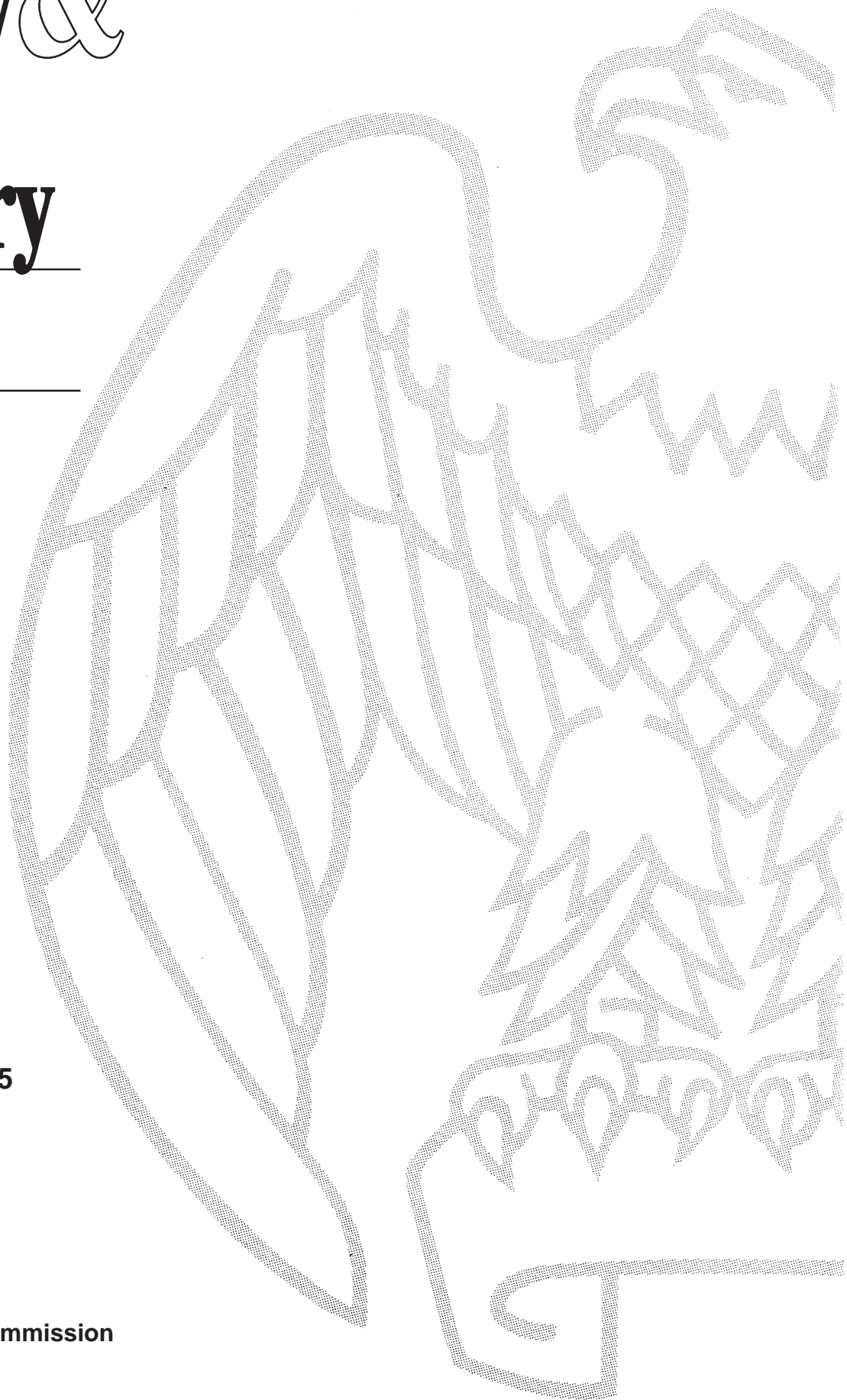


Industry & Trade Summary

Wool and Related
Animal Hair

USITC Publication 3145
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OFFICE OF INDUSTRIES
U.S. International Trade Commission
Washington, DC 20436



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PREFACE

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.¹

This report on wool and related animal hair covers the period 1993-97. 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

¹ 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*

<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	February 1998	Canned Fish, Except Shellfish
3095	March 1998	Milled Grains, Malts, and Starches
3096	April 1998	Millwork
3148	December 1998	Poultry

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ABBREVIATIONS AND ACRONYMS

ABARE	Australian Bureau of Agricultural and Resource Economics
ABS	Australian Bureau of Statistics
AMS	Agricultural Marketing Service of the U.S. Department of Agriculture
ASI	American Sheep Industry Association, Inc.
AWC	Australian Wool Corporation
BOARD	South African Wool Board
COMMERCE	U.S. Department of Commerce
CCC	Commodity Credit Corporation of the U.S. Department of Agriculture
CIS	Commonwealth of Independent States
CVD	Countervailing duty
ERS	Economic Research Service of the U.S. Department of Agriculture
EU	European Union
FAS	Foreign Agricultural Service of the U.S. Department of Agriculture
FSA	Farm Service Agency of the U.S. Department of Agriculture
FMD	Foreign Market Development Cooperator Program of the U.S. Department of Agriculture
HTS	Harmonized Tariff Schedule of the United States
IWS	International Wool Secretariat
KG	Kilogram
MAF	Ministry of Agriculture and Forestry, New Zealand
MAP	Market Access Program of the U.S. Department of Agriculture
NAFTA	North American Free Trade Agreement
NASS	National Agricultural Statistics Service of the U.S. Department of Agriculture
NWGA	National Woolgrowers Association of South Africa
NZEC	New Zealand Meat and Wool Board's Economic Service
NZWB	New Zealand Wool Board
RPS	Reserve price scheme
SFE	Sydney Futures Exchange
SID	Sheep Industry Development Program, Inc.
SONZA	Situation and Outlook for New Zealand Agriculture
UMS	Microns
URA	Uruguay Round Agreement
USDA	U.S. Department of Agriculture
USITC	U.S. International Trade Commission
WOOL ACT	National Wool Act of 1954

ABSTRACT

This report addresses trade and industry conditions for the wool and related animal hair industry for the period 1993-97.

- World wool production declined by 15 percent during 1993-97 from 3.8 billion pounds to 3.2 billion pounds, reflecting the decline in the global sheep population. Australia is the leading producer and exporter of wool, accounting for over 30 percent of world production and over 65 percent of world exports. However, over the last 5 years, wool production in Australia declined by 21 percent and the sheep population declined by 11 percent.
- The United States primarily produces “medium coarseness” wool, but only limited quantities of the “fine” wool that is used to make high-priced apparel. U.S. producers of wool have become increasingly competitive in foreign markets as the share of production exported rose from 6 percent in 1993 to 17 percent in 1997. However, the United States accounted for less than 1 percent of world wool production (by quantity) in 1997.
- Wool production in the United States declined steadily during 1993-97, totaling 28 million pounds in the latter year. Imports accounted for over 60 percent of U.S. consumption, with about 38 percent coming from Australia. Other important suppliers included New Zealand and Uruguay. The top export markets included Mexico, Germany, and the United Kingdom.
- The U.S. duty rates for all wool and related animal hair included in this summary range from free to 25.8¢/kg as of January 1, 1998. The aggregate trade-weighted average rate of duty for all such products was 3.9 percent ad valorem in 1997.
- The primary U.S. consumers of wool and related animal hair are textile manufacturers. Fibers from sheep, goats, and other animals are processed into apparel and nonapparel items, such as suits, sweaters, blankets, and carpets.

INTRODUCTION

This summary profiles the U.S. and major foreign wool and related animal hair¹ industries, provides information on tariff and nontariff measures in domestic and foreign markets for these products, and analyzes the performance of the U.S. industry in domestic and foreign markets. It also provides data on domestic and foreign production and trade for 1993-97.

The *Harmonized Tariff Schedule of the United States* (HTS) defines wool as the natural fiber grown by sheep or lambs. The term “fine animal hair” refers to the hair of alpaca, llama, vicuna, camel, yak, Angora, Tibetan, Kashmir or similar goats (but not common goats), rabbit (including Angora rabbit), hare, beaver, nutria or muskrat. “Coarse animal hair” means the hair of animals not mentioned above, excluding brush-making hair and bristles.²

Wool accounts for approximately 74 percent of the value of U.S. production of the items included in this summary.³ Other major fibers included in this summary include mohair and cashmere. Fibers from sheep, goats, and other animals are used in making both apparel and nonapparel articles such as carpets.

Wool

Most sheep breeds produce wool. However, each breed’s wool fibers are unique with respect to diameter, length of staple, strength, color, and density. Even within a single fleece, there can be variations depending on the area from which the wool was sheared—such as the side, belly, or back. Average fiber diameter is the most important wool fiber property in terms of quality and value.⁴ Length of staple and strength are additional measurements by which to determine the value of wool fibers. The Merino sheep breed, raised specifically for wool, produces the most valuable and finest wools, although there are other sheep breeds that produce fine wools, including the Rambouillet and Delaine. The remaining breeds produce medium or coarser fibers.

In the United States, most sheep are meat-type animals kept mainly for the production of lambs for meat, or are dual-purpose breeds kept both for the production of wool and for the production of lambs for meat.⁵ U.S. sheep producers’ gross receipts are derived mainly from lamb meat, not wool; the share of cash returns accounted for by wool was 12 percent in 1994⁶. In 1997, the

¹ Processed fibers and yarns of wool and related animal hair are not included in this summary.

² *Harmonized Tariff Schedule of the United States* (1998) (HTS), Note, ch. 51, Wool, Fine or Coarse Animal Hair; Horsehair Yarn and Woven Fabric.

³ Based on the value of U.S. wool and mohair production in 1997.

⁴ Sheep Industry Development Program, Inc. (SID), *Sheep Production Handbook*, Oct. 1988, p. WOOL-13. SID is part of the American Sheep Industry Association, Inc. (ASI), a producer-driven federation of State organizations dedicated to promoting the well-being and profitability of the U.S. sheep industry.

⁵ USITC *Lamb Meat: Competitive Conditions Affecting the U.S. and Foreign Lamb Industries*, Investigation No. 332-357, USITC publication 2915, Aug. 1995, p. x.

⁶ USITC *Lamb Meat: Competitive Conditions Affecting the U.S. and Foreign Lamb Industries*, Investigation No. 332-357, USITC publication 2915, Aug. 1995, p. 2-26.

