NA
Manmade fibers:								
1986	8,652.7	71.8	519.3	1,703.0	9,836.4	62.4	35.8	40.7
1987	9,065.7	69.9	591.9	1,805.4	10,279.2	59.9	37.2	42.1
1988	9,207.9	71.6	681.6	1,758.9	10,285.2	62.1	37.4	41.8
1989	9,184.5	68.3	NA	NA	NA	NA	36.9	NA
Flax and silk:								
1986	4.8	4/	NA	632.2	637.0	4.0	4/	2.6
1987	4.7	4/	NA	702.7	707.4	4.1	4/	2.9
1988	5.0	4/	NA	607.5	612.5	3.7	4/	2.5
1989	160.4	1.2	NA	NA	NA	NA	0.6	NA
All fibers: 6/								
1986	12,053.2	100.0	810.1	4,521.3	15,764.4	100.0	49.9	65.3
1987	12,966.4	100.0	913.4	5,119.9	17,172.9	100.0	53.2	70.4
1988	12,901.6	100.0	1,037.6	4,736.8	16,565.1	100.0	52.2	67.3
1989	13,357.7	100.0	NA	NA	NA	NA	54.1	NA

NA = Not available.

1/ Raw fiber equivalent of imports and exports of textile products. 2/ Total domestic consumption is U.S. mill consumption plus net textile product trade balance. 3/ July 1 population for 1984=237.0 million, 1985=239.3 million, 1986=241.6 million, 1987=243.9 million, 1988=246.3 million, and 1989=248.8 million. 4/ Less than 0.05 pounds, or 0.1 percent. 5/ Estimated. 6/ Includes flax and silk.

Source: Bureau of the Census.

Appendix table 14--Manmade fiber production and capacity, 1989-91 1/

Fiber	Annual 1987	Annual 1988	-----1989-----					-----1990-----					-----1991-----					Average planned 1992 capacity	Annual change 1990-92
			1Q	2Q	3Q	4Q	Year	1Q	2Q	3Q	4Q	Year	1Q	2Q	3Q	4Q	Year		
-----Million lbs.-----																		Percent	
Grand total, All fibers: 2/																			
Capacity	9,962	10,207	2,596	2,610	2,606	2,607	10,419	2,612	2,618	2,652	2,685	10,567	2,711	2,737	2,754	2,780	10,982	11,199	+3.0
Production	8,945	9,140	2,323	2,388	2,245	2,140	9,096	2,135	2,273	2,134									
Percent	90	90	89	91	86	82	87	80	86	80									
Total staple--																			
Capacity	5,166	5,283	1,336	1,343	1,326	1,312	5,317	1,304	1,297	1,305	1,313	5,219	1,327	1,340	1,349	1,363	5,379	5,476	+2.5
Production	4,721	4,746	1,205	1,235	1,136	1,077	4,653	1,057	1,133	1,036									
Percent	91	90	90	92	86	82	88	81	87	79									
Total filament-- 2/																			
Capacity	4,796	4,924	1,260	1,267	1,280	1,295	5,102	1,308	1,321	1,347	1,372	5,348	1,384	1,397	1,405	1,417	5,603	5,723	+3.5
Production	4,224	4,394	1,118	1,153	1,109	1,063	4,443	1,078	1,140	1,098									
Percent	88	89	89	91	87	82	87	82	85	82									
Polyester total:																			
Capacity	3,841	3,900	994	999	972	946	3,911	957	968	985	1,002	3,912	1,013	1,025	1,033	1,043	4,114	4,176	+3.4
Production	3,541	3,681	923	974	898	799	3,594	783	826	755									
Percent	92	95	94	97	92	84	92	82	85	77									
Staple--																			
Capacity	2,483	2,556	650	655	635	616	2,556	629	642	647	653	2,571	662	671	679	688	2,700	2,752	+3.5
Production	2,362	2,452	609	649	591	536	2,385	521	546	490									
Percent	95	96	94	99	93	87	93	83	85	76									
Filament--																			
Capacity	1,358	1,344	344	344	337	330	1,355	328	326	338	349	1,341	351	354	354	355	1,414	1,424	+3.1
Production	1,179	1,229	314	325	307	263	1,209	262	280	265									
Percent	87	91	91	94	91	80	89	80	86	78									
Nylon total:																			
Capacity	2,948	2,997	764	770	781	792	3,107	796	801	806	811	3,214	813	814	818	823	3,268	3,321	+1.7
Production	2,689	2,670	690	690	676	685	2,741	665	711	648									
Percent	91	89	90	90	87	87	88	84	89	80									
Staple--																			
Capacity	1,112	1,135	285	286	287	288	1,146	286	286	287	288	1,147	288	288	289	291	1,156	1,167	+0.9
Production	992	942	253	242	241	245	981	237	273	240									
Percent	89	83	89	85	84	85	86	83	95	84									
Filament--																			
Capacity	1,836	1,862	479	484	494	504	1,961	510	515	519	523	2,067	525	526	529	532	2,112	2,154	+2.1
Production	1,697	1,728	437	448	435	440	1,760	423	438	408									
Percent	93	93	91	93	88	87	90	84	85	79									
Olefin total:																			
Capacity	1,786	1,927	491	492	505	520	2,008	533	545	556	565	2,199	578	591	599	607	2,375	2,477	+6.1
Production	1,495	1,569	411	423	402	403	1,639	437	475	465									
Percent	82	81	83	86	80	78	82	82	87	84									
Staple--																			
Capacity	458	483	122	122	123	125	492	127	128	129	128	512	133	137	139	140	549	583	+6.7
Production	361	364	97	98	92	95	382	97	105	96									
Percent	79	75	91	80	75	76	78	76	82	74									
Filament--																			
Capacity	1,328	1,444	369	370	382	395	1,516	406	417	427	437	1,687	445	454	460	467	1,826	1,894	+6.0
Production	1,134	1,224	314	325	310	308	1,257	340	390	369									
Percent	83	85	85	88	81	78	83	84	89	86									

See footnotes at end of table.

