

# Industry & Trade Summary

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Cotton

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USITC Publication 3391  
January 2001

OFFICE OF INDUSTRIES  
U.S. International Trade Commission  
Washington, DC 20436



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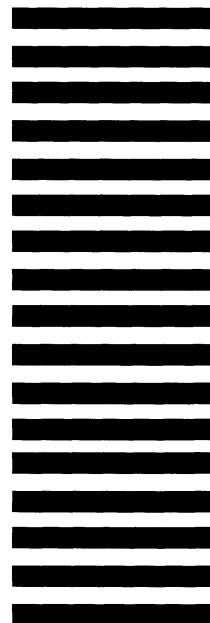
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# PREFACE

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In 1991 the United States International Trade Commission initiated its current *Industry and Trade Summary* series of informational reports on the thousands of products imported into and exported from the United States. Each summary addresses a different commodity/industry area and contains information on product uses, U.S. and foreign producers, and customs treatment. Also included is an analysis of the basic factors affecting trends in consumption, production, and trade of the commodity, as well as those bearing on the competitiveness of U.S. industries in domestic and foreign markets.<sup>1</sup>

This report on cotton covers the period 1995-1999. Listed below are the individual summary reports published to date on the agriculture and forest product sectors.

<i>USITC publication number</i>	<i>Publication date</i>	<i>Title</i>
2459	November 1991 .....	Live Sheep and Meat of Sheep
2462	November 1991 .....	Cigarettes
2477	January 1992 .....	Dairy Produce
2478	January 1992 .....	Oilseeds
2511	March 1992 .....	Live Swine and Fresh, Chilled, or Frozen Pork
2520	June 1992 .....	Poultry
2544	August 1992 .....	Fresh or Frozen Fish
2545	November 1992 .....	Natural Sweeteners
2551	November 1992 .....	Newsprint
2612	March 1993 .....	Wood Pulp and Waste Paper
2615	March 1993 .....	Citrus Fruit
2625	April 1993 .....	Live Cattle and Fresh, Chilled, or Frozen Beef and Veal
2631	May 1993 .....	Animal and Vegetable Fats and Oils
2635	June 1993 .....	Cocoa, Chocolate, and Confectionery
2636	May 1993 .....	Olives
2639	June 1993 .....	Wine and Certain Fermented Beverages
2693	October 1993 .....	Printing and Writing Paper
2702	November 1993 .....	Fur Goods
2726	January 1994 .....	Furskins
2737	March 1994 .....	Cut Flowers
2749	March 1994 .....	Paper Boxes and Bags
2762	April 1994 .....	Coffee and Tea
2859	May 1995 .....	Seeds

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<sup>1</sup> The information and analysis provided in this report are for the purposes of this report only. Nothing in this report should be construed to indicate how the Commission would find in an investigation conducted under statutory authority covering the same or similar subject matter.

# PREFACE—*Continued*

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<i>USITC publication number</i>	<i>Publication date</i>	<i>Title</i>
2865	April 1995 .....	Malt Beverages
2875	May 1995 .....	Certain Fresh Deciduous Fruits
2898	June 1995 .....	Certain Miscellaneous Vegetable Substances and Products
2917	October 1995 .....	Lumber, Flooring, and Siding
2918	August 1995 .....	Printed Matter
2928	November 1995 .....	Processed Vegetables
3015	February 1997 .....	Hides, Skins, and Leather
3020	March 1997 .....	Nonalcoholic Beverages
3022	April 1997 .....	Industrial Papers and Paperboards
3080	January 1998 .....	Dairy Products
3083	January 1998 .....	Canned Fish, Except Shellfish
3095	March 1998 .....	Milled Grains, Malts, and Starches
3096	April 1998 .....	Millwork
3145	December 1998 .....	Wool and Related Animal Hair
3148	December 1998 .....	Poultry
3171	March 1999 .....	Dried Fruits Other Than Tropical
3268	December 1999 .....	Eggs
3275	January 2000 .....	Animal Feeds
3350	September 2000 .....	Grain (Cereals)
3352	September 2000 .....	Edible Nuts
3355	September 2000 .....	Newsprint
3373	November 2000 .....	Distilled Spirits

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# ABBREVIATIONS and ACRONYMS

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AD	Antidumping
AMS	Agricultural Marketing Service of the U.S. Department of Agriculture
APHIS	Animal and Plant Health Inspection Service of the U.S. Department of Agriculture
ARS	Agricultural Research Service of the U.S. Department of Agriculture
AVE	Ad valorem equivalent
AWP	Adjusted World Price
BLS	Bureau of Labor Statistics of the U.S. Department of Labor
Bt	Bacillus thuringiensis
CAP	Common Agricultural Policy of the EU
CCC	Commodity Credit Corporation of the U.S. Department of Agriculture
CIF	Cost, Insurance, and Freight
COPS	Cotton On-line Processing System of the CCC
ELS	Extra-Long Staple
ERS	Economic Research Service of the U.S. Department of Agriculture
EU	European Union
FAIR	Federal Agriculture Improvement and Reform Act of 1996
FAS	Foreign Agricultural Service of the U.S. Department of Agriculture
FOB	Freight On Board
FSA	Farm Service Agency of the U.S. Department of Agriculture
FY	Fiscal Year
FZA	Franc-Zone Africa
GM	Genetically Modified
GMO	Genetically Modified Organism
GSM-102	Export Credit Guarantee Program
GSM-103	Intermediate Export Credit Guarantee Program
HTS	Harmonized Tariff Schedule of the United States
HVI	High Volume Instrument
ICAC	International Cotton Advisory Council
LCA	Liverpool Cotton Association
LDP	Loan Deficiency Payment
MLA	Marketing Loss Assistance
MT	Metric Tons
MY	Marketing Year
NAFTA	North American Free Trade Agreement
NAICS	North American Industry Classification System
NASS	National Agricultural Statistics Service of the U.S. Department of Agriculture
NTB	Non-Tariff Barrier
NYCE	New York Commodity Exchange
PBI	Permanent Bale Identification
PFC	Production Flexibility Contract
SCGP	Supplier Credit Guarantee Program
SIC	Standard Industrial Classification
SLM	Strict Low Middling
SSA	Sub-Saharan Africa
TRQ	Tariff-Rate Quota
UD	Universal Density

# ABBREVIATIONS and ACRONYMS—

## *Continued*

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UEMOA	West African Economic Monetary Union
URA	GATT Uruguay Round Agreement
USDA	U.S. Department of Agriculture
WTO	World Trade Organization

# Glossary

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**Adjusted world price (AWP)** – price level calculated by USDA on a weekly basis, in which the Cotlook-A Index is adjusted for the average U.S. location, and the basis grade of strict low middling (SLM) is adjusted to a staple length of 1-1/16 in. The AWP is used to determine the rate at which marketing assistance loans must be repaid.

**American Pima** – U.S. styles of ELS cotton (*Gossypium barbadense*). See Extra-long staple (ELS) cotton.

**Bale** – container unit of cotton fiber compressed to 28 lbs. per cubic foot (universal density) and weighing approximately 498-500 lbs., including packaging materials. Each bale contains approximately 480 lbs. of cotton.

**Boll weevil** (*Anthonomus grandis*) – a beetle that infests cotton plants and feeds on the internal tissues of the buds and bolls. Four or five generations of boll weevils can grow in one season.

**Bollworm** – any larva of various moths (order *Lepidoptera*), including the pink bollworm. Like boll weevils, they burrow into the bolls of cotton plants.

**Cotlook A-Index** – a cotton price index compiled by Cotton Outlook, a private consultancy based in the United Kingdom. The index is intended to represent the price level on the international raw cotton market. It is an average of the cheapest five quotations from a selection (at present numbering fifteen) of the principal upland cottons traded internationally. Basis grade of the A-Index is Middling with a staple length of 1-3/32 in. The geographical basis is North European ports, and the terms quoted are Cost, Insurance and Freight (CIF).

**Cotton Council International** – see National Cotton Council.

**Cotton, Inc.** – see National Cotton Council.

**Cotton No. 2 contract** – standard contract for trading in cotton options and futures on the New York Commodity Exchange. The trading unit is approximately 100 bales (50,000 pounds net weight), the active trading months are March, May, July, October, and December, and contracts are listed in cents per pound. Basis Grade is Strict Low Middling with a staple length of 1-1/16 in. Delivery points are Galveston TX; Houston, TX; New Orleans, LA; Memphis, TN; and Greenville/Spartanburg, S.C.

**Extra-long staple (ELS) cotton** – normally *Gossypium barbadense* or crosses between *G. barbadense* and *Gossypium hirsutum* (see upland cotton), although other ELS varieties such as Sea Island cotton (*Gossypium vitifolium*) are grown around the world. Under U.S. law, only *G. barbadense* receives government benefits under domestic programs for ELS cotton. The fiber length for ELS cotton is usually 1-3/8 in. or more. ELS cotton can be spun into finer, stronger yarns than cottons with shorter staple lengths.

**Gene stacking** – combining traits (e.g., herbicide tolerance and insect resistance) in a single variety of seed.

# Glossary—*Continued*

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**Herbicide-tolerant cotton** – a variety developed to survive certain herbicides which destroy targeted weeds. The most common herbicide-resistant cotton are Round Ready (RR) crops, which are resistant to glyphosate, a herbicide which destroys several species of grass, broadleaf weeds, and sedges.

**Length uniformity** – the degree to which cotton fibers in a bale sample are of a uniform length, measured as the ratio of mean length to the upper half mean length, expressed as a percentage. Cotton with low length uniformity increases breakage during yarn spinning and reduces a yarn's strength and uniformity.

**Fiber strength** – the force necessary to break a bundle of fibers 1 tex in size. Defined in grams per tex. Fiber strength is important for cotton to withstand ginning and yarn production and is a predictor of a yarn's strength.

**Ginning** – extracting seeds and trash from cotton lint.

**Genetically-modified (GM) seeds** – see transgenic seeds.

**Long staple cotton** – cotton fiber with a staple length 1-1/8 in. or more, but under 1-3/8 in.

**Marketing loan gain** – the amount of principal waived when a farmer repays a loan at an alternative loan payment rate that is less than the applicable loan rate.

**Micronaire** – the size of an individual cotton fiber taken in cross section. It is an airflow measurement unit that indicates fiber fineness and maturity.

**National Cotton Council** – an umbrella organization for the U.S. cotton industry, consisting of growers, ginners, warehousemen, cottonseed crushers, merchants, cooperatives, and textile manufacturers. Subsidiaries include Cotton, Inc., a research and domestic marketing organization, and Cotton Council International, an international marketing arm.

**Nonrecourse loans** – marketing assistance loans which can be repaid in full by defaulting and turning over collateral cotton to the USDA's Commodity Credit Corporation (CCC). The loans are nonrecourse because farmers are not liable for any losses incurred by the CCC when selling the cotton.

**Pheromones** – hormonal substances secreted by insects which stimulate a physiological or behavioral response from other insects of the same species.

**Pickers** – mechanical cotton harvesters that use 5-inch long, screw-like shafts with spines on them to free lint (cotton fiber) from the rest of the cotton boll.

**Short staple cotton** – cotton fiber with a staple length under 1-1/8 in.

**Staple length** – the length of a cotton fiber, measured on a bale as the average length of the longest half of a bale's fibers (upper half mean length). Longer staple lengths are preferred by textile mills to lessen yarn breakage.

# Glossary—*Continued*

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**Strippers** – mechanical cotton harvesters that pull the entire cotton boll off of the plant. Used primarily in Texas.

**Tariff-rate quota (TRQ)** – a quota designed to allow a defined quantity of imports into the United States at a low rate of duty, while imports over that defined quantity are entered at a higher rate of duty.

**Tex (grams per kilometer)** – a decimal count system for describing the linear density (mass per unit length) of fibers, filaments, and yarns. The lower the number, the finer the thread.

**Tobacco budworms (*Heliothis virescens*)** – the larvae of budworm moths that eat the buds, stems, and leaves of cotton plants.

**Transgenic seeds** – seed varieties which result from the insertion of genetic material from another organism so that the resulting plant will exhibit desired traits.

**Upland cotton (*Gossypium hirsutum L.*)** – the fiber length for upland cotton is usually 22-32 mm (approx. 7/8 - 1-1/4 in.).

**Yarn** – intermediate textile product created by carding cotton fibers into strands (“slivers”) and then drawing, roving and spinning those strands into thicker cords suitable for making weaving and knitting fabrics.





# ABSTRACT

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This report addresses trade and industry conditions for raw cotton for the period 1995-99.

- The United States is an important producer of cotton, supplying approximately 20 percent of world output. Production totaled 3.7 million metric tons in marketing year (MY) 1999, of which 147,000 metric tons was ELS cotton. Other major producers include China, India, Pakistan, the Republic of Uzbekistan, Franc-Zone Africa, and Turkey.
- U.S. cotton farming and ginning is becoming increasingly concentrated, while at the same time, total harvested acreage is increasing. In 1969, nearly 200,000 cotton farms harvested 11.5 million acres (4.7 million hectares); by 1997, only 31,456 farms were harvesting 13.2 million acres (5.3 million hectares). Over the last twenty years, the number of domestic cotton gins declined nearly 52 percent, from 2,251 to 1,084. Per acre yields inched upward and costs declined during 1995-99 through the use of transgenic seeds, insect eradication programs, and land management techniques.
- Domestic cotton farmers are supported by a patchwork of government programs designed to stabilize income during severe price volatility, provide timely cash flow, and maintain competitiveness in U.S. and foreign markets. Some of the programs include marketing loss assistance payments, marketing assistance loans, loan deficiency payments, and a three-step competitiveness program.
- The United States remains by far the largest exporter of raw cotton, accounting for 18-27 percent of annual world exports during MY 1995-99. In 1999, the United States held an \$832 million trade surplus with its trading partners, down from \$2.5 billion in 1998. Major export markets include textile-producing countries in East Asia, such as Indonesia, Japan, Korea, and Taiwan, as well as Canada, Mexico, and Turkey. U.S. imports of cotton in 1999 totaled \$136 million, and major suppliers included Greece, China, Syria, Egypt, and Argentina. Imports fluctuated substantially during 1995-99, varying from a high of \$283 million in 1996 to a low of \$3 million in 1997. Import suppliers also shifted considerably over the five-year period.
- The U.S. consumers of raw cotton are textile mills that process the fibers into yarns and threads. These intermediate products are then consumed downstream producing hundreds of items, including 1) wearing apparel; 2) home furnishings, such as draperies, upholstery fabrics; towels, wash cloths, sheets, pillowcases; and rugs; and 3) industrial use products, such as medical supplies and industrial thread. Consumer demand for cotton is closely linked to fashion trends, home sales, and competitive pricing vis-a-vis man-made fibers.



# INTRODUCTION

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This summary covers raw, unprocessed cotton classified for tariff purposes in chapter 52, heading 5201 of the Harmonized Tariff Schedule of the United States (HTS), which provides for cotton, not carded or combed, of any staple length. Information is presented in this report on the structure and development of U.S. cotton farming and ginning, government programs supporting cotton production and exportation (including marketing loans and step 2 funding), comparative production costs and yields among major cotton-producing countries, biotechnological developments, U.S. and foreign tariff and nontariff measures, and the competitive conditions of the U.S. cotton industry in world markets. The analysis primarily covers the period 1995-99. Much of the data presented in this report are in terms of marketing years (MY), which run from August 1 through July 31 (e.g., MY 1999 begins on Aug. 1, 1999). An explanation of tariff and trade agreement terms can be found in appendix A; statistical tables are in appendix B.

The United States is the second-largest producer and the largest exporter of cotton in the world. U.S. production currently accounts for roughly 20 percent of world supply. In MY 1999, U.S. cotton production totaled approximately 3.7 million metric tons (17.0 million bales).<sup>1, 2, 3</sup>

U.S. imports of cotton in 1999<sup>4</sup> were valued at \$136 million, most of which were entered duty-free outside of U.S. tariff rate quotas (TRQs) established pursuant to concessions given in the GATT Uruguay Round of multilateral tariff negotiations. These additional imports, known as “special import (Step 3) quotas,” accounted for 83.5 percent of total U.S. imports in 1999. Imports are normally less than 5 percent of domestic consumption. U.S. exports of cotton totaled \$968 million in 1999 and the U.S. trade surplus in cotton (exports minus imports) totaled \$832 million.

Cotton is converted primarily into yarns and threads for use in the production of fabrics and downstream products in the textile and apparel sectors (figure 1 and table B-1). The primary end uses for cotton include 1) wearing apparel; 2) home furnishings, such as draperies; upholstery fabrics; towels, wash cloths, sheets, pillowcases; and rugs; and 3) industrial uses, such as medical supplies and industrial thread.<sup>5</sup>

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<sup>1</sup> Converted into 480-lb. bales, which is the standard U.S. statistical measurement.

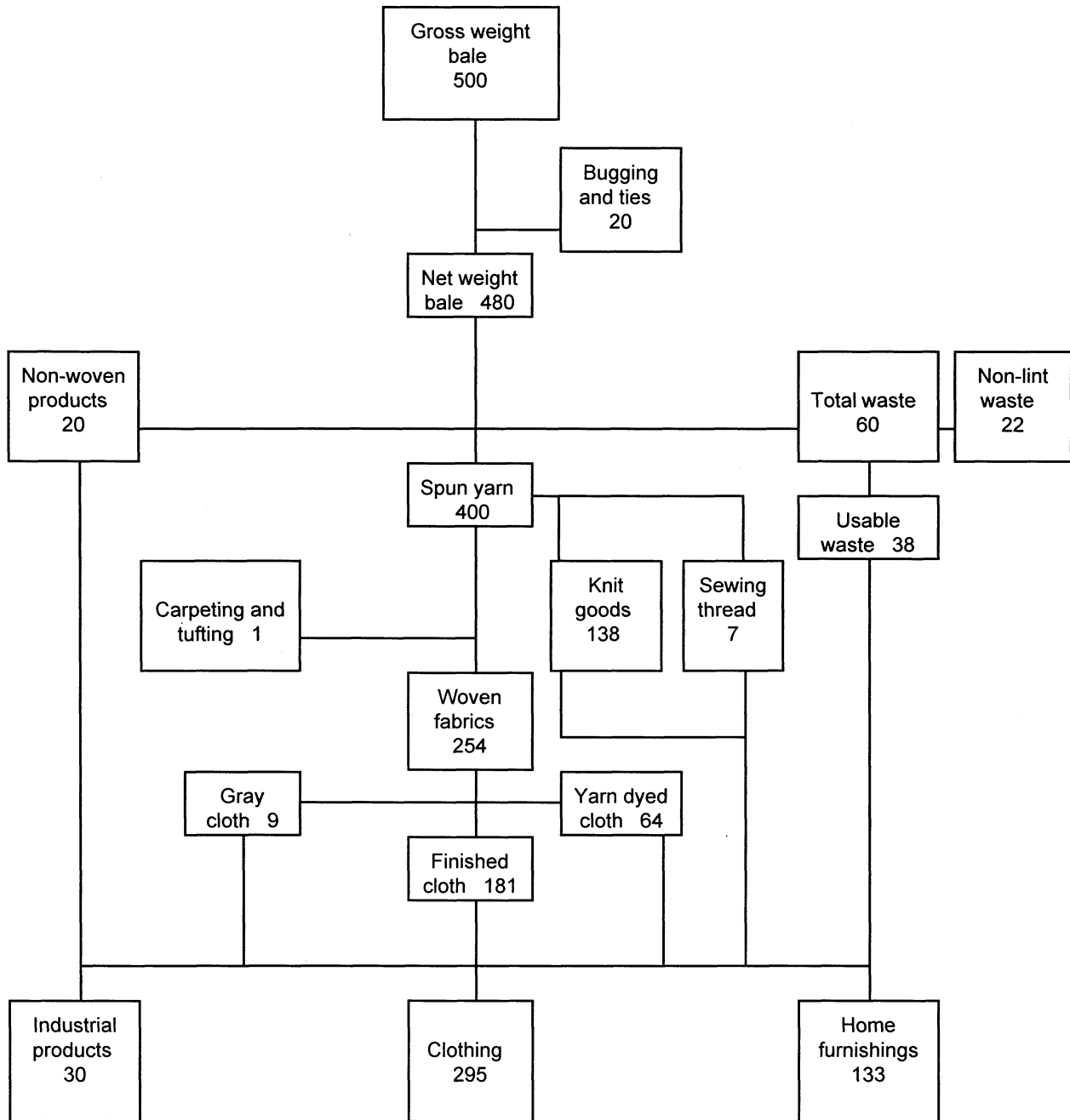
<sup>2</sup> *World Agricultural Production*, FAS, USDA, July 2000, table 2.

<sup>3</sup> Monthly upland cotton prices (based on the Cotlook A-Index) fluctuated from a high of over 110 cents per pound in 1995 to a low of 44 cents per pound in 1999. At current prices hovering around 60 cents per pound, MY 1999 production can be valued at roughly \$4.9 billion.

<sup>4</sup> Unless explicitly stated as a marketing year, all years refer to a calendar year (Jan.-Dec.).

<sup>5</sup> Robyn Clark and Deborah Vivian, *Cotton Counts Its Customers*, (Memphis, TN: National Cotton Council of America, 2000), pp. 1-5.

**Figure 1**  
**U.S. cotton industry: Distribution of an average bale of U.S. cotton**  
**(in lbs.)**



Source: *The Cotton Industry in the United States*, ERS, USDA, 1996, p. 25.

# OVERVIEW OF COTTON

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Cotton has a long history, dating back at least 5,000 years in North Africa and the Indian subcontinent. Cotton textiles and apparel entered the modern era in the early 1700s, when they were first spun by machine (rather than by hand looms) in England. The profitability of cotton and its potential for clothing the masses was greatly enhanced by Eli Whitney's cotton gin, patented in 1793. Whitney's invention enabled one machine to clean ("gin") as much cotton in one day as 50 people could do by hand.<sup>6</sup>

Most of the cotton grown in the United States is of two varieties, upland cotton (*Gossypium hirsutum*) and extra-long staple (ELS) cotton (*Gossypium barbadense*), which is also referred to as American Pima cotton.<sup>7</sup>

## Planting and Harvesting

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The growing season for cotton lasts 6 to 8 months, depending on the seed variety and regional weather patterns. In the Rio Grande region of Texas, cotton is planted in late February and harvested between late July and mid-September. In most other cotton-growing areas, planting occurs between April and early June, and harvesting runs from late September until December.<sup>8</sup>

According to modern production techniques, cotton is now grown as an annual crop, rather than re-used for several years as a perennial plant. Rapid advances in seed cultivation allow better yields and greater resistance to insects, weeds, and disease. The production and harvesting cycle is as follows<sup>9</sup>:

1. residue disposal;
2. preplant tillage;
3. seedbed preparation, including (a) fertilization and (b) application of a soil-incorporated herbicide;
4. planting, including the application of fungicides, systemic herbicides, and pre-emergence herbicides;
5. post-emergence weed control (both chemical and mechanical);
6. insect control;
7. harvesting and hauling.

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<sup>6</sup> "History of Cotton," found at <http://www.kings.k12.ca.us/central/cuesd.a/tq/ag/history.html>.

<sup>7</sup> Depending on the source, American Pima cotton was either named after Pima County, AZ, where it was cultivated, or after the Pima Indians, a Native American tribe indigenous to the southwestern United States.

<sup>8</sup> Cotton Council International, found at <http://www.cottonusa.org>.

<sup>9</sup> Julian Roche, *The International Cotton Trade* (Cambridge, England: Woodhead Publishing, 1994), p. 24.

Seeding is done with mechanical planters that cover anywhere from 6-12 rows at once. Seeds are deposited in the soil at uniform intervals as packets of several seeds together (“hill-dropped”) or singularly dropped (“drilled”) into the soil.

Flower buds (“squares”) appear on the plants approximately 60 days after planting. Three weeks after buds form, blossoms open, and the petals change from white to yellow, and then to pink, and finally to dark red. After blooming for 3 days, the petals fall off entirely, leaving behind green pods on the plants called bolls. Over the next 8 to 10 weeks, cotton fibers grow inside these bolls until they ripen and split apart, leaving cotton lint exposed to the elements and surrounding the seeds. To cut down on the amount of non-cotton debris (“trash”) collected during harvesting, cotton plants are then defoliated with chemicals after 60 percent or more of the bolls split open. The cotton is harvested using mechanical pickers or strippers.<sup>10, 11</sup>

## Ginning

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After harvesting, cotton is either immediately transferred to a gin for cleaning (“ginning”) or stored on the edge of the field in big mounds (“modules”) which protect the cotton until ginning can take place. Modules help provide an efficient flow of cotton to the gins and allow farmers to extend the ginning season during years with large crops. In the past, cotton was ginned immediately after harvesting because it risked becoming damaged in the field by excessive sunlight or moisture. Presently, more than 85 percent of the U.S. cotton harvest is initially stored in field modules.<sup>12</sup>

At the gin, the cotton is first fed through dryers that reduce moisture and then into machines that mechanically remove trash such as burs, dirt, stems, and leaves from the fibers. It is then taken to gin stands, where lint is separated from the cottonseed by revolving circular saws through a process known as the saw-ginning method.<sup>13</sup> Cottonseed is either used to grow next year’s crop or sold to produce food oils, animal feed, and fertilizers.<sup>14</sup> After

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<sup>10</sup> Strippers pull the entire cotton boll off of the plant, while pickers use 5-inch long, screw-like shafts with spines on them to free the lint from the rest of the boll. See Keith Edmisten, “Chapter 2: The Cotton Plant,” *2000 North Carolina Cotton Production Guide*, found at [http://ipmwww.ncsu.edu/Production\\_Guides/Cotton/chptr2.html](http://ipmwww.ncsu.edu/Production_Guides/Cotton/chptr2.html). and “How Cotton is Grown,” found at <http://www.kings.k12.ca.us/central/cuesd.a/tq/ag/history.html>.

<sup>11</sup> In developed countries such as Australia, Israel, and the United States, nearly all cotton is picked by mechanical harvesters. But globally, only about 30 percent of production is harvested by machines. Hand picking is slower but better preserves the fiber characteristics because the cotton can be picked at more frequent intervals, and weather effects on the fibers are minimized. See M. Rafiq Chaudhry, “Harvesting and Ginning of Cotton in the World,” *International Cotton Advisory Committee*, Jan. 10, 1997, p. 1.

<sup>12</sup> William Mayfield, “Cotton Ginning Industry Trends in the United States,” pp. 1-2, found at <http://www.cotlook.com>, retrieved Aug. 21, 2000.

<sup>13</sup> While the saw-ginning method is used for nearly all upland cotton, ELS cotton is processed on roller-gins which remove longer, finer staple fibers from seeds using opposing rollers. See Keith J. Collins, editor, et al., *The Cotton Industry in the United States*, ERS, USDA, July 1996, p. 39.

<sup>14</sup> Cottonseed constitutes about 55 percent of the total cotton/cottonseed crop, by weight. Most is crushed for use in oils or animal feed. Even after the initial ginning, cottonseed is transported to  
(continued...)

several more cleaning steps to remove any remaining trash (e.g., small leaf particles and grass), the cotton lint is compressed into bales weighing approximately 500 pounds.<sup>15</sup> Modern gins can produce up to 60 bales of cotton in an hour.<sup>16</sup> Ginning costs were roughly 10 percent of the average total per acre costs of producing U.S. cotton in 1997 and 1998, the last two years for which data are available.<sup>17</sup>

<b>Cotton Ginning Costs, per acre, 1995-99</b>					
<b>Title</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
Cotton ginning costs (dollars) . . . . .	53.13	50.84	51.27	45.57	( <sup>1</sup> )

<sup>1</sup> Not yet available from ERS, USDA.

Sources: "U.S. cotton production costs and returns, 1997-98," and "U.S. cotton production costs and returns, 1975-97," ERS, USDA, found at <http://www.cotton.org>, retrieved Aug. 24, 2000.

## Classing

After baling the ginned cotton fiber, samples ("beards") are taken from each bale and classed for quality according to staple length, length uniformity, fiber strength, color, trash content, and micronaire<sup>18</sup> (fineness). As with all agricultural products, cotton quality is determined by seed variety, weather patterns during the growing season, soil content, and farming techniques. However, research studies indicate that seed variety is playing a more dominant role than ever in determining the quality of cotton fiber produced each year.<sup>19</sup> USDA's Agricultural Marketing Service (AMS) classifies nearly all baled cotton in the United States, both for obtaining government marketing loans and as certification for futures

<sup>14</sup> (...continued)

crushing mills, where delinting machines remove additional short fibers known as linters. Cotton linters are used in products ranging from mattresses to photographic film to chemicals such as nitrocellulose. See *Cotton: From Field to Fabric*, publication from the National Cotton Council of America, p. 12, and "How Cotton is Ginned and Marketed," found at <http://www.kings.k12.ca.us/central/cuesd.a/tq/ag/howginned.html>.

<sup>15</sup> Bales weigh approximately 498-500 lbs. with packaging materials included and have about 480 lbs. of cotton lint. Nearly all bales (99 percent) are compressed to a "universal density (UD)" of 28 pounds per cubic foot. See William Mayfield, "Cotton Ginning Industry Trends in the United States," pp. 1-2, found at <http://www.cotlook.com>, retrieved Aug. 21, 2000, and Keith J. Collins, editor, et al., *The Cotton Industry in the United States*, ERS, USDA, July 1996, p. 39.

<sup>16</sup> *Cotton: From Field to Fabric*, publication from the National Cotton Council of America, p. 10.

<sup>17</sup> "U.S. cotton production costs and returns, 1997-98," ERS, USDA, found at <http://www.cotton.org>, retrieved Aug. 21, 2000.

<sup>18</sup> Micronaire is the size of an individual cotton fiber taken in cross section.

<sup>19</sup> Research done by geneticists at USDA's Cotton Physiology and Genetics Laboratory in Stoneville, MS is isolating genetic and climate/farming impacts on cotton fiber quality. Preliminary results indicate that seed genetics often overpowers weather patterns and farming techniques in determining the quality of cotton produced. Speech by Dr. William Meredith, ARS, USDA, Sept. 27, 2000.

contracts on the New York Cotton Exchange (NYCE).<sup>20</sup> Automated High Volume Instrument (HVI) testing has replaced sight and touch methods for computing quality ratings.<sup>21, 22</sup>

Staple length is a measurement of the average length of the longest half of a bale's fibers (upper-half mean length). It is calculated by passing a beard of parallel fibers through a sensing point.<sup>23</sup> Thirty-one official staple lengths exist for U.S. cotton, ranging from less than 13/16 inch to 1-3/4 inches.<sup>24</sup> Most cotton has lengths of between 1 and 1-1/4 inches.<sup>25</sup> In futures and options contracts, the standard staple length for upland cotton is 1-1/16 inches.<sup>26</sup> Longer staple length is preferred by textile mills, as length improves spinning efficiency during yarn production, as well as yarn strength and fineness. Consequently, cotton with longer staple fiber receives a price premium.