United States accounted for less than 1 percent of the world's sheep population and less than 1 percent of world wool production.⁷

Australia is the world's largest volume wool producer. In Australia, about 70 percent of the sheep are maintained for the production of wool, and the Australian Merino breed accounts for virtually all of Australia's wool-type sheep. The Merino is generally recognized as efficient in the production of very high-quality wool; however, it is generally recognized as relatively inefficient in the production of lamb meat.⁸ Other major wool producers include New Zealand, China, the Commonwealth of Independent States (CIS, or the former Soviet Union), Uruguay, Argentina, and the Republic of South Africa (South Africa). Major wool-exporting countries include Australia, New Zealand, and South Africa.

The "grade" of wool refers to the quality or relative fineness of the wool. Fineness refers to the thickness (diameter) of individual wool fibers and ranges from fine to coarse. There are three methods used to report wool grades—the American blood count system, the English spinning count system, and the micron system. The micron system is the most accurate measure for determining the grade of wool.⁹

Table A-1 shows certain sheep breeds and the grades of wool fiber they typically produce, as rated under the three systems noted above.¹⁰ A wool graded ½ blood under the American blood count system would yield 60 to 62 hanks¹¹ of yarn from 1 pound of clean wool under the English spinning count system and would have a fiber diameter of 22.05 to 24.94 microns (ums) under the micron system. The Corriedale and Columbia are two sheep breeds that typically produce such grades of wool. The use of the American blood count system and the English spinning count system in production, marketing, and manufacturing has declined in international markets,¹² and is being replaced by a measurement of diameter (in microns) and variability (standard deviation).¹³

In the United States, wool is graded according to specifications developed by the U.S. Department of Agriculture (USDA).¹⁴ There are 16 grades specified by USDA and for each grade a range is specified for average diameter and a maximum standard deviation.¹⁵ The numbers used by USDA to express wool grade are the same as those used in the English worsted yarn count system.¹⁶ Grade may be determined by inspection, usually by comparison

⁷ USDA, ERS, *Cotton and Wool Yearbook—Summary*, Nov. 21, 1997.

⁸ USITC *Lamb Meat: Competitive Conditions Affecting the U.S. and Foreign Lamb Industries*, Investigation No. 332-357, USITC publication 2915, Aug. 1995, p. 3-2.

⁹ This system measures fiber diameter in microns. A micron is one-millionth of a meter (1/25,400 of an inch).

¹⁰ Statistical tables are in appendix A.

¹¹ A hank is 560 yards of yarn. Robert E. Taylor, *Scientific Farm Animal Production: An Introduction to Animal Science*, 4th ed., (New York: Macmillan Publishing Co., 1992), p. 599.

¹² For a description of the American blood count and the English spinning count system, see Robert E. Taylor, *Scientific Farm Animal Production: An Introduction to Animal Science*, 4th ed., (New York: Macmillan Publishing Co., 1992), p. 132.

¹³ *SID*, p. WOOL-13.

¹⁴ See appendix B for USDA specifications for grades of wool.

¹⁵ USDA, Agricultural Marketing Service (AMS), *United States Standards for Grades of Wool*, effective Dec. 21, 1968.

¹⁶ When used to quantify yarn count, the number and letter "s" represent the number of 560 yard lengths of yarn that can be spun from one pound of top. *Sheep Production Handbook*, WOOL-13.

of the fiber diameters of the wool being graded with the fiber diameters of samples representative of standards; grading can also involve measuring a prescribed number of fibers from a sample, calculating the average and standard deviation of fiber diameter and comparing the average and standard deviation with the diameter specifications for grades of wool.¹⁷

Wool is usually harvested by one of two methods—shearing or pulling. Shearing wool is the method most commonly used in the United States and involves clipping wool from the sheep. The clipped wool from one sheep holds together (as one piece) and is referred to as “fleece.” In the United States, sheep are generally clipped once a year by professional shearers, and each sheep produces from 3 to 10 pounds of fleece. Pulled wool is wool removed mechanically from the skins of slaughtered sheep or lambs.

Once removed from the sheep, the fleece is placed on a skirting table where it is examined. In a process referred to as skirting, undesirable wool is removed (i.e., wool with clumpy vegetable matter,¹⁸ stains, or other contaminants), and head, lower leg, and belly wool are separated from the fleece. Basically, all wool that does not match the bulk of the fleece is removed and sorted separately. After skirting, the fleeces are classed according to fineness,¹⁹ yield (percentage of clean wool obtained from a definite quantity of raw or grease wool),²⁰ length of fiber, strength, color, and style.²¹ The fleece is then placed in a plastic or a burlap bag along with 20 to 40 other similarly classed fleeces. Each bag identifies the grower or official brand and is numbered and marked as to its contents. In general, the use of burlap bags by the U.S. wool industry is being replaced by plastic bales, because nonwool fibers from the burlap can mix with wool fibers resulting in defective yarn or fabric.²² The plastic bales can hold between 400-450 pounds of wool and conform with international regulations that require wool-packaging materials to be fully recyclable.²³

The wool is then generally transported to private or cooperative warehouses for preparation and marketing to textile mills. At the mill the raw wool is scoured (washed), which removes grease as well as vegetable and other matter. A byproduct of the washing process is lanolin, which is processed into such goods as creams, soaps, ointments, and steroid drugs. Some vegetable matter may remain after washing, in which case the wool is washed in a sulfuric acid solution, a process referred to as “carbonizing.”²⁴ The wool is then dried, carded (disentangles wool fibers), combed, and finished into yarn.

¹⁷ *Sheep Production Handbook*, p. WOOL-13.

¹⁸ According to the American Sheep Industry Association (ASI) vegetable matter is extraneous materials found in wool and can range from burrs and seeds to leaves and other similar plant debris. *Sheep Production Handbook*, p. WOOL-39.

¹⁹ When fleeces are grouped according to fineness, the process is called grading. Typical combinations for fine wool fleeces are 70s/64s/62s or 64s/62s/60s. Coarser fleeces averaging 58s or coarser are generally limited to only two grades. *Sheep Production Handbook*, p. 1143.

²⁰ Grease wool or raw wool signifies wool in its natural state, as it comes off the sheep with grease and other impurities attached to it. Clean yield refers to the percentage of clean wool fibers (absent of grease) present in a given fleece; generally fine fleeces (small fiber diameter) will have lower yields than coarse fleeces. *Sheep Production Handbook*, pp. WOOL-70 and WOOL-12.

²¹ ASI, “Code of Practice for the Preparation of Wool Clips in the United States,” found at Internet address <http://www.sheepusa.org/fsearch.htm>, retrieved Oct. 9, 1997.

²² *Sheep Production Handbook*, p. WOOL-40.

²³ USITC staff phone interview with an official of the ASI, May 19, 1998.

²⁴ Wool that contains an excessive amount of vegetable material is carbonized using an aqueous acid treatment followed by heating, which converts the cellulose defect into carbon. *Sheep Production Handbook*, p. WOOL-45.

There are many end uses for wool. Wool is generally classified as that used for apparel or nonapparel. Apparel wools can be further divided into woolens and worsted yarns used in the manufacture of woven and knit fabrics. Woolen yarns are made from short fibers (1 to 3 inches) that are criss-crossed and do not lie in any general order, giving the yarn its characteristic fuzziness.²⁵ Fabrics made from woolen yarns include flannels, tweeds, and meltons, and are usually associated with fall and winter garments.²⁶ Worsted yarns are made from longer fibers of 3 to 6 inches, which are combed to lie parallel to each other and produce a smooth, clean look. Fabrics made from worsted yarns are smooth and cool to wear; these fabrics, such as gabardines, crepes, tropicals and suitings, can be worn comfortably in moderately warm weather and climates.²⁷ In addition, wool fibers are often blended with other fibers and synthetics. Manufactured wool carpets and furniture upholstery are examples of uses of nonapparel wools.

Mohair

Mohair is a wool-like hair obtained from Angora goats. The United States and South Africa are the world's largest producers of mohair. In the United States, Angora goats are generally sheared (clipped) twice a year. Mohair derived from kids and young goats is finer than that derived from adult goats and commands higher prices, as such fibers are highly desired by the fashion industry.²⁸ Mohair is graded by its width in microns. The fiber diameter of kid mohair is 23 to 29 microns, that of young goats is 30 to 36 microns, and the diameter of adult fibers is 34 to 40 plus microns.²⁹ Fiber diameter, length of fiber (minimum 4 inches), and fleeces free of kemp³⁰ are the most desirable characteristics.³¹

Kid and young goat mohair generally is processed into worsted apparel for men's and women's suits. There are many uses for adult mohair, including the manufacture of fuzzy cardigans, carpets, and blankets.³²

²⁵ *Sheep Production Handbook*, p. WOOL-73.

²⁶ "All About Wool," found at Internet address <http://www.woolmark.com/glossary.html#W-Z>, retrieved Oct. 9, 1997.

²⁷ *Ibid.*

²⁸ USITC staff interview with Dr. Chris J. Lupton, professor Animal Science, Texas A&M Univ., Agricultural Research and Extension Center, San Angelo, TX, Apr. 16, 1998.

²⁹ *Ibid.* Kid mohair is defined as that fiber produced from the first two clippings; young goat mohair is that fiber produced from the third and sometimes fourth clipping; and adult mohair consist of that fiber produced from the fourth and subsequent clippings.

³⁰ Kemp is a coarse, brittle, chalky white hair which sometimes occurs in the fleece. Cloths made with these fibers dye improperly and are highly undesirable.

³¹ *Angora Goats, Goat Handbook*, USDA, Oct. 1993.

³² Lupton, Texas A&M, Apr. 16, 1998.

Cashmere

Cashmere is a highly desirable and valuable fiber derived from cashmere goats. China is the world's largest producer of cashmere. Other producers of cashmere include Mongolia, Turkey, Afghanistan, Iraq, Iran, India, Pakistan, Australia, and New Zealand. In China, the fine, soft undercoat or underlayer of hair is removed with a coarse comb by hand. The animals are sheared in Afghanistan, Iran, New Zealand, and Australia.³³ Raising cashmere goats in the United States is a relatively new industry; the first cashmere goats were imported from Australia and New Zealand in the late 1980s.³⁴ In the United States the cashmere is obtained by shearing the animals once a year. End uses for cashmere include men's and women's coats, hosiery, sweaters, gloves, and robes.