continued--

Appendix table 14--Manmade fiber production and capacity, 1989-91 1/--continued

Fiber	Annual 1987	Annual 1988	-----1989-----					-----1990-----					-----1991-----					Average planned 1992 capacity	Annual change 1990-92	
			1q	2q	3q	4q	Year	1q	2q	3q	4q	Year	1q	2q	3q	4q	Year			
Other fibers: 3/																				
Capacity	30	30	7	8	7	8	30	8	8	8	8	32	8	8	8	8	32	32	0.0	
Production	22	28	7	7	7	7	28	7	8	7	7									
Percent	73	93	100	88	100	88	93	88	100	88										
Acrylic staple:																				
Capacity	648	641	161	161	160	160	642	160	160	162	163	645	163	163	162	163	651	651	+0.4	
Production	592	588	144	146	129	123	542	130	137	129										
Percent	91	92	89	78	81	77	84	81	86	80										
Noncellulosic total: 2/																				
Capacity	9,253	9,495	2,417	2,430	2,425	2,426	9,698	2,454	2,482	2,517	2,549	10,002	2,575	2,601	2,620	2,644	10,440	10,657	+3.3	
Production	8,340	8,526	2,169	2,231	2,105	1,010	8,515	2,015	2,149	2,006										
Percent	90	90	90	92	87	83	88	82	87	80										
Staple--																				
Capacity	4,701	4,815	1,218	1,224	1,205	1,189	4,836	1,202	1,216	1,225	1,232	4,875	1,246	1,259	1,269	1,282	5,056	5,153	+2.8	
Production	4,307	4,346	1,104	1,134	1,053	999	4,290	984	1,061	962										
Percent	92	90	91	93	87	84	89	82	87	78										
Filament--																				
Capacity	4,552	4,680	1,199	1,206	1,220	1,237	4,862	1,252	1,266	1,292	1,317	5,127	1,329	1,342	1,351	1,362	5,384	5,504	+3.6	
Production	4,033	4,180	1,065	1,097	1,052	1,011	4,225	1,031	1,088	1,044										
Percent	88	89	89	91	86	82	87	82	86	81										
Cellulosic staple:																				
Capacity	465	468	118	119	121	123	481	102	81	80	81	344	81	81	80	81	323	323	-3.0	
Production	414	400	101	101	83	78	363	73	72	74										
Percent	89	85	86	85	69	63	75	72	89	92										
Cellulosic filament:																				
Capacity	244	244	61	61	60	58	240	56	55	55	55	221	55	55	54	55	219	219	-0.5	
Production	191	214	53	56	57	52	218	47	52	54										
Percent	78	88	87	92	95	90	91	84	95	98										

1/ Capacity data as of May 1990. 2/ Glass fibers are not included. 3/ Includes saran and spandex. USDA estimates.

Source: Fiber Organon.

Appendix table 15--Domestic shipments of manmade fibers by major category, 1986-90

Fiber type	1986				1987				1988				1989				1990		
	1q	2q	3q	4q	1q	2q	3q	4q	1q	2q	3q	4q	1q	2q	3q	4q	1q	2q	3q
Million lbs																			
Woven products:																			
Total	534.4	533.6	536.7	535.4	524.7	563.2	559.1	586.3	559.8	569.7	564.9	630.2	586.5	618.1	544.2	480.7	460.4	503.9	NA
Polyester	326.2	319.0	319.8	312.7	314.4	334.0	316.2	329.8	317.5	328.7	319.1	377.4	322.6	359.7	302.0	292.6	268.0	285.2	NA
Rayon	53.9	53.2	55.1	55.8	52.9	55.2	59.9	62.7	58.7	60.5	63.5	60.3	69.1	59.7	50.6	NA	NA	NA	NA
Olefin	66.9	76.2	78.6	85.3	77.8	85.4	90.4	102.0	94.2	92.3	90.5	95.7	98.8	98.0	97.9	96.0	105.4	125.6	NA
Nylon	38.2	38.0	35.1	35.8	37.1	39.0	43.1	41.0	40.1	36.7	38.1	40.6	38.7	40.6	39.0	40.1	39.3	41.5	NA
Acetate	32.8	32.1	32.0	31.4	26.7	32.1	31.8	34.4	32.5	36.3	36.9	40.6	37.3	39.3	38.8	38.4	34.6	38.3	NA
Acrylic	16.4	15.1	16.1	14.4	15.8	17.5	17.7	16.4	16.8	15.2	16.8	15.6	20.0	20.8	15.9	13.6	13.1	13.3	NA
Knit products:																			
Total	345.8	364.3	357.2	355.4	368.6	375.0	339.8	331.3	327.1	343.4	326.7	366.8	378.7	370.3	353.5	328.2	317.3	331.3	NA
Polyester	167.8	165.5	171.5	183.0	181.5	196.2	182.5	190.9	173.2	183.8	175.0	219.6	214.2	211.9	206.7	197.7	184.8	199.4	NA
Nylon	68.3	65.1	60.0	59.4	63.7	63.5	63.5	60.9	61.8	64.7	64.1	70.8	68.8	68.4	64.9	63.3	53.4	61.2	NA
Acrylic	95.9	117.7	111.6	99.9	112.7	105.2	87.5	72.1	85.3	86.3	80.6	70.0	84.1	82.2	77.9	62.7	73.5	65.8	NA
Acetate	12.0	14.3	12.3	11.2	9.1	8.4	5.2	6.3	5.9	7.9	5.9	5.2	6.3	7.6	3.8	4.2	5.3	4.7	NA
Rayon	1.8	1.7	1.8	2.0	1.6	1.7	1.1	1.1	0.9	0.7	1.1	1.2	0.3	0.2	0.2	0.3	0.3	0.2	NA
Carpets:																			
Total	582.7	623.9	694.7	700.3	686.3	722.0	732.8	675.0	722.1	729.0	733.4	732.6	724.9	723.7	736.5	705.0	753.4	743.2	NA
Nylon	387.1	406.4	476.4	449.3	458.7	474.7	476.7	411.0	452.5	443.6	467.6	460.0	451.8	450.4	474.0	450.8	469.8	460.0	453.5
Olefin	164.2	178.9	181.9	212.5	180.8	196.6	204.7	203.9	203.3	216.3	203.5	208.7	212.9	221.8	213.7	202.6	235.6	243.1	NA
Polyester	31.3	38.4	36.9	38.4	46.8	50.7	51.4	60.1	66.1	69.0	62.3	63.8	60.1	51.3	48.6	51.6	48.0	40.1	41.0
Rayon	0.1	0.2	NA	0.1	NA	NA	NA	NA	0.2	0.1	NA	0.1	0.1	0.2	0.2	NA	NA	NA	NA

NA = Not available.
 1/ Filament plus staple. 2/ Estimated.

Source: Fiber Organon.