Length uniformity is the degree to which the fibers in a beard are uniform, based on the ratio of mean length to upper half mean length, expressed as a percentage. Cotton with low length uniformity (i.e., below 80 percent) may experience excessive fiber breakage during the yarn spinning process and not produce strong or uniform yarns. Fiber strength is measured in grams per tex and is reported as the force in grams necessary to break a bundle of fibers 1 tex in size.<sup>27</sup> A cotton fiber's strength is important for withstanding ginning, as well as carding, drawing, roving, and spinning into yarn. Of course, fiber strength is also a strong predictor of the ultimate strength of the yarns.<sup>28</sup>

Trash content measurements describe the amount of leaf, bark or other extraneous matter in the bale. Because trash must be removed before cotton can be spun into yarn, an increased level of trash content in the cotton leads to higher cleaning costs for its removal. Micronaire testing is an airflow measurement that indicates fiber fineness and maturity of

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<sup>20</sup> USDA classing costs roughly \$1.50 per bale.

<sup>21</sup> Keith J. Collins, editor, et al., *The Cotton Industry in the United States*, ERS, USDA, July 1996, p. 144.

<sup>22</sup> AMS implemented a new automation classing system in the Memphis, TN classing office in August 2000. The system is based on the HVI method of classification, will be fully automated (no human operators are required), and cotton samples will receive quality measurements for length, strength, micronaire, length uniformity, color, and trash. See "USDA Cotton Classing Undergoing Changes," *The Cotton Gin and Oil Mill Press*, July 29, 2000, p. 19. For detailed information on HVI cotton fiber measurements, see <http://151.121.3.151/cotton/hviresults.htm>.

<sup>23</sup> Keith J. Collins, editor, et al., *The Cotton Industry in the United States*, ERS, USDA, July 1996, p. 52.

<sup>24</sup> Staple standards are set by the Official Cotton Standards of the United States for American upland cotton, also referred to as the Universal Standards. The Universal Standards are periodically reviewed and approved by major foreign cotton-consuming countries. See *The Cotton Industry in the United States*, pp. 144-145.

<sup>25</sup> "United States: Distribution of color, leaf, and staple for upland cotton classed, 1997 crop," Farm Service Agency, USDA. Data obtained from Wayne Bjorlie, Director, Fibers Group, FSA, USDA on June 1, 2000.

<sup>26</sup> *Agricultural Futures and Options*, New York Board of Trade, p. 9.

<sup>27</sup> A tex is a system of yarn numbering that measures the weight in grams per 1,000 meters of yarn. For example, a 30-tex yarn weighs 30 grams per 1,000 meters. The lower the tex, the finer the thread.

<sup>28</sup> Keith J. Collins, editor, et al., *The Cotton Industry in the United States*, ERS, USDA, July 1996, p. 52.



the cotton. Low micronaire readings show that the cotton is finer, which gives the cotton a better feel and can garner a premium price.<sup>29</sup> However, finer cotton fibers must be treated carefully during ginning and yarn production to avoid fiber damage.

The color of cotton is determined by measuring reflectance and yellowness. Reflectance measures how dark a sample beard is, while yellowness indicates how much yellow color is found. A poor color rating increases the likelihood of reduced fiber strength and also affects the ability of fibers to absorb and hold dyes and finishes.

A recent development related to USDA cotton classing and tracking U.S.-grown bales is known as permanent bale identification (PBI). PBI is a computerized system which attaches a permanent bar code to each bale after ginning, allowing textile mills to monitor when and how the bale was classified by USDA and trace it back to the producer if the fibers are substandard. By removing uncertainty about bale quality, PBI lowers the cost of classing cotton. In the past, brokers, cooperatives, and downstream users would re-class cotton bales in order to ensure that USDA classing tags were accurate. The reason is that under the old USDA classing system, tags would fall off, bale classification lists were not computerized, and classing was more prone to human error. Most bales are now only classified by USDA. Only in cases of “off-spec” fiber (e.g., very yellow coloring or heavy trash content) do merchants, cooperatives, or mills re-classify bales for verification.<sup>30</sup>

## Storage and handling

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Cotton storage has become more vertically integrated since the early 1970s. As cotton gins consolidated into bigger operations, the need for reliable warehousing facilities intensified. Gins began purchasing independent warehouses and either closing facilities down and constructing larger ones or expanding the buildings to suit their needs. On the other side of the distribution chain, textile mills (e.g., Parkdale Mills, based in North Carolina) purchased warehouses in order to use just-in-time (JIT) inventory practices. Vertical integration displaced many of the family-owned businesses that formed the backbone of the cotton warehousing sector. During the 1970s, as cotton acreage declined in the Southeast and the Mississippi Delta, the remaining independent cotton warehouses diversified into other products, such as lumber, retail supplies, and groceries, to compensate for lost cotton revenue. After the eradication of the boll weevil, and as irrigation became more common, cotton acreage rose again in these traditional cotton-growing regions, but some of the warehouses were now unwilling to trade exclusively in one product line. This unwillingness to specialize in cotton only encouraged integration, as additional pressure mounted on gins and textile mills to find reliable warehousing capacity.<sup>31</sup> The following tabulation lists the number of cotton warehouses in 1997, by State.

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<sup>29</sup> Cotton with a micronaire reading of 3.7-4.2 is given a marketing loan premium for some grades. The base range is 3.5-4.9, and the discount range is 5.0 or more, or below 3.4. See app. C.

<sup>30</sup> Interview with Patricia Hodges, Vice President - Traffic, Staplcofn, Sept. 27, 2000.

<sup>31</sup> Phone conversation with Don Wallace, Cotton Warehouse Association of America, Aug. 24, 2000.

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**Cotton Warehouses in the United States, by State, 1997**

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AL	AR	AZ	CA	GA	LA	MO	MS	NC	NM	OK	SC	TN	TX	Others	U. S. total
32	33	4	13	57	19	10	29	25	6	3	19	19	64	3	336

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Source: National Cotton Council.

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## Upland Cotton

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Upland cotton accounts for roughly 96 percent of all cotton produced in the United States and is currently produced in seventeen States. The States include four geographic regions: Southeast (Alabama, Florida, Georgia, North Carolina, South Carolina, and Virginia), Delta (Arkansas, Louisiana, Mississippi, Missouri, and Tennessee), Southwest (Kansas, Oklahoma, and Texas), and West (Arizona, California, and New Mexico).<sup>32</sup>

Upland cotton can be divided into three broad classes, or segments, which are generally used for different end uses. The first is roughly six million acres of “picker cottons,” grown in most cotton regions of the United States and used in a wide range of textiles. The second segment is five million acres of “stripper cotton” grown around Lubbock, Texas. Stripper cotton is storm-resistant because of short plants, but it also tends to have shorter, coarser fibers than picker varieties. The fibers make stripper cotton suitable for heavy fabrics that do not require dyeing or printing. The third segment is Acala cotton grown on more than a million acres in Arizona and the San Joaquin Valley of California. With proper irrigation and land management, Acala yields are three times the national average and produce high-quality textiles.<sup>33</sup> Staple length for upland cotton ranges from 28/32 inches to more than 1-1/4 inches, but nearly 97 percent of bales had lengths between 1 inch and 1-5/32 inches in 1997, a typical crop year.<sup>34</sup>

## Extra-Long Staple (ELS) Cotton

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The remainder of the domestic cotton crop is extra-long staple (ELS), or American Pima, cotton. In the United States, ELS cotton is grown in Arizona, California, New Mexico, and Texas, although nearly 90 percent was produced in California during MY 1999.

Staple lengths for ELS cotton range from 1-1/4 inches to more than 1-1/2 inches, but typically 90 percent of bales have staple lengths of 1-7/16 inches or more.<sup>35</sup> American Pima varieties are more sensitive to poor growing conditions than upland cotton, particularly regarding disease, insects, and weather damage during cultivation. Consequently, American Pima yields proved to be poor in many areas of the country; production is now concentrated

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<sup>32</sup> *Cotton Ginnings*, NASS, USDA, Mar. 2000, p. 1.

<sup>33</sup> Richard F. Kazmierczak Jr. and Kenneth W. Paxton, “Technical Change and New Directions for Cotton Production,” Louisiana State University Agricultural Center, June 1997, p. 11.

<sup>34</sup> *Cotton Quality Crop of 1997*, (Memphis, TN: AMS, USDA, Apr. 1998), tables 1 and 2.

<sup>35</sup> *Cotton Quality Crop of 1998*, (Memphis, TN: AMS, USDA, Apr. 1999), table 38.

in the arid West, where growing conditions are more conducive to maximizing yields and profits.<sup>36</sup>

While ELS and upland cotton have some overlapping uses, ELS cotton produces fine count yarns (60s or higher) that are used in high-end bedsheets, shirts, and specialty yarns. Because American Pima cotton is, on average, stronger, longer, and finer than upland cotton, it is used in products which require increased durability, a softer touch, and additional sheen and luster. In the United States, 45 percent of American Pima production is used in home furnishings (e.g., bed and bath items), 35 percent is used in apparel, and 20 percent in thread applications. Domestically-produced apparel using American Pima cotton are mostly knitted clothing, such as men's and women's polo shirts.<sup>37</sup>

## U.S. INDUSTRY PROFILE

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### Industry Structure<sup>38</sup>

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The structure of the U.S. cotton industry is provided in figure 2. Cotton bales are transported to domestic textile mills where the fibers are converted into spun yarn or non-woven products. After conversion, they are used to make products such as clothing, home furnishings, and industrial products.

#### *Number, concentration, and geographic distribution of cotton farms*

Over the last 50 years, the number of cotton farms declined by over 97 percent, while the harvested acreage only declined by 50 percent. The result is larger, more efficient operations, although most cotton farms are still family-owned and operated. While cotton production is not concentrated in any one region of the southern United States, the largest single cotton-producing State is Texas, with three times more upland cotton harvested than any other State. Arkansas, Georgia, Mississippi, and California rank in the top five for cotton-producing States and harvest similar quantities of upland cotton. Since the early 1980s, the U.S. cotton industry has utilized efficiencies that enabled the industry to annually produce almost 60 percent more cotton on only 35 percent more land (table B-2).

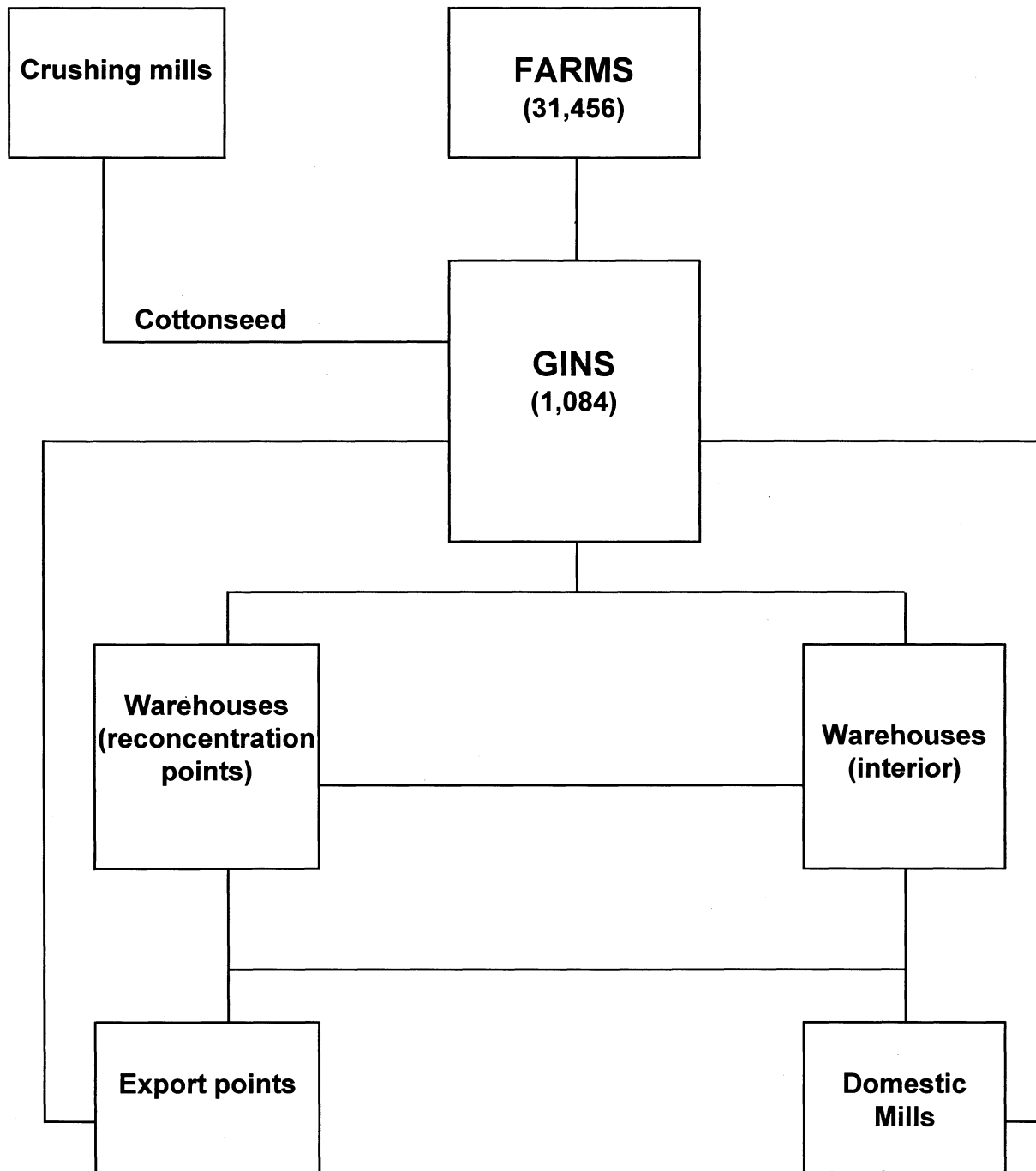
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<sup>36</sup> Richard F. Kazmierczak Jr. and Kenneth W. Paxton, "Technical Change and New Directions for Cotton Production," Louisiana State University Agricultural Center, June 1997, pp. 11-12.

<sup>37</sup> E-mail from Matt Laughlin, Supima Association of America, July 27, 2000.

<sup>38</sup> Cotton farming is covered by North American Industry Classification System (NAICS) code 111920 (cotton farming), and cotton ginning is covered by NAICS code 115111 (cotton ginning).

**Figure 2**  
**Physical flow of U.S. cotton after harvesting**



Source: Adapted from *The Cotton Industry in the United States*, ERS, USDA, 1996, p. 34.

## ***Number and concentration of cotton farms***

As with most agricultural crops in the United States, cotton farming has consolidated into larger farms since the Second World War (table B-2). However, the remaining farms are primarily owned by individuals or families, rather than corporations. In 1949, the United States contained over 1.1 million farms harvesting 26.6 million acres (10.8 million hectares<sup>39</sup>), with farms averaging 24 acres (9.8 hectares). This level of planted acreage reflected continued demand for cotton in the post-war economic boom. By 1974, due to competition from synthetic fibers and increased foreign supply, U.S. harvested acreage shrank over 50 percent to 12.2 million acres, and the number of farms declined over 90 percent to approximately 90,000.<sup>40</sup> In 1992, there were 34,812 cotton farms harvesting 11.0 million acres (4.5 million hectares), with 80.3 percent individual or family-owned. With the number of farms continuing to decline, the average farm size grew to 315 acres (127 hectares).<sup>41</sup> By 1997, the total number of cotton farms was down to 31,456, but more than 13.2 million acres (5.4 million hectares) were harvested. The average farm size increased by 1997 to 420 acres (170 hectares), and 79.5 percent were individual or family-owned farms.<sup>42</sup>

## ***Geographic distribution of cotton farms***

Upland cotton production began a geographic shift to Western States (i.e., Arizona, California, and New Mexico) in the 1960s and 1970s, in large part to take advantage of technical advances in land irrigation in that region. In addition, the drier climate made cotton farms less susceptible to natural pests such as the boll weevil. In the 1980s and 1990s, cotton acreage began shifting back to traditional cotton-growing regions (i.e., Southeastern and Mississippi Delta States), thanks in part to USDA-sponsored boll weevil eradication programs administered at the State level.<sup>43</sup> Along with geographic proximity to textile mills in North and South Carolina, these regions are now more cost-competitive for growing cotton. Table B-3 shows the metric tons of upland and ELS cotton produced in each State during MY 1995-99. Note that Western States had the largest percentage decline in upland cotton production over the period. States where the eradication program has either just been completed (Alabama) or is actively in progress (Texas) showed the largest volume increases.

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<sup>39</sup> A hectare is a unit of land measurement equaling 2.471 acres.

<sup>40</sup> Thomas M. Bell and Fred E. M. Gillham, *The World of Cotton* (Washington, DC: Conticotton, EMR, 1989), p. 380.

<sup>41</sup> *1992 Census of Agriculture*, USDA, NASS, tables 41-42.

<sup>42</sup> *1997 Census of Agriculture*, USDA, NASS, tables 41-42.

<sup>43</sup> One example of the partial production shift back to traditional cotton-growing regions is North Carolina. The statewide cotton harvest was 42,000 acres in 1978 when the boll weevil eradication program started. Certified acreage in 1999 was 861,000 acres. According to North Carolina's Agriculture Commissioner, the fact that the State is free of boll weevils has increased yields and reduced pesticide costs for cotton farmers. See "North Carolina boll weevil assessment for 2000 is \$3.70 per acre," found at <http://www.agr.state.nc.us>.

## ***Number, concentration, and geographic distribution of cotton gins***

Cotton gins are located in close proximity to farms where cotton is produced. Table B-4 lists the number of active U.S. cotton gins (both upland and American Pima) for selected periods over the last 20 years. By 1999, the ginning sector had consolidated to less than half the number of active gins in 1980, in large part because gins utilized economies of scale to cut costs, and cotton modules used during harvest allowed gins to trim overall industry capacity. (See section on ginning above.) Several States added new capacity, including Georgia (growing from 58 to 70 gins) and North Carolina (growing from 40 to 51 gins). Florida, Kansas and Virginia acquired new gins after having none in 1980. This new gin capacity in the Southeastern States corresponds with cotton acreage shifting back to traditional cotton-growing regions and overall growth in planted acreage during the 1990s. Average capacity per gin is increasing, both for upland and American Pima cotton (table B-5).

### ***American Pima gins***

The Supima Association of America lists 33 active gins for American Pima cotton in MY 1999 (table B-5). More than half (18) are located in California, and the remainder are close to harvesting areas in Arizona (7), New Mexico, and Texas.<sup>44</sup> Most of the gins are in California because that State produced nearly 90 percent of the American Pima crop in MY 1999. While the overall number of American Pima gins remained constant during MY 1995-99, the sector is continuing a decade-long shift towards greater capacity in California and gin closures in Arizona, New Mexico, and Texas. Combined, New Mexico and Texas had 14 active gins in MY 1990, but by MY 1999, there were only 7.<sup>45</sup> A further illustration of the geographic shift in American Pima production is that as late as MY 1989, Arizona produced 447,000 of the 692,000 American Pima bales grown in the United States, or roughly 65 percent of the total bales produced. By MY 1999, Arizona was only producing 16,300 bales (3,549 metric tons) (table B-3).

## **Employment and Wages**

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### ***Cotton farms***

Employment in cotton farming was estimated by the National Cotton Council (NCC) to be 173,446 persons in 1997.<sup>46</sup> Because nearly all domestically-grown cotton is harvested

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<sup>44</sup> "Supima Gin List," found at <http://www.supimacotton.org/supima/gins.htm>, retrieved June 30, 2000.

<sup>45</sup> E-mail and attachments from Matt Laughlin of the Supima Association of America, July 17, 2000.

<sup>46</sup> Reliable employment data were difficult to compile for cotton farming because total employment figures are only compiled by the Bureau of Labor Statistics (BLS) for farms meeting unemployment insurance thresholds. Because an estimated 90 percent of cotton farms do not meet the thresholds (10 or more persons employed on each of 20 days in a calendar quarter or \$20,000 or more in wages during a calendar quarter), BLS data significantly underestimates actual  
(continued...)

mechanically, employment in the industry is expected to remain stable or perhaps decline only minimally as farms continue to consolidate. Wages per worker, as reported by the Bureau of Labor Statistics, were \$14,276 in 1995 and rose to \$16,952 in 1999, an increase of 18.7 percent, as shown in the following tabulation. This compares with an increase of 20.9 percent in annual wages per worker during 1995-99 for the agricultural sector as a whole (SIC code 01)<sup>47</sup> and compares favorably with the 10.8 increase of the overall Consumer Price Index (CPI) during the same period.<sup>48</sup>

<b>Cotton farms: Annual wages per worker</b>					
Title	1995	1996	1997	1998	1999 <sup>1</sup>
Wages per employee ( <i>dollars</i> ) . . . . .	14,276	14,518	15,377	16,260	16,952

<sup>1</sup> Preliminary data.  
Source: Covered Employment and Wages Program (ES-202)--Bureau of Labor Statistics (BLS).

### *Cotton gins*

The following tabulation lists the average annual employment, total sector wages, and wages per employee in the cotton ginning industry during 1995-99. Employment in cotton ginning declined as capacity consolidated into larger gins. However, wages per worker increased 15.8 percent during 1995-99. This compares with a 22.6 percent wage increase in the Agricultural Services sector (SIC code 07) over the same period.<sup>49</sup>

<b>Cotton gins: Average employment, total wages, and annual wages per employee<sup>1</sup></b>					
Title	1995	1996	1997	1998	1999 <sup>2</sup>
Average employment . . . . .	11,623	11,577	11,549	10,283	10,287
Total wages (\$1,000s) . . . . .	225,215	228,727	245,355	222,009	230,837
Wages per employee ( <i>dollars</i> ) . . . .	19,377	19,757	21,245	21,590	22,440

<sup>1</sup> Because the data are reported from the Covered Employment and Wages Program (ES-202), only workers covered by unemployment insurance laws are totaled here. In the case of cotton ginning, nearly 90 percent of the U.S. cotton gins reported data to ES-202 in 1995; 89 percent reported in 1996, 93 percent in 1997, and 94 percent in 1998.  
<sup>2</sup> Preliminary data.  
Source: Covered Employment and Wages Program (ES-202), Bureau of Labor Statistics (BLS). Compiled in part by Karen Hamrick, ERS, USDA and Bernard Bell, BLS, Department of Labor.

<sup>46</sup> (...continued)

totals. As an alternative data source, the Census of Agriculture reports employment but only compiles totals for hired farm laborers and not for contract workers. NCC compiled total employment on cotton farms during 1997, and NCC estimates for the number of cotton field workers appear to be the most reliable.

<sup>47</sup> Data from Bernard Bell, BLS, attachment to e-mail received Sept, 12, 2000, and from [www.bls.gov](http://www.bls.gov), retrieved Jan. 9, 2001.

<sup>48</sup> Data from the Bureau of Labor Statistics, Department of Labor, found at <http://www.bls.gov>, retrieved Sept. 22, 2000. The increase of the CPI during 1995-99 was calculated comparing Jan. 1995 and Dec. 1999.

<sup>49</sup> Data from Bernard Bell, BLS, attachment to e-mail received Sept, 12, 2000.

# Marketing Methods and Distribution

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## *Domestic marketing*

After cotton has been baled and classed, the bales are ready to be sold. Because most domestic gins are owned by farmers, either individually or through cooperatives, ownership is often retained by farmers through ginning and storage until final sale.<sup>50</sup> The quantity of cotton designated in a sales contract can be specified in bales, pounds, or in metric tons. It is generally understood that the stated contract quantity can vary from the actual quantity by up to 3 percent, depending on the weights of specific bales. Because cotton is a non-perishable commodity, farmers can either sell the classified bales immediately to textile mills and independent merchants, or store them in a government-approved warehouse, borrow money against them (using the cotton as collateral), and sell the bales at a later time. (See the section on “U.S. government programs” for more information on storage and loans.) Generally, very few sales from farmers directly to textile mills (“mill-direct”) are ever transacted. Mill-direct sales usually result from long-term relationships with farmers that specialize in a particular quality of cotton or have a reputation for providing good quality fiber. On the other hand, “gin-direct” sales are more common, in which the cotton bales never go into storage but are sold immediately to domestic mills or in export markets.<sup>51</sup>

Some of the larger farmers’ cotton cooperatives, such as Calcot (California/Arizona), and Plains Cotton Cooperative Association (PCCA) (Texas/Oklahoma), collectively market cotton to textile mills across the United States. The advantages for farmers marketing through a cooperative include tailoring large cotton shipments to specific customers and, of course, collectively bargaining selling prices.

## *Internet marketing*

Recently, several U.S. companies involved in the cotton industry (upstream in seeds for planting and fertilizers and downstream in ginning, warehousing, marketing, and distribution) have set up an independent Internet company to boost sales and cut distribution and marketing costs. Allenberg Cotton (a division of Louis Dreyfus Cotton International), Dunavant Enterprises, Hohenberg Bros. (a division of Cargill), and PCCA are developing

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<sup>50</sup> There are also independent ginners, such as those from the Texas Independent Ginners Association and the Southeastern Cotton Ginners Association. However, to ensure financial viability and a secure supply of cotton for ginning, these organizations have, over time, become more closely associated with the growers they serve. Southeastern formed a joint venture in the 1970s with the Southern Cotton Growers (based in Dahlonga, GA, and serving the entire Southeast region) to market cotton in large batches to mills. In 1998, the Texas Independent Ginners created a pooling program similar to those offered by farmers’ cooperatives. Participating farmers can contract acreage with a member gin, receive cash for all sales, and the cotton is marketed in large batches by Weil Brothers, based in Montgomery, AL. Weil Brothers also markets cotton pools in Tennessee, Florida, and California. See “Texas ginners offer marketing alternative,” *Southwest Farms Press*, Jan. 20, 2000.

<sup>51</sup> E-mail from Wayne Bjorlie, FSA, USDA, Aug. 24, 2000.



a Memphis-based, business-to-business web site for cotton and cotton-related products and services.<sup>52</sup>

### ***International marketing***

Foreign textile mills usually procure U.S. cotton from merchants who are members of the American Cotton Shippers Association, or from U.S. marketing cooperatives who are members of AMCOT.<sup>53</sup> Sales and distribution of the cotton is done in one of three ways: (1) through commission agents located in foreign markets; (2) through foreign merchants or importers; and (3) directly to the textile mills. Selling through commission agents is the most common method because agents can monitor the needs of the local mills and negotiate future cotton sales.<sup>54</sup>

A cotton contract will stipulate whether the cotton is “certified shipping weights final” or “net landed weights final.” In the first instance, the cotton is re-weighed before shipment by a licensed public weigher. For “net landed weights final” contracts, the cotton is invoiced on a provisional basis, and final weight is determined by internationally recognized controllers upon arrival at the final foreign destination.

U.S. labels (“growths”) specifying the origin of the cotton are clearly stated on the contract. Common growths are *American* (no specific origin), *San Joaquin Valley, California/Arizona, Orleans/Texas* (which includes TX, OK, NM, MO, LA, MS, TN, and AK), and *Memphis/Eastern Territory* (which includes all points east of the Mississippi River). As with all sales, foreign or domestic, contract terms describe the shipment’s quality, including grade, staple length, and micronaire.

### ***Options and futures***

If a farmer sells cotton immediately after baling, the transaction is completed in what is called the cash market. In this case, cash or credit immediately changes hands at the current spot price and title to the cotton is conveyed to the new owner. However, more and more farmers are engaging in futures and options to maximize income, alleviate some of the risk due to fluctuating prices, and time sales to meet cash flow needs.<sup>55</sup> Simply put, options and futures are designed to shift the risk of downward price movements from one party (in this case, the farmer) to another party (the cotton merchant) for a fee. A futures contract is a standardized legal commitment to deliver (or receive) a specific quantity of cotton on a

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<sup>52</sup> *Doane’s Agricultural Report*, June 2, 2000, p. 1, and found at <http://www.pcca.com>, retrieved July 28, 2000.

<sup>53</sup> AMCOT is an international sales agency for U.S. cotton growers. It is based in Lubbock, TX and is owned and operated by the four largest U.S. cotton marketing cooperatives -- Calcot, Ltd., PCCA, Staple Cotton Cooperative Association (Staplcotn), and Southwestern Irrigated Cotton Growers Association (SWIG). According to AMCOT’s web site, found at <http://www.amcot.org>, these farmer-owned cooperatives sell a little more than one-quarter of the U.S. cotton crop (5 million bales) to textile mills worldwide.

<sup>54</sup> “How U.S. Cotton is Marketed,” Cotton Council International, found at <http://www.cottonusa.org>.

<sup>55</sup> Carl G. Anderson, “Price and Marketing Strategies for the Year 2000,” *The Cotton Gin and Oil Mill Press*, Feb. 12, 2000, pp. 11-13.

specified date to a specified delivery point.<sup>56</sup> For a fee, farmers can sell (“short”) futures contracts on the New York Cotton Exchange (NYCE) to protect a certain minimum price for the cotton. An option on a futures contract is a standardized agreement between a buyer (the cotton merchant) and a seller (the cotton farmer) that grants the option (a “call option”), but not the obligation, to buy a futures contract at a predetermined price (“strike price”) within a specified period of time. Once again, a fee (“premium”) is paid, this time from the cotton merchant to the farmer, to acquire the option rights.<sup>57, 58</sup> Futures and options markets are beneficial for farmers and merchants because the fees paid under the contracts satisfy both parties for the price risk they bear.

## Vertical Integration in the U.S. Cotton Industry

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Full-scale vertical integration, from growing cotton to the production of consumer end-use products, is unusual in the U.S. cotton industry. Several farmers’ cooperatives, such as Calcot and Staplcotn, have purchased gins and warehouses to both ensure adequate ginning and storage capacity at harvest time and capture additional profit streams. As mentioned above, some textile manufacturers have purchased warehouses to ensure just-in-time delivery of cotton to mills. But full-scale integration is not often advantageous because the technical skills needed to produce yarns, textiles, and fabrics do not necessarily overlap with growing, ginning, and warehousing cotton. In addition, strong demand for U.S. cotton in export markets means that integrated mills are unnecessary to ensure a cotton farmer’s survival. One notable exception regarding vertical integration is the Plains Cotton Cooperative Association (PCCA). PCCA, based in Lubbock, Texas, markets roughly 2.5 million to 3 million bales (540,000 to 650,000 metric tons) of cotton annually. This cooperative accounts for about 15 percent of U.S. production. In addition to growing, ginning, and warehousing cotton, and producing cottonseed oil, PCCA has owned the American Cotton Growers (ACG) denim mill in Littlefield, TX, since 1987. In 1998, when its principal denim customer, Levi’s, announced that it could not guarantee purchasing the

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<sup>56</sup> The standard trading unit in the options and futures market is 50,000 lbs. (approximately 100 US bales) of Grade 41 (Strict Low Middling), staple length 34 (1-1/16 inches), and micronaire 3.5-4.9.

<sup>57</sup> *Agricultural Futures and Options*, New York Board of Trade, pp 3-4.