U.S. INDUSTRY PROFILE

The structure of the raw wool industry in the United States is illustrated in figure 1. Wool and related animal hair are classified under Standard Industrial Classification 2299, a category for textile goods, not elsewhere classified.

Number of Firms and Geographic Distribution

Wool

Wool is grown throughout the United States, but the majority of U.S. wool is produced in the western United States. In many regions of the western United States, forage is the only suitable agricultural crop because of topography, rainfall, and soils, and the only practical use for the forage is as a feed for ruminant animals, such as sheep and goats.³⁵

The number of operations with sheep provides an estimate of the number of firms producing wool. The number of sheep-raising operations³⁶ in the United States declined steadily from 87,150 in 1994 to 74,710 in 1997, a decline of 14 percent.³⁷ The number of sheep and lambs in the United States totaled 7.62 million animals on January 1, 1998, with Texas

³³ Cashmere and Camel Hair Manufacturers Institute, "Cashmere and Camel Hair Fact Sheet," found at Internet address <http://www.cashmere.org>, retrieved Oct. 7, 1997.

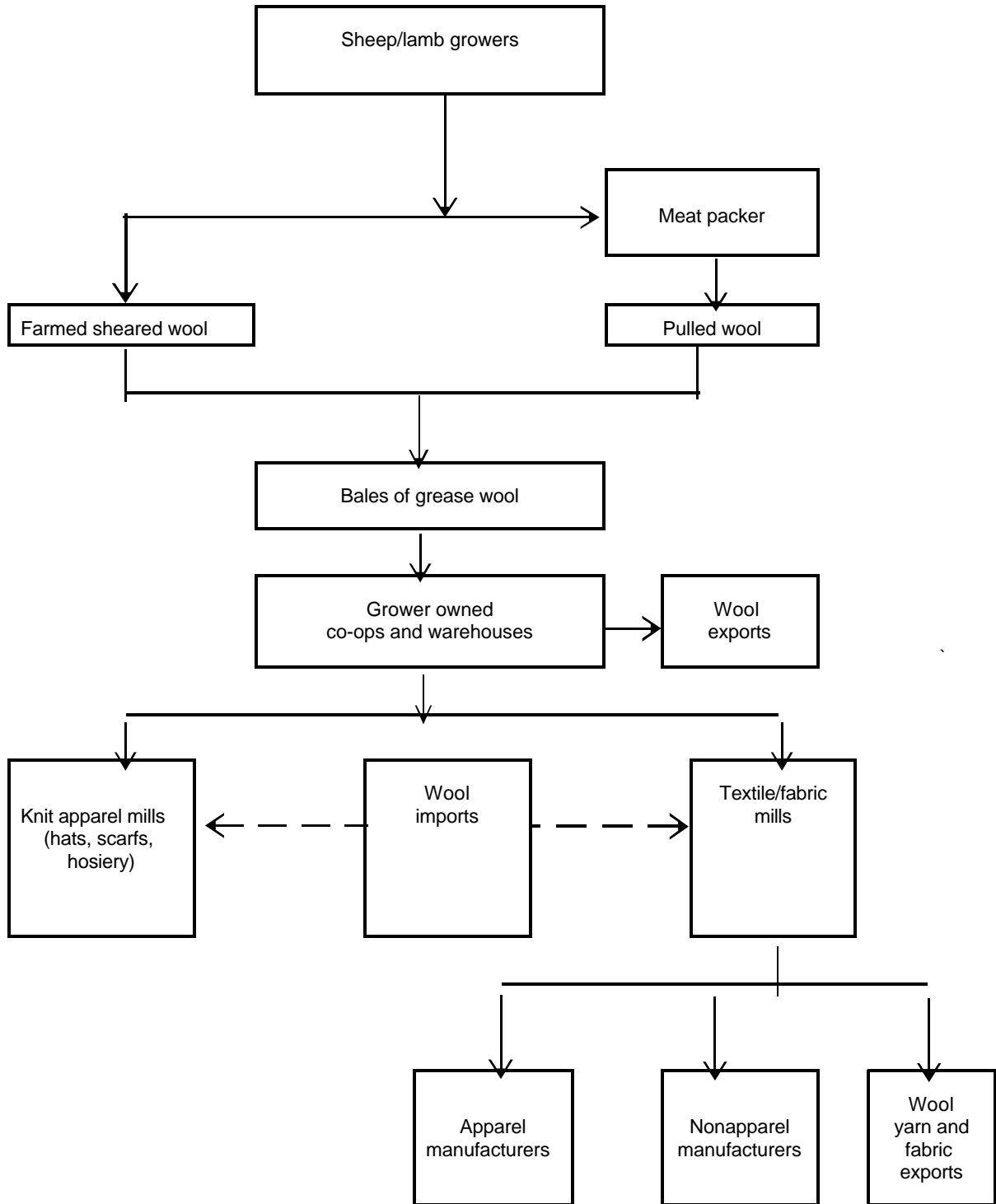
³⁴ Oklahoma State Univ., Department of Animal Science, Stillwater, OK, "Breeds of Livestock," found at Internet address <http://www.ansi.okstate.edu/breeds/goats>, retrieved June 17, 1998.

³⁵ Pierce Miller, president ASI transcript of ITC hearing on investigation 332-357: Lamb Meat: Competitive Conditions Affecting the U.S. and Foreign Lamb Meat Industries," Apr. 6, 1995, pp. 52-53.

³⁶ According to the USDA, "an operation is any place that has one or more sheep on hand at any time during the year."

³⁷ USDA, National Agricultural Statistics Service (NASS), *Sheep and Goats*, Jan. 30, 1998.

Figure 1
Wool: Structure of the U.S. industry



Source: Derived by USITC staff.

accounting for 1.5 million, or 18 percent of the total sheep inventory.³⁸ Other major sheep-raising States include California, Wyoming, Colorado, Montana, and South Dakota.

Wool production is concentrated where sheep and lamb production is concentrated. Twelve States accounted for over 80 percent of U.S. wool production in 1997. Texas accounted for 11.0 million pounds, or 20 percent of total U.S. wool production in 1997. Wyoming was the second-largest wool producer with 5.5 million pounds (10 percent), and California was the third-largest wool producer with 4.4 million pounds, or 8 percent.

Mohair

Although Angora goats can adapt to many conditions, they are particularly suited to the arid climate of the Southwestern States. Texas (mainly the Edwards Plateau in Southcentral Texas) has the largest Angora goat inventory and produces over 90 percent of U.S. mohair. Other producing States include Arizona, Oklahoma, and New Mexico.

Special Considerations

Wool

U.S. lamb meat production generates most of the receipts for sheep growers; thus, factors that affect lamb meat production ultimately affect wool production. The U.S. sheep industry has been in a long-term decline. Factors contributing to the decline include labor shortages, death losses of sheep and lambs from disease and predators, and market infrastructure problems.³⁹ In addition, some domestic interests contend that increased imports of lamb meat have also adversely affected the domestic sheep industry.⁴⁰

Many sheep growers report that they are unable to hire competent domestic sheep herders. Growers report that recent modifications in migrant labor laws and regulations have improved the labor situation somewhat; however, nearly all express dissatisfaction with the difficulty in satisfying the requirements of these laws and regulations. Death losses of sheep and lambs are generally higher than those of other livestock, primarily because sheep are highly susceptible to disease and are easily attacked by predators. USDA reports that in 1994, a total of 368,050 sheep and lambs, valued at \$17.7 million and accounting for 4 percent of the 1994 inventory, were killed by predators.⁴¹ Ultimately, the lack of competent sheep herders and loss of sheep to predators results in fewer sheep and less wool production.

³⁸ *Sheep and Goats*, Jan. 30, 1998.

³⁹ USITC, *Lamb Meat: Competitive Conditions Affecting the U.S. and Foreign Lamb Industries*, Investigation No. 332-357, USITC publication 2915, Aug. 1995, p. 2-41.

⁴⁰ Testimony of Steve Raftopoulos, on behalf of the ASI, for the Subcommittee on Livestock, Dairy and Poultry, U.S. Congress, Committee on Agriculture, Washington, DC, Feb. 26, 1998.

⁴¹ USDA, NASS, *Sheep and Goats Predator Loss*, Apr. 27, 1995.

In the United States, sheep are generally sheared once a year in the spring. A good shearer can clip at least 125 sheep a day. It is important to employ a skilled shearer because the value of the wool clip can be reduced by 25 percent or more as a result of improper shearing.⁴² Reportedly, there is a shortage of sheep shearers in the United States; consequently, many sheep in the United States are sheared by crews from Australia and New Zealand.⁴³ Graders and sorters of wool also require specialized knowledge and training.⁴⁴

As the number of producers and sheep flocks decline, there is a corresponding decline in infrastructure, such as the number of shepherds and shearers and the number of slaughtering plants. With the decline in the number of slaughtering plants, growers' opportunities to market their lambs become more limited.⁴⁵

Mohair

Mohair producers face many of the same problems sheep growers face, including the lack of skilled laborers, goat death loss due to predators, and a decline in infrastructure. In 1994, mohair producers experienced a loss to predators of 140,000 goats, valued at \$5.5 million.⁴⁶ Unlike sheep producers, whose income is derived primarily from lamb meat, Angora goat producers receive most of their income from the sale of mohair, not goat meat.⁴⁷ A high proportion of the Angora goats' nutrient intake is expended for fiber production, so they are relatively poor meat or milk producers.⁴⁸ There are few mohair processors left in the United States. For example, one processing plant closed in March 1998, citing declining production and a sporadic mohair market.⁴⁹

⁴² *Sheep Production Handbook*, p. WOOL-29.

⁴³ John Etchepare, president, Warren Live Stock Co., interviewed by USITC staff, Cheyenne, WY, Oct. 13, 1994.

⁴⁴ *Sheep Production Handbook*, p. WOOL-37.

⁴⁵ Ernest E. Davis, Texas A&M Univ., Glen Whipple, Univ. of WY, and David P. Anderson, Livestock Marketing Information Center, *Wool and Mohair Policy*.

⁴⁶ USDA, NASS, *Sheep and Goats Predator Loss*, Apr. 27, 1995.

⁴⁷ USDA, National Agricultural Library, Extension Goat Handbook, *Angora Goat Production*, June 1992, found at Internet address <http://agweb.tamu.edu/>, retrieved Oct. 2, 1997.

⁴⁸ *Ibid.*

⁴⁹ ASI Inc., *Sheep Industry News*, "Mohair Combing Facility to Close," Mar. 1998, Vol. 2, No. 3, p. 2.