Appendix table 16--Raw cotton equivalent of U.S. imports for consumption of cotton-containing textile manufactures, 1989-90 1/

Year and month	Yarn, thread, and fabric					Apparel					House furnishings								
	Yarn, thread, and rope	Broad-woven fabric 100%	Broad-woven fabric blends	Knit fabric	Narrow, industrials, and misc. fabric	Total	Tops	Bot-toms	Suits and coats	Sweat-ers	Other apparel	Total	Blan-kets	Bedsheets, pillow-cases etc.	Table-cloths, placemats, napkins, etc.	Bath-room, and kitchen toweling	Curtains, drapes, etc.	Bed-spreads, quilts, and misc	Total
1,000 lbs																			
1989:																			
Jan	3,815	44,551	8,748	586	1,229	58,929	49,678	34,348	7,742	6,103	13,426	111,298	479	1,937	1,618	7,730	304	907	12,974
Feb	2,206	40,379	6,707	608	1,127	52,026	46,293	36,356	5,503	3,581	9,480	101,213	267	2,751	1,282	7,692	292	846	13,130
Mar	2,606	32,440	7,770	623	1,308	45,747	46,380	35,176	4,104	2,610	9,202	97,473	784	2,504	1,070	8,185	189	611	13,343
Apr	2,088	30,364	9,253	651	1,090	44,446	38,374	29,932	3,808	3,182	7,597	82,893	287	2,330	1,153	6,110	316	950	11,146
May	3,367	30,179	9,105	711	1,303	44,665	47,381	38,706	7,468	5,282	7,726	106,564	215	2,912	1,308	7,987	629	627	13,678
Jun	2,883	36,283	10,239	728	1,377	52,510	55,721	48,439	10,617	6,804	9,886	131,467	239	3,715	1,482	5,749	356	2,800	14,340
Jul	3,379	35,240	11,581	741	1,345	52,287	62,976	54,335	14,515	8,091	9,805	149,723	278	4,865	1,470	7,908	260	1,294	16,075
Aug	3,640	38,664	13,734	883	1,404	58,325	65,194	52,382	17,002	7,575	9,654	151,808	413	6,349	1,898	9,845	489	1,289	20,283
Sep	3,022	29,351	10,242	718	1,032	44,365	54,181	42,024	11,483	6,309	7,768	121,766	198	4,268	1,769	7,677	208	1,066	15,185
Oct	5,215	47,765	12,976	799	1,159	67,914	62,120	47,393	10,325	9,781	7,508	137,128	509	5,620	1,711	11,591	474	1,030	20,935
Nov	3,922	38,464	11,369	645	1,208	55,609	52,010	39,830	8,389	7,909	7,583	115,720	331	5,460	842	10,251	310	739	17,934
Dec	2,704	32,670	10,282	607	1,158	47,422	47,700	34,906	7,301	4,540	10,065	104,511	167	2,790	658	9,898	299	777	14,588
Total	42,847	436,350	122,006	8,300	14,740	624,245	628,008	493,827	108,257	71,767	109,700	1,411,559	4,167	45,501	16,261	100,623	4,126	12,936	183,611
1990:																			
Jan	3,390	47,410	12,893	763	1,095	65,550	66,354	44,650	9,144	4,913	12,372	137,433	115	4,245	827	13,947	214	665	20,014
Feb	2,534	32,967	9,012	566	1,095	46,174	58,082	47,663	5,844	2,677	9,932	124,198	271	3,184	1,112	12,090	296	1,109	18,061
Mar	2,857	27,494	8,019	570	1,113	40,053	53,961	41,499	3,817	1,444	10,294	111,015	412	2,469	1,535	10,336	404	1,523	16,678
Apr	2,598	26,247	9,189	691	1,112	39,837	50,542	34,686	4,165	2,327	8,557	100,277	525	2,672	1,591	9,837	306	1,033	15,963
May	2,563	35,052	10,809	831	1,169	50,425	53,468	41,434	8,321	4,437	8,833	116,493	175	2,126	1,691	9,398	300	1,102	14,792
Jun	2,837	31,097	8,929	845	1,284	44,991	60,925	51,085	13,799	6,402	8,911	141,122	287	3,661	1,433	8,187	243	1,045	14,855
Jul	3,148	39,068	9,487	793	1,151	53,648	73,104	55,269	15,258	7,857	8,536	160,024	505	6,542	1,718	7,714	386	1,029	17,892
Aug	3,085	42,445	10,608	920	993	58,050	71,347	44,179	16,211	8,526	8,147	148,410	412	5,873	2,071	9,640	356	1,226	19,577
Sep	2,415	35,244	9,357	919	983	48,919	54,531	33,631	10,367	6,989	7,819	113,337	396	5,086	1,668	7,672	341	852	16,015

1/ Preliminary. Totals may not add due to rounding.

Source: Bureau of the Census, U.S. Department of Commerce.

Appendix table 17--Raw linen equivalent of U.S. imports for consumption of linen-containing textile manufactures, 1989-90 1/

Year and month	Yarn, thread, and fabric					Apparel						House furnishings						
	Yarn, thread, and rope	Broad-woven (inc. pile) fabric	Knit fabric	Narrow, industrial, and misc. fabric	Total	Tops	Bot-toms	Suits and coats	Sweat-ers	Other apparel	Total	Blan-kets	Bedsheets, pillowcases, etc.	Table-cloths, placemats, napkins, etc.	Bathroom and kitchen toweling	Curtains, drapes, etc.	Bed-spreads, quilts, and misc.	Total
1,000 lbs																		
1989:																		
Jan	8,359	13,306	--	198	21,863	1,356	3,519	1,186	8,788	99	14,948	0	2	22	48	16	14	103
Feb	11,513	12,639	--	197	24,349	1,334	5,036	1,275	6,891	93	14,630	--	3	12	53	80	6	154
Mar	18,916	20,689	--	337	39,942	1,381	3,305	770	4,194	256	9,905	--	1	48	50	71	9	180
Apr	10,419	12,734	--	127	23,280	1,129	2,445	489	5,073	126	9,263	0	1	60	26	59	33	179
May	7,708	14,469	--	156	22,332	982	2,320	491	10,519	50	14,361	0	1	27	26	63	16	132
Jun	4,949	11,363	--	171	16,484	1,544	2,212	462	12,654	139	17,011	--	1	16	10	88	37	151
Jul	3,852	9,702	0	148	13,702	1,657	1,859	524	14,709	131	18,879	--	1	21	8	49	35	114
Aug	3,706	20,448	0	255	24,408	1,794	1,817	566	13,952	188	18,317	0	1	26	8	46	27	108
Sep	2,510	14,045	0	205	16,760	1,527	1,529	513	12,063	126	15,757	0	0	26	12	96	10	145
Oct	3,251	19,141	0	225	22,617	1,948	2,021	643	16,116	180	20,908	0	1	23	6	75	14	119
Nov	3,951	12,947	0	196	17,095	1,662	2,260	539	11,032	136	15,630	0	1	27	18	29	18	92
Dec	15,705	14,005	0	148	29,858	1,276	2,513	856	4,599	83	9,326	0	1	14	10	2	31	58
Total	94,839	175,488	1	2,363	272,690	17,590	30,836	8,314	120,590	1,607	178,935	1	14	322	275	674	250	1,535
1990:																		
Jan	19,820	24,235	9	346	44,410	2,039	3,888	1,434	5,617	110	13,088	0	2	24	6	5	7	43
Feb	7,487	13,703	0	234	21,424	1,573	3,941	895	3,004	110	9,522	0	1	36	9	1	12	59
Mar	14,432	22,722	1	197	37,351	1,535	2,933	726	1,956	75	7,225	0	1	23	6	10	22	61
Apr	14,589	13,234	0	327	28,151	1,223	2,319	560	3,559	60	7,720	--	0	11	6	1	28	46
May	5,159	16,170	1	222	21,551	1,249	1,915	455	8,189	46	11,854	--	1	16	8	4	38	66
Jun	4,806	16,182	0	183	21,171	1,440	2,133	502	11,842	116	16,032	0	1	16	20	3	8	47
Jul	3,305	14,844	0	149	18,299	1,975	1,931	735	14,425	143	19,208	0	0	14	56	4	22	96
Aug	3,147	7,588	0	339	11,074	2,044	1,587	709	13,607	77	18,024	0	1	36	10	2	28	77
Sep	1,584	17,844	0	255	19,683	1,567	1,139	612	11,921	26	15,265	0	1	38	4	0	32	75