<sup>58</sup> A simplified example of the futures market follows: In August, a cotton farmer observes that the current cash market price is 65 cents per pound, and that December cotton futures are trading at 68 cents per pound. The difference between the cash market and December futures prices (“basis”) is 3 cents per pound. The farmer expects a price decline in the near term and wants to lock in profits accruing to his cotton at the current 65 cents per pound price. To accomplish this, the farmer sells December futures in August at 68 cents per pound. By November, December futures are only 64 cents per pound. The farmer closes out the futures position purchased in August by buying December futures for 64 cents per pound, netting a 4 cents per pound futures market gain (68-64 =4). Even if the cash market price declines to 61 cents per pound (from 65 cents) by the time the cotton is sold, the farmer collects a net cotton price of 65 cents per pound (61 cents plus the net futures gain of 4 cents). Adapted from *Understanding Futures and Options*, New York Board of Trade, pp. 7-8.

full capacity of the ACG plant, PCCA bought Mission Valley Fabrics, a yarn-dyed fabric producer, to market ACG's denim with other Mission Valley product lines.<sup>59</sup>

## Extent of Globalization in the Cotton Industry

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U.S. cotton farms are generally not integrated with foreign firms, and as noted above, many U.S. gins are owned by local farmers or farmer cooperatives. But as cotton moves downstream in the production process, into services such as warehousing and distribution, companies are becoming increasingly globalized as they seek to provide consistent supplies of cotton on a just-in time basis at more stable prices. On-line computer networks connecting warehouses with shipping and trucking facilities have promoted timely shipments of cotton to textile mills.<sup>60</sup> The consolidation of downstream services within larger and larger companies is likely to continue because cotton is now sourced globally by textile mills, most cotton is harvested and ginned long distances from where it is consumed, and mills are demanding consistent raw material inputs at lower cost.

U.S. companies such as Dunavant and Hohenberg Bros. (a division of Cargill) have become global enterprises, performing cotton services in all major cotton-producing regions of the world. Dunavant owns U.S. and foreign warehouses; a commodities trading operation, a cotton classing laboratory, and a trucking company in the United States; ginning operations in Mexico and Australia; and maintains purchasing and selling offices in Asia, Europe, North America, Central and South America, and Australia. Dunavant handles approximately 4 million bales (870,000 metric tons) of domestic and foreign cotton annually and warehouses roughly 1.5 million bales (330,000 metric tons). Hohenberg Bros. maintains similar buying, selling, and shipping operations in over fifty countries.<sup>61</sup>

Foreign competitors have taken a similar approach to meeting the needs of textile mills around the world. For example, an Australian company, Colly Cotton, Ltd., maintains purchasing and selling offices in Australia, Hong Kong, Beijing, Seoul, and the United States, and has a joint venture with the Houchin family of California to globally market Australian and San Joaquin Valley (SJV) cotton varieties. Colly Cotton's parent company, Twynam, grows and gins cotton in Argentina and Australia, and recently purchased cotton gins in California.<sup>62</sup> Another foreign cotton merchandiser, Louis Dreyfus Cotton International, has offices in all major cotton-growing regions and owns Allenberg Cotton Co., based in Tennessee. The Allenberg division alone purchases and sells over 750,000 metric tons annually.<sup>63</sup> It is becoming increasingly common for companies such as Dunavant, Hohenberg Bros., Louis Dreyfus, and Twynam to obtain assets over a wide geographic area in order to alleviate the financial risk of poor cotton crops in any one region of the world.

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<sup>59</sup> S. Gray Maycumber, "For the New Mission Valley, Versatility is the Game," *Daily News Record*, July 12, 1999.

<sup>60</sup> See <http://www.dunavant.com>.

<sup>61</sup> See <http://www.hohenbergbros.com>.

<sup>62</sup> See <http://www.twynam.com>.

<sup>63</sup> See <http://www.louisdreyfus.com>.

## Cotton Pricing

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Any discussion about cotton is complicated by the fact that the product has no single price. Cotton prices vary depending on the variety grown and the quality of the harvested crop. (See section on classing above.) In addition, there are government payment programs (both foreign and domestic) which affect pricing mechanisms; tariff-rate quotas; global supply shifts due to the vagaries of weather patterns and political instability; global demand shifts because of financial crashes in the developing world; and more routine price variations based on fluctuations in clothing and home furnishings demands by the consumer. In short, cotton prices face the variability associated with any globally-traded agricultural commodity.

To make some sense of this complicated trading environment, sales contracts for upland cotton are usually based on prices for the NYCE's Cotton No. 2 Futures contract.<sup>64</sup> The sales are discounted or given a premium based on how bale quality (staple length, color, etc.) compares to the specifications of Cotton No. 2 Futures.<sup>65</sup> Purchasers and sellers also track the daily Cotlook A-Index ("A-Index").<sup>66</sup> Cotlook A-Indices and futures prices track one another to the extent that global demand and supply shifts affect them both. Table B-6 lists monthly Cotlook A-Index cotton prices for January 1995 through July 2000, as well as the monthly average of USDA's weekly Adjusted World Price (AWP) (figure 3). (See section on marketing assistance loans below for more information on AWP.) USDA and other U.S. organizations that use the Cotlook A-Index to monitor world prices and compare them to U.S. cotton prices make adjustments based on transportation costs to domestic ports, as well as premiums and discounts for the actual quality of cotton traded.

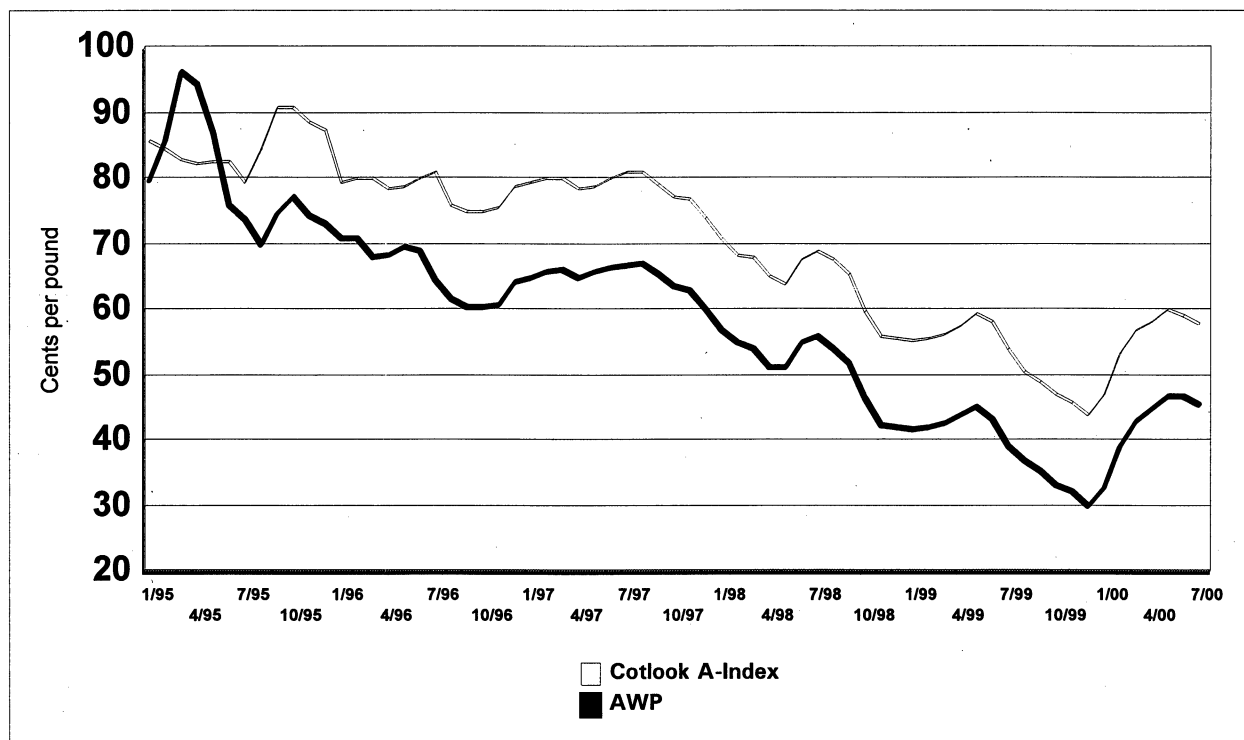
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<sup>64</sup> The Cotton No. 2 contract is the standard contract for trading in cotton options and futures on the New York Commodity Exchange. The trading unit is approximately 100 bales (50,000 pounds net weight); the active trading months are March, May, July, October, and December; and contracts are listed in cents per pound. Basis Grade is Strict Low Middling with a staple length of 1-1/16 in. Delivery points are Galveston TX; Houston, TX; New Orleans, LA; Memphis, TN; and Greenville/Spartanburg, S.C.

<sup>65</sup> Contracts are written in terms of a "basis," which is the cash price minus a defined futures price (e.g., December of the current year). The basis includes storage costs until the future's contract date, transportation costs to the port designated on the future's contract and any premiums or discounts due to supply and demand considerations for the particular cotton in question. For a more detailed analysis of U.S. cotton basis patterns, see V. Fred Seamon, et al., "A Regional Comparison of U.S. Cotton Basis Patterns," Working Paper WP123197, Clemson University, Dec. 1997.

<sup>66</sup> The A-Index is compiled by Cotton Outlook, a private UK cotton consultancy, and is intended to be representative of the price level on the international raw cotton market. It is the simple average of the cheapest five quotations from a selection of the principal upland cottons traded internationally. (See app. C). The prices are CIF cash against documents on arrival of a vessel at a North European port, including profit and agent's commission. Because the quotations are intended to reflect the competitive level of offering prices, not the level at which business has been arranged, a mill buyer would normally expect to succeed with bids that were slightly lower. See <http://www.cotlook.com>.

**Figure 3**  
**Comparison of Cotlook A-Index and USDA's Adjusted World Price (AWP) for Cotton, monthly, January 1995-July 2000**



Source: Cotton Outlook and USDA.

U.S. prices for upland and ELS cotton declined consistently during 1995-99 (tables B-7 and B-8). The simple reason for this decline is that world production exceeded world consumption needs. At least until MY 1999, when the A-index fell below 60 cents per pound and continued a rapid descent before bottoming out at 44.21 cents in December 1999, U.S. cotton farmers continued to produce cotton because alternative rotational crops such as corn and soybeans provided even worse financial returns. Particularly in the Southeast, where tobacco acreage declined and hog prices reached historic lows, cotton provided necessary cash flow because government payments expanded.<sup>67</sup> Another factor driving cotton prices down was that direct production subsidies increased in major cotton-producing countries, creating disincentives for farmers to cut production. Direct assistance to cotton farmers worldwide rose from \$3.7 billion in MY 1997 to \$4.7 billion in MY 1998.<sup>68</sup> Futures markets were also forcing down market prices during 1995-99 because of large cotton

<sup>67</sup> Amanda Huber, "North Carolina Crop Remains Strong," *Cotton Farming*, May 2000, pp. 30-32.

<sup>68</sup> Carlos A. Valderrama, "The World Cotton Market: Prices and Distortions," International Cotton Advisory Committee, pp. 1, 3-8.

inventories in China. Although these inventories were not of the highest quality (and much of it had been stored for several years), the uncertainty surrounding potential sales of additional cotton on world markets undercut prices.<sup>69</sup>

On the demand side of the ledger, pricing was negatively impacted as global cotton consumption declined in the wake of the East Asian financial crisis of 1997-98. Global mill use, which climbed from 18.6 million metric tons in MY 1995 to 19.4 million metric tons in MY 1996, fell over the next 2 marketing years to 19.0 million metric tons in MY 1998. By MY 1999, global consumption had recovered to 19.8 million metric tons.<sup>70</sup>

## **U.S. Government Programs**

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The U.S. Government has attempted to raise farmers' incomes and lessen the volatility of cotton prices since the Great Depression, when farm commodity prices decreased by 50 percent.<sup>71</sup> Congress enacted the Agricultural Adjustment Act of 1933, which attempted to indirectly stabilize cotton prices by controlling production. Current cotton policy can be traced back to this statute and the Agricultural Adjustment Act of 1938. The objectives of the current cotton program, as embodied in the Federal Agriculture Improvement and Reform Act of 1996 ("FAIR Act"), are to protect U.S. farm income, allow markets to manage cotton supply levels, and maintain competitive prices for domestically-produced cotton on world markets.<sup>72</sup> The current government programs pertaining to cotton are summarized in table 1.

### ***Production flexibility contract (PFC) payments***

In the FAIR Act, USDA established what is called the production flexibility contract (PFC) program. Farmers were eligible to sign up for the 7-year program (fiscal years 1996-2002)<sup>73</sup> if they had an established acreage base in wheat, corn, sorghum, barley, oats, upland cotton, or rice during 1996. Farmers producing contract commodities (on a farm with a production flexibility contract) are eligible to receive PFC payments, as well as marketing assistance loans and loan deficiency payments for eligible crops. In return for PFC payments, farmers must adhere to conservation and wetlands protection requirements, obtain catastrophic crop insurance, and file annual acreage reports.

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<sup>69</sup> Ralph Bean and Freda Chao, "Peoples Republic of China, Cotton and Products Annual 2000," FAS, USDA, June 30, 2000, pp. 1-2.

<sup>70</sup> *Cotton: World Statistics*, International Cotton Advisory Council, May 2000.

<sup>71</sup> *Cotton Program: Costly and complex government program needs to be reassessed*, GAO report, June 1995, p. 17.

<sup>72</sup> House Report No. 104-62, pp. 43-44, as reprinted in 1996 U.S. Code Congressional and Administrative News, Part 4, pp. 615-616.

<sup>73</sup> Federal government fiscal years run Oct. 1-Sept. 30. For example, FY 1999 runs from Oct. 1, 1998 - Sept. 30, 1999.

**Table 1**  
**Summary of U.S. Government Programs for Cotton**

U.S. Government Program	Description	Total Annual Payments (FY 2000)
Production Flexibility Contract (PFC) Payments	7 year program (FY 1996-2002) of per acre payments paid directly to farmers	\$616 million
Marketing Loss Assistance Payments	Starting in FY 1999, additional direct payments to farmers, proportional to PFC payments	\$613 million
Marketing Assistance (MA) Loans	Nonrecourse loans which allow farmers to default by forfeiting cotton to the CCC; repayment of the loans is at the lower of two defined prices	\$2,547 million (\$1,082 million in net payments after loan repayments by farmers)
Loan Deficiency Payments	Alternative to marketing assistance loans; payments made to farmers when the Adjusted World Price (AWP) is below the marketing assistance loan rate	\$672 million
Three Step Competitiveness Process -- Step 1	Lowering of the AWP by USDA; provides an additional windfall to farmers to discourage defaulting of MA loans	No payments
Three Step Competitiveness Process -- Step 2 (upland cotton only)	Payments to domestic textile mills and exporters when U.S. cotton is consumed or exported; helps keep U.S. cotton price-competitive with foreign cotton	\$458 million
Three Step Competitiveness Process -- Step 3	Special import quotas triggered by USDA when certain price and inventory conditions in the U.S. market are met; provides additional access to imports for domestic textile mills	No payments
Storage and Interest Charges (Upland cotton only)	The CCC can waive storage charges and interest on marketing assistance loans when the AWP is below the loan rate, so that the loans are payable at the AWP	\$203 million (\$128 million for storage and \$75 million for interest)
ELS Competitiveness Payment Program	Payments to domestic textile mills and exporters when U.S. ELS cotton is consumed or exported; helps keep U.S. cotton price-competitive with foreign cotton	\$350,000
Total program payments		\$3,634 million <sup>1</sup>

<sup>1</sup> Payments under individual cotton programs do not add to the total because proceeds (\$9.5 million) from sales of cotton defaulted to the CCC are netted against total program payments. CCC interest subsidies totaling \$75 million are included in the total.

Source: FSA, USDA.

PFC payments are paid from the Federal Government directly to farmers. The payments are decoupled from production, meaning that the money is not contingent on planting and harvesting a certain number of acres of cotton in the current year.<sup>74</sup> (Prior to the FAIR Act, farmers were given price deficiency payments (based on target prices) in return for leaving certain acreage idle.<sup>75</sup>) The tabulation below lists PFC payments for fiscal years 1996-2000. For fiscal year (FY) 1999, the PFC rate for upland cotton was 7.88 cents per pound, and for current FY 2000, the PFC rate declined to 7.33 cents per pound. The FY 1999 and FY 2000 annual payment limits for flexible contracts remained \$40,000 per person.<sup>76</sup> Noncontract commodities (e.g., ELS cotton) are not eligible for PFC payments.

***Marketing loss assistance payments<sup>77</sup>***

In October 1998, in the wake of rapidly declining U.S. and world cotton prices, Congress passed the Omnibus Consolidated and Emergency Supplemental Appropriations Act of 1999, which authorized additional payments to farmers, proportional to the amount of PFC (per pound) payments received by farmers in the same fiscal year. For FY 1999, the loss assistance payments equaled 7.88 cents per pound; however, no one person could receive more than \$40,000. The payment limit increased from FY 1998, when it was \$19,888 per person.<sup>78</sup>

**Production flexibility and marketing loss assistance payments, fiscal years, 1996-2000**

*(In cents per pound)*

Title	1996 <sup>2</sup>	1997	1998	1999	2000
Production flexibility payments (PFC) <sup>1</sup> . . .	7.7	7.6	8.17	7.88	7.33
Marketing loss assistance payments . . . .	( <sup>3</sup> )	( <sup>3</sup> )	4.06	7.88	7.88

<sup>1</sup> The production flexibility payments were instituted with the FAIR Act.

<sup>2</sup> The 1996 PFC excludes the amount of 1995 deficiency payments required to be repaid, or 1.19 cents per pound.

<sup>3</sup> Not applicable. The marketing loss assistance payments were instituted in the Omnibus Consolidated and Emergency Supplemental Appropriations Act of 1999.

Sources: USDA news releases, found at <http://www.fsa.usda.gov>, retrieved Aug. 1, 2000 and Wayne BJORLIE, FSA, USDA, received Aug. 1-3, 2000.

<sup>74</sup> PFC payments are based on a farmer's cotton yield and acreage history in the marketing years 1991 through 1995. Because the payments are not based on production in the current year, a farmer receives the money even if no cotton is planted.

<sup>75</sup> E-mail from Wayne BJORLIE, Director of Fibers Group, FSA, USDA, August 1, 2000.

<sup>76</sup> "Fact Sheet: Production Flexibility Contracts, Marketing Loss Assistance Payments, and Marketing Assistance Loans," FSA, USDA, Feb. 1999, pp. 1-4, and e-mail from Brad KARMEN, FSA, USDA, Aug. 3, 2000.

<sup>77</sup> Marketing assistance loans are available for all upland cotton produced on a farm with a production flexibility contract, even if produced on noncontract acres.

<sup>78</sup> "Fact Sheet: Production Flexibility Contracts, Marketing Loss Assistance Payments, and Marketing Assistance Loans," FSA, USDA, Feb. 1999, pp. 1-4, and e-mail from Brad KARMEN, FSA, USDA, Aug. 3, 2000. The effective limit for FY 1998 MLA payments was \$19,888 per person because the MLA rate was 49.7 percent of the PFC payment rate (4.06/8.17 cents per pound, or alternatively, \$19,888/\$40,000).



## *Marketing assistance loans*

The Federal Government's primary source of funding to farmers is provided through marketing assistance loans ("loans"). The loans serve two purposes. The first is to provide cotton farmers with timely cash flow and financial liquidity during the growing season and immediately after harvest so that they are not forced to sell the crop during times of the year when cotton prices are lowest. The second, somewhat related, purpose is to smooth out cotton supplies to mills and brokers.<sup>79</sup> The goal is to diminish price fluctuations in the U.S. market by allowing farmers the financial flexibility to sell their product at any time of the year.

Loans for both upland and ELS cotton are "nonrecourse," meaning that farmers have the option of delivering the cotton (used as collateral) to the Commodity Credit Corporation (CCC), in lieu of repayment of the loan amount at maturity.<sup>80</sup> Because the quality of cotton fibers vary considerably, USDA maintains a system of loan premiums and discounts based on cotton qualities assessed during classing. A schedule of premiums and discounts for grade<sup>81</sup>, staple length, extraneous matter (trash), uniformity, micronaire, and strength are annually provided for upland cotton, and a similar schedule is provided for staple length, micronaire, and extraneous matter for ELS cotton (App. D). These premiums and discounts are added or subtracted from the loan base rate, which is set on a county-by-county basis to reflect transportation costs between warehouses and Carolina mills.<sup>82, 83</sup>

In order to qualify for either upland or ELS cotton loans from the CCC, cotton farmers must retain what is called "beneficial interest" in the cotton from the time of harvest until either the loan is repaid or the CCC takes title to the commodity. Retaining beneficial interest means that the farmer retains control of, the risk of financial loss from, and title to the cotton.

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<sup>79</sup> *Nonrecourse Marketing Assistance Loans and Loan Deficiency Payments*, FSA, USDA, Mar. 19, 1998, p. 1.

<sup>80</sup> "Nonrecourse" also means that farmers are not liable for any losses sustained by the CCC when the cotton is resold. With 197,700 upland cotton bales outstanding under loan as of July 1, 2000, there were only 541 bales in CCC-owned inventory. See "CCC Commodity Inventory," July 1, 2000, found at <http://www.usda.gov>.

<sup>81</sup> Grade is defined by color, trash content, and preparation (smoothness) of the cotton. Official USDA cotton quality classifications include 44 upland cotton and 10 ELS cotton grades. (See 57 FR 34495, Aug. 5, 1992.)

<sup>82</sup> The base loan rate differentials are based on actual transportation costs, taking into account transportation routes and modes of transport, as well as travel distance.

<sup>83</sup> An example of CCC upland cotton loan rates is as follows: The MY 2000 loan rate for 41-4-34 upland cotton with a micronaire (fineness) reading of 3.5-3.6, strength of 25.5-29.4 grams per tex, no bark, and uniformity of 80-82 percent is 51.92 cents per pound, before taking into account any regional variations in the base rate. Cotton fitting this description receives no premiums or discounts under the loan program. ("41-4-34" refers to Strict Low Middling (SLM) color (41), leaf content code of 4, and a staple length of 34/32 inches (1-1/16 in.)). On the other hand, 31-5-36 upland cotton grown in El Paso, TX, with a micronaire reading of 3.3, strength of 24 grams per tex, a level 1 bark discount, and uniformity of 77 percent would start with a base rate of 51.65 cents per pound (based on location), and then receive a discount totaling 7.30 cents per pound (730 points). The discounts include 1.3 cents for color, leaf, and staple length variations, 2.25 cents for bark content, 1.00 cent for subpar strength, 2.15 cents for a subpar micronaire reading, and 0.60 cent for subpar uniformity. The total loan rate for this Texas cotton would be 44.35 cents per pound (51.56 - 7.30).

Repayment of the loans for upland cotton is the *lower* of two rates: 1) 85 percent of the simple average price received by cotton producers during the marketing years for the immediately preceding 5 crops, excluding the highest and lowest prices in those years; or 2) the adjusted world price (AWP), as defined by the Secretary of Agriculture.<sup>84</sup> However, the rate may not be less than 50 cents per pound or more than 51.92 cents per pound.<sup>85</sup> From the first year of the program (1996) through 2000, the average upland base loan rate was 51.92 cents per pound.

Marketing assistance loans for ELS cotton have no “lower of two rates” repayment provision. ELS loans must be paid at the amount borrowed or forfeited to the CCC. The national loan rate for ELS cotton can not be less than the 85 percent formula (see previous paragraph) but may not be more than 79.65 cents per pound, which was the MY 1995 rate. During MY 1996-2000, the average ELS base loan rate was 79.65 cents per pound.<sup>86, 87</sup>

### *Loan deficiency payments (LDPs)*

Upland cotton farmers are eligible to receive either a marketing assistance loan or loan deficiency payments (LDPs). LDP provisions are designed to severely diminish delivery of cotton to the CCC in lieu of repayment of marketing assistance loans. LDPs are payments made to cotton producers when the AWP is below the loan rate. Marketing loan gains<sup>88</sup> and LDPs (for all crops on a given farm, including cotton) are limited to \$150,000 per person/corporation for MY 1999, although some farmers have established 2 additional corporations/entities to collect more than the per person limit under the “three entity rule.”<sup>89, 90</sup> In that case, the limit for all three entities is \$450,000. LDP provisions do not apply to ELS cotton.

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<sup>84</sup> The AWP is determined on a weekly basis and is the Friday through Thursday average of the Cotlook A-Index, adjusted to the average U.S. location and to SLM 1-1/16 inch cotton. (See app. E for a more detailed explanation of the adjustments.)

<sup>85</sup> *Nonrecourse Marketing Assistance Loans and Loan Deficiency Payments*, FSA, USDA, Mar. 19, 1998, p. 3.

<sup>86</sup> The actual average loan payment is 80.33 cents per pound, which includes a micronaire premium not included in the statutory maximum loan rate.

<sup>87</sup> “Fact Sheet: Production Flexibility Contract Data and Marketing Assistance Loan Rates -- Crop Years 1996-1998,” FSA, USDA, Feb. 1999, pp. 1-3, and E-mail from Wayne Bjorlie, Director, Fibers Group, FSA, USDA on Aug. 3, 2000.

<sup>88</sup> A marketing loan gain is the amount of principal waived when a farmer repays a loan at a lower payment rate than the contract requires.

<sup>89</sup> According to the Federal Register notice implementing the crop and market loss provisions of the Agriculture, Rural Development, FDA, and Related Agencies Appropriations Act, 2000 (65 FR 7941, Feb. 16, 2000), the payment limit was doubled from the previous crop year to \$150,000 because at the old limit, some cotton farmers would have an incentive to obtain loans on cotton ineligible for marketing loan gains or loan deficiency payments (due to the payment limit) and forfeit the crop to the CCC. Forfeitures are not subject to payment limitations.

<sup>90</sup> The three entity rule was established because of attempts by farmers to circumvent USDA payment limits (first introduced in the 1970s) by creating legal entities such as partnerships and corporations to collect additional payments. These entities were carefully designed to meet all USDA land requirements and not exceed payment limits. To create a compromise between larger farmers who claimed they could not survive under statutory limits and those in Congress that wanted to restrict government largess to only needy farmers (although “those in need” remained undefined), the three entity rule was established. A farmer can receive one set of payments for himself, while owning up to 50 percent of 2 entities that also get payments. If the farmer holds over 50 percent of either of the additional entities, he or she is combined with the entity when calculating payment limits.

### ***Three-step competitiveness process***

In addition to allowing farmers to repay their loans at the AWP rather than at the original loan rate, Congress authorized and the USDA implemented a “three-step competitiveness process” in the early 1990s to promote sales of U.S. cotton to domestic mills and in export markets.

Step 1 gives the Secretary of Agriculture discretionary authority to reduce the AWP at which cotton loans can be repaid. By further reducing the AWP below the loan rate, cotton farmers receive an additional windfall which discourages them from defaulting on the loan and releasing their cotton to the CCC. Step 1 may be invoked if the AWP falls to less than 115 percent of the loan rate, or 59.71 cents per pound (1.15 x 51.92). The maximum amount of the step 1 adjustment during any given week is the U.S. northern Europe price<sup>91</sup> minus the Cotlook A-Index. Step 1 is not currently being utilized by USDA.

Step 2 payments begin when the U.S. northern Europe price exceeds the Cotlook A-Index by 1.25 cents per pound for four consecutive weeks. Payments are made to domestic textile mills based on the number of pounds of U.S. cotton they consume and to exporters based on the number of pounds they load aboard ship for export. Step 2 payments are not provided if the AWP exceeds 134 percent of the loan rate. Step 2 has not always been available for domestic mills and exporters. It was interrupted between December 1994 and July 1997,<sup>92</sup> and from December 1998 until October 1999 because of expenditure caps in place at that time. The program is currently funded without an expenditure cap through the end of MY 2002, which ends July 31, 2003.

Step 3 deals with special import quotas which are triggered when the U.S. cotton price ( Middling 1-3/32 inch cotton, CIF northern Europe, adjusted for any Step 2 payments) exceeds the Cotlook A-Index by more than 1.25 cents for 4 consecutive weeks. (For a more detailed discussion, see “Step 3 program” under nontariff import measures below.)

### ***Storage and interest charges for upland cotton***

In order to receive marketing assistance loans, cotton farmers must store their cotton in USDA-approved warehouses.<sup>93</sup> As a general rule, cotton farmers must pay all interest and storage charges at the time the marketing loan is repaid. However, when the AWP is below the loan rate, the CCC waives some or all of these charges in order to make the loan repayable at the AWP rate.

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<sup>91</sup> The U.S. northern Europe price is the lower of the California/Arizona or the Memphis price listed in the Cotlook A-Index.

<sup>92</sup> Step 2 was interrupted from Dec. 1994 through July 1997 because Step 3 was triggered. Under statutory rules in effect at that time, Steps 2 and 3 could not operate simultaneously. See Ann Murphy, “Step 2 Payments high and Running Out in MY 98/99,” World and U.S. Cotton Situation & Outlook, FAS, USDA, July 1998, pp. 3-6.

<sup>93</sup> See <http://www.fsa.usda.gov/daco/cotwhse.htm> for a list of USDA-approved warehouses.

The CCC has developed an electronic, Internet-based network to sell cotton from loan forfeitures and transmit quarterly storage invoices to gins and warehouse operators. The system, known as COPS (Cotton On-line Processing System), is reducing the CCC's operating costs, while at the same time expanding the number of potential bidders for CCC-owned upland and ELS cotton forfeitures.<sup>94</sup>

### ***ELS competitiveness payment program***

The FAIR Act authorized support for domestically-produced ELS (American Pima) cotton under what is called the ELS competitiveness payment program. The program pays domestic mills and exporters on a per-pound basis to purchase American Pima cotton when world ELS cotton prices are lower than domestic prices, in order to hold down domestic inventories. Competitiveness payments stimulate exports and act as a safety valve for cotton forfeited to the government when domestic prices drop below the ELS loan rate. USDA estimates that by increasing demand for American Pima cotton through competitiveness payments, domestic prices rise by roughly 2 cents per pound and U.S. Government costs of storing and selling forfeited ELS cotton decline by approximately \$25 million annually.<sup>95</sup>

Starting October 1, 1999, and running through July 31, 2003, payments are provided to U.S. textile mills and exporters when the lowest weekly (Wednesday through Tuesday) average adjusted price quotation for foreign ELS cotton ("foreign price")<sup>96</sup> is less than the weekly adjusted average domestic spot price quotation for American Pima cotton ("U.S. price"), grade 3, staple 44, micronaire 3.5 or higher, uncompressed, FOB warehouse, for 4 consecutive weeks. The price quotation for foreign ELS cotton must also not exceed 134 percent of the current crop year loan level for American Pima cotton grade 3, staple 44, micronaire 3.5 or higher.

USDA allocated \$10 million for ELS cotton competitiveness payments, to be used until July 31, 2003, or whenever the money is depleted. Table B-9 lists the prices and payment rates from the week of March 14, 2000 to September 12, 2000. (No payments were made ("triggered") to mills or exporters between October 1, 1999 and April 4, 2000.) USDA estimates are that payments made to mills and exporters during FY 2000 totaled \$350,000.<sup>97</sup>

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<sup>94</sup> "Electronic CCC Cotton Catalog Sales and Storage Invoicing," found at <http://www.fsa.usda.gov>, retrieved July 31, 2000.

<sup>95</sup> Discussion with Wayne Bjorlie, Director, Fibers Group, FSA, USDA, June 6, 2000.