Marketing Methods

*Wool*⁵⁰

Most wool is sold by description with measurements for fiber diameter and yield (see systems described earlier). The majority of wool is marketed through wool pools, warehouses, direct marketing, dealers, and brokers. In the eastern two-thirds of the United States, most wool growers produce small volumes that preclude efficient handling. Thus, wool growers in this region market their wool through warehouses or pools, whereby the wool is brought to the warehouse, graded, and put into packages for the wool trade. Individual wool growers pool their wool to improve the marketability of the wool through larger lot size. Grower-owned cooperatives pool the wool of their members to aid in keeping the cost of marketing low and to secure the full market price for the wool.⁵¹ There are over 100 wool pools throughout the United States.

In the Western States wool growers also use warehouses and pools to market their wool. There are over 40 wool warehouses in the United States, with most of them concentrated in Texas and New Mexico. Nearly 100 percent of the wool grown in these two States is marketed through warehouses. The majority of wool is taken on consignment and marketed on behalf of the grower, although some warehouses buy wool directly. Dealers and brokers purchase wool directly from the grower, or deal directly with warehouse operators. There are over 30 dealers/brokers of wool in the United States.

Mohair

The marketing of mohair is similar to that of wool. Mohair is marketed through warehouses, and the bulk of U.S. mohair production is loaded into containers each holding 35,000 pound quantities for export.⁵² Kid and young goat mohair are more valuable than adult mohair and thus are separated from the adult mohair, as the former will command a higher price.⁵³ The market value of mohair (especially adult mohair) fluctuates more than that of wool. In recent years, demand for adult mohair has declined primarily as a result of changes in fashion.⁵⁴ However, it is reported that high import tariffs and quotas in India and the devaluation of the currencies in various Asian country markets also have contributed to the weakened demand.⁵⁵

⁵⁰ The information in this section on marketing methods is adapted from ASI, *Fact Sheet—American Wool Market*, found at Internet address <http://www.sheepusa.org/resource/fswmarke.htm>, retrieved Oct. 2, 1997, unless otherwise stated.

⁵¹ *Introductory Animal Science*, pp. 604-605.

⁵² Mohair Council of America, San Angelo, TX, *About Fiber Goats*, found at Internet address <http://www.goatweb.com/angoras.htm>, retrieved Aug. 22, 1997.

⁵³ North Dakota State Univ., NDSU Extension Service, *Angora Goat*, Jan. 1993, found at Internet address <http://ndsuxext.nodak.edu>, retrieved Oct. 2, 1997.

⁵⁴ Lupton, Texas A&M, Apr. 16, 1998.

⁵⁵ *Wool Record*, "South Africans Try to Rekindle Interest in Adult Mohair Fibre," World Textile Publications Ltd., Bradford, West Yorkshire, England, Mar. 1998, p. 45.

Prices

The price U.S. wool growers received for their wool during 1993-95 was partly derived from Federal incentive payments made available under the National Wool Act of 1954 (Wool Act),⁵⁶ an incentive that was repealed effective as of December 31, 1995. The purpose of the former Wool Act, the value of incentive payments received by wool and mohair producers, and market prices are discussed below.

The Wool Act was enacted to encourage a greater level of self-sufficiency in wool production because the United States was a deficit wool producer.⁵⁷ It also sought to encourage producers to use good management and handling practices to minimize contamination of their clips and to employ certain marketing practices to improve the quality, which in turn increases the value of the raw fiber.⁵⁸

The Wool Act provided for incentive payments for shorn wool, mohair, and unshorn lambs. The incentive payments, administered by the USDA's Farm Service Agency,⁵⁹ were funded through the Commodity Credit Corporation (CCC). Another provision of the Wool Act authorized the Secretary of Agriculture to enter into agreements with sheep/wool and mohair organizations to carry out promotions in the United States.⁶⁰ During 1993-95, \$20.5 million was collected from wool and mohair producers for promotional purposes.⁶¹

In administering the Wool Act incentive payments, a support price was determined and incentive payments were made based on the percentage needed to bring the average return (market price + payment) received by all wool growers up to the determined support level. The wool support price was determined by a formula set forth in the Wool Act, and the market price received by all growers was calculated on the basis of actual returns received by growers. The mohair support price was set at a level between 85 and 115 percent of the percentage of parity at which shorn wool was supported.⁶²

The Omnibus Budget Reconciliation Act of 1993, Public Law 103-130,⁶³ provided for a phase out of the incentive payments over the marketing years 1994/95 and repealed the Wool Act effective as of December 31, 1995. For the marketing year 1994 (payments made April 1995), producers received only 75 percent of their calculated payment, and for the marketing year 1995 (payments made April 1996), they received only 50 percent.

The value of shorn wool marketed, Federal incentive payments (including unshorn lamb payments and promotion deductions), and the average price received by producers are shown in table A-2. USDA estimates that U.S. wool producers would have received an additional

⁵⁶ Public Law 83-690, 68 Stat. 910, Aug. 28, 1954.

⁵⁷ *National Wool Act Programs 1954-1995*, compiled by Janise Zygmunt, agricultural economist, USDA, Farm Service Agency, Fibers Analysis Division.

⁵⁸ *Ibid.*

⁵⁹ The Farm Service Agency (FSA), formerly Agricultural Stabilization and Conservation Service.

⁶⁰ *National Wool Act Programs 1954-1995*, p. 3.

⁶¹ *Ibid.*, pp. 16-17.

⁶² *Ibid.*, p. 1.

⁶³ Signed into law Nov. 1, 1993.

\$60 million in payments over the 1994/95 marketing years had there not been a reduction in incentive payments during the phase-out period.⁶⁴

U.S. producers of mohair also received incentive payments. The value of mohair marketed, Federal incentive payments (including promotion deductions), and the average price received by producers are shown in table A-3. USDA estimates that U.S. mohair producers would have received an additional \$25 million in payments over the 1994/95 marketing years had the phase out not occurred.⁶⁵

U.S. Government Programs

The Textile Fiber Products Identification Act⁶⁶ and the Wool Products Labeling Act of 1939⁶⁷ require marketers of subject textiles and wool products to mark each item with the generic names and percentages by weight of the constituent fibers present in the product, in the order of predominance by weight. In addition, the name of the country where the product was processed or manufactured must be identified.⁶⁸ The Wool Products Labeling Act also requires that each label state whether the wool used in a textile item is new or virgin (never before used in cloth) or recycled (includes fibers recovered from previously manufactured new or used cloth).

U.S. wool and mohair exports receive assistance from USDA's Market Access Program (MAP)⁶⁹ and USDA's Foreign Market Development Cooperator Program (FMD). The MAP uses funds from the CCC to help U.S. producers, exporters, and other trade organizations finance promotional activities for U.S. agricultural products, including wool and mohair.⁷⁰ Such funds are used to partially reimburse program participants conducting foreign market development projects in specified countries.⁷¹ The FMD is provided to encourage the development, maintenance, and expansion of long-term export markets for agricultural commodities through cost-share assistance to eligible trade organizations.⁷²

⁶⁴ *National Wool Act Programs 1954-1995*, p. 5.

⁶⁵ *Ibid.*

⁶⁶ 15 U.S.C. 70.

⁶⁷ 15 U.S.C. 68.

⁶⁸ U.S. Federal Trade Commission, *Rules and Regulations under the Wool Products Labeling Act of 1939*, effective July 15, 1941, as amended July 9, 1986 and 63 F.R., Feb. 13, 1998, *Rules and Regulations under the Textile Fiber Products Identification Act, the Wool Products Labeling Act, and the Fur Products Labeling Act*.

⁶⁹ The MAP was authorized by Section 244 of the Federal Agricultural Improvement and Reform Act of 1996 and is administered by USDA Foreign Agricultural Service (FAS). It replaced USDA's Market Promotion Program.

⁷⁰ USDA, FAS, "Market Access Program," found at Internet address <http://www.fas.usda.gov/exprograms.html>, retrieved May 12, 1998.

⁷¹ *Ibid.*

⁷² *Ibid.*

U.S. MARKET

Consumption

Apparent consumption of raw wool by U.S. textile mills decreased steadily from 157 million pounds in 1993 to 122 million pounds (clean basis)⁷³ in 1997, as shown in table A-4 and figure 2. The share of consumption accounted for by imports remained fairly stable during 1993-97, totaling 63 percent of consumption in 1997. The decline in wool consumption generally reflects a decline in retail sales of apparel made from wool, several relatively mild winters, and the importation of low-priced wool coats.⁷⁴ The decline in consumption during 1996 and 1997 also resulted in weaker mill demand.⁷⁵ Consumption of wool in the United States is small when compared to cotton and manufactured fibers (synthetics). Wool accounted for less than 1 percent of end-use fiber consumption in the United States in 1997.⁷⁶

The following tabulation shows U.S. mill consumption of apparel and carpet wool, 1993-97 (USDA, ERS *Cotton and Wool Yearbook*, Nov. 1997):

Year	Apparel	Carpet	Total
))))))))) Thousand pounds)))))))			
1993	141,380	15,431	156,811
1994	138,563	14,739	153,302
1995	129,299	12,667	141,966
1996	110,986	12,311	123,297
1997	(¹)	(¹)	121,900

¹ Not available.

During this period, approximately 90 percent of wool consumed by U.S. textile mills was apparel wool and 10 percent was carpet wool. About 54 percent of the total quantity of apparel wool consumed by U.S. textile mills annually during 1993-97 consisted of worsted wool (fibers 3 to 6 inches in length); woollen wool (shorter fibers, 1 to 3 inches long) accounted for 46 percent.