--- = An absence of trade for any given month.

0 = Levels of trade less than 500 lb.

1/ Preliminary. Totals may not add due to rounding.

Source: Bureau of the Census, Department of Commerce.

Appendix table 18--Raw wool equivalent of U.S. imports for consumption of wool-containing textile manufactures, 1989-90 1/

Year and month	Yarn, thread, and fabric					Apparel						House Furnishings					Total		
	Noils and waste	Yarn, thread, cordage, and rope	Broad-woven (inc. pile) fabric	Knit fabric	Narrow, industrial, and misc. fabric	Total	Tops	Bot-toms	Suits and coats	Sweat-ers	Other apparel	Total	Blan-kets	Bed-sheets pillowcases etc.	Table-cloths placemats, napkins, etc.	Bath-room and kitchen toweling		Cur-tains, drapes, etc.	Bed-spreads, quilts, and misc.
1,000 lbs																			
1989:																			
Jan	549	120	1,357	23	112	2,161	2,051	1,040	1,199	1,168	175	5,634	23	--	--	--	--	9	32
Feb	630	144	1,400	3	108	2,284	1,851	959	1,065	1,159	187	5,220	23	0	--	--	--	23	47
Mar	893	155	1,616	35	115	2,813	1,531	920	1,074	912	216	4,653	36	0	--	--	--	20	56
Apr	434	183	1,331	23	116	2,087	1,678	883	1,039	2,049	182	5,831	29	1	--	--	--	16	45
May	515	139	1,318	26	113	2,111	2,482	1,592	1,881	4,365	330	10,650	23	1	--	--	--	13	36
Jun	735	185	1,301	27	128	2,376	3,176	2,373	2,852	5,971	608	14,980	30	1	--	--	--	13	43
Jul	661	205	1,110	31	188	2,195	3,701	3,369	3,651	7,735	941	19,396	42	4	--	--	--	14	59
Aug	548	121	1,028	12	111	1,821	4,130	3,965	4,329	9,102	767	22,294	34	2	--	--	--	14	51
Sep	505	134	759	4	85	1,487	3,278	2,841	3,333	6,851	514	16,816	54	0	--	--	--	12	66
Oct	536	208	897	5	104	1,749	3,405	2,278	2,867	6,041	385	14,976	36	0	--	--	--	12	48
Nov	487	114	730	2	196	1,529	2,411	1,330	1,662	2,210	220	7,833	43	2	--	--	--	47	92
Dec	346	102	889	5	121	1,463	1,869	765	1,098	728	218	4,677	39	1	--	--	--	18	58
Total	6,839	1,810	13,736	196	1,497	24,076	31,563	22,315	26,050	48,291	4,743	132,960	412	12	--	--	--	211	633
1990:																			
Jan	403	301	1,522	10	95	2,331	2,574	1,186	1,101	1,145	144	6,149	19	0	--	--	--	22	42
Feb	375	389	1,268	4	69	2,106	2,019	897	824	801	125	4,667	3	1	--	--	--	17	21
Mar	326	331	1,575	19	98	2,349	1,990	714	868	827	109	4,508	41	0	--	--	--	10	50
Apr	397	422	1,452	20	99	2,390	1,970	915	938	1,171	123	5,117	38	0	--	--	--	18	56
May	267	400	1,445	14	132	2,257	2,766	1,653	1,310	2,298	275	8,302	49	0	--	--	--	18	67
Jun	236	332	1,379	17	182	2,147	3,602	2,242	2,618	3,571	355	12,388	54	0	--	--	--	13	68
Jul	437	238	1,445	20	156	2,295	4,571	3,605	4,075	5,401	531	18,183	52	2	--	--	--	10	63
Aug	311	257	1,114	4	117	1,802	4,724	3,502	4,038	6,515	466	19,246	105	0	--	--	--	25	130
Sep	212	174	904	6	179	1,476	3,595	2,547	3,586	4,943	392	15,062	106	1	--	--	--	14	121

--- = An absence of trade for any given month.

0 = Levels of trade less than 500 lb.

1/ Preliminary. Totals may not add due to rounding.

Source: Bureau of the Census, Department of Commerce.

Appendix table 19--Raw silk equivalent of U.S. imports for consumption of silk-containing textile manufacturers, 1989-90 1/