<sup>96</sup> The adjusted price quotation for foreign ELS growths is defined as the lower of the following two prices (per pound): 1) Giza 70 cotton from Egypt minus 7.00 cents or 2) CIS Pima cotton from central Asia minus 18.00 cents. Before comparing the foreign price to the U.S. price, the foreign price is further adjusted downward by 13.16 cents per pound to account for the average transportation cost between North Europe and the United States. (The transportation adjustment was 14.05 cents per pound between Oct. 1, 1999, and Apr. 18, 2000, and has remained at 13.16 cents per pound since Apr. 19, 2000.)

<sup>97</sup> E-mail from Wayne Bjorlie, Director, Fibers Group, FSA, USDA, October 30, 2000.

## Research and Development

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Research and development in the U.S. cotton sector takes many forms and involves public-private partnerships. All of these programs encourage cotton use, either by increasing demand or lowering the cost of supply. In general, U.S. research and development in cotton can be divided into four areas: computer software development and end-use product design by cotton industry organizations, seed research done by private biotechnology companies, pest control programs operated by State and Federal agencies, and farming and ginning research done through partnerships between USDA and universities.

### *Research and promotion assessments*

All domestic cotton producers and importers participate in USDA's research and promotion (R&P) program, which is overseen by the Agricultural Marketing Service (AMS) and administered by the Cotton Board.<sup>98</sup> R&P assessments are collected on every bale of cotton consumed in the United States and equal \$1 per bale plus 0.5 percent of the cotton lint's value. Estimated FY 1999 collections totaled \$55 million (\$37 million from domestic producers and \$18 million from imports) and are currently used for consumer product marketing, farming and fiber quality research, and textile development.<sup>99</sup>

Cotton Incorporated, a research and marketing organization affiliated with the NCC, receives part of the R&P assessments each year, in conjunction with State and private funding, for use in projects promoting U.S. cotton consumption. Among the recent projects by Cotton Incorporated are (1) the Engineered Fiber Selection (EFS) system, a software package which mixes cotton bales to meet narrow fiber requirements by mills; (2) COTMAN, a computer program designed to aid cotton plant management and promote the efficient use of pesticides, fertilizers, and water resources; and (3) the Engineering Knit Program, which attempts to pinpoint and control shrinkage in cotton knit fabrics. The program uses test machines that accelerate the wash, rinse, and dry cycles of fabrics to study shrinkage rates.<sup>100</sup>

### *Boll weevil eradication program*

Over a century ago, the boll weevil (*Anthonomus grandis*) migrated from Mexico to the United States. By 1958, Congress recognized the economic damage that this beetle was doing to cotton throughout the South and appropriated funds for a USDA boll weevil research laboratory. In 1978, a full scale eradication program was started by USDA's Animal and Plant Health Inspection Service (APHIS) on the North Carolina-Virginia border, which was gradually extended to the rest of the Cotton Belt. Today, the boll weevil has been eliminated from Alabama, Arizona, California, Florida, Georgia, North Carolina, South Carolina, and Virginia. Cotton growers pay for approximately 70 percent of the

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<sup>98</sup> The Cotton Board comprises members from every cotton-producing State and importers.

<sup>99</sup> *Report to the Secretary of Agriculture of the USDA Research and Promotion Task Force*, updated Mar. 6, 2000, found at <http://www.ams.usda.gov/r&p/rpfinal.htm>, retrieved Aug. 30, 2000.

<sup>100</sup> See <http://www.cottoninc.com>.

program's costs. APHIS supplies equipment, technical and administrative support, and 30 percent of the program's funds.<sup>101</sup> Growers are assessed for the eradication program on a per acre basis.

### *Cottonseed Biotechnology*

U.S. cotton production is now increasingly dependent on biotechnological solutions to age-old problems such as low crop yields, insect infestation, and weeds. Over the last 10 years, the scientific community has responded by developing transgenic cotton seeds.<sup>102</sup> These seed varieties are instrumental in boosting per acre yields and crop quality, while at the same time alleviating crop damage due to bollworms and other natural pests. A study by Cornejo and McBride has shown that the use of these transgenic seeds significantly increases net returns for domestic farmers.<sup>103</sup> The use of transgenic seeds is likely to continue as biotech companies search for ways to lower the cost of new seeds, and cotton yields from these varieties inch upward.

According to the National Cotton Council, 49 percent of the domestic crop was planted with transgenic varieties in 1998,<sup>104</sup> and USDA reports that 61 percent of the upland acreage used them in 2000.<sup>105</sup> The vast majority contained "input traits," such as herbicide-resistance, insect-resistance, or both. In certain areas of the country, use of these seeds is far higher.<sup>106</sup> Scientific developments in transgenics have encouraged the re-introduction of cotton farming into areas of the Southeast that were previously ravaged by insects such as the boll weevil and bollworms. Large-scale cotton farming returned to southern Virginia in the mid-1980s after years of virtually no cotton production.<sup>107</sup>

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<sup>101</sup> "Boll Weevil Eradication: Background," found at <http://www.aphis.usda.gov>.

<sup>102</sup> Transgenic seeds result from the insertion of genetic material from another organism so that the plant will exhibit certain desired traits. Prior to the widespread introduction of transgenic seed varieties, insects such as pink bollworm were controlled through mating disruption techniques and monitoring traps using pheromones. (Pheromones are hormonal substances secreted by insects which stimulate a physiological or behavioral response from other insects of the same species). As late as 1996, approximately 800,000 acres (324,000 hectares) in Egypt and 250,000 acres (101,000 hectares) in the southwestern United States utilized sex pheromone lures. See Linda McCandless, "Pursuing the Pheromone Plume," *Cornell Focus*, Volume 9, Number 1, Apr. 2000, pp. 20-21.

<sup>103</sup> Jorge Fernandez-Cornejo and William D. McBride, "Genetically Engineered Crops for Pest Management in U.S. Agriculture: Farm-Level Effects," ERS, USDA, Apr. 2000.

<sup>104</sup> See <http://www.cotton.org>.

<sup>105</sup> Data from NASS and ERS, USDA, as reported in *Cotton Gin and Oil Mill Press*, August 26, 2000.

<sup>106</sup> For the 1998 crop, Arizona farmers planted over 80 percent of their acreage with transgenic varieties. Sixty percent was Bt cotton (Bt), 10 percent was Roundup Ready (RR), and 11 percent was stacked gene (Bt+RR). Nineteen percent of the acreage was planted with conventional non-transgenic varieties. See Jeffrey C. Silvertooth, "Cotton: A College of Agriculture Report," University of Arizona, 1999, p. 1.

<sup>107</sup> Cotton Seedling Diseases Research of the Cotton Foundation, found at <http://www.cotton.org/cf/seedling/-survey-10.cfm>.

A prime example of trends in biotechnology is Bt cotton, created in the early 1990s by Monsanto and made commercially available in 1996. Bt cotton provides resistance to pests such as bollworms, pink bollworms, and tobacco budworms through the infusion of an insecticidal gene of the bacterium *Bacillus thuringiensis* (Bt) into the seeds.<sup>108</sup> A downside to the use of transgenic seeds is the need for increased vigilance on the part of farmers against insect and weed resistance to the new varieties. The Environmental Protection Agency requires that cotton growers plant at least 4 percent of their acreage with non-transgenic cotton (“refuge areas”) and not use chemical pesticides in those areas.<sup>109</sup> By leaving part of the acreage planted with non-transgenic varieties, scientists and farmers are hoping to slow the natural development of resistance to the Bt gene. Only five countries are growing genetically-modified (GM) cotton on a commercial scale: the United States, Australia, South Africa, China, and Argentina, but several other countries (e.g., India and Egypt) are conducting experimental trials. On the other hand, the European Union recently passed GMO regulations forcing Greece to end all testing of GM cotton crops.<sup>110</sup>

Biotech researchers are beginning to focus on projects which provide product-enhancing traits for consumers, the so-called “output traits.” Cotton fiber genetically-modified to grow in non-white colors, which would reduce the cost of chemical dyes in fabrics, is available in certain niche markets.<sup>111</sup> According to the National Cotton Council, Chinese scientists have created cotton fibers which feel like rabbit fur by adding rabbit keratin genes to the cottonseed.<sup>112</sup>

## U.S. MARKET

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### Consumer Characteristics and Factors Affecting Demand

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#### *Characteristics of consumers*

Cotton is consumed by textile mills, which use the fibers as a raw input for the production of yarns and non-woven products. A diagram showing the physical flow of U.S. cotton after harvesting is listed in figure 2. Yarns are intermediate products created by carding cotton

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<sup>108</sup> C.S. Prakash, “Boom and Bust of Insect Resistant Bt Cotton?,” Center for Plant Biotechnology Research, Tuskegee University, July 1997, pp. 1-2.

<sup>109</sup> USDA also allows farmers the alternative option of growing 25 acres of non-Bt cotton for every 100 acres of Bt cotton, and not using foliar Bt sprays to control targeted worms on refuge acres. The 4 percent rule and the 25 percent alternative rule are designed to delay insect resistance to Bt varieties for 10 years or more. See “Refuge Rules Important When Planting Bt Cotton,” *The Cotton Gin and Oil Mill Press*, June 3, 2000, p. 14.

<sup>110</sup> *Cotton: Review of the World Situation*, ICAC, Vol. 56-Number 6, July-Aug. 2000, p. 4.

<sup>111</sup> “Value-Enhanced Crops: Biotechnology’s Next Stage,” *Cotton Gin and Oil Mill Press*, July 17, 1999, and Susan V. Lawrence, “Colour of Money,” *Far Eastern Economic Review*, Sept. 28, 2000, p. 36.

<sup>112</sup> “Chinese Give New Meaning to Cotton-Tail,” *Texas Farmer-Stockman*, Sept. 1999.

fibers into strands (“slivers”) and then drawing, roving, and spinning those strands into thicker cords suitable for making weaving or knitting fabrics.<sup>113</sup> Eventually, these fabrics are consumed downstream in the production of apparel, home furnishings, and industrial products. Roughly 59 percent of U.S. cotton eventually becomes wearing apparel (primarily men’s and boys’ shirts, trousers, shorts, and underwear; and women’s and misses’ slacks, dungarees, jeans, blouses, shirts, and dresses), 35 percent goes into home furnishings (ranging from bedspreads to draperies), and the rest is used for industrial products such as medical supplies, industrial threads, tarpaulins, wall coverings, bookbindings, and zipper tapes (table B-1). As a percentage of total cotton consumed, the share of cotton used for home furnishings has increased, while the share used for apparel has declined. This shift is due to strong demand for new homes and declining domestic apparel production. Uses for the average cotton bale in the United States are illustrated in figure 1.

### ***Factors affecting demand***

Cotton demand is strongly influenced by global economic growth rates, fashion demands by consumers, and comparative prices vis-a-vis man-made fibers such as polyester, nylon, and rayon. Over the last 25 years, global cotton consumption has not grown in years when worldwide economic growth fell below 2.3 percent.<sup>114</sup> Cotton demand is also suppressed when inventories rise in large cotton-producing countries such as China and the United States. (See tabulations in “U.S. inventories” and “Market Profiles: China” for data on Chinese and U.S. inventories.)

### ***Comparative pricing between cotton and man-made fibers***

Petroleum-based fibers face increased production costs as the world price for oil remains at 10-year highs. Input supply shocks to man-made fiber prices have lifted demand for cotton to the extent that consumers are willing to use natural fibers as substitutes or switch to different end-use products based on price considerations.<sup>115</sup> Table B-10 lists prices for various natural and man-made fibers in October 1998 and 1999. Note that while prices for certain man-made fibers also decreased over the 1-year comparison period, cotton prices declined at the fastest rate. Wool, acrylic, acetate, and nylon prices increased.

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<sup>113</sup> “Drawing” blends as many as eight cotton strands together. “Roving” draws the slivers out more evenly and adds a twist to them. “Spinning” further twists the strands and makes them tighter and thinner until they reach the thickness (“count”) needed for particular fabrics. In open-end spinning, the roving process is eliminated. See *Cotton: From Field to Fabric*, publication from the National Cotton Council of America, pp. 13-14.

<sup>114</sup> “World Cotton Crisis?” *America’s Textiles International*, Apr. 1999.

<sup>115</sup> Sheila Jones and Richard McGregor, “Cotton industry in a spin over China joining WTO,” *Financial Times*, Aug. 17, 2000, p. 6.



## ***Fashion shifts affecting cotton demand***

Within the apparel market, cotton fiber use dominates T-shirts and underwear.<sup>116</sup> Cotton knits used for T-shirts account for one-third of all cotton consumed in the United States.<sup>117</sup> The share of cotton in the U.S. apparel market has grown from 53 percent to 60 percent throughout the 1990s. Much of this increase can be attributed to more casual work attire for men, a clothing segment where cotton is also used more than synthetic fibers, and a strong marketing campaign by the cotton industry focusing on product comfort and cotton's "natural" qualities. However, a closer look at fashion segments shows a fragmentation and specialization that may not benefit cotton demand in the long term. In women's outerwear, the market share for polyester fiber rose from 26.7 percent to 33.6 percent during 1995-98, while cotton declined from 18.1 to 16.8 percent. Casual work attire for women increasingly uses synthetic fibers which present a lightweight feel.<sup>118</sup> In the aggregate, trends seem to indicate that cotton is holding its own (and expanding) in traditional categories such as men's casual wear and underwear but losing ground in other sectors as fabrics become more specialized in fashion niches.

## ***Substitution between upland and American Pima cotton***

Because American Pima and upland cotton can be used interchangeably for some apparel and home furnishings products, U.S. mills increase American Pima usage when its price premium over upland cotton decreases. This is particularly true for high-end fashion where a softer feel and added luster justify American Pima's additional cost. But even at higher relative prices, American Pima demand remains somewhat constant because there are no alternatives when fabrics with finer counts are required. In overseas markets, industry sources suggest that demand is likely to grow for American Pima as mills recognize that fabrics with finer counts are more profitable than coarse and medium count fabrics traded in highly-competitive markets.<sup>119</sup>

# **Consumption**

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## ***Consumption trends and import penetration***

According to USDA and Bureau of the Census data, overall U.S. cotton consumption declined 119,000 metric tons, or 5.1 percent, during MY 1995-99 (table B-11). U.S. shipments dropped 1.9 percent over the 5-year period, from 3.9 million metric tons to 3.8 million metric tons. Imports also declined from 88,832 metric tons in MY 1995 to 16,329 metric tons in MY 1999. As a percent of consumption, imports dropped from 3.8 percent to a negligible 0.7 percent.

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<sup>116</sup> Karen S. Chambers, "Cotton's Market Share," *American Sportswear & Knitting Times*, Dec. 1999.

<sup>117</sup> "Sharing a Common Thread: Textiles Thrive on Cotton," National Cotton Council of America, found at <http://www.cotton.org>.

<sup>118</sup> Dick Silverman, "Synthetics: Rising in Popularity," *Women's Wear Daily*, Oct. 26, 1999.

<sup>119</sup> E-mail from Matt Laughlin, Supima Association of America, July 27, 2000.

Domestic consumption of ELS cotton rose from 23,732 to 31,570 metric tons, an increase of 33 percent. U.S. shipments increased from 79,252 metric tons in 1995 to 115,395 metric tons in 1999, and more than 70 percent of this increase was exported (table B-12). Increased consumption of ELS cotton, both domestically and in foreign markets, was largely a factor of increased demand for high-quality cotton fiber and substitution of ELS cotton for upland cotton in some end uses as the price gap between the two varieties narrowed. (table B-13.)

Much of the overall decline in U.S. mill use of all cotton can be attributed to consumption declines in U.S. weaving mills as domestic capacity is gradually moving to Mexico and the Caribbean (table B-14). U.S. apparel producers have also expanded their use of assembly operations in Mexico.<sup>120</sup> One example of the capacity shift is the 1996 joint venture between Cone Mills Corporation of Greensboro, NC and Compania Industrial de Parras, in Mexico. The facility has an annual capacity of 30 million yards of denim fabric and 10 million pounds of sales yarn. Cone Mills is also building an industrial park in Tamaulipas, Mexico, in conjunction with Guilford Mills, also of Greenboro, NC. The park is designed specifically for textile and apparel facilities.<sup>121</sup> It should be noted that shifting textile mill capacity within North America and the Caribbean does not necessarily signal hard times for U.S. cotton farmers. Unlike many Asian-produced textiles, Mexican facilities are using mostly U.S. cotton, and in many cases, U.S.-produced fabrics and yarns.<sup>122</sup> There are indications that Mexican and Caribbean Basin demand for U.S. cotton will increase by over a million bales (218,000 metric tons) next year.<sup>123</sup>

### ***Conditions of competition between foreign and U.S. cotton***

There is limited competition between foreign and domestically-produced cotton in the United States. Imports totaled no more than 4.3 percent of domestic consumption by quantity in any year during 1995-99, and in some years they were less than 1 percent (i.e., 1997 and 1999). The close proximity of local production to domestic mills, Step 2 payments for mills that consume U.S. cotton, and tariff-rate quotas on imported cotton make domestic cotton very competitive in the U.S. market. (See section on tariff-rate quotas (TRQs) below). Step 2 payments were interrupted between December 1994 and July 1997, and from December 1998 until October 1999, because of federal government expenditure caps. Consequently, Step 2 was effectively disabled during marketing years 1995, 1996, and 1998. Imports during those years were roughly 80,000 metric tons (3-4 percent of total domestic consumption) higher than during the 2 marketing years (1997 and 1999) when the Step 2 program remained in effect (table B-11).

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<sup>120</sup> *Production Sharing: Use of U.S. Components and Materials in Foreign Assembly Operations, 1995-1998*, USITC Publication 3265, Dec. 1999, p. 3-21.

<sup>121</sup> Chuck Norton, "Success through partnership; Parras Cone gives its parent companies a competitive edge," *America's Textile Industries (ATI)*, Jan. 2000, p. 34.

<sup>122</sup> Brenda Lloyd, "Buhler Bucks Trends and Doubles Yarn Production," *Daily News Record*, July 2, 1999.

<sup>123</sup> T. Cotton Nelson, "COTTON USA Caribbean Initiative Aimed at Increasing U.S. Cotton Consumption," Mar. 23, 2000, found at <http://www.cottonusa.org>, retrieved Sept. 21, 2000.

## Production

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Domestic production of upland and ELS cotton declined almost 203,000 metric tons from MY 1995 to MY 1999, from 3.9 million metric tons to 3.7 million metric tons (table B-3), or a 5.2 percent decline. A closer look at the data shows that nearly 60 percent of the production shortfall from MY 1995 to MY 1999 is due to declines in upland production in California, where production dipped from 503,400 metric tons in MY 1995 to 344,000 metric tons in MY 1999. By contrast, data on ELS cotton alone show that U.S. production increased 83 percent by quantity over the last 5 years, from 80,000 metric tons to 147,000 metric tons. ELS cotton production in California nearly tripled as farmers shifted on away from upland cotton and into the higher-priced ELS cotton fiber. There is some indication that ELS cotton production is shifting to California because Arizona farmers are now being forced to pay higher water costs which reflect the actual costs of irrigating the land.<sup>124</sup> In addition, California cotton farms are closer to ports where much of the ELS cotton is shipped to foreign markets.

Estimates from the Supima Association of America indicate that ELS cotton production will decline during MY 2000, as acreage in California is reconverted into upland cotton.<sup>125</sup> Three reasons support this conclusion. The first is that American Pima cotton prices have remained depressed over the past 18 months due to large carryover stocks, with some farmers now growing the product only to receive ELS marketing loans from the federal government. The second is that production yield spreads between upland and American Pima cotton are the highest since 1994, when upland cotton had an eight percent better yield than American Pima.<sup>126</sup> Lastly, the price premium paid for American Pima over upland cotton began to erode in the marketplace during the planting season (February-June 2000), leaving American Pima farmers with the prospect of significantly lower returns vis-a-vis upland varieties (table B-13).

## U.S. Inventories

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Total U.S. inventories of cotton have remained fairly constant during MY 1996 to MY 1999, after rising 52 percent from MY 1995 to MY 1996. (See tabulation below.) The sharp rise in inventories from MY 1995 to MY 1996 appears to parallel higher upland cotton prices during that time, which stimulated supply and dampened demand. After watching upland cotton prices average 94 cents in MY 1995, U.S. cotton farmers produced in excess of 1 million bales (218,000 metric tons) more in MY 1996 than the prior year. Increased domestic consumption only absorbed half of the additional production, and exports actually declined as Franc-Zone Africa (FZA) and Australia increased their share of global exports (table B-11).

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<sup>124</sup> Meeting with Wayne Bjarlie, Director, Fibers Group, FSA, USDA, Aug. 29, 2000.

<sup>125</sup> *Cotton and Wool Outlook*, ERS, USDA, Aug. 2000, p. 1.

<sup>126</sup> Matt Laughlin, "U.S. Pima Producers Taking a Break," *The Cotton Gin and Oil Mill Press*, May 6, 2000, p. 13.

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**Cotton Inventory of the United States, End of Marketing  
Year (July 31), 1995-1999<sup>1</sup>**

(Thousands of metric tons)

Title	1995	1996	1997	1998	1999
Inventory	568	865	846	858	893

<sup>1</sup> The end of a marketing year is July 31 of the next calendar year. For example, the end of MY 1995 is July 31, 1996.

Source: *World Agricultural Production*, FAS, USDA, July 2000.

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## Comparative Production Costs and Yields

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According to the International Cotton Advisory Committee (ICAC), the United States is a high-cost producer of cotton, particularly when calculated on a per hectare basis (table B-15). Note that U.S. totals would be even higher if harvesting costs were included, as comparison countries have done. A strong currency, relatively high labor costs, expenses tied to biotech seeds (e.g., per acre technology fees for seed use), and additional costs due to irrigation regulations are among the factors contributing to higher production expenses incurred by U.S. farmers. Only some of these costs are offset by higher per hectare yields and better staple quality, and Step 2 payments bridge the gap for purchasers between U.S. cotton prices and world prices. (See section on “U.S. Government programs” above.) It should be noted that data collection for the ICAC survey was hampered by the difficulty of estimating certain production costs.<sup>127</sup> In light of this, production cost data should be used only as a guidepost for evaluating high- and low-cost cotton producers.

Table B-15 shows comparative production costs, subdivided into irrigated and rainfed (non-irrigated) regions. The listed areas include China, Egypt, India (both irrigated and rainfed areas of the central south region), Pakistan (Punjab region), Senegal, Turkey (Curkurova region), and the United States (Southeast and West regions).<sup>128</sup> Reported costs are pre-sowing, sowing, growing and harvesting costs.<sup>129</sup> Ginning, fixed costs (e.g., farm machinery), interest on debt, farming overhead costs (e.g., insurance), and administrative costs are not included because reporting was spotty or non-existent from the larger cotton-producing countries.

U.S. growing areas have relatively higher production costs than most of their foreign counterparts. Cotton farmers in the Western United States (Arizona, California, and New

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<sup>127</sup> *Survey of the Cost of Production of Raw Cotton*, International Cotton Advisory Committee, Oct. 1998, p. 4.

<sup>128</sup> Cotton grown in the Southeast region of the United States is primarily rainfed, while cotton grown in the West region is irrigated.

<sup>129</sup> Pre-sowing costs include land rent for cotton, land taxes, pre-soaking irrigation, and plowing. Sowing costs include soaking irrigation, land preparation, seed, seed treatment, pre-sowing herbicides, basal dose fertilizer, and drilling. Growing costs include thinning, weeding, hoeing, post-sowing herbicides, fertilizer, irrigation, insecticides, defoliation, custom operations, labor, and other (fuel, lube, and electricity). Harvesting costs include picking costs (either by hand or by machine) and stick cutting/slashing.

Mexico) face higher cost structures compared to other irrigated cotton-producing areas of the world. When compared with other rainfed regions, the Southeast region of the United States (Alabama, Florida, Georgia, North Carolina, South Carolina, and Virginia) is also a high-cost producer.<sup>130</sup>

Table B-16 compares per-kilogram production costs between major cotton-producing areas of the world. Although these data are only rough estimates of actual costs, considering the wide range of staple lengths and varieties grown within regions, some relevant findings rise to the surface. The first is that the United States is a high-cost producer on a per-kilogram basis, which is a more useful measure of cost than per hectare. Higher U.S. production yields have not completely offset the negative effects of a strong currency, higher labor costs, and other costs specific to U.S. farmers. Secondly, China and Pakistan have the lowest per-kilogram costs in the group of eight. This reflects an increased use of GM seeds (to control weed and animal pest damage and increase yields) and the continued use of low-wage labor to hand-pick the harvest.<sup>131</sup> India has the highest per-kilogram costs, stemming largely from slow government approval of GM cotton seeds and extremely low productivity (see section on “India” below). India is rivaled only by sub-Saharan Africa in low per-hectare yields.

## U.S. TRADE

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### Overview

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Upland and ELS cotton grown in the United States account for a significant portion of global trade in cotton. The U.S. share of world exports by quantity was 25 percent in MY 1999, down slightly from 28 percent in MY 1995. The U.S. trade surplus in raw cotton was sizable in each year during 1995-99, but as export markets in East Asia dried up in the aftermath of the regional financial crisis of 1997-99, the trade surplus narrowed. In calendar year 1995, U.S. cotton exports exceeded imports by \$3.7 billion. But in 1999, the United States exported cotton worth only \$832 million more than its imports (table B-17). Estimates by ICAC indicate that U.S. cotton exports will increase during 2000, particularly to traditional markets in East Asia and Mexico. Chinese, Indonesian, Japanese, and Korean mills will continue their recovery as global demand for textiles and apparel continues unabated.<sup>132</sup> In addition, the combination of new weaving capacity in Mexico and the continued decline of Mexican cotton production will create additional demand for U.S. cotton fiber.<sup>133</sup>

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<sup>130</sup> *Survey of the Cost of Production of Raw Cotton*, International Cotton Advisory Committee, Oct. 1998, p. 10.

<sup>131</sup> *Survey of the Cost of Production of Raw Cotton*, International Cotton Advisory Committee, Oct. 1998, p. 12, and see section on “China” below.

<sup>132</sup> *World Textile Demand*, ICAC, Oct. 1999 (data updated May 1, 2000), pp. 13-16.

<sup>133</sup> *World Textile Demand*, ICAC, Oct. 1999 (data updated May 1, 2000), p. 13.

# U.S. Imports

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## *Products imported*

The U.S. farming sector produces a full range of cotton grades and varieties, and imports are a small fraction of the total cotton consumed in the United States.<sup>134</sup> In 1999, U.S. imports of cotton were valued at \$136.2 million (table B-18). Imports were heavily concentrated (\$109.6 million, or 80.5 percent) under HTS subheading 5201.00.12, which covers short staple length cotton permitted duty-free entry outside TRQs established under the GATT Uruguay Round Agreement (URA). Along with longer staple length imports entered under HTS subheadings 5201.00.22 and 5201.00.55, these over-quota shipments fall under special upland cotton import quotas opened and monitored by the Secretary of Agriculture. (See section on Step 3 program below.) Taken together, special quota imports accounted for 83.5 percent of total U.S. imports in 1999. Imports (of any staple length) under the TRQs totaled \$17.1 million in 1999, or 12.6 percent of total imports.<sup>135</sup> The remainder of U.S. cotton imports outside TRQs and special import quotas were valued at approximately \$5.4 million. Nearly all U.S. imports enter duty-free, with all imports under certain HTS subheadings (e.g., 5201.00.12) or imports from certain nations (e.g., Mexican cotton under HTS subheading 5201.00.80) receiving such treatment.

## *Import levels and trends*

U.S. imports of cotton increased from \$10.4 million in 1995 to \$136.2 million in 1999, an increase of over 1,200 percent by value. By quantity, imports increased nearly 2,900 percent, from 3.5 million kilograms (3,500 metric tons) to 103.9 million kilograms (103,900 metric tons). But the upward trend has not been consistent over the five-year period (table B-19). Imports have fluctuated with the availability of Step 2 funding for U.S. cotton. (See section on conditions of competition between U.S. and foreign cotton above.)

Short-staple cotton imported under special import quotas accounted for nearly all of the import growth (90.9 percent by value and 99.1 percent by quantity) in U.S. imports from 1995-99. The residual growth came from longer-length staple cotton under special import quotas and extra-long staple cotton imported from Egypt under the TRQ.

## *Principal import suppliers*

U.S. imports of cotton fluctuate from year to year according to the needs of domestic textile mills and supplies from U.S. farmers. Similarly, import suppliers continually shift as the availability and price of cotton changes during any given year. Table B-19 lists selected foreign suppliers from 1995-1999. In 1999, Greece was the largest supplier of imported cotton, valued at nearly \$65 million. This figure represented 48 percent of total U.S. imports

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<sup>134</sup> FAS, USDA estimates that imports were less than one percent of U.S. domestic use in MY 1999. See *World Agricultural Production*, FAS, USDA, July 2000, table 6.

<sup>135</sup> The within-quota tariff-rate lines pursuant to TRQs for U.S. cotton imports are HTS subheadings 5201.00.14, 5201.00.24, 5201.00.34, and 5201.00.60. Over-TRQ shipments enter under HTS subheadings 5201.00.18, 5201.00.28, 5201.00.38, and 5201.00.80.

by value, and was nearly three times the value of imports from the second-largest supplier, China. However, Greece shipped only \$4.7 million worth of cotton and China shipped no cotton into the U.S. market during the previous 4 years. Syria was the third-largest supplier of U.S. imports in 1999, with a value of \$15.5 million. The most consistent supplier during the last 5 years was Egypt, which supplied the United States more than \$6 million in cotton during 1996, 1998, and 1999. Other suppliers in 1999 included Argentina, Mexico, Benin, and Uzbekistan.

## U.S. Trade Measures

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### *Tariff and nontariff measures*

Table B-18 lists the column 1 and bound rates of duty for cotton, as of January 1, 2000, and U.S. imports in 1999. The aggregate trade-weighted import duty rate in 1999 for all cotton was 0.1 percent *ad valorem*, while the average trade-weighted import duty rate for dutiable products was 1.7 percent *ad valorem*. Nearly 93 percent of cotton imports entered the United States duty-free in 1999, although this understates the trade barriers facing cotton imports. Because the U.S. government has established TRQs in chapter 52 of the HTS, cotton imported over certain quantity thresholds faces a duty equaling 31.4 cents per kilogram (69.2 cents per pound).<sup>136</sup> At current world prices of approximately 60 cents per pound, a 69.2 cent per pound duty equals an *ad valorem* equivalent (AVE) of 115 percent. Very few imports are entered under these subheadings (less than 4 percent of total imports in 1999), and nearly all of the shipments come from Mexico, which was granted lower over-quota duty rates under the NAFTA agreement (table B-20).

### **Tariff-rate quotas (TRQs)**<sup>137</sup>

Under the URA Agreement on Agriculture, which entered into force on January 1, 1995, countries that had limited cotton imports with nontariff measures such as quotas and import licenses were required to convert these restrictions into tariff-equivalent measures that were transparent and could be eliminated over time. The U.S. government converted its quantitative import restrictions maintained under section 22 of the Agricultural Adjustment Act (7 U.S.C. 624) into TRQs at that time.<sup>138</sup> U.S. TRQs for cotton imports during 1995-2000 are listed in table B-21. The same TRQs, as provided in the HTS and in some cases allocated by country, are listed in Table B-22 for MY 1999 and MY 2000. Under Additional U.S. note 5 of chapter 52 of the HTS, certain countries are allocated portions of the aggregate cotton quota based on traditional trading relationships with the United States. Under NAFTA provisions, Mexico receives a separate, 10,000 metric ton quota at a duty-free rate, in addition to unrestricted access to unallocated TRQs. Mexican cotton entered

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<sup>136</sup> HTS subheadings 5201.00.18, 5201.00.28, 5201.00.38, and 5201.00.80 are the over-quota categories for cotton.