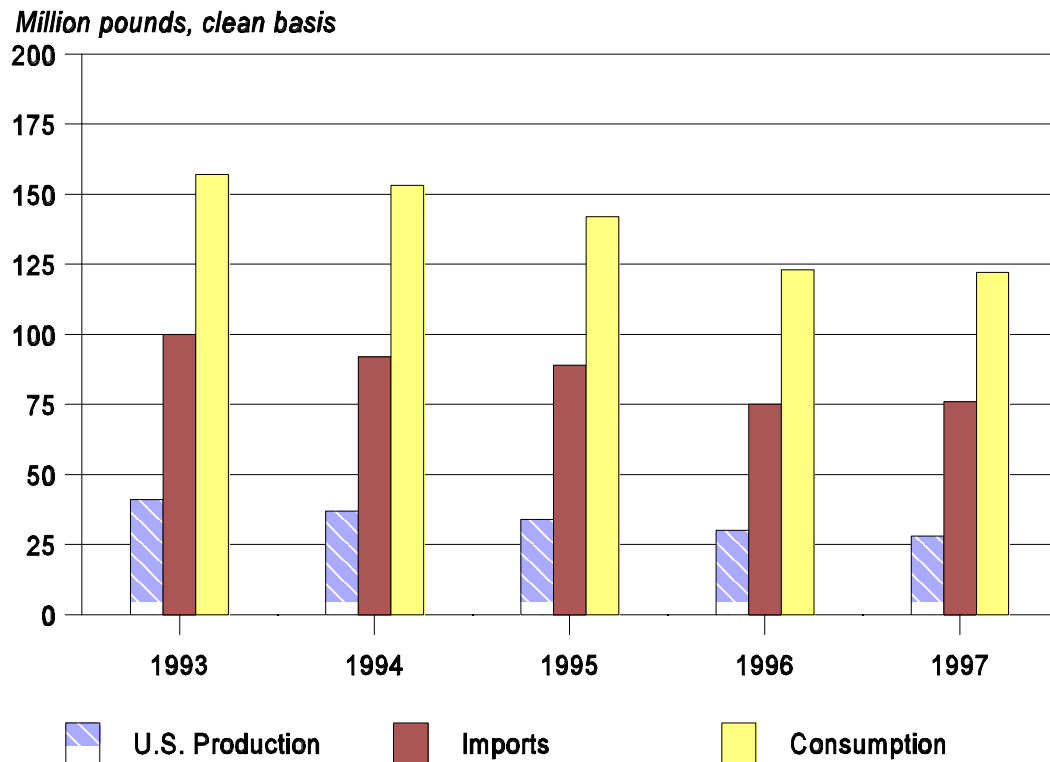
⁷³ Wool on a clean basis refers to wool that has been scoured. The quantity and value of wool in this summary are reported on a clean basis unless otherwise stated.

⁷⁴ USDA, ERS, *Cotton and Wool Yearbook*, Nov. 24, 1995.

⁷⁵ USDA, ERS, *Cotton and Wool Yearbook—Summary*, Nov. 21, 1996.

⁷⁶ Data for Jan.-June 1997, *Cotton and Wool Yearbook—Summary*, Nov. 1997.

Figure 2
Wool: U.S. production, imports, and apparent consumption, 1993-97



Source: U.S. Bureau of Census and U.S. Department of Agriculture

Production

Wool

U.S. shorn wool production declined steadily from 41 million pounds in 1993 to 28 million pounds in 1997, or by 32 percent (table A-4). During 1993-97, the value of production peaked in 1995 at \$64 million and totaled \$45 million in 1997.⁷⁷ The decrease in wool production primarily reflects a reduction in total sheep numbers (from 10.9 million animals in 1993 to 7.9 million animals in 1997). The U.S. sheep industry has been in a long-term decline, and some industry sources report that the elimination of the Wool Act contributed to its contraction.⁷⁸ The number of sheep shorn declined from 10.0 million animals in 1993 to 6.9 million animals in 1997, or by 31 percent. U.S. wool inventories (ending stocks) generally decreased

⁷⁷ The value of U.S. wool production does not include U.S. Federal Government payments provided under the Wool Act.

⁷⁸ *Wool and Mohair Policy*, Ernest E. Davis, Texas A&M Univ., Glen Whipple, Univ. of WY, and David P. Anderson, Livestock Mktg Info. Ctr., Texas A&M.

during 1993-97, from a high of 52 million pounds in 1994 to 46 million pounds in 1997 (table A-4). In 1997, ending stocks were about 7 percent above the January 1, 1997 stock level.

Mohair

U.S. mohair production⁷⁹ declined from 14.8 million pounds in 1993 to 6.9 million pounds in 1997, or by 53 percent (table A-5). During 1993-97, the value of U.S. mohair production⁸⁰ peaked at \$32 million in 1994, then fell irregularly to \$16 million in 1997.⁸¹ The decrease in production was a reflection of a 37 percent drop in the Angora goat inventory during 1993-97. The number of goats clipped also declined from 2.1 million animals in 1993 to 0.95 million animals in 1997.⁸² Poor returns (sometimes not enough to break even), reduced demand for adult mohair, and the elimination of the Wool Act caused many producers to exit the industry and further contributed to the reduction in mohair production.⁸³

U.S. TRADE

Overview

The United States registered a substantial trade deficit in wool and other related animal hair in every year during 1993-97 (table A-6). The deficit peaked in 1995 at \$179 million and totaled \$162 million in 1997. Imports of wool accounted for 86 to 92 percent of total wool and related animal hair imports during 1993-97. As stated earlier, the United States is not a major wool producer, accounting for less than 1 percent of world production. Exports of wool and related animal hair rose from \$14 million in 1993 to \$36 million in 1994, then declined to \$17 million in 1997.

⁷⁹ Approximately 10 to 20 percent of U.S. mohair production consists of kid/young goat mohair.

⁸⁰ The value of U.S. mohair production does not include U.S. Federal Government payments provided under the Wool Act.

⁸¹ USDA, NASS, *Wool and Mohair*, various issues.

⁸² The average clip per goat was 7.3 pounds in 1997, up from 6.7 pounds in 1996.

⁸³ Lupton, Texas A&M, Apr. 16, 1998.

U.S. Imports

The quantity of imports of wool and related animal hair declined irregularly from 106 million pounds in 1993 to 80 million pounds in 1997 (table A-7). The value of such imports peaked at \$214 million in 1995 and totaled \$179 million in 1997. Wool accounted for over 95 percent of the quantity imported in 1997; related animal hair accounted for 4 percent, and mohair accounted for less than 0.05 percent. In value terms, wool accounted for over 85 percent, related animal hair for 14 percent, and mohair for less than 0.05 percent.

Wool

Products imported

During 1993-97, U.S. imports of wool not finer than 46s (often referred to as unimproved wools) accounted for between 22 and 33 percent of the quantity and between 15 and 24 percent of the value of U.S. wool imports. These coarse wool fibers generally range from 5 to 15 inches in length and from 33 to 70 microns in diameter, and are not commercially produced in the United States.⁸⁴ U.S. textile mills import such wool for use in their production of carpets, upholstery, industrial felts, knitting yarns, and certain fabrics.⁸⁵ U.S. imports of wool finer than 46s accounted for the remainder and are generally used in the production of wearing apparel.

Levels and trends

U.S. imports of wool declined steadily from 100 million pounds in 1993 to 75 million pounds in 1996, then rose slightly to 76 million pounds in 1997 (table A-8).⁸⁶ The value of such imports declined by 2 percent to \$149 million during 1993-94, rose to \$197 million in 1995, then declined by 22 percent to \$154 million in 1997. The average unit price declined from a high of \$2.20 per pound in 1995 to \$2.02 per pound in 1996-97. The decline in U.S. wool imports reflects relatively mild winters and changing fashion trends. Wool also competes with cotton and synthetic fibers, the prices of which have declined relative to that of wool.⁸⁷ Also, with the introduction of “casual” office dress codes, apparel made from cotton and manmade fibers has displaced wool apparel.⁸⁸

⁸⁴ Most of the unimproved wools are specifically named and the others are provided for in the *HTS* as “similar” wools. The names generally reflect the area or country of origin, such as Arabian, Bagdad, and Indian. *HTS*, Additional U.S. Notes, ch. 51, Wool, Fine or Coarse Animal Hair; Horsehair Yarn and Woven Fabric, p. 51-2.

⁸⁵ American Textile Manufacturers Institute facsimile transmission to the USITC, Apr. 16, 1993.

⁸⁶ Includes approximately 3 percent by value and quantity of U.S. imports of wool other than clean yield.

⁸⁷ USDA, ERS, *Cotton and Wool Yearbook*, Nov. 27, 1996.

⁸⁸ USDA, ERS, *Cotton and Wool Yearbook*, Nov. 24, 1995.

During 1993-97, about 20 percent (by value) of U.S. wool imports entered the United States free of duty. Duty-free imports consist primarily of unimproved wools or other wools graded not finer than 46s. Table A-9 shows U.S. dutiable wool imports and duty-free wool imports for 1993-97.

Principal suppliers

During 1993-97, Australia was the principal supplier of wool to the United States, accounting for about 70 percent of U.S. wool imports in value terms. New Zealand was the second-largest U.S. supplier, supplying about 18 percent of the value annually during the period. New Zealand and the United Kingdom were the principal suppliers of unimproved wools, accounting for 78 and 15 percent, respectively, of the quantity and value imported in 1997. Wool mill processors, dealers, and brokers are the major importers of wool.

Related animal hair

Imports of related animal hair declined from 6 million pounds in 1993 to 3 million pounds in 1997 (table A-7). The value of such imports fluctuated during the period and totaled \$25 million in 1997. Processed cashmere and camel hair are believed to have accounted for most of the value of the products imported in this category. During 1993-97, the major suppliers of related animal hair were China, Mongolia, and Afghanistan.

Mohair

Mohair imports, though relatively small when compared with imports of wool and related animal hair, declined from a high of 194,000 pounds in 1994 to 4,000 pounds in 1997 (table A-7). The value of mohair imports peaked in 1995 at \$501,000 as the price of mohair per pound rose from \$1.15 in 1994 to \$3.50 in 1995. Australia was the principal supplier in 1997, accounting for 76 percent of the quantity imported.

U.S. Trade Measures

Tariff measures

Table A-10 shows the column 1 rate of duty as of January 1, 1998 for the articles included in this summary (including both general and special rates of duty) and U.S. exports and imports for 1997. An explanation of tariff and trade agreement terms is set forth in appendix C. The aggregate trade-weighted average rate of duty for all imports of wool and related animal hair included in this summary was 3.9 percent ad valorem in 1997, and the aggregate trade-weighted average rate of duty only for dutiable wool and related animal hair was 4.2 percent ad valorem.

The aggregate trade-weighted average rate of duty for wool (not including related animal hair) included in this summary was 3.1 percent ad valorem in 1997, and the aggregate trade-weighted average rate of duty for dutiable wool products was 4.1 percent ad valorem. U.S. tariff rates applicable to wool are to be reduced in stages under the Uruguay Round Agreements (URA). The duties are shown in appendix D. Provisions of the URA required elimination of duties on certain wools (wools not finer than 46s) effective January 1, 1995. However, these wools have received temporary duty suspensions since 1977; thus, the provisions did not significantly affect U.S. trade. The current duties on wool range from free for wool classified as not finer than 46s to 22.5¢ per clean kilogram (kg) for wool classified as finer than 46s.