Year and month	Yarn, thread, and fabric				Apparel						House furnishings					Total		
	Yarn, thread, cordage and rope	Broad-woven (inc. pile) fabric	Knit fabric	Narrow, industrial, and misc. fabric	Total	Tops	Bot-toms	Suits and coats	Sweat-ers	Other apparel	Total	Blan-kets	Bed-sheets, pillowcases, etc.	Table-cloths, placemats, napkins, etc.	Bath-room, and kitchen toweling		Curtains, drapes, etc.	Bed-spreads, quilts, and misc.
1,000 lbs																		
1989:																		
Jan	36	579	--	15	630	1,945	1,277	1,081	1,522	452	6,276	--	--	52	1	2	5	60
Feb	60	558	--	27	645	1,850	1,373	1,032	8,357	664	13,276	0	0	21	3	11	4	39
Mar	34	580	--	11	626	1,485	1,176	968	684	447	4,760	78	0	28	1	9	2	119
Apr	35	546	--	10	591	1,458	977	768	798	397	4,398	0	0	37	2	6	13	58
May	45	530	--	9	584	1,431	833	705	1,812	551	5,332	0	2	64	0	7	8	81
Jun	33	606	--	13	652	1,460	590	722	2,238	953	5,963	0	0	37	--	7	5	49
Jul	42	693	--	14	750	1,332	538	726	2,863	630	6,089	0	0	57	0	2	12	72
Aug	26	735	--	14	775	1,522	616	743	3,167	573	6,621	0	1	45	0	5	5	56
Sep	20	631	--	12	662	1,321	565	712	2,790	477	5,866	0	1	17	0	7	9	34
Oct	23	645	--	15	683	1,611	942	820	3,431	556	7,360	0	0	12	0	3	8	24
Nov	24	668	--	9	702	1,511	925	890	1,913	525	5,764	0	1	12	0	2	7	22
Dec	17	495	--	15	527	1,220	1,011	770	751	491	4,242	0	0	12	0	0	5	18
Total	395	7,266	--	164	7,825	18,146	10,823	9,937	30,326	6,716	75,947	78	5	394	7	61	83	628
1990:																		
Jan	33	557	0	9	598	2,006	1,542	1,106	943	686	6,282	1	0	10	0	0	9	21
Feb	10	395	--	10	415	1,294	1,462	826	576	659	4,816	--	0	28	0	0	2	30
Mar	10	437	0	9	456	1,331	1,265	918	299	452	4,265	--	0	28	0	1	1	31
Apr	13	437	0	10	460	1,443	1,014	603	538	406	4,004	0	0	18	0	0	1	20
May	11	469	--	13	492	1,458	690	599	1,307	477	4,531	0	0	4	0	0	22	26
Jun	7	483	0	10	501	1,353	663	659	1,985	463	5,124	1	0	7	0	0	10	19
Jul	5	574	0	12	592	1,564	708	970	2,530	456	6,227	0	0	9	0	0	8	17
Aug	10	632	0	8	650	1,670	786	977	2,917	415	6,766	0	1	27	1	0	3	32
Sep	3	561	0	14	578	1,522	661	939	2,701	494	6,318	4	0	45	1	0	1	52

-- = An absence of trade for any given month.
0 = Levels of trade less than 500 lb.
1/ Preliminary. Totals may not add due to rounding.

Source: Bureau of the Census, Department of Commerce.

Appendix table 20--Raw manmade fiber equivalent of U.S. imports for consumption of manmade fiber-containing textile manufacturers, 1989-90 1/

Year and month	Yarn, thread, and fabric						Apparel					House furnishings							
	Yarn, thread, cordage, and rope	Broad-woven fabric 100%	Broad-woven fabric blends	Knit fabric	Narrow, industrial, and misc. fabric	Total	Tops	Bot-toms	Suits and coats	Sweat-ers	Other apparel	Total	Blan-kets	Bed-sheets, pillowcase etc.	Table-cloths, placemats, napkins, etc.	Bath-room, and kitchen toweling	Curtains, drapes, etc.	Bed-spreads, quilts, and misc.	Total
1,000 lbs																			
1989:																			
Jan	8,979	8,177	5,723	425	3,335	26,639	41,036	22,509	10,766	4,594	5,665	84,571	689	1,658	1,519	755	801	1,042	6,465
Feb	9,063	8,749	5,055	326	2,651	25,845	34,765	24,044	8,393	4,263	5,472	76,936	477	1,653	1,064	788	707	891	5,581
Mar	10,434	10,595	2,833	359	2,548	29,768	32,204	22,217	7,128	4,026	5,547	71,122	548	1,515	1,109	834	605	1,072	5,683
Apr	9,639	9,164	2,921	516	2,685	27,925	29,657	17,896	8,110	8,402	5,524	69,589	503	1,608	1,296	606	883	987	5,884
May	11,396	10,163	5,674	533	3,147	30,913	39,546	20,756	13,687	16,981	6,815	97,785	747	1,782	1,251	894	881	705	6,260
Jun	12,168	9,949	5,768	650	3,455	31,990	45,157	23,863	16,495	21,547	8,290	115,350	857	2,183	1,391	597	1,127	2,422	8,577
Jul	11,811	9,634	6,120	686	3,796	31,047	50,479	26,143	19,839	23,821	9,640	129,921	1,080	1,858	2,215	757	761	1,658	8,329
Aug	12,529	9,504	7,349	857	3,321	33,560	53,387	27,216	22,680	24,740	10,017	138,039	1,597	2,569	1,877	852	1,220	1,377	9,492
Sep	10,299	7,579	5,173	663	3,960	26,674	44,018	22,785	17,805	18,369	8,122	111,099	1,361	1,784	1,966	669	634	1,733	8,147
Oct	11,059	9,229	7,333	643	3,648	31,911	47,847	24,669	16,056	15,659	8,221	112,452	1,430	2,858	1,851	986	1,260	1,314	9,699
Nov	9,907	8,306	6,333	679	3,155	28,380	38,390	20,541	12,587	5,543	6,339	83,400	1,324	2,391	887	858	1,100	1,481	8,042
Dec	8,145	8,176	5,879	543	2,947	25,689	33,746	19,469	11,247	2,139	6,442	73,042	1,301	1,609	615	856	937	818	6,136
Total	125,429	109,225	72,161	6,880	36,648	350,341	490,230	272,106	164,793	150,083	86,094	1,163,307	11,914	23,468	17,041	9,452	10,916	15,500	88,295
1990:																			
Jan	10,951	9,564	7,753	802	4,236	33,305	46,109	27,527	14,250	2,736	7,407	98,030	704	2,942	821	1,141	557	1,102	7,267
Feb	8,567	8,363	5,767	619	3,804	27,121	38,861	25,877	8,484	3,260	6,526	83,008	547	2,654	1,187	1,028	728	1,981	8,125
Mar	10,345	8,532	6,440	787	4,251	30,354	37,038	22,266	6,926	3,835	6,325	76,390	473	1,742	1,435	886	1,092	2,032	7,660
Apr	9,668	9,726	6,409	1,001	4,085	30,888	33,880	18,269	8,775	4,631	6,138	71,694	598	1,655	1,268	831	794	1,450	6,596
May	11,140	9,793	7,651	1,190	3,957	33,731	40,647	22,224	15,310	7,515	7,541	93,238	716	1,250	1,345	780	873	927	5,891
Jun	10,598	10,061	6,484	1,133	4,161	32,438	46,883	24,830	20,276	11,799	7,353	111,140	907	1,698	1,111	713	701	930	6,059
Jul	10,283	11,429	7,301	1,067	4,011	34,092	56,988	27,883	25,320	14,764	7,244	132,198	1,338	2,580	1,788	688	977	676	8,048
Aug	10,763	10,073	8,181	1,308	3,864	34,190	55,920	24,831	26,088	14,642	7,861	129,342	1,366	2,239	1,948	822	749	984	8,106
Sep	8,783	9,229	6,452	1,233	3,621	29,319	44,489	20,228	19,026	11,558	7,020	102,320	1,314	1,887	1,586	656	851	468	6,762

1/ Preliminary. Totals may not add due to rounding.