<sup>137</sup> A tariff-rate quota (TRQ) allows a defined quantity of imports into the United States at a low rate of duty, while imports over that defined quantity are entered at a higher rate of duty.

<sup>138</sup> *Uruguay Round Agreement Act, Statement of Administrative Action*, p. 712.

over-quota is charged a lower duty than similar shipments from non-NAFTA countries<sup>139</sup> (tables B-18 and B-20). Other U.S. TRQs on cotton imports are covered by additional U.S. notes 6-10 of chapter 52. Over-trigger-level duty rates must also be reduced over time. Table B-23 lists U.S. tariff reduction commitments during 1995-2000 for over-quota cotton imports.

### **Step 3 program**

Step 3 is part of the Three Step Competitiveness Process operated by USDA to encourage consumption of U.S. cotton. (See section on U.S. Government programs above.) The program creates special import quotas which are triggered by USDA when the U.S. cotton price (Middling 1-3/32 inch cotton, CIF northern Europe) exceeds the Cotlook A-Index by more than 1.25 cents for 4 consecutive weeks. When these conditions are met, and the projected ratio of U.S. ending stocks to total cotton use for the marketing year is more than 16 percent, an import quota is set equal to the estimated quantity of cotton consumed by domestic mills during one week. A new quota is announced each week in which the price condition is met for ten consecutive weeks, and up to 26 quotas can be in effect simultaneously.<sup>140</sup> Total imports under the special import quotas cannot exceed 5 weeks use by domestic mills, which is approximately 1 million bales (218,000 metric tons) per marketing year. These “hard” quotas are permitted under WTO rules because they do not limit trade but instead facilitate it.<sup>141</sup> Step 3 quotas are implemented in response to market situations where the domestic price is too high and U.S. textile mills require additional imports beyond the TRQs established under the URA.

### **Limited global (“spot market”) import quota**

If the U.S. spot price for cotton (at the base quality) during a given month is more than 130 percent of the average for the previous 36 months, USDA is required by section 136(c) of the FAIR Act to establish a limited global import quota, equal to 21 days of upland cotton consumption by domestic mills. Unlike special import (step 3) quotas, limited global quota periods can not overlap, and they are not permitted if a special import quota is already in effect.<sup>142</sup> In recent years, the limited global quota has not been triggered because the spot market price for cotton has remained at less than 110 percent of its 36-month average.<sup>143</sup>

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<sup>139</sup> The over-quota duty rates for Mexican cotton are 4.9 cents per lb. or roughly 8 percent *ad valorem* at current prices for upland cotton. The over-quota duty rate for non-NAFTA countries is 69.2 cents per pound, a figure well over 100 percent AVE at current price levels. Special provisions for Mexico are set forth in subchapter VI of chapter 99 of the HTS.

<sup>140</sup> For each quota, the importer must purchase the foreign cotton within 90 days of the quota date and must import the quota within 180 days of the quota date.

<sup>141</sup> E-mail from Wayne Bjorlie, Director, Fibers Group, FSA, USDA, May 22, 2000.

<sup>142</sup> *Upland Cotton: Summary of 1998 Commodity Loan and Payment Program*, FAS, USDA, Oct. 1999, p. 3.

<sup>143</sup> E-mail from Wayne Bjorlie, Director, Fibers Group, FSA, USDA, May 23, 2000.



## *Safeguards*

As a general rule, over-quota cotton imports are subject to special price-based safeguards authorized by the WTO Agreement on Agriculture, invoked automatically on a shipment-by-shipment basis. These safeguards are authorized under the WTO Agreement on Agriculture. Article 5 of the Agreement allows safeguard duties to be imposed on certain agricultural imports, in addition to tariff levels negotiated during the Uruguay Round, if certain conditions (“triggers”) are met.<sup>144</sup> These safeguards levy additional tariffs on cotton imports based on the customs value of the imported cotton – the lower the value of the imported product, the higher the safeguard duty (See table B-24 for a complete listing of possible price-based safeguards on cotton in 2000). Table B-25 lists the U.S. import quantities subject to safeguards during 1995-99. Under NAFTA provisions, Mexico and Canada are not subject to safeguards on agricultural products.

## **U.S. Exports**

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### *Products exported*

The U.S. cotton industry exports roughly 40 percent of its domestic production by quantity, a figure that has remained stable during most of the last 5 years.<sup>145</sup> U.S. exports of cotton totaled \$968 million in 1999. More than 60 percent of U.S. exports (\$585 million) were shipped under Schedule B number 5201.00.1090, which includes raw cotton having a staple length equal to or over 25.4 mm (1 inch), but under 28.575 mm (1-1/8 inch) (table B-26).<sup>146</sup> In addition, exports of long-staple upland and American Pima cotton totaling \$262 million were shipped in 1999.<sup>147</sup> As a proportion of the quantities grown, U.S. exports of cotton with longer-staple lengths have been larger than those of other lengths because of the high demand for these products in upscale textiles and fabrics produced overseas. Because of good growing climates and state-of-the-art irrigation systems in Arizona and California, as well as genetically-modified seeds for higher yields, the United States is one of the few countries that produces longer-staple cotton in sufficient quantities to satisfy demand in overseas markets.

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<sup>144</sup> Additional duties may be charged if (1) the price of an individual shipment of the imported product falls below the average price for similar goods imported during the years 1986-88 by a specific percentage or (2) the volume of imports exceeds the average of the most recent three years, normally 5, 10, or 15 percent. The Agreement allows only one of the two triggers, price or quantity, to be used at any given time. Provisions to allow safeguards on U.S. imports were proclaimed by the President and added to HTS chapter 99, subchapter IV. (See Proc. 6763, 60 FR 1007 (Dec. 23, 1994)). In the United States, price-based duties are automatically effective unless the Secretary of Agriculture chooses to switch to volume-based safeguards. At this time, cotton imports are subject to price-based safeguards, and all shipments triggering safeguards are reported annually to the WTO’s Committee on Agriculture.

<sup>145</sup> The exception was MY 1998, when the East Asian financial crisis dampened demand for all U.S. products, including cotton. See *World Agricultural Production*, FAS, USDA, July 2000, Table 2.

<sup>146</sup> It is not surprising that the majority of exports fall within that staple length range because more than 95 percent of U.S. upland cotton grows to staple lengths of 1 inch to 1-5/32 inches in any given year. (See section on Upland Cotton above.)

<sup>147</sup> Schedule B numbers 5201.00.2030 and 5201.00.9000.

### ***Export levels and trends***

During 1995-99, the value of U.S. cotton exports declined in all categories of upland and ELS cotton, for any staple length. Aggregate exports declined 74 percent by value between 1995 and 1999, from \$3.7 billion to \$968 million. Nearly two-thirds of the decline in value can be accounted for by the decreases in cotton exports with a staple length equal or greater to 25.4 mm (1 in.) but less than 28.575 mm (1-1/8 in.). It should be noted that the decline in value is not fully explained by steep declines in world prices during the period. By quantity, exports declined 65 percent during 1995-99 (table B-27).

### ***Principal export markets***

U.S. cotton exports are shipped to countries with sizable textile industries but without cotton production sufficient to meet the local demand. Southeast Asian countries, such as Indonesia and Korea, and NAFTA members Canada and Mexico dominate the list. Currency devaluations and an economic crisis faced by most of Southeast Asia from the latter half of 1997 through 1999 explains, at least in part, why dollar-denominated exports such as cotton declined in 1998 and 1999. Mexico is quickly becoming the largest single export market for U.S. cotton, particularly in long staple varieties. In 1999, Mexican textile mills consumed more than six times the value of U.S. long staple cotton than the next largest export market (Indonesia). While it is unlikely that Mexico will continue to play such a dominant role in U.S. export sales as Southeast Asia recovers from its financial troubles, it appears that lower trade barriers under NAFTA are providing increased trade links for U.S. cotton farmers and Mexican mills (table B-28).

## **U.S. Export Trade Measures**

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The primary mechanism through which the U.S. government encourages exports of domestically-produced cotton is the Step 2 program for upland cotton and the ELS competitiveness payments program for American Pima cotton. (See section on U.S. government programs above.) In addition, USDA facilitates export sales through credit guarantees which minimize repayment risk for exporters and lower financing costs for foreign buyers.

## **GSM-102/103 Export Credit Guarantees and the Supplier Credit Guarantee Program (SCGP)**

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The CCC administers export credit guarantee programs for selected U.S. agricultural exports, including cotton. The Export Credit Guarantee Program (GSM-102) deals with commercial financing on credit terms of up to 3 years. The Intermediate Export Credit Guarantee Program (GSM-103) administers coverage on credit with terms longer than 3 years. Under both programs, the CCC does not extend credit. Rather, it guarantees payments due from foreign banks, typically covering 98 percent of the loan principal and some of the interest (at an adjustable rate). With the CCC acting as guarantor, lenders in the United States bear little risk when offering competitive credit terms to foreign banks. CCC-backed credit usually carries interest rates based on the London Inter-bank Offered Rate, or LIBOR.

Under the Supplier Credit Guarantee Program (SCGP), the CCC guarantees payments due from foreign importers to U.S. exporters under short-term financing of up to 180 days, for transactions in which exporters have extended credit directly to importers for the purchase of U.S. agricultural products, including cotton. However, unlike in GSM-102 and GSM-103, the CCC does not guarantee substantially all of the value of the exports; currently, only 65 percent of the value is guaranteed under the SCGP program. Exporters who qualify for GSM-102 and 103 are automatically eligible for SCGP.<sup>148</sup>

Between October 1, 1999, and June 30, 2000, cotton exports to Turkey and Mexico were granted over 65 percent of the credit guarantees under the GSM-102 program. The value of these exports were \$115.3 million and \$106.8 million, respectively. Other countries receiving U.S. exports under GSM-102 included Korea, Indonesia, Brazil, and Argentina. While most countries can receive export credit terms (“tenors”) of up to 36 months, Korea and Mexico are among the cotton-importing countries receiving maximum terms of only 24 months.<sup>149</sup> Tenor limits are set during negotiations with foreign governments, with some countries preferring shorter limits to maximize the usage at a given bank limit. For example, a total GSM-102 limit of \$150 million would allow a \$50 million annual limit with a 36-month tenor or a \$75 million annual limit with a 24-month tenor.<sup>150</sup>

## Foreign Export Trade Measures

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### *Tariff measures*

Foreign tariffs on cotton are relatively low in countries with local textile mills and little or no indigenous cotton production. On the other hand, countries with planted acreage that can supply the local textile sector often levy higher *ad valorem* tariffs to keep imports at a minimum. Tables B-29 and B-30 list cotton import tariff-rates (HTS heading 5201) for selected countries.

### *Nontariff measures*

There are few nontariff trade barriers (NTBs) impacting U.S. cotton exports, particularly in countries where cotton production is insufficient to satisfy the fiber needs of local textile mills. All but a few of the U.S. trading partners in East Asia, North America, and the Caribbean Basin fall into this category. At one time, NTBs predominated in countries with developed cotton farming sectors. The URA, which entered into force in 1995, limited the use of NTBs and converted many of them into tariffs or TRQs. Tariffs and TRQs are now the primary import barrier against cotton imports worldwide. Because China has not yet become a member of the WTO, and is therefore not subject to the URA, the Chinese Government has retained certain NTBs, including import licenses and restrictions on trade to state trading agencies only. In 1996, China created TRQs on a wide array of agricultural products, including cotton. But because the TRQ quantities are not regularly announced and

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<sup>148</sup> See <http://www.fas.usda.gov/info/factsheets/scgp.html> and <http://www.fas.usda.gov/excredits/reg.htm>.

<sup>149</sup> *World Agricultural Production*, FAS, USDA, July 2000, p. 10.

<sup>150</sup> E-mail from James Johnson, FAS, USDA, on Sept. 19, 2000.

regulations surrounding administration of the program are unclear, exporting cotton to China remains somewhat risky. In its recent bilateral agreement with the United States on accession to the WTO, China agreed to phase out restrictions on importing and distributing cotton within 3 years after accession, establish increasing TRQs with in-quota duties ranging from 1-10 percent *ad valorem*, and reallocate unused quotas to countries which request additional exports into China.<sup>151</sup>

### ***Production subsidies***

According to ICAC, trade flows in cotton continue to be indirectly distorted through the use of production subsidies.<sup>152</sup> In MY 1986, an estimated 69 percent of global production received income and/or price supports from governments. By MY 1997, only 50 percent of global production was receiving these payments. However, because prices declined throughout the latter half of the 1990s, production subsidies began increasing once again. In MY 1998, the last year such data was compiled, 53 percent of world production was subject to income- and/or price-support programs, led by China, the United States, Greece, Turkey, and Spain (table B-31).

As illustrated in table B-31, payments by the Chinese Government to local cotton farmers amounted to more than half of total production subsidies worldwide. Payments were given in the form of procurement prices which overpaid farmers for the costs of ginning, packaging, storage, and transporting their cotton. Late in 1999, the Chinese government announced changes to the program, effectively dropping procurement prices and allowing buyers and sellers to negotiate prices below the government's reference price.<sup>153</sup>

Under the Common Agricultural Policy (CAP) of the European Union, cotton gins in Greece and Spain are given support payments before the harvest based on estimates of seed cotton production and the difference between market prices and an established reference price. Ginners are required to remit these payments to the farmers in the form of artificially high prices for harvested cotton. The CAP does, however, set maximum quantities of seed cotton for which production subsidies are granted. Because the cotton-growing regions of Greece and Spain are below the average per capita income of the European Union as a whole, these subsidies are considered by the European Commission to be just another form of economic assistance.<sup>154</sup>

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<sup>151</sup> 2000 National Trade Estimate Report on Foreign Trade Barriers: China, USTR, found at [http://www.ustr.gov/html/2000\\_contents.html](http://www.ustr.gov/html/2000_contents.html), retrieved Sept. 21, 2000.

<sup>152</sup> *Cotton: Review of the World Situation*, ICAC, Volume 53-Number 2, Nov.-Dec. 1999, p. 16-17.

<sup>153</sup> *Cotton: Review of the World Situation*, ICAC, Volume 53-Number 2, Nov.-Dec. 1999, p. 17.

<sup>154</sup> *Cotton: Review of the World Situation*, ICAC, Volume 53-Number 2, Nov.-Dec. 1999, p. 18.

# FOREIGN INDUSTRY PROFILE

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## Overview of World Market

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Cotton is grown in nearly every region of the world, including six continents and dozens of countries. However, roughly 65 percent of world production is concentrated in four countries -- China, the United States, India, and Pakistan -- and 75 percent is concentrated in six countries (the first four and Uzbekistan and Turkey). Each of these countries is discussed in more detail below. In addition, cotton production in Franc-Zone Africa (FZA) merits mention as one geographic entity, and Egypt is included as a major producer of ELS cotton.

In general, the largest cotton-producing countries also maintain large textile manufacturing sectors, and are therefore significant cotton consumers. In MY 1999, 61 percent of global cotton production was consumed by the four largest cotton-producing countries.<sup>155</sup> However, not all major cotton-producing countries have well-developed textile and apparel sectors. Uzbekistan exported 79 percent of its crop in MY 1999 and FZA exported 92 percent of its cotton (table B-32). More than half of the world's cotton exports are produced by the United States, Uzbekistan and FZA, with the United States by far the largest exporting nation.

## Market Profiles

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### *China*

China currently produces more cotton than any other country in the world and has been the largest producer over the last 5 marketing years. U.S. Foreign Agricultural Service (FAS) estimates that China harvested and ginned 20.7 million bales during MY 1999, or 24.5 percent of total world output. However, with a large and expanding textile sector in China, only 9.7 percent of total production was exported (table B-32).<sup>156</sup> With China's accession to the WTO nearly certain, western cotton associations such as the Liverpool Cotton Association (LCA) are making overtures to Chinese suppliers in the hopes that global cotton markets will not be swamped in the future by inexpensive Chinese-grown fiber.<sup>157</sup>

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<sup>155</sup> *World Agricultural Production*, FAS, USDA, July 2000, Table 2.

<sup>156</sup> *Cotton: World Markets and Trade*, Production Estimates & Crop Assessment Division, FAS, USDA, Apr. 2000, table 2.

<sup>157</sup> Sheila Jones and Richard McGregor, "Cotton industry in a spin over China joining WTO," *Financial Times*, Aug. 17, 2000, p. 6.

Reports from FAS also indicate that strong demand from local textile mills is permitting the Chinese Government to draw down its national cotton reserves, as shown in the following tabulation:<sup>158</sup>

**Total Cotton Inventories in China, End of Marketing Year (July 31), 1995-1999**

(Thousands of metric tons)

Title	1995	1996	1997	1998	1999
Inventory . . . . .	3,059	3,626	4,345	4,601	3,328

Source: *World Agricultural Production*, FAS, USDA, July 2000.

In February 2000, the National Cotton Exchange sold off the last of the 1993 crop held in reserve, which amounted to sales of 130,000 metric tons (nearly 600,000 bales). Additional sales followed in May 2000, with Beijing selling reserves from later years at market prices and absorbing any losses. Drawing down government stocks lowered overall Chinese inventories by nearly 700,000 metric tons and enabled cotton prices to rise. In addition, unfavorable weather conditions in the Yangtze River Valley dampened production of higher-grade cotton. Consequently, the Chinese government bowed to pressure from the domestic textile industry and expanded the import quota for high-quality cotton to 70,000 metric tons (10,000 metric tons of ELS cotton and 60,000 metric tons for other cotton) during MY 1999.<sup>159</sup>

Production of Bt cotton is not widespread in China, but it accounts for 92 percent of the cotton area planted in Hebei province, where Monsanto operates a joint venture, and is also grown in Henan province.<sup>160</sup> Chinese scientists are continuing research on genetically-modified (GM) cotton varieties, and it appears that Beijing is committed to using GM crops to boost agricultural yields and lower production costs. (See section on biotechnology above.)

### ***India***

India devotes more land to cotton production than any other country and more than twice the acreage of the largest fiber producer, China. In MY 1999, Indian farmers planted 21.5 million acres (8.7 million hectares) of cotton. However, at 320 kilograms per acre, India's average yield is less than half that of the United States (682 kilograms per acre) and less than a third of China's (1,022 kilograms per acre).<sup>161</sup> In terms of output, India ranks only

<sup>158</sup> Freda Chao, "Peoples Republic of China, Cotton Production and Marketing Update," FAS, USDA, Feb. 15, 2000.

<sup>159</sup> Ralph Bean and Freda Chao, "Peoples Republic of China, Cotton and Products Annual 2000," FAS, USDA, June 30, 2000, pp. 1-2.

<sup>160</sup> Ralph Bean and Freda Chao, "Peoples Republic of China, Cotton and Products Annual 2000," FAS, USDA, June 30, 2000, pp. 1-2.

<sup>161</sup> *Cotton and Wool Yearbook 2000*, ERS, USDA, May 15, 2000, table 23.

behind China and the United States in total bales produced. At 12.3 million bales (2.7 million metric tons) during MY 1999, Indians produced 14.2 percent of global output.<sup>162</sup>

Despite the resources devoted to production, India is currently a net importer of raw cotton. Between MY 1995 and MY 1998, annual production in India remained at least 22,000 metric tons (100,000 bales) greater more than domestic consumption. But as cotton consumption increased from 2.7 million metric tons (12.6 million bales) in MY 1998 to 2.9 million metric tons (13.3 million bales) in MY 1999, Indian cotton production could not keep pace. Indian producers are in short supply of domestically-produced ELS cotton and longer length upland varieties. Most of the necessary imports come from Franc-Zone Africa, Egypt, Australia and central Asia because a weak rupee, higher freight costs and longer delivery times keep U.S. cotton uncompetitive.<sup>163</sup>

In May 2000, Monsanto received a “bio safety” clearance from India’s Department of Biotechnology for Bt cotton.<sup>164</sup> The clearance permits Monsanto’s Indian partner Mahyco to approach the government’s Genetic Engineering Approval Committee for final approval to commercially cultivate and market this genetically-modified organism (GMO). The decision is significant because no other GMO has received such a clearance and it opens the way for other bio-engineered crops. More importantly for Indian cotton farmers, Bt cotton would increase production yields.

## ***Pakistan***

Pakistan produced nearly 10 percent of global cotton production in MY 1999. Cotton production increased by 1.9 million bales (414,000 metric tons) from MY 1998 to MY 1999 to 8.4 million bales (1.8 million metric tons). The additional supply was largely exported or consumed in domestic mills, but Pakistani inventories also increased by more than 700,000 bales (152,000 metric tons).<sup>165</sup>

Textile mills in Pakistan continue to be in short supply of higher-quality cotton, including ELS and strict middling grades of upland cotton. Domestic textile plants are focusing on higher-count yarns and upscale fabrics for export markets, and domestic cotton supplies are unable to meet their needs. In addition, the Pakistani government imposed a 15-percent duty on imported cotton in September 1999 to encourage a draw down of domestic stocks.<sup>166</sup>

As part of continuing reforms in the cotton sector, the Pakistan government has eliminated export quotas, and export limits late in the marketing year. Gathering accurate data on cotton sales continues to be a problem for analysts because unreported sales by ginners have grown each year since MY 1995, when a 15-percent sales tax was applied to cotton lint. Stricter tax enforcement by Pakistan’s military regime has not discouraged these illegal

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<sup>162</sup> *World Agricultural Production*, FAS, USDA, July 2000, table 4.

<sup>163</sup> Santosh K. Singh, “India, Cotton and Products, Annual 2000,” FAS, USDA, June 1, 2000.

<sup>164</sup> Santosh K. Singh, “India, Bt Cotton Moves Closer to Commercial Production,” FAS, USDA, May 15, 2000.

<sup>165</sup> *World Agricultural Production*, FAS, USDA, July 2000, table 2.

<sup>166</sup> Asif Farrukh, “Pakistan: Cotton and Product, Cotton Update 2000,” FAS, USDA, June 2, 2000, pp. 1-3.

sales because the tax collection mechanism, whereby taxes are collected and then rebated as cotton is consumed in downstream production, is viewed as extremely cumbersome.<sup>167</sup>

### ***Uzbekistan***

Uzbekistan is the fifth-largest producer of cotton in the world, accounting for more than 6 percent of global output. Almost all of the planted acreage is flood irrigated. The government in this former Soviet republic has maintained strict controls on cotton production and trade, buying most of the cotton from producers and retaining rights as the only legal exporter. Because the textile industry is not well-developed, most of the cotton is produced for export markets and accounts for over half of the country's overall export earnings.<sup>168</sup> In MY 1999, Uzbekistan exported 914,000 metric tons of cotton, placing it second among exporting countries (behind the United States).

According to reports by USDA, Uzbek cotton is perceived to be of poor quality by overseas buyers because of trash found in bales, an increasing number of seeds found in the lint, and poor seed varieties being planted. The government has taken steps over the past 2 years to speed the development of new cottonseed (including the use of Australian varieties) and improve ginning of the final product.<sup>169</sup>

### ***Franc-Zone Africa (FZA)***

Franc-Zone Africa (FZA) accounted for almost 5 percent of global output of cotton in MY 1999. FZA is a region consisting of approximately 80 million people in the former French colonies of west and central Africa.<sup>170</sup> The participating countries are Benin, Burkina Faso, Cameroon, Central African Republic (CAR), Chad, Comoros Islands, Congo (Brazzaville), Cote d'Ivoire, Equatorial Guinea, Gabon, Guinea Bissau, Mali, Niger, Senegal, and Togo. Much of the cotton exported from the region is produced in a subsection of FZA called the West African Economic Monetary Union (UEMOA), consisting of Benin, Burkina Faso, Guinea-Bissau, Cote d'Ivoire, Mali, Niger, Senegal and Togo, although Cameroon, CAR, and Chad also export in limited quantities. UEMOA countries are achieving faster economic growth and better export prospects than their FZA neighbors due to greater political stability and IMF adjustment aid.<sup>171</sup>

Four UEMOA members, Benin, Burkino Faso, Cote d'Ivoire, and Mali, accounted for over 70 percent of the cotton harvested and baled in FZA during MY 1999. Mali was the largest producer, with over 201,000 metric tons baled. Cote d'Ivoire produced 163,000 metric tons of cotton, and Benin and Burkino Faso baled 145,000 and 125,000 metric tons, respectively.

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<sup>167</sup> Asif Farrukh, "Pakistan: Cotton and Product, Cotton Update 2000," FAS, USDA, June 2, 2000, pp. 1-3.

<sup>168</sup> Mike Collet-White, "Uzbek gradualism arouses criticism, jealousy," *The Middle East Times*, July 19, 1998, pp. 1-2, found at <http://www.metimes.com>.

<sup>169</sup> Nizam Yuldashbayev, "Republic of Uzbekistan: Cotton Annual 1999," FAS, USDA, May 15, 1999, pp. 1-4.

<sup>170</sup> What unites FZA is the decision to maintain a fixed exchange rate with the French franc since independence.

<sup>171</sup> Andrew Manley, "Africa's Franc Zone - a tale of two regions," BBC News On-line, Sept. 29, 1999, found at <http://news.bbc.co.uk>.



Total exports from FZA were over 800,000 metric tons in MY 1999, making the region the third-largest exporter in the world (table B-32).<sup>172</sup>

### ***U.S.-sub-Saharan Africa trade legislation***

In May 2000, President Clinton signed into law the Trade and Development Act of 2000, which grants quota-free and/or duty-free treatment on hundreds of goods from 48 countries in sub-Saharan Africa (SSA). In particular, this legislation reduces U.S. barriers on imports of textiles and apparel from SSA (including FZA) to the United States, making the prospect of lower cotton exports from FZA a possibility, as the region develops an internal demand for cotton yarn for textile and apparel production.

Although the HTS subheadings for raw cotton are not part of the duty-free benefits of the bill, given the TRQs, cotton seeds (HTS subheading 1207.20.00) and many other field crops are included. By lowering U.S. import tariffs on alternative crops and providing greater access to some U.S. agricultural markets, the Trade and Development Act of 2000 may also alter the cotton acreage planted by FZA farmers.

### ***Turkey***

Cotton production in Turkey currently equals 4 percent of global output. In MY 1999, cotton production declined to 791,300 metric tons from 840,000 the year before, in large part because of lower acreage planted and lower per acre yields in the Anatolian region of southeastern Turkey. Even though Turkish farmers are, as a group, one of the world's ten largest producers, Turkey remains a net importer because domestic textile and yarn production overreaches the domestic cotton supply. According to FAS, cotton farmers are switching to less intensive crops such as wheat, corn, and horticulture as labor costs for harvesting continue to escalate. Labor costs constitute roughly 45 percent of the total production costs for cotton in Turkey, and there is now growing interest in mechanical harvesting.<sup>173</sup> During the first half of MY 1999, Turkey became the second largest buyer of U.S. upland cotton, after Mexico, with over 115,000 metric tons in import contracts.<sup>174</sup>

Cotton textiles and ready-to wear products together account for 40 percent of Turkey's overall exports. In light of declining overseas demand for these products, caused by the Asian financial crisis, the Turkish government announced a program in December 1998 to provide cheap cotton to textile manufacturers through agricultural sales cooperatives. The plan involves releasing 117,000 metric tons of cotton and allowing these manufacturers to pay 6 months after the sale with no interest charged during that time. Officials at the local

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<sup>172</sup> *World Agricultural Production*, FAS, USDA, July 2000, table 2.

<sup>173</sup> Ibrahim Sirtioglu, "Turkey: Cotton and Products, Annual 2000," FAS, USDA, June 19, 2000, p. 2.

<sup>174</sup> Ibrahim Sirtioglu, "Turkey: Cotton and Products, Cotton Situation Update 2000," FAS, USDA, Feb. 29, 2000, p. 1.

cotton exchange (IZMIR) noted that this will force farmers to accept lower prices and encourage many more to shift acreage into alternative crops.<sup>175</sup>

## *Egypt*

Egypt is one of the world's largest exporters of ELS cotton, although Egyptian ELS varieties differ from American Pima grown in the United States.<sup>176</sup> American Pima and Giza-86 (one of the Egyptian cotton varieties sold in export markets) are comparable in price and quality.<sup>177</sup> The other main Egyptian ELS varieties grown are Giza-45, Giza-70, and Giza-88, although Giza-70 is the primary cotton exported, by weight.<sup>178</sup>

Egyptian farmers planted approximately 32,400 hectares (80,000 acres) of ELS cotton in MY 1999, compared with 85,300 hectares (210,000 acres) in MY 1998. The sharp decline in land use is attributed to three converging issues: the government implemented land reforms that allow land owners to charge market rents; the government separately eliminated a pesticide subsidy to cotton farmers; and there were large carryover stocks of ELS varieties from MY 1998. In the aftermath of smaller planted areas in MY 1999, the government established assistance programs that pay for land preparation, two-thirds of pesticide costs, and half of the cost of cottonseed.<sup>179</sup>

Domestic consumption of ELS cotton varieties is rapidly declining, due to the combination of an increased use of synthetic yarns in Egyptian fabrics and increased competition from imported Indian and Pakistani cotton yarns. Many Egyptian textile mills are uncompetitive because of burdensome debt loads, a relatively high labor content in their yarns, and outdated equipment. Consequently, some mills are operating at capacity levels approaching 10 percent or less.<sup>180</sup> These mills are now under pressure to use cheaper inputs and become price competitive again on world markets. Cotton is now being sourced from the cheapest suppliers, regardless of location and long-standing relationships with local farmers. FAS reported in May 2000 that Egyptian textile mills were putting out a tender offer to import

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<sup>175</sup> "Turkish farmers protest over cotton subsidy," *The Middle East Times*, date unlisted, pp. 1-2, found at <http://www.metimes.com>.

<sup>176</sup> Both American Pima and Egyptian varieties such as Giza-70 and Giza-86 are members of the *Gossypium barbadense* cotton species, but they are not identical varieties, differing slightly in grade, staple and micronaire. Other Egyptian varieties include *Gossypium vitifolium*, also known as Sea Island cotton. Egyptian cotton growers also produce long staple and short staple varieties, but these are primarily consumed in domestic textile mills.

<sup>177</sup> Matt Laughlin, "Prospects Dim for Nearby Return of ELS Program Payments," June 5, 2000, pp. 1-3, found at <http://www.supimacotton.org>.

<sup>178</sup> Hassan Ahmed & Sharif Ibrahim, "Egypt: Cotton and Products, Cotton Annual Report 2000", May 30, 2000, pp. 2-7.

<sup>179</sup> Hassan Ahmed & Sharif Ibrahim, "Egypt: Cotton Annual Report 1999", June 1, 1999, pp. 1-7.

<sup>180</sup> Egypt had U.S. cotton import quotas totaling 12,000 metric tons for yarn and 100 million sq. meters for fabrics and 1999, and EU quotas of 55,000 metric tons for yarn and 20,000 metric tons for fabrics. Because Egyptian mills are no longer price-competitive vis-a-vis India and Pakistan, only 20 percent of the quotas were filled. See Hassan Ahmed & Sharif Ibrahim, "Egypt: Cotton and Products, Cotton Annual Report 2000", May 30, 2000, pp. 2-7.