Nontariff measures

Certain sanitary and phytosanitary regulations with respect to U.S. imports of wool and hair are administered by the USDA. For example, no bloodstained wool or hair is permitted to be imported under any condition. Wool and animal hair may be imported from a region not declared by the U.S. Secretary of Agriculture to be free of foot-and-mouth disease or rinderpest because these diseases are not transmitted by wool or hair.⁸⁹ Wool or hair clipped from live animals or pulled wool or hair may be imported without other restriction if the wool or hair is reasonably free from animal manure.⁹⁰

U.S. Government trade-related investigations

U.S. imports of wool finer than 44s from Argentina, provided for under HTS subheadings 5101.11.60, 5101.19.60, 5101.21.40, and 5101.29.40, were the subject of a countervailing duty (CVD) order effective April 4, 1983.⁹¹ The order was issued by the U.S. Department of Commerce (Commerce) pursuant to section 303 of the Tariff Act of 1930. Effective Aug. 1, 1997, after completing a “changed circumstances” review, Commerce revoked the order with respect to all unliquidated entries occurring on or after Sept. 20, 1991.⁹²

⁸⁹ Rinderpest and foot-and-mouth diseases are highly contagious, infectious diseases that can afflict cloven-footed animals (such as sheep). Because the diseases are easily transmitted and debilitating, they are an ever-present threat to the U.S. livestock industry. Consequently, U.S. imports of live sheep and meat of sheep are generally limited to countries that have been declared free of these diseases by the U.S. Secretary of Agriculture.

⁹⁰ 9 CFR Ch. 1 (1-1-98 Edition).

⁹¹ 48 F.R. 14423 (April 4, 1983).

⁹² For background information on the history of this order and reasons of Commerce revoking it, see explanation in Commerce’s Aug. 1, 1997, notice (62 F.R. 41361).

U.S. Exports

U.S. exports of wool, mohair, and other related animal hair rose from 12 million pounds, valued at \$14 million, in 1993 to 16 million pounds, valued at \$36 million, in 1994 before declining to 7 million pounds, valued at \$17 million, in 1997 (table A-11). Exports of mohair rose by over 200 percent during 1993-94 (from \$7 million to \$23 million), contributing to the increase in exports of these fibers during 1994; however, such exports declined to \$5 million in 1997. Wool exports accounted for 50 percent of the total exports of these fibers (in value terms), mohair accounted for 33 percent, and other related animal hair accounted for 17 percent in 1997.

During 1993-97, the European Union was the largest export market for wool, mohair, and other related animal hair (in value terms). Mohair was the principal product exported to the EU during 1993-97; however, such exports as a share of the total exports of these fibers declined from 66 percent in 1994 to 38 percent in 1997. U.S. mohair exports declined from a high of \$23 million in 1994 to \$8 million in 1996 and \$5 million in 1997, reflecting in part a reduction in U.S. mohair production and reduced mill demand for adult mohair. U.S. exports of wool to the EU rose steadily from \$1 million in 1993 to \$3 million in 1997, and exports of related animal hair totaled \$2 million in 1997.

Export Levels and Trends

Wool

U.S. wool exports rose steadily from 2.5 million pounds, valued at \$3.3 million, in 1993 to 6.0 million pounds, valued at \$12.6 million, in 1995 (table A-12). Such exports declined to 5.7 million pounds, valued at \$9.1 million, in 1996 and declined further to 4.7 million pounds, valued at \$8.3 million, in 1997. Factors contributing to the overall increase in U.S. wool exports include industry and government programs to promote U.S. wool sales to foreign markets.⁹³

Mexico was the largest U.S. export market for wool, accounting for 39 percent of the quantity in 1997. Other important markets included Germany, the United Kingdom, and Belgium; accounting for 20, 14, and 7 percent, respectively, of the quantity exported during 1997. The ratio of U.S. wool exports to production generally increased from 6 percent in 1993 to 18 percent in 1997 (table A-4).

Shorn wool accounted for 56 percent of the quantity of U.S. wool exports in 1997, carbonized wool accounted for 37 percent, and pulled wool accounted for 6 percent (table A-13). Closure of wool scouring and or carbonizing facilities in Mexico resulted in an increase in U.S. carbonized wool exports to Mexico during 1995-97.⁹⁴

⁹³ USITC staff interview with official from ASI, May 19, 1998.

⁹⁴ Ibid.

Mohair

U.S. exports of mohair rose from 6.7 million pounds, valued at \$7.5 million, in 1993 to 8.7 million pounds, valued at \$23.0 million, in 1994, then declined steadily to 1.9 million pounds, valued at \$5.4 million, in 1997 (table A-11). The United Kingdom, South Africa, and India were the destinations for most of these exports, accounting for over 85 percent in quantity terms in 1997. Other markets include China and Belgium. Factors contributing to the decline in mohair exports included reduced mill use, resulting from weak retail sales of mohair apparel and textiles, and slower economic activity abroad.⁹⁵ In addition, as the unit value of mohair declines, many producers have historically placed it in storage until prices return to a more profitable level.

Related animal hair⁹⁶

Exports of other related animal hair peaked in 1994 at 4.1 million pounds, valued at \$9.2 million, then declined to 0.8 million pounds, valued at \$2.9 million, in 1997 (table A-11). Exports of other animal hair were composed primarily of cashmere and other fine animal fibers which were imported, cleaned, and dehaired in the United States, and later reexported. The United Kingdom, Japan, Belgium, and Canada were the destinations for most of these exports, accounting for over 80 percent of other related animal hair in 1997.

Foreign Trade Measures

Tariff measures

U.S. exports of wool and related animal hair go largely to the European Union and Mexico. The EU does not impose duties on wool imports. U.S. exports of wool to Mexico receive duty-free status under the North American Free Trade Agreement (NAFTA).

China and India are major world wool importers. Tariffs on wool and animal hair imports into China are fairly high, 15 percent and 9 percent ad valorem respectively, for goods from MFN nations (1996). Duties on wool imported into India range from 25 to 50 percent ad valorem, except wool imported by India's craft industry, which receives a rate of duty of free.⁹⁷

Nontariff measures

A variety of domestic policies and import restrictions are employed to protect foreign wool sectors. The EU provides benefits to sheep growers in the form of "ewe premium payments." When the market price of sheep meat drops below a "basic price," growers receive a payment (ewe premium payment) equal to the difference between the basic price and the market price.

⁹⁵ USDA, ERS, *Cotton and Wool Yearbook*, Nov. 27, 1996.

⁹⁶ Does not include U.S. mohair exports.

⁹⁷ USDA, FAS, *Agricultural Import Barriers*, IN6072, Aug. 6, 1996, p. 18.

The 1997 ewe premium was set at the equivalent of US\$15.77 (14.206 ECU)⁹⁸ per animal for heavy lambs and US\$12.62 (11.365 ECU) per animal for light lambs.⁹⁹ In 1997, the European Agricultural Guidance and Guarantee Fund contributed approximately US\$2.24 billion for sheep meat.¹⁰⁰

The Australian Government provides assistance to the wool industry for research and promotion and price support arrangements. A total of \$113.3 million (US\$89.2 million) was budgeted for the wool industry in the 1996/97 marketing year.¹⁰¹ In addition, a program to encourage Australian wool exports to China was announced in December 1996. Under this program, wool exporters receive payments from the Australian government at the time of export whereas Chinese buyers have up to 6 months to pay the amount due and receive favorable interest rates. Credit of up to US\$250 million was to be available every 6 months.¹⁰² A reexport program in India allows exporters to obtain licenses to import raw materials such as wool free of duty and produce finished products for re-export with a value added requirement.¹⁰³ In addition, many foreign governments provide reduced interest rate loans to sheep producers.

FOREIGN INDUSTRY PROFILE

Major world producers of wool include Australia, New Zealand, China, the Commonwealth of Independent States (the former Soviet Union), Uruguay, Argentina, and South Africa. Australia is by far the largest producer and exporter of wool. World wool production decreased steadily from 3.8 billion pounds in 1992/93 to 3.2 billion pounds in 1996/97 (table A-14).¹⁰⁴ The decrease in wool production generally reflects the decline in the global sheep population, which fell from 1.068 billion animals as of January 1, 1993 to 1.009 billion animals as of January 1, 1997. During this period, sheep numbers fell in most major sheep-producing countries, reflecting poor pasture conditions caused by drought, depressed wool prices, and a general shift away from sheep raising toward more profitable agricultural enterprises. Profiles of some of the world's leading wool producers and exporters follow.

⁹⁸ With exchange rate in effect on June 8, 1998; 1 ECU = US\$1.11020.

⁹⁹ Agra Europe Ltd, (London), No 1769, Oct. 17, 1997, *Sheepmeat*, p. P/iii.

¹⁰⁰ Agra Europe Ltd, (London), No 1769, Oct. 17, 1997, *Projected EAGGF Guarantee Fund Spending in 1998*, p. P/3.

¹⁰¹ USDA, FAS, *The Australian Budget and Agriculture*, AS6071, Aug. 29, 1996, p. 1.

¹⁰² USDA, FAS, *Wool Credits in Export Model*, AS6094, Dec. 20, 1996, p. 1.

¹⁰³ USDA, FAS, *Agricultural Import Barriers*, IN6072, Aug. 6, 1996, p. 6.

¹⁰⁴ July-June marketing year.