Source: Bureau of the Census, Department of Commerce.

Appendix table 21--Raw cotton equivalent of U.S. export of cotton-containing textile manufactures, 1989-90 1/

Year and month	Yarn, thread, and fabric						Apparel						House furnishings						
	Yarn, thread, cordage, and rope	Broad-woven fabric 100%	Broad-woven fabric blends	Knit fabric	Narrow, industrial, and misc. fabric	Total	Tops	Bot-toms	Suits and coats	Sweat-ers	Other apparel	Total	Blan-kets	Bed-sheets, pillowcases etc.	Table-cloths, napkins, etc.	Bath-room, and kitchen toweling	Curtain drapes etc.	Bed-spreads, quilts, and misc.	Total
1,000 lbs																			
1989:																			
Jan	1,187	3,902	4,412	527	2,236	12,263	4,161	5,259	685	120	1,862	12,087	69	449	18	191	12	238	978
Feb	1,305	4,232	4,720	828	2,661	13,747	6,868	7,227	648	76	3,135	17,955	51	707	24	431	43	185	1,440
Mar	1,362	5,003	5,901	1,035	2,421	15,722	7,398	8,003	765	94	2,529	18,788	55	686	30	498	34	130	1,433
Apr	702	4,656	5,767	1,073	2,929	15,129	6,411	6,158	577	131	2,953	16,229	41	625	25	516	78	253	1,539
May	1,100	4,012	5,436	1,053	2,959	14,560	7,460	5,988	772	56	2,840	17,116	37	729	107	711	42	193	1,820
Jun	1,488	4,490	4,552	903	2,946	14,380	8,186	8,006	865	251	2,578	19,886	55	960	35	682	66	149	1,947
Jul	1,044	3,979	4,328	513	3,067	12,931	6,360	6,378	770	133	2,118	15,759	31	683	45	769	55	421	2,004
Aug	1,612	4,567	5,793	596	3,202	15,769	7,447	7,426	855	257	2,435	18,420	31	1,075	49	803	92	194	2,245
Sep	1,288	3,758	5,260	783	2,733	13,822	7,362	7,146	780	178	2,543	18,010	48	793	54	751	58	209	1,913
Oct	1,370	4,541	6,004	637	3,507	16,059	8,569	7,426	998	126	2,555	19,675	47	901	56	864	51	114	2,031
Nov	1,793	3,924	6,146	575	2,786	15,223	7,151	6,632	813	193	2,245	17,033	53	848	41	617	14	112	1,683
Dec	1,499	4,320	5,779	541	3,197	15,337	7,194	6,934	791	295	2,361	17,575	35	585	48	743	39	102	1,552
Total	15,751	51,384	64,098	9,064	34,644	174,941	84,568	82,582	9,320	1,910	30,154	208,534	553	9,042	532	7,575	583	2,301	20,586
1990:																			
Jan	1,476	5,497	8,423	1,133	2,693	19,221	7,049	6,374	793	111	2,665	16,992	60	851	45	982	33	132	2,102
Feb	1,957	4,988	8,052	994	3,134	19,125	7,184	7,990	833	350	2,639	18,996	59	928	19	760	63	92	1,921
Mar	1,828	6,212	9,510	1,440	3,064	22,054	9,067	9,360	1,076	162	2,823	22,488	66	1,097	32	1,435	80	144	2,856
Apr	1,982	5,735	8,181	1,100	2,633	19,631	8,221	8,439	940	246	2,605	20,452	1,238	1,423	44	909	93	141	3,848
May	2,238	6,030	8,269	1,266	3,119	20,922	8,686	8,432	1,017	243	2,891	21,269	1,250	1,274	47	1,334	73	141	4,120
Jun	2,193	5,320	9,437	1,351	3,265	21,567	8,913	9,374	999	388	3,152	22,825	1,151	1,151	87	1,066	54	136	3,339
Jul	1,419	3,408	7,951	1,037	2,850	18,666	8,143	6,844	1,158	193	2,199	18,536	239	828	40	879	58	130	2,172
Aug	1,801	5,553	8,199	1,411	3,106	20,071	8,873	8,086	1,248	149	3,118	21,473	297	867	52	865	40	173	2,294
Sep	1,780	5,053	8,605	1,637	2,763	19,837	8,307	9,234	1,277	172	3,021	22,012	217	812	51	885	79	152	2,196

1/ Preliminary. Totals may not add due to rounding.

Source: Bureau of the Census, Department of Commerce.

Appendix table 22--Raw linen equivalent of U.S. exports of linen-containing textile manufactures, 1989-90 1/

Year and month	Yarn, thread, and fabric					Apparel					House furnishings					Total		
	Yarn, thread, cordage, and rope	Broad-woven (inc. pile) fabric	Knit fabric	Narrow, industrial, and misc. fabric	Total	Tops	Bot-toms	Suits and coats	Sweat-ers	Other apparel	Total	Blan-kets	Bed-sheets, pillowcases etc.	Table-cloths, placemats, napkins, etc.	Bath-room, and kitchen toweling		Curtains, drapes, etc.	Bed-spreads, quilts, and misc.
1,000 lbs																		
1989:																		
Jan	138	287	7	1,874	2,306	161	181	324	21	31	717	2	149	1	3	34	43	232
Feb	163	303	87	389	942	224	121	364	5	98	812	4	92	3	24	17	50	190
Mar	246	480	86	1,075	1,887	399	145	310	5	120	979	4	121	0	3	29	59	216
Apr	178	491	116	523	1,308	247	142	480	10	73	953	3	165	1	22	18	74	283
May	216	500	87	460	1,264	285	230	609	4	130	1,258	2	159	14	6	37	120	339
Jun	173	570	119	461	1,323	265	313	403	13	138	1,132	3	70	1	3	36	44	157
Jul	184	463	67	392	1,106	260	231	326	32	114	964	2	82	--	33	53	37	208
Aug	184	357	58	423	1,023	212	194	497	26	132	1,061	3	44	0	11	46	42	147
Sep	265	396	98	393	1,152	174	178	496	52	77	977	7	63	1	8	46	63	187
Oct	255	501	139	2,065	2,961	278	163	525	12	144	1,123	15	40	0	7	71	47	180
Nov	278	406	112	620	1,417	243	206	573	22	74	1,119	5	93	--	9	47	29	183
Dec	166	504	87	691	1,448	221	163	571	9	60	1,026	8	48	4	16	52	21	149
Total	2,446	5,259	1,065	9,366	18,137	2,972	2,269	5,478	212	1,191	12,122	59	1,127	25	144	487	630	2,471
1990:																		
Jan	224	530	64	1,533	2,351	192	116	749	5	40	1,103	4	32	4	4	173	11	227
Feb	274	586	56	1,512	2,429	220	195	726	2	102	1,247	1	72	0	3	75	27	178
Mar	216	488	98	1,532	2,333	334	258	839	9	64	1,504	8	124	1	10	80	46	269
Apr	286	552	150	1,066	2,054	311	233	634	7	101	1,286	553	74	1	6	82	15	731
May	307	525	116	1,492	2,440	290	286	563	11	55	1,205	597	36	4	16	110	27	790
Jun	948	634	119	1,263	2,963	256	357	701	4	46	1,365	292	54	3	4	125	29	507
Jul	305	486	122	861	1,774	194	206	602	18	27	1,048	81	42	1	2	95	21	241
Aug	238	747	106	872	1,963	325	288	784	12	191	1,601	81	50	28	2	59	45	265
Sep	233	410	96	931	1,670	243	179	690	14	56	1,183	76	47	1	21	63	11	220