20,000 metric tons of short staple cotton, the first Egyptian imports of raw cotton in 12 months.<sup>181</sup>

Egyptian scientists at the Agricultural Genetic Engineering Research Institute (AGERI) are developing transgenic cotton plants which are genetically-resistant to the cotton leaf worm, a major pest to Egyptian cotton farmers. It is estimated by AGERI that the development of transgenic Egyptian cotton varieties could save \$50 million in chemical insecticide costs annually.<sup>182</sup> The Egyptian cotton industry is utilizing scientific breakthroughs to remain cost competitive in cotton production.

## **Foreign Trade Investigations Impacting U.S. Cotton**

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On April 10, 1998, the executive body of the European Union, the European Commission, imposed provisional antidumping (AD) duties on imports of unbleached cotton fabrics from China, Egypt, India, Indonesia, Pakistan, and Turkey. After the injury phase of the proceedings in June of that year, duties were set at 0 percent to 14.3 percent for Turkey, 4.9 percent to 16.9 percent for India, 11.7 to 32.5 percent for Pakistan, 15.7 percent for China, 19 to 31.7 percent for Indonesia, and 20.6 percent for Egypt.<sup>183</sup>

Although unbleached cotton fabric is not directly part of this summary, the effects of AD duties levied by the European Union on downstream cotton products could have a long-term impact on U.S. cotton farming. Before the imposition of the AD duties, Egypt exported approximately 20,000 metric tons of unbleached fabric. Nearly all of it was shipped to the European Union because an annual EU-wide quota equaling that amount had been granted to Egyptian suppliers. Since the imposition of AD duties, the EU markets have been effectively closed to Egyptian producers, and officials from the Textile Consolidation Fund, Egypt's association of spinners and weavers, have promoted this material in other export markets, particularly in the United States.<sup>184</sup>

Although the United States maintains country-specific import quotas (at least through 2004) on unbleached cotton fabrics, AD actions in third-country markets such as the European Union could have a limited adverse effect on domestic cotton consumption in two ways. The first is that additional fabric imports using unfilled U.S. quotas could dampen demand for cotton in domestic textile mills, as cheaper foreign fabric crowds out demand for goods made from U.S. cotton. The second possible effect is that prices for cotton could fall as Egypt, China, Pakistan, and Turkey export additional raw cotton onto world markets rather than converting it into fabric.

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<sup>181</sup> Hassan Ahmed & Sharif Ibrahim, "Egypt: Cotton and Products, Cotton Tender Issues", May 10, 2000, p. 1.

<sup>182</sup> Yasmin Salem, "Farmers pin hopes on genes," *The Middle East Times*, June 28, 1998, pp. 1-3, found at <http://www.metimes.com>.

<sup>183</sup> *Seventeenth Annual Report from the Commission to the European Parliament on the Community's Anti-dumping and Anti-subsidy Activities, 1998*, Dec. 13, 1999, pp. 22-23.

<sup>184</sup> Christine Hauser, "Cotton exporters, hurt by Euro-duties, eye new markets in US," *The Middle East Times*, July 17, 1998, pp. 1-2, found at <http://www.metimes.com>.



**APPENDIX A**  
**EXPLANATION OF TARIFF AND TRADE**  
**AGREEMENTS TERMS**

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# TARIFF AND TRADE AGREEMENT TERMS

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In the *Harmonized Tariff Schedule of the United States* (HTS), chapters 1 through 97 cover all goods in trade and incorporate in the tariff nomenclature the internationally adopted Harmonized Commodity Description and Coding System through the 6-digit level of product description. Subordinate 8-digit product subdivisions, either enacted by Congress or proclaimed by the President, allow more narrowly applicable duty rates; 10-digit administrative statistical reporting numbers provide data of national interest. Chapters 98 and 99 contain special U.S. classifications and temporary rate provisions, respectively. The HTS replaced the *Tariff Schedules of the United States* (TSUS) effective January 1, 1989.

Duty rates in the *general* subcolumn of HTS column 1 are normal trade relations rates, many of which have been eliminated or are being reduced as concessions resulting from the Uruguay Round of Multilateral Trade Negotiations. Column 1-general duty rates apply to all countries except those listed in HTS general note 3(b) (Afghanistan, Cuba, Laos, North Korea, and Vietnam) plus Serbia and Montenegro, which are subject to the statutory rates set forth in *column 2*. Specified goods from designated general-rate countries may be eligible for reduced rates of duty or for duty-free entry under one or more preferential tariff programs. Such tariff treatment is set forth in the *special* subcolumn of HTS rate of duty column 1 or in the general notes. If eligibility for special tariff rates is not claimed or established, goods are dutiable at column 1-general rates. The HTS does not enumerate those countries as to which a total or partial embargo has been declared.

The *Generalized System of Preferences* (GSP) affords nonreciprocal tariff preferences to developing countries to aid their economic development and to diversify and expand their production and exports. The U.S. GSP, enacted in title V of the Trade Act of 1974 for 10 years and extended several times thereafter, applies to merchandise imported on or after January 1, 1976 and before the close of September 30, 2001. Indicated by the symbol "A", "A\*", or "A+" in the special subcolumn, the GSP provides duty-free entry to eligible articles the product of and imported directly from designated beneficiary developing countries, as set forth in general note 4 to the HTS.

The *Caribbean Basin Economic Recovery Act* (CBERA) affords nonreciprocal tariff preferences to developing countries in the Caribbean Basin area to aid their economic development and to diversify and expand their production and exports. The CBERA, enacted in title II of Public Law 98-67, implemented by Presidential Proclamation 5133 of November 30, 1983, and amended by the Customs and Trade Act of 1990, applies to merchandise entered, or withdrawn from warehouse for consumption, on or after January 1, 1984. Indicated by the symbol "E" or "E\*" in the special subcolumn, the CBERA provides duty-free entry to eligible articles, and reduced-duty treatment to certain other articles, which are the product of and imported directly from designated countries, as set forth in general note 7 to the HTS.

Free rates of duty in the special subcolumn followed by the symbol "IL" are applicable to products of Israel under the *United States-Israel Free Trade Area Implementation Act* of 1985 (IFTA), as provided in general note 8 to the HTS.

Preferential nonreciprocal duty-free or reduced-duty treatment in the special subcolumn followed by the symbol "J" or "J\*" in parentheses is afforded to eligible articles the product of designated beneficiary countries under the *Andean Trade Preference Act* (ATPA), enacted as title II of Public Law 102-182 and implemented by Presidential Proclamation 6455 of July 2, 1992 (effective July 22, 1992), as set forth in general note 11 to the HTS.

Preferential free rates of duty in the special subcolumn followed by the symbol "CA" are applicable to eligible goods of Canada, and rates followed by the symbol "MX" are applicable to eligible goods of Mexico, under the *North American Free Trade Agreement*, as provided in general note 12 to the HTS and implemented effective January 1, 1994 by Presidential Proclamation 6641 of December 15, 1993. Goods must originate in the NAFTA region under rules set forth in general note 12(t) and meet other requirements of the note and applicable regulations.

Other special tariff treatment applies to particular *products of insular possessions* (general note 3(a)(iv)), *products of the West Bank and Gaza Strip* (general note 3(a)(v)), goods covered by the *Automotive Products Trade Act* (APTA) (general note 5) and the *Agreement on Trade in Civil Aircraft* (ATCA) (general note 6), *articles imported from freely associated states* (general note 10), *pharmaceutical products* (general note 13), and *intermediate chemicals for dyes* (general note 14).

The *General Agreement on Tariffs and Trade 1994* (GATT 1994), pursuant to the Agreement Establishing the World Trade Organization, is based upon the earlier GATT 1947 (61 Stat. (pt. 5) A58; 8 UST (pt. 2) 1786) as the primary multilateral system of disciplines and principles governing international trade. Signatories' obligations under both the 1994 and 1947 agreements focus upon most-favored-nation treatment, the maintenance of scheduled concession rates of duty, and national treatment for imported products; the GATT also provides the legal framework for customs valuation standards, "escape clause" (emergency) actions, antidumping and countervailing duties, dispute settlement, and other measures. The results of the Uruguay Round of multilateral tariff negotiations are set forth by way of separate schedules of concessions for each participating contracting party, with the U.S. schedule designated as Schedule XX. Pursuant to the *Agreement on Textiles and Clothing* (ATC) of the GATT 1994, member countries are phasing out restrictions on imports under the prior "Arrangement Regarding International Trade in Textiles" (known as the *Multifiber Arrangement* (MFA)). Under the MFA, which was a departure from GATT 1947 provisions, importing and exporting countries negotiated bilateral agreements limiting textile and apparel shipments, and importing countries could take unilateral action in the absence or violation of an agreement. Quantitative limits had been established on imported textiles and apparel of cotton, other vegetable fibers, wool, man-made fibers or silk blends in an effort to prevent or limit market disruption in the importing countries. The ATC establishes notification and safeguard procedures, along with other rules concerning the customs treatment of textile and apparel shipments, and calls for the eventual complete integration of this sector into the GATT 1994 over a ten-year period, or by Jan. 1, 2005.





**APPENDIX B**  
**STATISTICAL TABLES**

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**Table B-1**  
**Primary end uses for cotton in the United States, 1995-99<sup>1</sup>**

(As percent of total cotton consumed)

Products	1995	1996	1997	1998	1999
Apparel:					
Men's and boys' apparel .....	37.5	37.9	34.7	31.3	31.7
Women's and misses' apparel .....	20.7	20.4	20.5	19.2	19.2
Children's and infants' apparel .....	6.1	5.6	6.7	7.5	7.8
Subtotal, apparel .....	64.3	63.9	61.8	58.0	58.7
Home furnishings .....	29.7	30.2	32.2	35.8	34.9
Industrial uses .....	6.0	5.9	6.1	6.3	6.5
Total .....	100.0	100.0	100.0	100.0	100.0

<sup>1</sup> Totals may not add due to rounding.

Source: *Cotton Counts Its Customers*, National Cotton Council, editions 1997-2000.

**Table B-2**  
**Number of U.S. cotton farms, acres harvested, average acres per farm, number of bales produced, and yield, selected years**

Year	Number of U.S. cotton farms	Acres	Average acres	Number of	Yield
		harvested	per farm	bales produced	Bales per acre
		Millions		Millions	
1949 .....	1,110,876	26.6	24	( <sup>1</sup> )	( <sup>1</sup> )
1969 .....	199,784	11.5	58	( <sup>1</sup> )	( <sup>1</sup> )
1974 .....	89,536	12.2	137	( <sup>1</sup> )	( <sup>1</sup> )
1978 .....	52,628	12.7	241	( <sup>1</sup> )	( <sup>1</sup> )
1982 .....	38,266	9.8	256	11.4	1.16
1992 .....	34,812	11.0	315	15.4	1.40
1997 .....	31,456	13.2	420	17.9	1.35

<sup>1</sup> Not available.

Sources: Thomas M. Bell and Fred E. M. Gillham, *The World of Cotton*; 1992 Census of Agriculture; and 1997 Census of Agriculture.

**Table B-3**  
**Upland and ELS cotton: U.S. production, marketing years 1995-1999<sup>1</sup>**

(Metric tons) <sup>2</sup>						
Product	1995	1996	1997	1998	1999 <sup>3</sup>	Percentage change 1995-1999
<b>Upland cotton</b>						
Delta region:						
Arkansas .....	319,623	356,201	366,434	263,231	310,914	-2.7
Louisiana .....	299,374	279,996	214,678	139,563	196,172	-34.5
Mississippi .....	400,835	408,455	396,480	314,397	376,885	-6.0
Missouri .....	111,694	128,676	123,016	76,204	102,767	-8.0
Tennessee .....	157,634	146,965	144,135	118,879	129,547	-17.8
Subtotal .....	1,289,159	1,320,294	1,244,743	912,274	1,116,284	-13.4
Southeast region:						
Alabama .....	107,121	171,786	119,750	120,403	136,079	27.0
Florida .....	23,340	28,392	25,931	17,745	24,821	6.3
Georgia .....	422,607	452,654	417,817	335,734	341,178	-19.3
North Carolina .....	173,746	218,162	202,486	223,387	177,665	2.3
South Carolina .....	81,865	99,066	89,268	76,204	61,181	-25.3
Virginia .....	29,829	34,619	29,872	31,592	31,091	4.2
Subtotal .....	838,509	1,004,677	885,124	805,066	772,015	-7.9
Southwest region:						
Kansas .....	218	893	1,894	3,026	4,768	2,087.2
Oklahoma .....	26,780	29,175	39,844	30,482	31,353	17.1
Texas .....	971,061	946,022	1,119,115	783,816	1,099,519	13.2
Subtotal .....	998,059	976,090	1,160,853	817,324	1,135,640	13.8
West region:						
Arizona .....	172,657	169,391	184,414	132,378	155,892	-9.7
California .....	503,384	520,367	477,039	249,515	344,008	-31.7
New Mexico .....	15,459	18,289	20,249	17,505	23,732	53.5
Subtotal .....	691,500	708,047	681,702	399,398	523,632	-24.3
<b>Total, upland cotton .....</b>	<b>3,817,226</b>	<b>4,009,108</b>	<b>3,972,421</b>	<b>2,934,062</b>	<b>3,547,571</b>	<b>-7.1</b>
ELS cotton:						
Arizona .....	15,720	16,199	9,101	5,835	3,549	-77.4
California .....	48,880	81,647	95,190	76,814	131,224	168.5
New Mexico .....	4,115	4,137	3,201	2,177	2,330	-43.4
Texas .....	11,322	13,085	11,823	11,474	9,711	-14.2
<b>Total, ELS cotton .....</b>	<b>80,036</b>	<b>115,068</b>	<b>119,314</b>	<b>96,300</b>	<b>146,813</b>	<b>83.4</b>
<b>Total .....</b>	<b>3,897,262</b>	<b>4,124,177</b>	<b>4,091,735</b>	<b>3,030,362</b>	<b>3,694,384</b>	<b>-5.2</b>

<sup>1</sup> A marketing year starts Aug. 1. Marketing year 1999 runs from Aug. 1, 1999 until July 31, 2000. Totals may not add due to rounding.

<sup>2</sup> Converted from 480 lb.-net weight bales.

<sup>3</sup> Estimated.

Source: USDA, NASS, Agricultural Statistics Board, Crop Production Reports.

**Table B-4**  
**Upland and American Pima cotton gins, by state and U.S. total, selected years**

MY	AL	AR	AZ	CA	FL	GA	KS	LA	MO	MS	NC	NM	OK	SC	TN	TX	VA	U. S. total
1980 ...	110	196	120	223	( <sup>1</sup> )	58	( <sup>1</sup> )	98	72	297	40	42	88	56	90	761	( <sup>1</sup> )	2,251
1985 ...	84	132	91	163	( <sup>1</sup> )	61	( <sup>1</sup> )	89	50	237	36	31	71	50	75	601	( <sup>1</sup> )	1,771
1990 ...	72	122	90	138	2	59	( <sup>1</sup> )	80	48	192	39	26	63	40	70	494	( <sup>1</sup> )	1,535
1995 ...	61	100	63	109	4	79	1	75	35	137	57	18	52	40	48	391	4	1,274
1996 ...	56	104	54	103	4	79	1	72	35	129	54	16	45	38	47	372	5	1,214
1997 ...	51	94	51	97	4	77	1	68	36	127	50	16	39	36	41	360	5	1,153
1998 ...	51	91	49	86	4	77	1	61	35	116	53	16	38	34	41	354	6	1,113
1999 ...	51	88	47	79	4	70	2	67	35	114	51	14	33	35	40	348	6	1,084

<sup>1</sup> No gins.

Sources: Statistics from 1980 and 1985—U.S. Bureau of Census; Statistics from 1990—USDA, ERS; and Statistics from 1995-1999—USDA, NASS.

**Table B-5**  
**Cotton ginnings: Number of U.S. gins, total running bales ginned (excluding linters) in the United States, and average number of running bales ginned per facility, selected years**

MY	Number of gins			Running bales ginned			Average number of running bales ginned per facility		
	Upland	Pima	Total	Upland	Pima	Total	Upland	Pima	Total
1985 ...	( <sup>1</sup> )	( <sup>1</sup> )	1,771	12,837,086	150,748	12,987,834	( <sup>1</sup> )	( <sup>1</sup> )	7,334
1990 ...	1,487	48	1,535	14,716,356	347,987	15,064,343	9,897	7,250	9,814
1995 ...	1,242	32	1,274	17,113,850	354,650	17,468,500	13,779	11,083	13,712
1996 ...	1,182	32	1,214	17,928,550	510,000	18,438,550	15,168	15,938	15,188
1997 ...	1,119	34	1,153	17,769,850	531,200	18,301,050	15,880	15,624	15,873
1998 ...	1,081	32	1,113	13,107,200	426,750	13,533,950	12,125	13,336	12,160
1999 ...	1,051	33	1,084	15,877,900	650,150	16,528,050	15,107	19,702	15,247

<sup>1</sup> Not available.

Sources: U.S. Department of Commerce, Bureau of the Census; Agricultural Statistics Board, NASS, USDA; and Supima Association of America.

**Table B-6**

**Cotlook A-Index and USDA's adjusted world cotton price (AWP) for upland cotton, monthly, Jan. 1995-July 2000<sup>1</sup>**

(Cents per pound)

Year	Company	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average <sup>2</sup>
1995 . . . . .	Cotlook A-Index <sup>3</sup>	86.20	85.00	83.20	82.80	82.95	82.95	79.75	85.05	91.20	91.15	89.20	87.90	85.61
	AWP	79.96	85.83	96.27	94.44	87.04	76.10	73.76	70.05	74.87	77.31	74.47	73.20	80.28
1996 . . . . .	Cotlook A-Index <sup>3</sup>	79.90	80.45	80.60	78.90	79.35	80.60	81.36	76.35	75.35	75.35	76.05	79.20	78.62
	AWP	70.99	71.00	68.23	68.53	69.69	68.96	64.55	61.82	60.55	60.60	60.71	64.21	65.82
1997 . . . . .	Cotlook A-Index <sup>3</sup>	79.90	80.40	80.63	78.92	79.28	80.51	81.34	81.28	79.61	77.55	77.22	74.48	79.26
	AWP	64.99	65.96	66.24	64.87	65.99	66.59	66.77	66.99	65.40	63.73	62.99	60.14	65.06
1998 . . . . .	Cotlook A-Index	71.34	68.86	68.43	65.48	64.37	67.97	69.51	68.16	65.81	60.29	56.39	56.03	65.22
	AWP	57.10	55.14	54.14	51.36	51.39	55.02	56.06	54.11	51.84	46.50	42.26	41.96	51.41
1999 . . . . .	Cotlook A-Index	55.78	56.16	56.73	57.88	59.88	58.50	54.41	50.98	49.35	47.44	46.13	44.21	53.12
	AWP	41.71	42.11	42.67	43.97	45.39	43.38	39.07	36.92	35.31	33.32	32.18	29.86	38.82
2000 . . . . .	Cotlook A-Index	47.61	53.73	57.46	58.72	60.53	59.54	58.38						56.57
	AWP	32.74	39.11	43.02	45.01	46.85	46.81	45.51						42.72

<sup>1</sup> Cotlook A-Index is priced based on Middling 1-3/32" cotton; AWP is priced based on Strict Low Middling (SLM) 1-1/16" cotton.

<sup>2</sup> Simple average of the corresponding calendar months.

<sup>3</sup> Cotlook A-Index prices for Jan. 1995 -Jan. 1997 was taken from the Cotlook Ltd. found at <http://www.cotlook.com>. Cotlook A-Index prices for all other months taken from FAS, USDA cotton reports.

Source: Compiled from statistics in Cotton: World Markets and Trade, FAS, USDA, various months, Cotlook Ltd. found at <http://www.cotlook.com>, and FSA, USDA.

**Table B-7**  
**U.S. price for upland cotton, monthly, Jan. 1995-Aug. 2000<sup>1</sup>**

*(Cents per pound)*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Avg. <sup>2</sup>
1995 .....	88.0	92.0	103.0	106.0	104.0	107.0	94.0	86.0	93.0	86.0	86.0	85.0	94.2
1996 .....	81.0	81.0	78.0	79.0	77.0	72.0	68.0	69.0	71.0	70.0	70.0	73.0	74.1
1997 .....	70.4	69.6	69.3	67.7	67.2	70.4	70.7	70.0	70.0	70.5	70.2	65.9	69.3
1998 .....	64.6	64.7	68.4	63.2	65.8	74.8	75.8	72.9	73.8	69.4	66.1	60.7	68.4
1999 .....	55.9	55.0	57.2	55.1	53.8	51.5	46.9	47.9	47.4	49.5	48.3	47.6	51.3
2000 .....	53.7	56.1	59.6	55.1	58.2	54.3	55.1	59.5					56.5

<sup>1</sup> Prices quoted are averages between desert southwest and SLV regions, for Upland SLM 41, with a staple length of 34 inches.

<sup>2</sup> Simple average of the calendar months.

Source: Supima Association of America.

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**Table B-8**  
**U.S. price for ELS cotton, monthly, Jan. 1995-Aug. 2000<sup>1</sup>**

*(Cents per pound)*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Avg. <sup>2</sup>
1995 .....	108.0	112.0	114.0	123.0	126.0	131.0	134.0	135.0	136.0	144.0	160.0	167.0	132.5
1996 .....	166.0	161.0	161.0	163.0	154.0	140.0	133.0	117.0	108.0	98.0	97.0	109.0	133.9
1997 .....	110.0	113.0	114.0	116.0	114.3	107.0	108.2	107.3	102.5	98.9	99.5	102.5	107.8
1998 .....	101.9	99.0	99.4	101.8	102.9	102.6	102.6	102.4	103.6	103.1	99.0	98.2	101.4
1999 .....	96.1	92.2	85.5	83.5	81.2	81.0	81.3	81.3	81.0	80.8	80.6	80.3	83.7
2000 .....	79.4	80.5	81.8	82.8	82.9	84.0	86.9	89.4					83.5

<sup>1</sup> Prices quoted are averages between desert southwest and SLV regions, for Grade 3 Pima, staple length of 46 inches.

<sup>2</sup> Simple average of the calendar months.

Source: Supima Association of America.

**Table B-9**  
**ELS competitiveness payments for the weeks of Mar. 14, 2000 through Sept. 12, 2000**

*(Cents per pound, unless indicated)*

<b>Week ending</b>	<b>U.S. price</b>	<b>Foreign price</b>	<b>U.S. price less foreign price</b>	<b>Payment rate</b>	<b>Applicable dates for payments</b>
Mar. 14, 2000 .....	81.30	80.70	0.60	0.00	
Mar. 21, 2000 .....	82.30	80.70	1.60	0.00	
Mar. 28, 2000 .....	82.50	81.50	1.00	0.00	
Apr. 4, 2000 .....	83.30	81.70	1.60	0.60	(4/5-4/11)
Apr. 11, 2000 .....	83.00	81.70	1.30	1.30	(4/12-4/18)
Apr. 18, 2000 .....	83.00	81.70	1.30	1.30	(4/19-4/25)
Apr. 25, 2000 .....	83.00	82.59	0.41	0.41	(4/26-5/2)
May 2, 2000 .....	83.00	82.34	0.66	0.66	(5/3-5/9)
May 9, 2000 .....	83.00	83.84	-0.84	0.00	
May 16, 2000 .....	83.00	83.84	-0.84	0.00	
May 23, 2000 .....	82.70	84.04	-1.34	0.00	
May 30, 2000 .....	82.81	84.84	-2.03	0.00	
June 6, 2000 .....	83.28	84.84	-1.56	0.00	
June 13, 2000 .....	83.78	86.59	-2.81	0.00	
June 20, 2000 .....	84.18	86.59	-2.41	0.00	
June 27, 2000 .....	84.38	86.59	-2.21	0.00	
July 4, 2000 .....	84.38	86.59	-2.21	0.00	
July 11, 2000 .....	84.38	86.59	-2.21	0.00	
July 18, 2000 .....	84.78	86.59	-1.81	0.00	
July 25, 2000 .....	88.75	86.59	2.16	0.00	
Aug. 1, 2000 .....	90.50	86.59	3.91	0.00	
Aug. 8, 2000 .....	90.28	86.59	3.69	0.00	
Aug. 15, 2000 .....	89.38	87.49	1.89	1.89	(8/16-8/22)
Aug. 22, 2000 .....	88.88	88.84	0.04	0.04	(8/23-8/29)
Aug. 29, 2000 .....	88.88	88.84	0.04	0.04	(8/30-9/5)
Sept. 5, 2000 .....	88.88	88.84	0.04	0.04	(9/6-9/12)
Sept. 12, 2000 .....	88.88	92.04	-3.16	0.00	

Source: Draft news release from Wayne Bjorlie, FSA, USDA, June 6, 2000; tables generated by Mr. Bjorlie throughout the year; and press release found at <http://www.fsa.usda.gov>, retrieved Sept. 22, 2000.

**Table B-10**  
**Comparison of fiber prices, Oct. 23, 1998 and Oct. 22, 1999**

(Dollars per pound)

Fiber	Oct. 23, 1998	Oct. 22, 1999	Percent change
Cotton .....	0.7664	0.5531	-27.8
Wool .....	1.37	1.65	20.4
Polyester staple .....	0.60	0.53	-11.7
Polyester filament .....	0.79	0.69	-12.7
3-denier acrylic .....	1.06	1.09	2.8
150-denier acetate .....	2.14	2.17	1.4
Rayon staple .....	1.11	0.91	-18.0
40-denier nylon .....	2.38	2.42	1.7
Spandex .....	14.00	14.00	0.0

Source: *Women's Wear Daily*, Oct. 26, 1999.

**Table B-11**  
**Cotton: U.S. shipments, imports, exports, and consumption, marketing years 1995-1999<sup>1</sup>**

(Metric tons)

Item	1995	1996	1997	1998	1999
U.S. shipments <sup>2</sup> .....	3,906,232	4,124,177	4,091,735	3,030,318	3,833,512
U.S. exports .....	1,671,051	1,494,693	1,632,949	945,804	1,654,722
U.S. imports .....	88,832	87,744	2,830	96,453	16,329
Apparent U.S. consumption <sup>3</sup> .....	2,318,135	2,422,426	2,470,979	2,264,574	2,199,038
Ratio of imports to consumption ( <i>percent</i> ) .....	3.8	3.6	0.1	4.3	0.7

<sup>1</sup> Marketing year runs August 1-July 31. Data converted from 480-lb. bales.

<sup>2</sup> U.S. shipments equal production plus beginning stocks minus ending stocks.

<sup>3</sup> Data may not add to apparent U.S. consumption totals due to cotton unaccounted for by USDA.

Source: USDA.



**Table B-12****ELS (American Pima) cotton: U.S. shipments, imports, exports, and consumption, marketing years 1995-1999<sup>1</sup>**

(Metric tons)

Item	1995	1996	1997	1998	1999 <sup>2</sup>
U.S. shipments <sup>3</sup> .....	79,252	118,443	116,266	87,962	115,395
U.S. exports .....	65,318	101,461	95,800	62,705	91,445
U.S. imports .....	1,742	0	0	2,613	5,443
Apparent U.S. consumption <sup>4</sup> .....	23,732	23,079	25,039	32,006	31,570
Ratio of imports to consumption ( <i>percent</i> ) .....	7.3	0.0	0.0	8.2	17.2

<sup>1</sup> Marketing year runs Aug. 1-July 31. Data converted from 480-lb. bales.

<sup>2</sup> Preliminary.

<sup>3</sup> U.S. shipments equal production plus beginning stocks minus ending stocks.

<sup>4</sup> Data may not add to apparent U.S. consumption totals due to cotton unaccounted for by USDA..

Source: USDA.

**Table B-13**  
**U.S. price ratio of American Pima to upland cotton, monthly, January 1995-August 2000**

Year	Ratio (in percent)												Avg. <sup>1</sup>
	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
1995	123	122	111	116	121	122	143	157	146	167	186	196	143
1996	205	199	206	206	200	194	196	170	152	140	139	149	180
1997	156	162	165	171	170	152	153	153	146	140	142	156	156
1998	158	153	145	161	156	137	135	140	140	149	150	162	149
1999	172	168	149	152	151	157	173	170	171	163	167	169	163
2000	148	143	137	150	142	155	158	150					148

<sup>1</sup> Simple average of the calendar months.

Source: Supima Association of America.

**Table B-14**  
**Consumption of domestic and foreign cotton, by U.S. industry group, 1995-99**

*(Thousands of bales, unless otherwise noted)*

Title	1995	1996	1997	1998	1999
Weaving mills <sup>1</sup> .....	5,993	5,942	6,071	5,864	5,231
Yarn and thread mills <sup>2</sup> .....	4,124	4,302	4,616	4,463	4,667
Other industry groups .....	294	235	189	166	137
Total <sup>3</sup> .....	10,411	10,479	10,876	10,493	10,035
Percentage of total consumption:					
Weaving mills .....	57.6	56.7	55.8	55.9	52.1
Yarn and thread mills .....	39.6	41.1	42.4	42.5	46.5
Other industry groups .....	2.8	2.2	1.7	1.6	1.4
Total <sup>3</sup> .....	100.0	100.0	100.0	100.0	100.0

<sup>1</sup> Broadwoven fabric mills (NAICS code 31321) composed of establishments engaged in weaving only, weave and finish, or weave, finish, and further fabricate fabric products.

<sup>2</sup> Fiber, Yarn, and Thread Mills (NAICS code 31311) composed of establishments engaged in one or more of the following: (1) spinning yarn; (2) manufacturing thread of any fiber; and/or (3) texturing, throwing, twisting, and winding purchased yarn.

<sup>3</sup> Totals may not add due to rounding.

Source: *Current Industrial Reports*, Bureau of the Census, Department of Commerce.

**Table B-15**  
**Cotton: Comparative cross-regional costs of producing one hectare of cotton, marketing year 1997/1998**

(Dollars per hectare)

Country	Pre-sowing	Sowing	Growing	Harvesting	Total
<b>Irrigated areas:</b>					
China .....	74.09	387.01	308.44	86.89	856.43
Egypt .....	362.85	128.73	300.42	239.16	1,031.16
India (Central south) .....	127.38	158.33	291.07	247.62	824.40
Pakistan (Punjab) .....	153.57	22.40	252.35	55.13	483.45
Turkey (Curkurova) .....	471.91	126.57	657.10	251.08	1,506.66
United States (West) .....	194.81	41.51	1,211.93	N/A	1,448.25
<b>Rainfed areas:</b>					
India (Central south) .....	101.19	116.67	225.00	92.86	535.72
Senegal .....	33.33	109.08	118.25	50.00	310.66
United States (Southeast) .....	86.68	25.15	562.62	N/A	674.45

Source: *Survey of the Cost of Production of Raw Cotton*, International Cotton Advisory Committee, Oct. 1998.