Australia

Australia, the world's largest producer and exporter of wool, accounted for 31 percent of world production and 64 percent of world exports in 1997.¹⁰⁵ The three major groups of sheep breeds in Australia are those bred for the production of fine wool, those grown primarily for the production of meat, and the remainder that are dual-purpose sheep grown for both wool and meat.¹⁰⁶ Approximately 70 percent of Australia's sheep are purebred Merinos bred for the production of fine wool, about 25 percent are of fine to medium wool crossbred types, and 5 percent are coarse wool crossbred types. Sheep are kept and wool is produced throughout Australia; however, sheep are concentrated in the States of New South Wales, Western Australia, and Victoria.¹⁰⁷

The Australian sheep population totaled 123 million animals in 1996/97, down by 11 percent from 1992/93. The decline in sheep numbers reflects primarily a persistent drought in sheep-grazing areas of Eastern and Southern Australia. Drier than normal conditions existed in much of Eastern and Southern Australia during 1994/95, with some areas in Queensland and northern New South Wales suffering from unfavorable weather during the past 4 years.¹⁰⁸

Wool production declined steadily from 1.3 billion pounds in 1992/93 to 1.0 billion pounds in 1996/97, or by 21 percent (table A-14),¹⁰⁹ reflecting the reduction in the number of sheep as well as a drought-induced decline in average fleece weights (i.e., lower yields).¹¹⁰ The average fleece weight declined by 3 percent from 4.49 kg (9.89 pounds) in 1993/94 to 4.37kg (9.63 pounds) in 1994/95.¹¹¹ The value of wool production rose from US\$1.7 billion (AUS\$2.4 billion) in 1993/94 to US\$2.4 billion (AUS\$3.3 billion) in 1994/95, then declined to US\$2.0 billion (AUS\$2.7 billion) in 1995/96.¹¹²

Most of the wool produced in Australia is exported. As reflected in table A-14, exports were equivalent to between 85 percent and 95 percent of production (quantity) during 1993/97. Exports are mainly in the raw or grease form, although an increasing proportion of the clip is partly processed (31 percent in 1994/95).

During 1993-97, Australian wool exports peaked at 1.1 billion pounds in marketing year 1993/94 and then declined steadily to 0.834 billion pounds in 1995/96 (table A-14). Such exports rose to 0.94 billion pounds in 1996/97. The decline in exports during 1994/95 and 1995/96 reflects declining demand in many traditional export markets like Western Europe (Germany, Italy, and France) and Japan. Exports rose in 1996/97, reflecting higher export

¹⁰⁵ Ibid.

¹⁰⁶ The Australian Meat and Livestock Industry, "Livestock Production Sheep," found at Internet address <http://www.amlc.com.au/industry/overview/sheep.htm>, retrieved Oct. 2, 1997.

¹⁰⁷ A.H. Hides and Skins Australia Party, Ltd., "Sheepskins and Lambskins," found at Internet address <http://www.ozemail.com.au>, retrieved Oct. 14, 1997.

¹⁰⁸ USDA, FAS, *Agricultural Situation Annual*, Australia, AGR No. AS5093, Sept. 1995.

¹⁰⁹ International Wool Textile Organization in Succession to the Commonwealth Secretariat as reported in USDA, ERS, *Cotton and Wool Situation and Outlook Report*, Nov. 1997, app. table 42.

¹¹⁰ Australian Bureau of Statistics (ABS), *Value of Agricultural Commodities Produced, Australia (7503.0); Livestock and Livestock Products, Australia (7215.0)*, Shearing, Wool, Production and Value, found at Internet address <http://www.statistics.gov.au>, retrieved Aug. 22, 1997.

¹¹¹ Ibid.

¹¹² Ibid.

demand in Europe and the rest of the northern hemisphere.¹¹³ Other important export markets include China and the Republic of Korea.¹¹⁴

Prices

As a result of Australia's dominance in wool production and trade, the price of wool in markets worldwide, including the United States,¹¹⁵ is influenced heavily by the price of wool in Australia. The United States is especially dependent on Australia for the finer grades of wool, which are not produced in commercial quantities in the United States.

The Australian wool market operated under a Reserve Price Scheme (RPS) controlled by the Australian Wool Corp. (AWC) during 1971-91.¹¹⁶ By setting a floor under which prices could not fall, the system was designed to create a degree of price stability in the market.¹¹⁷

During 1987/88, global demand for wool was high, the average price paid for Australian wool peaked at US\$3.32/lb (AUS\$10.03/kg),¹¹⁸ and the volume of wool reserves held by AWC was virtually nil.¹¹⁹ Wool prices begin to decline in May 1988 as global demand for wool dropped sharply. The AWC raised the floor rate in an effort to stabilize prices at a higher level,¹²⁰ however reduced demand, coupled with increased production, resulted in a soft market that could not support Australia's higher floor price. By the end of June 1990, AWC's purchases of wool reached an unprecedented 3 million bales (1 bale = 170kg).¹²¹

¹¹³ The Sydney Morning Herald, *Wool disaster now a bonanza*, June 21, 1997, found at Internet address <http://www.smh.com.au/daily/content/970621>, retrieved Oct. 2, 1997.

¹¹⁴ Embassy of Australia, "Sheep," found at Internet address <http://www.aust.emb.nw.dc.us/agricult.htm#Sheep>, retrieved Oct. 2, 1997.

¹¹⁵ Australia supplied approximately 40 percent of the raw wool consumed in the United States in 1997.

¹¹⁶ The Australian Wool Commission, predecessor to the Australian Wool Corp., introduced the flexible reserve price scheme at wool auctions. The Australian Wool Corp. was formed in 1973 with the amalgamation of the Australian Wool Board and the Australian Wool Commission.

¹¹⁷ USITC, *Monthly Import/Business Review*, "Wool: Reduced Demand and Increased Supply in the Australian Market May Offer Some Price Relief to U.S. Mills," Dec. 1989, p. 8.

¹¹⁸ Australian wool market indicator - weighted average across all wool types sold by auction; USDA, FAS, *Annual Livestock Report*, AGR No. AS7052, Aug. 1, 1997, p. 25.

¹¹⁹ USITC, *Monthly Import/Business Review*, "Wool: Lower Floor Price in Australia Fails to Restore Market Confidence," Aug. 1990, p. 4.

¹²⁰ *Ibid.*

¹²¹ *Ibid.*

In February 1991, the Australian Government suspended the RPS by which floor prices were maintained. From a support price level of US\$2.50 per pound in early February 1991, the Australian market indicator price (based on a group of various types of wool) plunged to US\$1.52 per pound by early March—a decline of 39 percent.¹²²

Following the suspension of the RPS, Australian wool prices have fluctuated widely as shown in the following tabulation (Source: Australian Wool Corp):

Year	Australia cents per kilogram (clean)	U.S. dollars per pound ¹
1990/91	657	2.34
1991/92	557	1.95
1992/93	519	1.65
1993/94	547	1.72
1994/95	788	2.65
1995/96 ²	619	2.13
1996/97 ²	610	2.17
1997/98 ³	650	2.03

¹ Converted to U.S. dollars per pound using average exchange rates in effect (July-June in corresponding years).

² Estimated by the Australian Wool Corp.

³ Forecast by the Australian Wool Corp.

Note.—Year equals July-June financial year.

The wool stockpile which peaked at 4.7 million bales in 1991 declined to 1.6 million bales in 1997. Increased demand for Australian wool in export markets, coupled with relatively static supply, is expected to result in an increase in the average market price received by Australian wool growers to AU\$6.50/kg in 1997/98.¹²³

Marketing

Wool is marketed through public auctions, futures contracts, forward contracts, options, and private sales. Most shorn wool in Australia is sold by public auction with Adelaide, Fremantle, Geelong, Goulburn, Launceston, Melbourne, Newcastle, and Sydney the main selling centers. Prices of wool lots offered for sale are determined by the buyers on the day the wools are auctioned. Buyers use visual along with subjective and objective measures to assess the quality and thus the value of the wool.¹²⁴

As Australian wool producers no longer have the floor price that they had when the RPS was in effect, they face two primary sources of income risk—uncertainty about the levels and quality of future production and uncertainty about future prices. This uncertainty, together with the current volatility of wool prices, has led to an increase in the use of forward contracts, wool

¹²² USITC, *Monthly Import/Business Review*, “Wool: Suspension of Price Supports in Australia and New Zealand Shakes Industry,” July 1991, p. 5.

¹²³ USDA, FAS, *Annual Livestock Report*, AS7052, Aug. 1, 1997, p. 25.

¹²⁴ Australian Bureau of Agricultural and Resource Economics (ABARE), “ABARE Research Agriculture,” found at Internet address <http://www.abare.gov.au>, retrieved Oct. 9, 1997.

futures contracts, and their derivatives to help manage price risk.¹²⁵ The Sydney Futures Exchange (SFE) reported that the volume of contracts traded of 21 micron Greasy Wool Futures exceeded 10,100 in 1997, up 34 percent and equivalent to 25 million kilograms (55 million pounds) of grease wool.¹²⁶ In addition, two new Wool Futures contracts (19 micron and 23 micron) were made available in January 1998 to provide market participants with a greater number of choices to manage their wool price risk.¹²⁷

New Zealand

Sheep are raised throughout New Zealand, and producers benefit from nearly ideal climatic and grazing conditions. Many of New Zealand's sheep are dual-purpose breeds, producing both meat and wool. The most common breed of sheep is the Romney, accounting for about 58 percent of the total sheep inventory (June 1996).¹²⁸ Other important breeds include the Coopworth, Merino, Perendale, Corriedale, and Halfbred.

New Zealand is the world's second-largest wool producer, accounting for 14 percent of world production in marketing year 1997.¹²⁹ During 1993-97, production peaked at 472 million pounds in 1994/94, declined to 439 million pounds in 1995/96, then rose slightly to 448 million pounds in 1996/97 (table A-14).¹³⁰ The decline in wool production reflects a decline in total sheep numbers. In 1993, New Zealand was especially affected by unfavorable weather that resulted in high death rates for wool-type sheep and low per-head wool production. The sheep inventory in New Zealand declined from 53 million animals in 1993 to 47 million animals in 1997, a decrease of 10 percent, reflecting in part lower wool prices and the continued movement, especially in northern regions, away from sheep raising and toward dairy production.¹³¹ Wool production increased in 1997, despite the decline in sheep inventory, due to an increase in the average shorn wool produced per animal. Shorn wool produced per animal rose by 4 percent in 1997 to 4.97 kg (11 pounds).¹³²

Most wool produced in New Zealand has a fiber diameter greater than 30 microns. Such wool is used primarily for carpet/rug manufacture, though some is used for blankets, upholstery, outerwear, and knitwear. Wool derived from Merino sheep comprise about 5 percent of total New Zealand wool production (18-24 microns) and is generally used for wearing apparel.¹³³ Wool is sold at auctions or by private sales. During the 1996/97 marketing year, 60 percent of

¹²⁵ ABARE, "Wool futures: price risk management for Australian wool growers," found at Internet address <http://www.abare.gov.au/service/publications...>, retrieved Feb. 10, 1998.

¹²⁶ Sidney Futures Exchange (SFE), "Wheat and Wool Futures Surge in 1997," found at Internet address <http://www.sfe.com.au...>, retrieved Jan. 13, 1998.

¹²⁷ Ibid.