--- = Absence of trade for any given month.

0 = Levels of trade less than 500 lbs.

1/ Preliminary. Totals may not add due to rounding.

Source: Bureau of the Census, Department of Commerce.

Appendix table 23--Raw wool equivalent of U.S. exports of wool-containing textile manufacturers, 1989-90 1/

Year and month	Yarn, thread, and fabric					Apparel					House furnishings					Total			
	Noils and waste	Yarn, thread, and cordage, and rope	Broad-woven (inc. pile) fabric	Knit fabric	Narrow, industrial, and misc. fabric	Total	Tops	Bot-toms	Suits and coats	Sweat-ers	Other apparel	Total	Blan-kets	Bed-sheets, pillow-cases, etc.	Table-cloths, placemats, napkins, etc.		Bath-room, and kitchen toweling	Curtains drapes, etc.	Bed-spreads, quilts, and misc
1,000 lbs																			
1989:																			
Jan	97	3	256	122	732	1,209	27	254	341	51	113	786	6	--	--	--	--	33	40
Feb	231	14	361	63	931	1,600	55	353	423	77	115	1,022	18	--	2	--	--	45	65
Mar	389	33	550	34	677	1,683	40	402	544	94	223	1,303	20	--	0	--	--	51	71
Apr	237	132	424	83	768	1,644	39	456	563	164	203	1,424	7	--	--	--	--	43	50
May	224	12	419	71	1,095	1,821	59	769	577	53	196	1,654	16	--	--	--	--	108	125
Jun	130	5	435	139	937	1,646	27	695	595	246	209	1,772	50	--	--	--	--	35	85
Jul	116	6	340	205	896	1,563	35	272	581	66	180	1,134	7	--	--	--	--	31	38
Aug	47	7	300	95	756	1,204	24	336	679	218	199	1,457	4	--	0	--	--	37	41
Sep	153	10	346	81	700	1,291	53	401	820	141	115	1,529	11	--	0	--	--	53	64
Oct	243	9	378	133	1,007	1,770	41	336	667	78	160	1,283	22	--	0	--	--	41	63
Nov	86	15	319	149	773	1,342	25	318	367	122	133	964	9	--	--	--	--	22	32
Dec	144	7	234	158	968	1,512	17	290	341	366	126	1,140	11	--	0	--	--	20	31
Total	2,097	253	4,362	1,334	10,239	18,286	441	4,883	6,499	1,675	1,971	15,468	182	--	3	--	--	519	705
1990:																			
Jan	198	28	469	139	571	1,405	176	256	476	110	145	1,163	9	--	0	--	--	10	20
Feb	86	21	351	27	1,026	1,511	65	273	718	445	186	1,687	6	--	0	--	--	24	30
Mar	193	26	574	26	814	1,633	76	421	743	133	163	1,535	31	--	0	--	--	41	72
Apr	143	18	390	62	967	1,580	107	386	965	245	145	1,848	519	--	1	--	--	14	534
May	125	34	475	29	1,026	1,689	50	835	716	293	182	2,076	564	--	0	--	--	24	588
Jun	199	20	444	17	872	1,552	52	587	880	513	167	2,199	287	--	--	--	--	21	308
Jul	55	19	337	33	807	1,251	39	845	734	184	181	1,982	112	--	1	--	--	19	131
Aug	75	13	368	56	1,133	1,644	52	636	866	126	323	2,003	109	--	--	--	--	41	150
Sep	85	24	383	17	611	1,119	51	839	677	157	267	1,990	85	--	0	--	--	9	95

--- = Absence of trade for any given month.
 0 = Levels of trade less than 500 lb.
 1/ Preliminary. Totals may not add due to rounding.

Source: Bureau of the Census., Department of Commerce.

Appendix table 24--Raw silk equivalent of U.S. exports of silk-containing textile manufactures, 1989-90 1/