**Table B-16**  
**Cotton: Production costs per hectare, production yields, and estimated production costs per kilogram, by region, marketing year 1998/1999**

Region	Production cost per hectare <sup>1</sup>	Production yield (Kilograms per hectare)	Estimated production cost <sup>2</sup> (Dollars per kilogram)
Africa (except Egypt) <sup>3</sup> .....	\$310.66	118 - 435 (range)	1.12
China .....	856.43	1,011	0.85
Egypt .....	1,031.16	816	1.26
India .....	680.06	298	2.28
Pakistan .....	483.45	473	1.02
Turkey .....	1,506.66	1,107	1.36
United States .....	1,061.36	701	1.51

<sup>1</sup> Production costs per hectare were taken from the previous table. For India and the United States, the costs were calculated as the simple average of the regional data.

<sup>2</sup> Estimated per kilogram production costs were calculated by dividing the production costs in dollars per hectare by the kilograms per hectare yield.

<sup>3</sup> Africa's production costs per hectare are from Senegal only. The African production yields are ranged based on data from Cameroon, Chad, Nigeria, South Africa, Sudan, Tanzania, Zimbabwe, and an "Other" category. Africa's estimated production cost per kilogram was calculated using the mean of the production yield range (277).

Source: *Cotton: World Markets and Trade*, FAS, USDA, June 12, 2000, and *Survey of the Cost of Production of Raw Cotton*, International Cotton Advisory Committee, Oct. 1998.

Table B-17

Cotton: U.S. exports of domestic merchandise and imports for consumption, by selected countries, and total merchandise trade balance, 1995-99<sup>1</sup>

(In million dollars)

Market	1995	1996	1997	1998	1999	Percentage change 1995-99
<b>U.S. exports of domestic merchandise:</b>						
Mexico .....	190.5	257.2	354.1	615.7	285.4	49.8
Japan .....	408.7	318.0	247.2	251.8	96.1	-76.5
Indonesia .....	377.2	279.8	210.8	151.2	80.5	-78.7
Korea .....	361.5	256.6	223.5	266.4	65.3	-81.9
Canada .....	91.7	99.7	86.4	120.7	61.9	-32.5
Taiwan .....	141.7	77.5	111.3	122.5	57.1	-59.7
Turkey .....	81.9	30.5	165.3	171.8	46.4	-43.3
Bangladesh .....	62.4	35.9	62.1	70.9	28.5	-54.3
Thailand .....	178.6	86.2	79.7	65.3	28.1	-84.3
Hong Kong .....	134.2	42.2	51.3	91.3	26.2	-80.5
All other .....	1,652.7	1,231.7	1,090.4	617.7	192.7	-88.3
Total .....	3,681.1	2,715.3	2,682.1	2,545.3	968.2	-73.7
<b>U.S. imports for consumption:</b>						
Greece .....	0	2.0	0	2.7	64.9	( <sup>2</sup> )
China .....	0	0	0	0	23.9	( <sup>2</sup> )
Syria .....	0	0.1	0	0	15.5	( <sup>2</sup> )
Egypt .....	1.1	6.2	0	6.9	6.6	500.0
Argentina .....	0.1	86.2	0	2.7	6.0	5900.0
Mexico .....	2.3	16.0	0.2	0.1	5.3	130.4
Benin .....	0	0	0	0	5.2	( <sup>2</sup> )
Uzbekistan .....	0	133.6	1.2	0.3	3.4	( <sup>2</sup> )
Burkina Faso .....	0	3.6	0	0	2.5	( <sup>2</sup> )
Mali .....	0	0.9	0	0	1.6	( <sup>2</sup> )
All other .....	6.9	34.5	1.6	0.8	1.4	-79.7
Total .....	10.4	283.1	3.0	13.5	136.2	1,209.6
<b>U.S. merchandise trade balance:</b>						
Total .....	3,670.7	2,432.2	2,679.1	2,531.8	832.0	-77.3

<sup>1</sup> Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export. Figures may not add to totals shown due to rounding.

<sup>2</sup> Not applicable.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table B-18

Cotton: Harmonized Tariff Schedule subheadings; description; HTS description; U.S. column 1 rate of duty as of Jan. 1, 2000; Uruguay Round bound concession rate of duty; 1999 U.S. imports; and ad valorem equivalent (AVE) rates of duty for 1999

HTS subheading	Description	HTS description	Column 1 rate of duty, as of Jan. 1, 2000		Bound duty, Uruguay Round	U.S. imports, 1999	AVE duty rates based on customs value
			General	Special <sup>1</sup>			
						<i>Million dollars</i>	<i>Percent</i>
5201.00.05	Harsh or rough short staple cotton under 3/4 inch	Cotton not carded or combed: Having a staple length under 28.575 mm (1-1/8 inches): Harsh or rough, having a staple length under 19.05 mm (3/4 inch) . . . . .	Free		Free	0.5	0.0
5201.00.12	Short staple cotton entered under Special Import Quotas (Step 3)	Cotton not carded or combed: Having a staple length under 28.575 mm (1-1/8 inches): Other: Described in general note 15 of the tariff schedule and entered pursuant to its provisions <sup>2</sup> . . . . .	Free		( <sup>3</sup> )	109.6	0.0
5201.00.14	Short staple cotton entered under TRQs under the Uruguay Round Agreement	Cotton not carded or combed: Having a staple length under 28.575 mm (1-1/8 inches): Other: Described in additional U.S. note 5 to this chapter and entered pursuant to its provisions <sup>4</sup> . . . . .	Free		Free	11.3	0.0
5201.00.18	Short staple cotton entered outside sub-headings 5201.00.12 and 5201.00.14	Cotton not carded or combed: Having a staple length under 28.575 mm (1-1/8 inches): Other: Other . . . . .	31.4¢/kg	See 9906.52.01, 9906.52.05 - 9906.52.07 (MX) <sup>5</sup>	31.4¢/kg	3.1	1.4
5201.00.22	Long staple cotton entered under Special Import Quotas (Step 3)	Cotton not carded or combed: Having a staple length under 28.575 mm (1-1/8 inches) or more but under 34.925 mm (1-3/8 inches): Described in general note 15 of the tariff schedule and entered pursuant to its provisions <sup>2</sup> . . . . .	4.4¢/kg	Free (CA, E, IL, J, MX)	( <sup>3</sup> )	3.3	3.4

See footnotes at end of table.

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Table B-18—Continued

Cotton: Harmonized Tariff Schedule subheadings; description; HTS description; U.S. column 1 rate of duty as of Jan. 1, 2000; Uruguay Round bound concession rate of duty; 1999 U.S. imports; and ad valorem equivalent (AVE) rates of duty for 1999

HTS subheading	Description	HTS description	Column 1 rate of duty, as of Jan. 1, 2000		Bound duty, Uruguay Round	U.S. imports, 1999	AVE duty rates based on customs value
			General	Special <sup>1</sup>			
			Million dollars		Percent		
5201.00.24	Harsh or rough cotton of 1-5/32 inches or more entered under TRQs under Uruguay Round Agreement	Cotton not carded or combed: Having a staple length of 28.575 mm (1-1/8 inches) or more but under 34.925 mm (1-3/8 inches): Other, harsh or rough, having a staple length of 29.36875 mm (1-5/32 inches) or more and white in color (except cotton of perished staple, grabbots and cotton pickings): Described in additional U.S. note 6 to this chapter and entered pursuant to its provisions <sup>6</sup> . . . . .	4.4¢/kg	Free (CA, E, IL, J)	4.4¢/kg	0	( <sup>7</sup> )
5201.00.28	Harsh or rough cotton of 1-5/32 inches or more entered outside subheading 5201.00.24	Cotton not carded or combed: Having a staple length of 28.575 mm (1-1/8 inches) or more but under 34.925 mm (1-3/8 inches): Other, harsh or rough, having a staple length of 29.36875 mm (1-5/32 inches) or more and white in color (except cotton of perished staple, grabbots and cotton pickings): Other . . . . .	31.4¢/kg	See 9906.52.05 - 9906.52.07 (MX) <sup>5</sup>	31.4¢/kg	1.4	7.3
5201.00.34	Long staple cotton entered under TRQs under the Uruguay Round Agreement	Cotton not carded or combed: Having a staple length of 28.575 mm (1-1/8 inches) or more but under 34.925 mm (1-3/8 inches): Other: Described in additional U.S. note 7 to this chapter and entered pursuant to its provisions <sup>8</sup> . . . . .	4.4¢/kg	Free (CA, E, IL, J)	4.4¢/kg	0	( <sup>7</sup> )
5201.00.38	Long staple cotton entered outside subheadings 5201.00.22 And 5201.00.34	Cotton not carded or combed: Having a staple length of 28.575 mm (1-1/8 inches) or more but under 34.925 mm (1-3/8 inches): Other: Other . . . . .	31.4¢/kg	See 9906.52.01, 9906.52.05-9906.52.07 (MX) <sup>5</sup>	31.4¢/kg	0	( <sup>7</sup> )

See footnotes at end of table.

Table B-18—Continued

Cotton: Harmonized Tariff Schedule subheadings; description; HTS description; U.S. column 1 rate of duty as of Jan. 1, 2000; Uruguay Round bound concession rate of duty; 1999 U.S. imports; and ad valorem equivalent (AVE) rates of duty for 1999

HTS subheading	Description	HTS description	Column 1 rate of duty, as of Jan. 1, 2000		Bound duty, Uruguay Round	U.S. imports, 1999	AVE duty rates based on customs value
			General	Special <sup>1</sup>			
						<i>Million dollars</i>	<i>Percent</i>
5201.00.55	Extra-long staple cotton entered under Special Import Quotas (Step 3)	Cotton not carded or combed: Having a staple length of 34.925 mm (1-3/8 inches) or more: Described in general note 15 of the tariff schedule and entered pursuant to its provisions <sup>2</sup> . . . . .	1.5¢/kg	Free (CA, E, IL, J, MX) <sup>(3)</sup>		0.7	0.5
5201.00.60	Extra-long staple cotton entered under TRQs under the Uruguay Round Agreement	Cotton not carded or combed: Having a staple length of 34.925 mm (1-3/8 inches) or more: Described in additional U.S. note 8 to this chapter and entered pursuant to its provisions <sup>9</sup> . . . . .	1.5¢/kg	Free (CA, E, IL, J)	1.5¢/kg	5.8	0.6
5201.00.80	Extra-long staple cotton entered outside subheadings 5201.00.55 and 5201.00.60	Cotton not carded or combed: Having a staple length of 34.925 mm (1-3/8 inches) or more: Other . . . . .	31.4¢/kg	See 9906.52.05 - 9906.52.07 (MX) <sup>5</sup>	31.4¢/kg	0.5	15.4
<b>Total . . . . .</b>						<b>136.2</b>	<b>1.7</b>

<sup>1</sup> Programs under which special tariff treatment may be provided, and the corresponding symbols for such programs as they are indicated in the "special" column, are as follows: North American Free Trade Agreement--goods of Canada (CA), goods of Mexico (MX); Caribbean Basin Economic Recovery Act (E); United States-Israel Free Trade Area (IL); and Andean Trade Preference Act (J). See Appendix A for more details on these programs.

<sup>2</sup> General note 15 of the HTS states that "whenever any agricultural product of chapters 2 through 52, inclusive, is of a type (i) subject to a tariff rate quota and (ii) subject to the provisions of subchapter IV of chapter 99 [safeguard triggers], entries of such products described in this note shall not be counted against the quantity specified as the in-quota quantity for any such products." The products described in the note include cotton entered under the provisions of U.S. note 6 to subchapter III of chapter 99 and subheadings 9903.52.00 through 9903.52.26, inclusive, covering products covered by safeguard measures.

<sup>3</sup> HTS subheadings 5201.00.12, 5201.00.22, and 5201.00.55 were created after Uruguay Round staging documents had already been submitted to the WTO. They follow the bound rates applied to subheadings 5201.00.14, 5201.00.24, and 5201.00.60, respectively.

<sup>4</sup> For a description of note 5 of chapter 52 of the Harmonized Tariff Schedule, see table B-22.

<sup>5</sup> See table B-20 for a full explanation of the HTS subheadings referenced. Mexican imports were excluded from the AVE duty rates computation because those imports receive duty-free treatment.

<sup>6</sup> For a description of note 6 of chapter 52 of the Harmonized Tariff Schedule, see table B-22.

<sup>7</sup> Not applicable.

<sup>8</sup> For a description of note 7 of chapter 52 of the Harmonized Tariff Schedule, see table B-22.

<sup>9</sup> For a description of note 8 of chapter 52 of the Harmonized Tariff Schedule, see table B-22.

Source: Compiled from official statistics of the U.S. Department of Commerce, Schedule XX of the GATT Uruguay Round, and USITC, Harmonized Tariff Schedule of the United States (2000), USITC publication 3249, Nov. 1999.



**Table B-19**  
**Cotton: U.S. imports for consumption, by principal markets, 1995-99<sup>1</sup>**

Market	1995	1996	1997	1998	1999	Percentage change 1995-99
Greece	0	1.2	0	2.1	49.1	( <sup>2</sup> )
China	0	0	0	0	17.5	( <sup>2</sup> )
Syria	0	( <sup>3</sup> )	0	0	13.9	( <sup>2</sup> )
Egypt	0.5	1.6	0	2.4	2.6	420.0
Argentina	0.1	56.1	0	2.1	6.3	6,200.0
Mexico	0.6	10.2	0.2	0.1	3.5	483.3
Benin	0	0	0	0	4.0	( <sup>2</sup> )
Uzbekistan	0	82.8	1.1	0.2	2.5	( <sup>2</sup> )
Burkina Faso	0	2.3	0	0	2.0	( <sup>2</sup> )
Mali	0	0.5	0	0	1.3	( <sup>2</sup> )
All other	2.3	19.7	0.9	0.5	1.2	-47.8
Total	3.5	174.4	2.2	7.4	103.9	2,866.8
Value (million dollars)						
Greece	0	2.0	0	2.7	64.9	( <sup>2</sup> )
China	0	0	0	0	23.9	( <sup>2</sup> )
Syria	0	0.1	0	0	15.5	( <sup>2</sup> )
Egypt	1.1	6.2	0	6.9	6.6	500.0
Argentina	0.1	86.2	0	2.7	6.0	5,900.0
Mexico	2.3	16.0	0.2	0.1	5.3	130.4
Benin	0	0	0	0	5.2	( <sup>2</sup> )
Uzbekistan	0	133.6	1.2	0.3	3.4	( <sup>2</sup> )
Burkina Faso	0	3.6	0	0	2.5	( <sup>2</sup> )
Mali	0	0.9	0	0	1.6	( <sup>2</sup> )
All other	6.9	34.5	1.6	0.8	1.4	-79.7
Total	10.4	283.1	3.0	13.5	136.2	1,209.6
Unit value (dollars per pound)						
Greece	( <sup>2</sup> )	0.76	( <sup>2</sup> )	0.58	0.60	( <sup>2</sup> )
China	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	0.62	( <sup>2</sup> )
Syria	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	0.51	( <sup>2</sup> )
Egypt <sup>4</sup>	1.00	1.76	( <sup>2</sup> )	1.30	1.15	15.4
Argentina	0.45	0.70	( <sup>2</sup> )	0.58	0.43	-4.8
Mexico	1.74	0.71	0.45	0.45	0.69	-60.5
Benin	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	0.59	( <sup>2</sup> )
Uzbekistan	( <sup>2</sup> )	0.73	0.49	0.68	0.62	( <sup>2</sup> )
Burkina Faso	( <sup>2</sup> )	0.71	( <sup>2</sup> )	( <sup>2</sup> )	0.57	( <sup>2</sup> )
Mali	( <sup>2</sup> )	0.82	( <sup>2</sup> )	( <sup>2</sup> )	0.56	( <sup>2</sup> )
All other	1.36	0.79	0.81	0.73	0.53	-61.1
Total	1.35	0.74	0.62	0.83	0.59	-55.9

<sup>1</sup> Import values are based on customs value. Figures may not add to totals shown due to rounding.

<sup>2</sup> Not applicable.

<sup>3</sup> Less than 50,000 kilograms.

<sup>4</sup> Egypt's aggregate unit values are often higher than other countries because Egypt ships more higher-priced ELS cotton to the United States.

Source: Compiled from official statistics of the U.S. Department of Commerce.

**Table B-20**

**Cotton: Harmonized Tariff Schedule subheadings for cotton in chapter 99 subchapter VI, pertaining to goods from Mexico; description; U.S. special rates of duty as of Jan. 1, 2000**

		<u>Column 1 rate of duty, as of Jan. 1, 2000</u>
HTS subheading	Description	Special
9906.52.01	Cotton, whether or not carded or combed (provided for in heading 5201 or 5203) or cotton waste (provided for in subheading 5202.99):  Specified in U.S. note 24 to this subchapter <sup>1</sup> .....	Free
9906.52.05	Cotton, whether or not carded or combed (provided for in heading 5201 or 5203) or cotton waste (provided for in subheading 5202.99):  Other:  Subject to the quantitative limits specified in U.S. note 25 to this subchapter <sup>2</sup> .....	Free
9906.52.06	Cotton, whether or not carded or combed (provided for in heading 5201 or 5203) or cotton waste (provided for in subheading 5202.99):  Other:  Not subject to notes 24 or 25 of this subchapter and not valued over \$1.36/kg .....	10.7¢/kg
9906.52.07	Cotton, whether or not carded or combed (provided for in heading 5201 or 5203) or cotton waste (provided for in subheading 5202.99):  Other:  Not subject to notes 24 or 25 of this subchapter and valued over \$1.36/kg .....	7.8%

<sup>1</sup> Note 24 of this subchapter states that "subheading 9906.52.01 covers only cotton, not carded or combed, harsh or rough, of perished staple, grabbotts and cotton pickings, having a staple length of 29.36875 mm (1-5/32 inches) or more but under 34.925 mm (1-3/8 inches) and white in color (provided for in subheading 5201.00.38)."

<sup>2</sup> Note 25 of this subchapter states that "the aggregate quantity of goods entered under subheadings 9906.52.02 [lap waste, silver waste, and roving waste] and 9906.52.05 in any calendar year shall not exceed following: 1995-10,300,000 kg; 1996-10,609,000 kg; 1997-10,927,000 kg; 1998-11,255,000 kg; 1999-11,593,000 kg; 2000-11,941,000 kg; 2001-12,299,000 kg; 2002-12,668,000 kg. Beginning in calendar year 2003 quantitative limitations shall cease to apply on these goods from Mexico."

Source: USITC, Harmonized Tariff Schedule of the United States (2000), USITC publication 3249, Nov. 1999.

**Table B-21****Cotton products: U.S. commitments on tariff-rate quotas under the Uruguay Round Agreement, 1995-2000 (and beyond)***(Metric tons)*

Product	Quota quantity					2000 and beyond
	1995	1996	1997	1998	1999	
Aggregate quota: (Note 5) <sup>1,2</sup> .....	41,926.8	48,850.4	55,773.9	62,697.5	69,621.0	76,544.6
Note 6 <sup>3</sup> .....	8,495.05	10,837.45	13,179.85	15,522.25	17,864.65	20,207.05
Note 7 <sup>4</sup> .....	900	1,000	1,100	1,200	1,300	1,400
Note 8 <sup>5</sup> .....	5,200	6,460	7,720	8,980	10,240	11,500
Note 9 <sup>6</sup> .....	25,500	28,420	31,340	34,260	37,180	40,100

<sup>1</sup> Note 5 permits imports of an aggregate quantity of cotton, entered under the provisions of notes 6-11 of not less than the total quantity specified. (Notes 10 and 11 are outside the scope of this industry and trade summary.) Part of the note 5 quota is country-specific (table B-22).

<sup>2</sup> Mexico receives an additional aggregate quantity of 10,000 metric tons.

<sup>3</sup> Note 6 permits imports of an aggregate quantity of cotton, not carded or combed, having a staple length under 28.575 mm (1-1/8 inches) (except harsh or rough cotton, having a staple length under 19.05 mm (3/4 inch)), entered under HTS subheading 5201.00.14 during the 12-month period beginning Sept. 20 in any year, of not less than the total quantity specified.

<sup>4</sup> Note 7 permits imports of an aggregate quantity of harsh or rough cotton, not carded or combed, having a staple length under 29.36875 mm (1-5/32 inches) or more but under 34.925 mm (1-3/8 inches) and white in color (except cotton of perished staple, grabbotts and cotton pickings), entered under HTS subheading 5201.00.24 during the 12-month period beginning Aug. 1 in any year, of not less than the total quantity specified.

<sup>5</sup> Note 8 permits imports of an aggregate quantity of cotton, not carded or combed, having a staple length of 28.575 mm (1-1/8 inches) or more but under 34.925 mm (1-3/8 inches) (except harsh or rough cotton, not carded or combed, having a staple length of 29.36875 mm (1-5/32 inches) or more and white in color), but including cotton of perished staple, grabbotts and cotton pickings, entered under HTS subheading 5201.00.34 during the 12-month period beginning Aug. 1 in any year, of not less than the total quantity specified.

<sup>6</sup> Note 9 permits imports of an aggregate quantity of cotton, not carded or combed, having a staple length of 34.925 mm (1-3/8 inches) or more, entered under HTS subheading 5201.00.60 during the 12-month period beginning Aug. 1 in any year, of not less than the total quantity specified.

Source: Schedule XX, United States Implementation of the GATT Uruguay Round.

Table B-22

## Cotton: Tariff-rate quota triggers listed in notes 5-8 of chapter 52 of the Harmonized Tariff Schedule

(In kilograms)

HTS subheading	Country	Marketing year	Quantity
5201.00.14 <sup>1, 2</sup> (note 5)	Total quota .....	9/20/99 - 9/19/00	17,864,650
		9/20/00 - 9/19/01	20,207,050
	Argentina .....		2,360
	Brazil .....		280,648
	British East Africa .....		1,016
	British West Africa (except Nigeria and Ghana) .....		7,259
	British West Indies (except Barbados, Bermuda, Jamaica, Trinidad, and Tobago) .....		9,671
	China .....		621,780
	Colombia .....		56
	Ecuador .....		4,233
	Egypt & Sudan (aggregate) .....		355,532
	Haiti .....		107
	Honduras .....		341
	India & Pakistan (aggregate) .....		908,764
	Indonesia & Netherlands New Guinea (aggregate) .....		32,381
	Iraq .....		88
	Nigeria .....		2,438
	Paraguay .....		395
	Peru .....		112,469
	Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan (aggregate) .....		215,512
5201.00.24 <sup>3</sup> (note 6)	Total quota .....	8/1/99 - 7/31/00	1,300,000
		8/1/00 - 7/31/01	1,400,000
5201.00.34 <sup>3</sup> (note 7)	Total quota .....	8/1/99 - 7/31/00	10,240,000
		8/1/00 - 7/31/01	11,500,000
5201.00.60 <sup>3</sup> (note 8)	Total quota .....	8/1/99 - 7/31/00	37,180,000
		8/1/00 - 7/31/01	40,100,000

<sup>1</sup> Under the quantitative limitations set forth under subheading 5201.00.14, the countries listed are permitted imports under that subheading at least equal to the listed quantities. However, all WTO member countries are permitted to import cotton under that subheading up to the total import quota.

<sup>2</sup> For the individual country import quotas listed under subheading 5201.00.14, the quantitative limitations apply to both marketing years.

<sup>3</sup> Only WTO member countries are permitted to import cotton under the quantitative limitation.

Source: USITC, Harmonized Tariff Schedule of the United States (2000), USITC publication 3249, Nov. 1999.

**Table B-23****Cotton: U.S. commitments on over-quota tariff rates under the Uruguay Round Agreement<sup>1</sup>***(Cents per pound)<sup>2</sup>*

HTS item	1995	1996	1997	1998	1999	2000 and beyond
5201.00.18 <sup>3</sup> .....	79.4	77.4	75.4	73.2	71.2	69.2
5201.00.28 <sup>4</sup> .....	79.4	77.4	75.4	73.2	71.2	69.2
5201.00.38 <sup>5</sup> .....	79.4	77.4	75.4	73.2	71.2	69.2
5201.00.80 <sup>6</sup> .....	79.4	77.4	75.4	73.2	71.2	69.2

<sup>1</sup> Over-quota imports of cotton from Mexico receive lower duty rates under NAFTA (table B-20).

<sup>2</sup> Converted from cents per kilogram at 1 kg = 2.2046 lbs.

<sup>3</sup> Imports entered under HTS subheading 5201.00.18 are over-quota quantities of cotton, not carded or combed, having a staple length under 28.575 mm (1-1/8 inches) (except harsh or rough cotton, having a staple length under 19.05 mm (3/4 inch)).

<sup>4</sup> Imports entered under HTS subheading 5201.00.28 are over-quota quantities of harsh or rough cotton, not carded or combed, having a staple length 29.36875 mm (1-5/32 inches) or more but under 34.925 mm (1-3/8 inches) and white in color (except cotton of perished staple, grabbots and cotton pickings).

<sup>5</sup> Imports entered under HTS subheading 5201.00.38 are over-quota quantities of cotton, not carded or combed, having a staple length of 28.575 mm (1-1/8 inches) or more but under 34.925 mm (1-3/8 inches) (except harsh or rough cotton, not carded or combed, having a staple length of 29.36875 mm (1-5/32 inches) or more and white in color), but including cotton of perished staple, grabbots and cotton pickings.

<sup>6</sup> Imports entered under HTS subheading 5201.00.80 are over-quota quantities of cotton, not carded or combed, having a staple length of 34.925 mm (1-3/8 inches) or more.

Source: Schedule XX, United States Implementation of the GATT Uruguay Round.

**Table B-24**  
**Cotton: Price-based safeguard triggers for U.S. imports over the tariff rate quotas in 2000<sup>1</sup>**

HTS subheading	Description	Value range	duty
5201.00.18	Cotton not carded or combed, the product of any country or area including the United States, having a staple length under 28.575 mm (1-1/8 inches) (except harsh or rough cotton, having a staple length under 19.05 mm (3/4 inch)) . . . . .	Less than 35¢/kg 35¢/kg or more but less than 55¢/kg 55¢/kg or more but less than 75¢/kg 75¢/kg or more but less than 95¢/kg 95¢/kg or more but less than \$1.15/kg \$1.15/kg or more but less than \$1.25/kg \$1.25/kg or more but less than \$1.35/kg \$1.35/kg or more	51.5¢/kg 36.6¢/kg 24.8¢/kg 14.8¢/kg 8.6¢/kg 5.6¢/kg 2.6¢/kg No additional duty
5201.00.28	Harsh or rough cotton, not carded or combed, the product of any country or area including the United States, having a staple length of 29.36875 mm (1-5/32 inches) or more but under 34.925 mm (1-3/8 inches) and white in color (except cotton of perished staple, grabbots and cotton pickings) . . . . .	Less than 10¢/kg 10¢/kg or more but less than 30¢/kg 30¢/kg or more but less than 50¢/kg 50¢/kg or more but less than 70¢/kg 70¢/kg or more but less than 90¢/kg 90¢/kg or more	49.1¢/kg 31.5¢/kg 18.6¢/kg 9.2¢/kg 3.2¢/kg No additional duty

See footnotes at end of table.

**Table B-24—Continued**

**Cotton: Price-based safeguard triggers for U.S. imports over the tariff rate quotas in 2000<sup>1</sup>**

HTS subheading	Description	Value range	duty
5201.00.38	Cotton, not carded or combed, the product of any country or area including the United States, having a staple length of 28.575 mm (1-1/8 inches) or more but under 34.925 mm (1-3/8 inches) (except harsh or rough cotton, not carded or combed, having a staple length of 29.36875 mm (1-5/32 inches) or more and white in color) but including cotton of perished staple, grabbots and cotton pickings .....	Less than 20 ¢/kg	44.2¢/kg
		20¢/kg or more but less than 40¢/kg	28.3¢/kg
		40¢/kg or more but less than 60¢/kg	16.7¢/kg
		60¢/kg or more but less than 80¢/kg	8.3¢/kg
		80¢/kg or more but less than \$1.00/kg	2.3¢/kg
		\$1.00/kg or more	No additional duty
5201.00.80	Cotton, not carded or combed, the product of any country or area including the United States, having a staple length of 34.925 mm (1-3/8 inches) or more .....	Less than 50 ¢/kg	98.1 ¢/kg
		50 ¢/kg or more but less than 80 ¢/kg	73.3 ¢/kg
		80 ¢/kg or more but less than \$1.10/kg	52.3 ¢/kg
		\$1.10 ¢/kg or more but less than \$1.40/kg	37.3 ¢/kg
		\$1.40 ¢/kg or more but less than \$1.70/kg	23.3 ¢/kg
		\$1.70 ¢/kg or more but less than \$2.00/kg	14.3 ¢/kg
		\$2.00 ¢/kg or more but less than \$2.20/kg	8.3 ¢/kg
		\$2.20 ¢/kg or more but less than \$2.30/kg	5.3 ¢/kg
		\$2.30 ¢/kg or more but less than \$2.40/kg	2.3 ¢/kg
		\$2.40/kg or more	No additional duty

<sup>1</sup> Safeguards for cotton are located in chapter 99, subchapter IV of the Harmonized Tariff Schedule (subheadings 9904.52.01-9904.52.34).

Source: USITC, Harmonized Tariff Schedule of the United States (2000), USITC publication 3249, Nov. 1999.

**Table B-25**  
**Cotton: U.S. imports subject to safeguards, 1995-1999**

*(In kilograms)*

Over-quota HTS subheadings	1995	1996	1997	1998	1999
5201.00.18 (staple length under 28.575 mm (1-1/8 in.))	0	150	0	0	0
5201.00.28 (harsh or rough, staple length of 29.36875 mm (1-5/32 in.) or more but under 34.925 mm (1-3/8 in.), and white in color)	0	0	0	0	0
5201.00.38 (staple length of 28.575 mm (1-1/8 in.) or more but under 34.925 mm (1-3/8 in.))	0	0	0	0	0
5201.00.80 (staple length of 34.925 mm (1-3/8 in.) or more)	0	0	0	0	0

Source: World Trade Organization, Committee on Agriculture.

**Table B-26**  
**Cotton: Schedule B numbers; description; U.S. exports, 1999**

*(In million dollars)*

Schedule B numbers	Description	U.S. exports 1999
5201.00.1025	Cotton not carded or combed: Having a staple length under 25.4 mm (1 inch)	122.0
5201.00.1090	Cotton not carded or combed: Having a staple length under 28.575 mm and over 25.4 mm (less than 1-1/8 inches but greater than 1 inch)	584.6
5201.00.2030	Cotton not carded or combed: Having a staple length 28.575 mm (1-1/8 inches) or more, American Pima	85.1
5201.00.9000	Cotton not carded or combed: Having a staple length 28.575 mm (1-1/8 inches) or more, except American Pima	176.4
	<b>Total</b>	<b>968.2</b>

Source: Compiled from official statistics of the U.S. Department of Commerce. Figures may not add to totals shown due to rounding.