Year and month	Yarn, thread, and fabric					Apparel						House furnishings						
	Yarn, thread, cordage, and rope	Broad-woven (inc. pile) fabric	Knit fabric	Narrow, industrial, and misc. fabric	Total	Tops	Bot-toms	Suits and coats	Sweat-ers	Other apparel	Total	Blan-kets	Bed-sheets, pillow-cases, etc.	Table-cloths, placemats, napkins, etc.	Bath-room, and kitchen toweling	Curtains, drapes, etc.	Bed-spreads, quilts, and misc.	Total
1,000 lbs																		
1989:																		
Jan	61	96	10	318	485	184	99	20	25	160	488	--	142	9	2	--	24	176
Feb	53	153	127	313	646	268	49	28	42	272	659	--	85	18	3	--	32	139
Mar	40	270	98	216	624	310	42	26	58	219	655	--	110	9	1	--	37	157
Apr	38	295	149	260	743	237	40	23	107	219	625	--	141	91	9	--	31	272
May	45	247	140	290	722	326	47	33	27	760	1,193	--	146	35	2	--	75	258
Jun	30	414	184	314	942	303	25	21	123	509	981	--	63	10	1	--	25	99
Jul	61	302	142	346	850	269	51	30	43	301	693	--	72	18	5	--	22	118
Aug	96	223	102	235	655	243	32	27	108	472	882	--	41	44	3	--	29	117
Sep	52	189	135	219	595	302	28	32	62	283	707	--	56	28	3	--	39	125
Oct	44	346	187	385	962	297	22	29	34	278	660	--	35	16	1	--	32	85
Nov	47	202	190	168	607	275	28	20	49	259	631	--	81	9	1	--	17	108
Dec	38	252	155	301	745	257	45	13	211	249	775	--	38	3	1	--	15	56
Total	605	2,987	1,618	3,364	8,574	3,271	507	302	887	3,983	8,950	--	1,010	292	31	--	377	1,711
1990:																		
Jan	59	374	128	193	754	221	22	18	70	300	631	--	29	5	1	--	7	43
Feb	92	355	143	173	764	258	29	47	284	226	843	--	56	8	1	--	17	82
Mar	40	293	234	278	845	415	43	42	86	189	775	--	111	15	1	--	29	157
Apr	74	303	235	190	802	392	9	52	159	142	754	--	70	43	0	--	11	124
May	37	361	199	236	833	290	69	37	120	197	714	--	29	34	2	--	17	83
Jun	26	297	202	133	657	288	74	41	331	181	914	--	48	37	2	--	15	102
Jul	74	334	261	270	939	339	34	49	128	155	706	--	38	27	1	--	13	79
Aug	92	370	165	152	778	301	60	54	64	249	729	--	43	44	0	--	36	123
Sep	42	263	167	343	815	290	36	44	70	187	626	--	43	104	2	--	7	156

--- = Absence of trade for any given month.

0 = Levels of trade less than 500 lb.

1/ Preliminary. Totals may not add due to rounding.

Source: Bureau of the Census, U.S. Department of Commerce.

Appendix table 25--Raw manmade fiber equivalent of U.S. exports of manmade fiber-containing textile manufactures, 1989-90 1/

Year and month	Yarn, thread, and fabric					Apparel						House furnishings							
	Yarn, thread, cordage, and rope	Broad-woven fabric 100%	Broad-woven fabric blends	Knit fabric	Narrow, industrial, and misc. fabric	Total	Tops	Bot-toms	Suits and coats	Sweat-ers	Other apparel	Total	Blan-kets	Bed-sheets, pillow-cases, etc.	Table-cloths, placemats, napkins, etc.	Bath-room, and kitchen toweling	Curtains drapes, etc.	Bed-spreads, quilts, and misc.	Total
1,000 lbs																			
1989:																			
Jan	16,180	7,242	2,906	754	4,488	31,569	2,792	1,640	1,240	63	1,865	7,599	70	274	29	45	46	135	598
Feb	15,892	10,683	3,040	1,052	6,804	37,472	4,317	2,594	1,337	72	2,387	10,707	107	515	34	103	80	187	1,026
Mar	16,652	12,801	3,542	946	6,906	40,847	4,802	2,185	1,518	92	2,677	11,274	66	409	30	111	60	135	810
Apr	18,737	10,337	3,461	884	7,395	40,814	4,386	2,565	1,318	174	3,194	11,637	77	423	37	104	92	242	975
May	14,162	9,863	3,552	1,363	7,717	36,657	4,873	1,996	1,342	47	2,544	10,801	55	517	65	112	81	157	988
Jun	14,029	11,057	3,555	1,362	7,666	37,669	5,276	2,926	1,633	240	2,747	12,822	130	556	43	95	136	138	1,097
Jul	15,104	8,853	2,980	964	6,599	34,500	3,903	2,128	1,534	73	2,383	10,021	67	572	61	148	131	394	1,372
Aug	14,488	9,264	3,408	902	6,054	36,116	4,482	2,546	1,858	196	2,647	11,729	81	528	71	138	138	171	1,126
Sep	12,929	10,485	4,019	757	6,289	34,479	4,386	2,901	1,841	101	2,559	11,788	182	546	59	124	85	249	1,245
Oct	15,611	10,571	4,144	1,137	8,851	40,314	4,320	1,975	1,658	83	2,884	10,920	157	573	44	181	167	118	1,240
Nov	15,050	9,470	3,731	633	7,249	36,132	3,782	1,708	1,791	103	2,256	9,641	87	493	25	160	147	138	1,051
Dec	14,272	8,311	3,535	760	7,387	34,265	4,103	1,713	1,477	353	2,086	9,731	130	416	30	116	132	109	934
Total	183,104	118,938	41,873	11,516	85,405	440,835	51,422	26,876	18,545	1,598	30,229	128,671	1,209	5,822	529	1,437	1,294	2,171	12,462
1990:																			
Jan	17,632	11,287	5,231	1,128	9,480	44,758	3,602	1,712	1,309	112	2,539	9,274	89	658	63	129	177	215	1,332
Feb	17,326	10,714	5,197	1,198	9,966	44,400	3,775	1,923	1,517	432	2,605	10,251	45	530	63	127	112	99	977
Mar	19,294	12,890	6,214	1,360	10,185	49,944	5,219	2,521	1,700	136	2,973	12,548	110	700	54	190	143	154	1,351
Apr	18,770	11,054	5,252	1,327	9,182	45,585	4,363	1,940	1,487	272	2,426	10,487	3,099	773	79	117	177	147	4,393
May	22,013	11,782	5,880	1,464	11,824	52,964	5,373	2,008	1,570	215	2,778	11,945	3,343	818	132	183	162	131	4,770
Jun	19,012	11,997	5,499	1,633	11,273	49,414	5,432	2,976	1,727	509	2,913	13,558	1,752	596	78	135	145	110	2,815
Jul	14,124	9,602	4,646	1,370	8,054	37,796	4,727	1,714	1,962	192	2,984	11,579	528	460	47	151	153	143	1,483
Aug	19,483	10,298	5,167	1,572	9,140	45,660	5,304	1,935	1,904	149	3,404	12,696	660	640	60	124	162	189	1,836
Sep	18,727	10,003	5,028	1,444	8,246	43,449	4,679	2,177	2,019	173	3,262	12,310	558	443	61	131	134	192	1,520

1/ Preliminary. Totals may not add due to rounding.

Source: Bureau of the Census, U.S. Department of Commerce.

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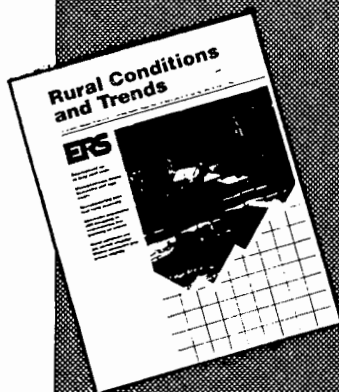
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