**Table B-27**  
**Cotton: U.S. exports 1995-1999<sup>1</sup>**

(In metric tons)

Market	1995	1996	1997	1998	1999	Percentage change 1995-1999
Short staple cotton <sup>2</sup> .....	252,064	192,849	198,451	150,061	83,555	-66.9
<b>Percent of total</b> .....	<b>12.4</b>	<b>12.9</b>	<b>12.7</b>	<b>9.2</b>	<b>11.8</b>	
Long staple cotton <sup>3</sup> .....	1,288,515	991,180	1,088,777	1,169,223	469,275	-63.6
<b>Percent of total</b> .....	<b>63.2</b>	<b>66.2</b>	<b>69.4</b>	<b>72.0</b>	<b>66.3</b>	
Extra-long staple cotton <sup>4</sup> .....	498,121	313,097	280,762	304,579	154,938	-68.9
<b>Percent of total</b> .....	<b>24.4</b>	<b>20.9</b>	<b>17.9</b>	<b>18.8</b>	<b>21.9</b>	
Total exports .....	2,038,700	1,497,126	1,567,990	1,623,863	707,768	-65.3

<sup>1</sup> Export values are based on f.a.s. value, U.S. port of export.

<sup>2</sup> Staple length under 25.4 mm (1 in.) (Schedule B number 5201.00.1025).

<sup>3</sup> Staple length of 25.4 mm (1 in.) or higher, but less than 28.575 mm (1-1/8 in.) (Schedule B number 5201.00.1090).

<sup>4</sup> Staple length 28.575 mm (1-1/8 in.) or more (Schedule B numbers 5201.00.2030 and 5201.00.9000).

Source: Compiled from official statistics of the U.S. Department of Commerce.

**Table B-28**  
**Cotton: U.S. exports, by principal markets, 1995-1999<sup>1</sup>**

(In million dollars)

Market	1995	1996	1997	1998	1999	Percentage change 1995-1999
<b>Short staple cotton<sup>2</sup>:</b>						
Korea .....	35.8	29.5	42.7	59.5	22.3	-37.7
Indonesia .....	54.1	42.9	49.3	21.2	14.1	-73.9
Japan .....	89.2	52.2	48.9	34.5	13.4	-85.0
Taiwan .....	29.7	18.6	19.9	18.4	12.9	-56.6
Turkey .....	0.2	0.4	13.6	9.7	11.3	5550.0
Thailand .....	29.6	18.2	19.0	15.0	7.5	-74.7
Switzerland .....	1.1	3.4	1.0	1.6	6.2	463.6
Colombia .....	( <sup>3</sup> )	2.1	1.3	0.9	5.5	511.4
Mexico .....	3.8	7.8	5.0	9.1	4.8	26.3
Ecuador .....	0	1.1	2.1	2.5	4.1	( <sup>4</sup> )
All other .....	185.3	155.4	151.1	65.0	19.9	-89.3
<b>Total .....</b>	<b>428.8</b>	<b>331.6</b>	<b>353.9</b>	<b>237.4</b>	<b>122.0</b>	<b>-71.5</b>
<b>Percent of total .....</b>	<b>11.6</b>	<b>12.2</b>	<b>13.2</b>	<b>9.3</b>	<b>12.6</b>	
<b>Long staple cotton<sup>5</sup>:</b>						
Mexico .....	159.6	223.3	340.4	558.9	248.7	55.8
Indonesia .....	216.8	169.3	114.4	82.9	40.0	-81.5
Turkey .....	72.5	28.4	145.8	160.8	32.0	-55.9
Korea .....	150.5	113.4	94.8	79.2	29.8	-80.2
Taiwan .....	79.3	45.6	63.7	86.7	28.9	-63.6
Canada .....	67.8	64.5	60.8	70.0	28.6	-57.8
Japan .....	151.3	127.5	119.1	124.7	26.4	-82.6
Hong Kong .....	120.5	36.0	47.7	67.2	24.8	-79.4
Thailand .....	111.4	51.1	47.4	39.1	12.2	-89.0
Colombia .....	25.6	15.6	40.6	23.2	11.7	-54.3
All other .....	1,157.2	883.4	731.4	488.2	101.5	-91.2
<b>Total .....</b>	<b>2,312.5</b>	<b>1,758.1</b>	<b>1,806.1</b>	<b>1,780.9</b>	<b>584.6</b>	<b>-74.7</b>
<b>Percent of total .....</b>	<b>62.8</b>	<b>64.7</b>	<b>67.3</b>	<b>70.0</b>	<b>60.4</b>	
<b>Extra-long staple cotton<sup>6</sup>:</b>						
Japan .....	168.2	138.3	79.3	92.7	56.3	-66.5
Canada .....	23.2	33.0	23.7	49.2	32.4	39.7
Mexico .....	27.2	26.1	8.7	47.7	31.9	17.3
Indonesia .....	106.3	67.6	47.1	47.2	26.4	-75.2
Bangladesh .....	27.6	20.3	27.6	21.4	18.3	-33.7
Taiwan .....	32.8	13.3	27.7	17.4	15.2	-53.7
Korea .....	175.3	113.7	86.0	127.7	13.1	-92.5
Thailand .....	37.7	17.0	13.3	11.2	8.5	-77.5
Peru .....	2.6	0.5	2.2	12.4	8.1	211.5
Pakistan .....	31.6	6.6	11.8	5.2	6.7	-78.8
All other .....	307.3	189.2	194.7	95.0	44.7	-85.5
<b>Total .....</b>	<b>939.8</b>	<b>625.6</b>	<b>522.1</b>	<b>527.1</b>	<b>261.6</b>	<b>-72.2</b>
<b>Percent of total .....</b>	<b>25.5</b>	<b>23.0</b>	<b>19.5</b>	<b>20.7</b>	<b>27.0</b>	
<b>Total .....</b>	<b>3,681.1</b>	<b>2,715.3</b>	<b>2,682.1</b>	<b>2,545.4</b>	<b>968.2</b>	<b>-73.7</b>

<sup>1</sup> Export values are based on f.a.s. value, U.S. port of export.

<sup>2</sup> Staple length under 25.4 mm (1 in.). (Schedule B number 5201.00.1025).

<sup>3</sup> Less than \$50,000.

<sup>4</sup> Not applicable.

<sup>5</sup> Staple length of 25.4 mm (1 in.) or higher, but less than 28.575 mm (1-1/6 in.). (Schedule B number 5201.00.1090).

<sup>6</sup> Staple length 28.575 mm (1-1/8 in.) or more. (Schedule B numbers 5201.00.2030 and 5201.00.9000).

Source: Compiled from official statistics of the U.S. Department of Commerce. Figures may not add to totals shown due to rounding.

**Table B-29****Foreign import tariffs on cotton for selected countries with domestic cotton production to meet most or all of total demand from local textile mills***(Percent ad valorem)*

	Latest year available	Applied rates
China .....	1998	3.0
Egypt .....	1999	5.0
India .....	1999	0.0
Mexico <sup>1</sup> .....	2000	3.0-13.0
Pakistan .....	1998	10
Turkey .....	1997	0

<sup>1</sup> Under WTO staging, actual and bound rates for Mexico in 1996 were 50 percent and 45 percent ad valorem respectively, with an implementation period of 1995-2004. Under NAFTA, U.S. and Canadian exports of cotton to Mexico received a bound rate of duty-free, implemented from 1994-2003. Currently, in 2000, the actual duty rate is 3 percent.

Sources: World Trade Organization and NAFTA-Schedule of Mexico, 1994.

**Table B-30****Foreign import tariffs on cotton for selected countries without domestic cotton production to meet total demand from local textile mills***(Percent ad valorem)*

	Latest year available	Applied rates
Canada .....	2000	0
European Union .....	1999	0
Indonesia .....	1999	0
Japan .....	1999	0
Korea .....	1999	1.0

Source: World Trade Organization.

**Table B-31**  
**Production subsidies to cotton farmers through price or income programs, MY 1997-98<sup>1</sup>**

Country	Average subsidies (Cents per pound produced)		Subsidies to cotton production (Million dollars)	
	1997	1998	1997	1998
China .....	20	27	2,013	2,648
United States .....	7	14	597	953
Greece .....	86	74	659	660
Turkey .....	<sup>(2)</sup>	11	<sup>(2)</sup>	220
Spain .....	82	89	211	204
Egypt .....	39	13	290	66
Brazil .....	4	5	29	49
Mexico .....	3	3	13	15
<b>Total .....</b>	<b>17</b>	<b>22</b>	<b>3,811</b>	<b>4,814</b>

<sup>1</sup> Income and price support programs only. Credit and other assistance not included. Totals may not add due to rounding.

<sup>2</sup> Not available.

Source: ICAC.

**Table B-32**  
**Cotton: Production, exports and ratio of exports to production, for selected countries, MY 1999**

(1,000 metric tons, unless otherwise indicated)

Title	Production	Exports	Ratio of exports to production
			Percent
China .....	3,832	370	9.7
United States .....	3,694	1,481	40.1
India .....	2,678	11	0.4
Pakistan .....	1,829	109	6.0
Uzbekistan .....	1,154	914	79.2
Franc-Zone Africa .....	870	804	92.4
Turkey .....	800	38	4.8
Egypt .....	229	93	40.6

Source: FAS, USDA.

**APPENDIX C**  
**GROWTHS USED TO CALCULATE**  
**COTLOOK “A” INDEX**

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1. African Franc Zone Middling 1-3/32"
2. Australian Middling 1-3/32"
3. California/Arizona DPLMiddling 1-3/32"
4. Uzbekistan Middling 1-3/32"
5. Chinese Type 329
6. Greek Middling 1-3/32"
7. Indian Hybrid-4, 1-3/32"
8. Memphis Territory Middling 1-3/32"
9. Mexican Middling 1-3/32"
10. Pakistan Punjab SG 1503 1-3/32"
11. Paraguayan Middling 1-3/32"
12. Syrian Middling 1-3/32"
13. Spanish Middling 1-3/32"
14. Tanzanian 'AR' Type 3
15. Turkish Izmir/Antalya I white, 1-3/32" RG

**APPENDIX D**  
**SCHEDULE OF LOAN PREMIUMS AND**  
**DISCOUNTS FOR UPLAND AND ELS**  
**COTTON**

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### Schedule of Premiums and Discounts for Grade, Staple Length, and Leaf for Upland Cotton

The following color grade symbols are used in this exhibit to designate the different grades

- SM - Strict Middling
- MID - Middling
- SLM - Strict Low Middling
- LM - Low Middling
- SGO - Strict Good Ordinary
- GO - Good Ordinary.

#### White Cotton

The following are the 2000 premiums and discounts for the cotton classed as "White".

Grade Code	Leaf	Staple Length (Inches)								
		13/16 Through 29/32	15/16	31/32	1	1-1/32	1-1/16	1-3/32	1-1/8	1-5/32 & Longer
		(26-29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37 & Longer)
SM & 11 & 21 BETTER	1-2	-1045	-860	-690	-465	-195	165	280	305	305
	3	-1065	-880	-710	-490	-200	160	275	295	295
	4	-1095	-915	-750	-545	-290	55	165	185	190
	5	-1170	-990	-825	-635	-465	-215	-120	-115	-110
	6	-1250	-1085	-920	-790	-640	-515	-470	-470	-470
	7	-1345	-1190	-1015	-960	-810	-810	-785	-785	-785
MID 31	1-2	-1065	-880	-715	-495	-215	145	265	285	285
	3	-1085	-900	-730	-520	-220	145	260	280	280
	4	-1115	-935	-770	-565	-305	45	155	175	175
	5	-1195	-1005	-850	-675	-475	-235	-135	-130	-130
	6	-1270	-1095	-955	-825	-675	-535	-490	-490	-490
	7	-1365	-1200	-1045	-990	-840	-840	-815	-815	-815
SLM 41	1-2	-1165	-980	-800	-600	-340	20	130	140	145
	3	-1165	-980	-800	-600	-340	15	125	135	140
	4	-1170	-990	-815	-625	-345	Base	110	120	120
	5	-1255	-1070	-910	-735	-545	-350	-275	-270	-270
	6	-1340	-1175	-1020	-890	-740	-635	-585	-585	-585
	7	-1435	-1285	-1135	-1075	-925	-925	-920	-920	-920
LM 51	1-2	-1315	-1150	-930	-750	-600	-390	-320	-320	-315
	3	-1315	-1150	-930	-750	-600	-390	-320	-320	-320
	4	-1335	-1175	-955	-790	-640	-430	-365	-365	-365
	5	-1370	-1210	-1035	-875	-725	-545	-480	-480	-480
	6	-1450	-1300	-1145	-1015	-865	-815	-775	-775	-775
	7	-1530	-1370	-1235	-1195	-1045	-1035	-1010	-1010	-1010
SGO 61	1-2	-1465	-1320	-1120	-965	-815	-755	-755	-755	-755



SGO 61	1-2	-1465	-1320	-1120	-965	-815	-755	-755	-755	-755
	3	-1465	-1320	-1120	-970	-820	-755	-755	-755	-755
	4	-1480	-1335	-1160	-1015	-865	-800	-800	-800	-800
	5	-1515	-1365	-1200	-1075	-925	-855	-855	-855	-855
	6	-1555	-1410	-1255	-1145	-995	-940	-940	-940	-940
	7	-1645	-1490	-1330	-1280	-1130	-1100	-1100	-1100	-1100
	GO 71	1-2	-1565	-1445	-1280	-1240	-1090	-1070	-1070	-1070
3		-1565	-1445	-1280	-1240	-1090	-1070	-1070	-1070	-1070
4		-1595	-1480	-1320	-1295	-1145	-1125	-1125	-1125	-1125
5		-1620	-1500	-1360	-1320	-1170	-1150	-1150	-1150	-1150
6		-1665	-1540	-1415	-1345	-1195	-1175	-1175	-1175	-1175
7		-1700	-1575	-1450	-1370	-1220	-1200	-1200	-1200	-1200

### Light Spotted Cotton

The following are the 2000 premiums and discounts for the cotton classed as "Light Spotted".

Grade Code	Lcaf.	Staple Length (Inches)								
		13/16 Through 29/32	15/16	31/32	1	1-1/32	1-1/16	1-3/32	1-1/8	1-5/32 & Longer
		(26-29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37 & Longer)
SM & 12 & 22 BETTER	1-2	-1095	-920	-745	-545	-325	15	110	125	130
	3	-1115	-940	-765	-565	-345	-10	85	105	110
	4	-1155	-980	-815	-635	-465	-205	-120	-110	-110
	5	-1235	-1060	-900	-740	-590	-400	-340	-340	-340
	6	-1305	-1145	-1005	-890	-740	-725	-700	-700	-700
	7	-1400	-1250	-1155	-1130	-980	-930	-910	-910	-910
	MID 32	1-2	-1145	-970	-790	-585	-385	-80	15	30
3		-1145	-970	-795	-590	-385	-90	5	20	20
4		-1185	-1025	-845	-680	-530	-280	-205	-200	-200
5		-1270	-1115	-925	-785	-635	-455	-395	-395	-395
6		-1345	-1200	-1035	-930	-780	-765	-745	-745	-745
7		-1425	-1300	-1215	-1200	-1050	-990	-965	-965	-965
SLM 42		1-2	-1245	-1080	-880	-700	-550	-345	-280	-275
	3	-1245	-1080	-890	-720	-570	-365	-305	-300	-300
	4	-1270	-1115	-920	-760	-610	-415	-355	-355	-355
	5	-1320	-1165	-1000	-890	-740	-595	-545	-545	-545
	6	-1400	-1245	-1100	-1030	-880	-865	-840	-840	-840
	7	-1490	-1345	-1295	-1245	-1095	-1080	-1060	-1060	-1060
	LM 52	1-2	-1385	-1245	-1060	-885	-735	-655	-630	-630
3		-1385	-1245	-1060	-885	-735	-655	-630	-630	-630
4		-1420	-1280	-1125	-970	-820	-790	-770	-770	-770

	5	-1470	-1325	-1195	-1045	-895	-850	-830	-830	-830
	6	-1560	-1425	-1310	-1195	-1045	-1035	-1020	-1020	-1020
	7	-1625	-1495	-1400	-1340	-1190	-1185	-1170	-1170	-1170
SGO 62	1-2	-1565	-1395	-1220	-1155	-1005	-970	-970	-970	-970
	3	-1565	-1395	-1220	-1160	-1010	-975	-975	-975	-975
	4	-1570	-1400	-1260	-1195	-1045	-1015	-1015	-1015	-1015
	5	-1600	-1455	-1345	-1275	-1125	-1085	-1085	-1085	-1085
	6	-1650	-1505	-1395	-1325	-1175	-1155	-1155	-1155	-1155
	7	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000

**Spotted Cotton**

The following are the 2000 discounts for the cotton classed as "Spotted".

Grade Code	Leaf	Staple Length (Inches)								
		13/16 Through 29/32 (26-29)	15/16 (30)	31/32 (31)	1 (32)	1-1/32 (33)	1-1/16 (34)	1-3/32 (35)	1-1/8 (36)	1-5/32 & Longer (37 & Longer)
SM & 13 & 23 BETTER	1-2	-1285	-1125	-930	-740	-565	-480	-465	-465	-465
	3	-1295	-1125	-960	-775	-595	-510	-495	-495	-495
	4	-1320	-1165	-1025	-860	-700	-615	-600	-600	-600
	5	-1400	-1285	-1145	-995	-825	-780	-765	-765	-765
	6	-1490	-1385	-1245	-1155	-1005	-935	-920	-920	-920
MID 33	1-2	-1350	-1200	-1005	-845	-635	-540	-525	-525	-525
	3	-1350	-1200	-1005	-845	-635	-540	-525	-525	-525
	4	-1425	-1275	-1110	-945	-775	-700	-685	-685	-685
	5	-1485	-1340	-1200	-1055	-900	-840	-825	-825	-825
	6	-1555	-1430	-1285	-1205	-1055	-1005	-990	-990	-990
SLM 43	1-2	-1490	-1325	-1180	-1015	-865	-815	-800	-800	-800
	3	-1530	-1370	-1225	-1070	-920	-870	-855	-855	-855
	4	-1550	-1395	-1255	-1105	-955	-905	-890	-890	-890
	5	-1630	-1485	-1335	-1255	-1105	-1060	-1045	-1045	-1045
	6	-1680	-1550	-1425	-1390	-1240	-1215	-1200	-1200	-1200
LM 53	1-2	-1595	-1480	-1345	-1220	-1070	-1020	-1005	-1005	-1005
	3	-1595	-1480	-1345	-1220	-1070	-1020	-1005	-1005	-1005
	4	-1665	-1555	-1435	-1315	-1165	-1115	-1100	-1100	-1100

	5	-1715	-1590	-1485	-1370	-1220	-1175	-1155	-1155	-1155
	6	-1760	-1650	-1575	-1495	-1345	-1305	-1290	-1290	-1290
	7	-1835	-1725	-1655	-1605	-1455	-1420	-1405	-1405	-1405
SGO 63	1-2	-1725	-1605	-1500	-1465	-1315	-1290	-1290	-1290	-1290
	3	-1725	-1605	-1500	-1465	-1315	-1290	-1290	-1290	-1290
	4	-1760	-1650	-1550	-1500	-1350	-1325	-1325	-1325	-1325
	5	-1820	-1710	-1650	-1600	-1450	-1430	-1430	-1430	-1430
	6	-1840	-1725	-1700	-1660	-1510	-1490	-1490	-1490	-1490
	7	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000

### Tinged Cotton

The following are the 2000 discounts for the cotton classed as "Tinged".

Grade Code	Leaf	Staple Length (Inches)								
		13/16 Through 29/32	15/16	31/32	1	1-1/32	1-1/16	1-3/32	1-1/8	1-5/32 & Longer (37 & Longer)
		(26-29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	
SM 24	1-2	-1460	-1310	-1165	-1060	-910	-860	-860	-860	-860
	3	-1460	-1310	-1165	-1060	-910	-860	-860	-860	-860
	4	-1560	-1395	-1270	-1165	-1015	-965	-965	-965	-965
	5	-1625	-1475	-1350	-1255	-1105	-1070	-1070	-1070	-1070
	6	-1710	-1570	-1435	-1345	-1195	-1160	-1160	-1160	-1160
	7	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000
MID 34	1-2	-1510	-1360	-1215	-1110	-960	-925	-925	-925	-925
	3	-1510	-1360	-1215	-1110	-960	-925	-925	-925	-925
	4	-1610	-1445	-1320	-1215	-1065	-1030	-1030	-1030	-1030
	5	-1675	-1525	-1400	-1305	-1155	-1120	-1120	-1120	-1120
	6	-1760	-1620	-1485	-1395	-1245	-1210	-1210	-1210	-1210
	7	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000
SLM 44	1-2	-1685	-1520	-1410	-1255	-1105	-1060	-1060	-1060	-1060
	3	-1715	-1560	-1450	-1320	-1170	-1120	-1120	-1120	-1120
	4	-1735	-1595	-1485	-1365	-1195	-1150	-1150	-1150	-1150
	5	-1790	-1665	-1570	-1470	-1300	-1255	-1255	-1255	-1255
	6	-1830	-1700	-1630	-1530	-1340	-1310	-1310	-1310	-1310
	7	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000
LM 54	1-2	-1805	-1665	-1560	-1455	-1300	-1240	-1240	-1240	-1240
	3	-1805	-1665	-1560	-1455	-1300	-1240	-1240	-1240	-1240
	4	-1870	-1730	-1620	-1515	-1360	-1300	-1300	-1300	-1300
	5	-1870	-1730	-1620	-1515	-1360	-1300	-1300	-1300	-1300
	6	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000

	7	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000
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**Yellow Stained Cotton**

The following are the 2000 discounts for the cotton classed as "Yellow Stained".

Grade Code	Leaf	Staple Length (Inches)								
		13/16 Through 29/32	15/16	31/32	1	1-1/32	1-1/16	1-3/32	1-1/8	1-5/32 & Longer (37 & Longer)
		(26-29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	
SM 25	1-2	-1660	-1510	-1365	-1260	-1110	-1060	-1060	-1060	-1060
	3	-1660	-1510	-1365	-1260	-1110	-1060	-1060	-1060	-1060
	4	-1760	-1595	-1470	-1365	-1215	-1165	-1165	-1165	-1165
	5	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000
	6	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000
	7	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000
	MID 35	1-2	-1710	-1560	-1415	-1310	-1160	-1125	-1125	-1125
3		-1710	-1560	-1415	-1310	-1160	-1125	-1125	-1125	-1125
4		-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000
5		-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000
6		-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000
7		-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000	-4000

**Schedule of Discounts for Extraneous Matter in Upland Cotton**

**Extraneous Matter Discounts**

The following discounts for extraneous matter apply to 2000-crop upland cotton.

**Note:** The discounts for bark vary by State.

Extraneous Matter Codes and Discounts (Points per Pound)		
Description of Code	Extraneous Matter Code	Discount (Points per Pound)
No Extraneous Matter	(00)	0
Preparation		
Level 1	(01)	-50
Level 2	(02)	-790
Bark		
Texas, Oklahoma, New Mexico		
Level 1	(11)	-225
Level 2	(12)	-485
All other States		
Level 1	(11)	-445
Level 2	(12)	-820
Grass		
Level 1	(21)	-445
Level 2	(22)	-820
Seed Coat Fragments		
Level 1	(31)	-445
Level 2	(32)	-820
Oil		
Level 1	(41)	-445
Level 2	(42)	-820
Spindle Twist		
Level 1	(51)	-445
Level 2	(52)	-820
Other		
Level 1	(61)	-445
Level 2	(62)	-820

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**Schedule of Premiums and Discounts for Uniformity in Upland Cotton**

The following premiums and discounts for uniformity apply to 2000-crop upland cotton in all States. Uniformity is expressed as a percent and no other code is used.

Uniformity (Percent)	Points
77 and less	-60
78	-50
79	-40
80	0
81 (Base level)	0
82	0
83	+30
84	+40
85	+50
86 and greater	+60

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### Schedule of Premiums and Discounts for Strength for Upland Cotton

Following are the premiums and discounts for strength for 2000-upland cotton.

Strength (Grams per Tex)	Discounts and Premiums (Points per Pound)
18.4 or less	- 500
18.5 - 19.4	- 210
19.5 - 20.4	- 195
20.5 - 21.4	- 180
21.5 - 22.4	- 130
22.5 - 23.4	- 110
23.5 - 25.4	-100
25.5 - 26.4	0
26.5 - 27.4 (Base Level)	0
27.5 - 28.4 (Base Level)	0
28.5 - 29.4	0
29.5 - 30.4	+15
30.5 - 32.4	+50
32.5 and higher	+75

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**Schedule of Premiums and Discounts for Micronaire of Upland Cotton**

Following are the micronaire premiums and discounts for 2000-crop upland cotton.

Micronaire Reading	Points per Pound	
	32/32 (1 inch) and Shorter	33/32 (1-1/32 inch) and Longer
2.4 and below	- 1345	- 1425
2.5 through 2.6	- 1145	- 1230
2.7 through 2.9	- 740	- 890
3.0 through 3.2	- 325	- 460
3.3 through 3.4	- 175	- 215
3.5 through 3.6 (Base Level)	0	0
3.7 through 4.2	20	15
4.3 through 4.9 (Base Level)	0	0
5.0 through 5.2	- 390	- 395
5.3 and above	- 540	- 605

Note: The premiums apply only to:

White Grades:  
11 through 41, leaf 1 through 6  
51, leaf 1 through 5

Light Spotted Grades:  
12 through 32, leaf 1 through 5  
42, leaf 1 through 4  
52, leaf 1 through 3.

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**Schedule of Loan Rates for ELS Cotton (American-Pima)**

The following schedule of loan rates is applicable for eligible qualities of 2000-crop ELS cotton stored in approved warehouses at all locations.

Number	Grade Code	Staple Length (Inches)	
		44/32 (1-3/8)	46/32 and Longer (1-7/16 and Longer)
1	01	82.20	82.80
2	02	81.95	82.65
3	03	77.35	78.00
4	04	71.00	71.65
5	05	61.10	61.10
6	06	47.65	47.65
below 6	below (06)	37.00	37.00

Notes: A micronaire premium of 68 points (0.68 cents) per pound is reflected in the loan rates for the eligible qualities. The adjusted national average loan rate reflected in this schedule is

80.33 cents per pound.

**For 2000-crop ELS cotton, the loan rate cannot be adjusted below zero. The minimum loan level is zero.**

#### Schedules of Discounts for ELS Cotton

##### ELS Micronaire Discounts

Following are the micronaire discounts for 2000-crop ELS cotton.

Micronaire Reading	Points per Pound
2.6 and below	-2250
2.7 through 2.9	- 1760
3.0 through 3.2	- 1315
3.3 through 3.4	- 430
3.5 and above	0

##### ELS Extraneous Matter



**Discounts**

Following are the extraneous matter discounts for 2000-crop ELS cotton.

Description of Code	Code and Discounts (Points per Pound)	
	Code	Discount
No Extraneous Matter	(00)	0
Preparation		
Level 1	(01)	-1200
Level 2	(02)	-4000
Grass		
Level 1	(21)	-1700
Level 2	(22)	-4000
Spindle Twist		
Level 1	(51)	-1700
Level 2	(52)	-4000
Other (Oil, seed-coat fragments, etc)		
Level 1	(61)	-4000
Level 2	(62)	-4000



**APPENDIX E**  
**EXAMPLE CALCULATION OF THE**  
**ADJUSTED WORLD PRICE (AWP) FOR**  
**UPLAND COTTON**

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Release No. 1619.00

## Program Announcement

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### USDA ANNOUNCES PREVAILING WORLD MARKET PRICE, LOAN DEFICIENCY PAYMENT RATE, AND USER MARKETING CERTIFICATE PAYMENT RATE FOR UPLAND COTTON

WASHINGTON, October 5, 2000 -- Keith Kelly, Executive Vice President of USDA's Commodity Credit Corporation, today announced the prevailing world market price, adjusted to U.S. quality and location (adjusted world price or AWP), for Strict Low Middling (SLM) 1-1/16 inch (leaf grade 4, micronaire 3.5-3.6 and 4.3-4.9, strength 26.5-28.4 grams per tex, length uniformity of 81 percent) upland cotton (base quality), the coarse count adjustment (CCA), and the loan deficiency payment rate in effect from 5:00 p.m. Thursday, October 5, 2000, through 3:59 p.m. Thursday, October 12, 2000. The user marketing certificate (Step 2) payment rate will be in effect from 12:01 a.m. Friday, October 6, 2000, through midnight Thursday, October 12, 2000.

	Cents/lb.
Adjusted World Price (AWP) .....	46.76
Coarse Count Adjustment (CCA) .....	0.00
Loan Deficiency Payment Rate .....	5.16
User Marketing Cert. Rate (Step 2).....	5.16

This week's AWP and CCA are determined as follows:

NE Price .....	60.59
Adjustments:	
Avg. U.S. spot market location .....	11.19
SLM 1-1/16 inch cotton .....	2.60
Avg. U.S. location .....	0.04
Sum of Adjustments .....	- 13.83
ADJUSTED WORLD PRICE .....	46.76
NE Price .....	60.59
NE Coarse Count Price .....	-56.58
Adjustment to SLM 1-1/32 inch cotton .....	-6.05
COARSE COUNT ADJUSTMENT (Cannot be less than zero) ..	0.00

The Federal Agriculture Improvement and Reform Act of 1996 provides that the AWP may be further adjusted if: 1) the AWP is less than 115 percent of the current crop year loan rate for base quality upland cotton, and 2) the USNE price exceeds the NE price. This week, both conditions for this adjustment have been met, and it has been determined that this further adjustment to the AWP shall be 0.0 cents per pound.

Because the AWP for the period is less than 51.92 cents per pound, which is the base quality loan rate, the loan repayment rate during this period is equal to the AWP, adjusted for the specific quality and location. The loan repayment amount will be further adjusted by the application of a storage credit, and interest will be waived.

Because the AWP is less than the 2000-crop loan rate, cash loan deficiency payments (LDPs) will be paid to eligible producers who agree to forego obtaining price support loans with respect to the 2000 crop. The payment rate of 5.16 cents per pound is the difference between the base loan rate of 51.92 cents and today's AWP.

Step 2 payments are provided this week because, for four consecutive weeks, the USNE price has exceeded the NE price by more than 1.25 cents per pound and the AWP has not exceeded 134 percent of the loan rate for upland cotton. Relevant data for the Step 2 program follow:

USDA ANNOUNCES PREVAILING WORLD MARKET RATE PAYMENT RATE FOR UPLAND COTTON <http://www.fsa.usda.gov/pas/news/releases/2000/10/1619.htm>

Week Ending	Fri/Thur Period	AWP as % of 2000		USNE			Step 2 Rate	Dates Applicable
		Base Rate	Loan Price	USNE Price	NE Price	Less NE Price		
..... cents/lb .....								
1	09/14/00	93.0	68.70	62.12	6.58		5.33	(09/15-09/21)
2	09/21/00	92.0	67.00	61.59	5.41		4.16	(09/22-09/28)
3	09/28/00	91.5	66.95	61.31	5.64		4.39	(09/29-10/05)
4	10/05/00	90.1	67.00	60.59	6.41		5.16	(10/06-10/12)

The next announcement of the AWP, CCA, LDP rate, and user marketing certificate payment rate for upland cotton will be on Thursday, October 12, 2000, at 5 p.m.

Further program information is available from Wayne Bjortie, (202) 720-7954, E-mail [wayne\\_bjortie@wdc.fsa.usda.gov](mailto:wayne_bjortie@wdc.fsa.usda.gov)

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NOTE: Farm Service Agency (FSA) news releases and media advisories are available on the World Wide Web at FSA's Home Page: <http://www.fsa.usda.gov>

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