¹²⁸ Statistics New Zealand, "Sheep Breeds - 1996, Changing Profile of NZ Sheep Breeds," found at Internet address <http://www.stats.govt.nz/statsweb.nsf>, retrieved Oct. 9, 1997.

¹²⁹ July/June marketing year.

¹³⁰ NZ Meat & Wool Board's Economic Service (NZEC), *Annual Review of the New Zealand Sheep and Beef Industry, 1996-97*, p. 5.

¹³¹ Ibid.

¹³² Ibid., p. 35.

¹³³ Ministry of Agriculture and Forestry, New Zealand (MAF), *Situation and Outlook for New Zealand Agriculture, 1997 (SONZA 1997)*, found at Internet address <http://www.maf.govt.nz>, retrieved June 26, 1997.

the wool produced was sold at auction, and the remainder was sold at private sales.¹³⁴ About 88 percent of New Zealand's wool clip is exported in its raw form, the rest is processed domestically into intermediate products such as carpet yarn and tops, or finished carpets and apparel.¹³⁵ China (including Hong Kong), the United Kingdom, India, and Germany were the leading export markets for New Zealand wool, accounting for about 54 percent of the total quantity exported during 1996/97. Other leading markets included Japan, Australia, and the United States.¹³⁶

During 1993-97, exports of New Zealand wool reached a high of 480 million pounds in 1994, declined to 387 million pounds in 1996, and then rose slightly to 416 million pounds in 1997. Exports to China declined from 148 million pounds in 1996¹³⁷ to 110 million pounds in 1997,¹³⁸ a decrease of 26 percent. The general decline in exports reflects reduced demand, lower production, and the elimination of wool stocks¹³⁹ in 1995/96.¹⁴⁰ Increased competition from acrylic in the hand-knitting segment of the Chinese market and contractual problems between New Zealand exporters and Chinese importers contributed to the decline in exports to China.¹⁴¹

The New Zealand Wool Board (NZWB), a statutory organization representing wool growers, was governed by the Wool Industry Act (1977) until its repeal by the Producer Board Acts Reform Bill (Reform Bill) in December 1997. Many of the NZWB powers were repealed with the enactment of the Reform Bill, including its power to acquire the wool clip, to negotiate freight rates, and to license wool exporters. However, the Reform Bill provided for the direct election of directors and generally enhanced performance and accountability measures.¹⁴²

China

China was the world's third-largest wool producer in 1997, with production totaling 337 million pounds in 1996/97, up by 29 percent from 1993 (table A-14). China's sheep population increased to 140 million animals in 1997, up from 110 million animals in 1993.¹⁴³ Over 25 percent of China's wool is produced in the Inner Mongolia Autonomous Region.¹⁴⁴ Wool is classified into three grades in China: fine, semifine, and rough.

¹³⁴ NZEC, *Annual Review of the New Zealand Sheep and Beef Industry, 1996-97*, p. 31.

¹³⁵ Trade New Zealand, "New Zealand Exports," found at Internet address <http://www.tradenz.govt.nz/exports>, retrieved Oct. 2, 1997.

¹³⁶ NZEC, *Annual Review of the New Zealand Sheep and Beef Industry, 1996-97*, p. 36.

¹³⁷ NZEC, *Annual Review of the New Zealand Sheep and Beef Industry, 1995-96*, p. 36.

¹³⁸ NZEC, *Annual Review of the New Zealand Sheep and Beef Industry, 1996-97*, p. 36.

¹³⁹ Wool stocks held by the New Zealand Wool Board (NZWB) reached a high of 558,000 bales in 1990/91.

¹⁴⁰ MAF, *Situation and Outlook for New Zealand Agriculture, 1997 (SONZA 1997)*, found at Internet address <http://www.maf.govt.nz>, retrieved June 26, 1997.

¹⁴¹ SONZA, 1997.

¹⁴² "New Acts for the Meat, Wool and Pork Industry Boards," found at Internet address <http://www.maf.govt.nz/MAFnet/publications/sonzaf98/sonza103.htm>, retrieved Sept. 22, 1998.

¹⁴³ USDA, ERS, *Cotton and Wool Yearbook*, app. table 37—Sheep population, wool production, and exports, major producing foreign countries, 1990/91-1996/97, Jan. 1998.

¹⁴⁴ *Wool Record*, "Overcapacity and low quality mar home market," World Textile Publications, Ltd., Bradford, West Yorkshire, England, Apr. 1998, p. 54.

Despite sizable domestic production, China is the world's largest importer of wool. In 1997, China accounted for 17 percent of world imports,¹⁴⁵ which supplied 66 percent of China's wool consumption. Australia was the leading wool supplier, accounting for 57 percent, followed by New Zealand and Uruguay, which accounted for 13 percent and 9 percent, respectively.¹⁴⁶ U.S. wool exports to China were negligible.

China is the world's largest producer of cashmere, with production totaling about 7 million pounds annually and China accounts for about 60 percent of the world's supply. The climate and geography in China are conducive for herding cashmere goats that produce high-quality cashmere. Europe, Japan, and the United States are major export markets for Chinese cashmere.

Commonwealth of Independent States

Wool production in the Commonwealth of Independent States (CIS)¹⁴⁷ declined from 456 million pounds in 1992/93 to 220 million pounds in 1996/97, a decrease of 52 percent (table A-14). Contributing to this decline was a near parallel decrease in the sheep population,¹⁴⁸ which fell from 122 million in 1993 to 64 million in 1997. Main sheep-raising states include Russia, Kazakhstan, Ukraine, and Uzbekistan, accounting for over 70 percent of the CIS sheep population in 1997.¹⁴⁹

Many factors contributed to the decline in wool production, including reduced government support, poor quality pastures, inadequate feed supplies, and reduced demand in domestic and foreign markets.¹⁵⁰ According to Ovtseprom, Russia's national sheep farming association, the quality of wool produced in Russia is considered inferior and cannot compete with wool produced by other major world producers.¹⁵¹ As a result, the price received for wool is less than the average world price. For example, the average world price of wool is about \$5.50-6.00 a kilogram, but the average price per kilogram of Russian wool is about \$2.00 (excluding subsidies and compensations).¹⁵²

¹⁴⁵ USDA, ERS, *Cotton and Wool Yearbook*, Nov. 1997, app. table 38—World wool trade by major importing and exporting countries, 1990/91-1996/97.

¹⁴⁶ *Ibid.*

¹⁴⁷ The CIS consist of the independent states of Armenia, Azerbaijan, Byelorussia, Estonia, Georgia, Kazakhstan, Kyrgyzia, Latvia, Lithuania, Moldova, Russian Federation, Tadjikistan, Turkmenistan, Ukraine, and Uzbekistan.

¹⁴⁸ Most sheep in the CIS are raised primarily for wool, not meat production.

¹⁴⁹ USITC staff estimate based on data from USDA, FAS attache reports.

¹⁵⁰ USDA, FAS, *1995-1996 Livestock Situation Report, Russia*, RS6071, Sept. 3, 1996, p. 36, and USDA, FAS, *Livestock Voluntary Report*, KZ8003, April 8, 1998, p. 11.

¹⁵¹ USDA, FAS, *1995-1996 Livestock Situation Report, Russia*, RS6071, Sept. 3, 1996, p. 36.

¹⁵² *Ibid.*

Russia accounted for approximately 40 percent of the CIS sheep population during 1993-97. In Russia, government purchases of wool declined from 243 million pounds in 1990 to 115 million pounds in 1995 and continued to decline in 1996-97. Some producers were unable to sell their remaining wool at prices high enough to cover their costs and exited the industry, resulting in a decline in sheep population.¹⁵³

In the CIS there has been a shift to private ownership of sheep from state/collective enterprises. In Russia, the number of sheep raised by state/collective enterprises declined from 64 percent of the total sheep inventory in 1993 to 48 percent in 1996. Conversely, the number of sheep raised by the private sector rose from 36 percent to 52 percent during the period.¹⁵⁴ In the Republic of Kazakhstan, 75 percent of the sheep inventory was raised by state/collective enterprises and 25 percent raised by the private sector in 1992; however, by 1997 the private sector accounted for 58 percent of the sheep inventory.¹⁵⁵

Uruguay

In Uruguay, many farmers raise both cattle and sheep, with the latter kept primarily for the production of wool. The sheep population in Uruguay declined steadily during 1993-97, from 24 million animals to 20 million animals. Wool production declined from 141 million pounds 1992/93 to 123 million pounds in 1995/96, then rose 12 percent to 138 million pounds in 1996/97 (table A-14). The overall decline in sheep and wool production reflects the generally depressed world wool market. In addition, returns from cattle production remain more attractive than those from sheep and wool, encouraging some producers to reduce their investment in sheep and to increase their investment in cattle.¹⁵⁶ China and the European Union (Germany and the United Kingdom) are the primary markets for Uruguay's wool; other markets include Brazil and the United States.

Argentina

Wool production in Argentina declined steadily from 132 million pounds in 1992/93 to 90 million pounds in 1996/97 (table A-14). Depressed international wool prices and depressed worldwide demand reportedly are the main factors contributing to the decline in Argentine wool production.¹⁵⁷

Sheep numbers in Argentina declined from 26 million animals in 1993 to 19 million animals in 1996, then rose slightly to 20 million animals in 1997 as some producers started to rebuild their flocks. The Patagonian region accounts for approximately 60 percent of the Argentine sheep flock, the Buenos Aires region for 15 percent, and the Mesopotamia region (Entre Rios and Corrientes) for 11 percent.¹⁵⁸ Unfavorable weather in Patagonia during 1995-97 resulted

¹⁵³ USDA, FAS, *Livestock Annual Report, Russia, 1996*, RS6065, Aug. 12, 1996, p. 4.

¹⁵⁴ USDA, FAS, *1995-1996 Livestock Situation Report, Russia*, RS6071, Sept. 3, 1996, p. 37.

¹⁵⁵ USDA, FAS, *Livestock Voluntary Report*, KZ8003, Apr. 8, 1998, p. 11.

¹⁵⁶ USDA, FAS, *Livestock Annual Report*, Buenos Aires, UY7003, June 6, 1997, p. 5.

¹⁵⁷ USDA, FAS, *Livestock Annual Report*, Buenos Aires, Argentina AR6050, Aug. 8, 1996, p. 8.

¹⁵⁸ USDA, FAS, *Livestock Annual Report*, AR6050, Aug. 8, 1996, p. 10.

in lower wool production and losses of large numbers of sheep. Severe snow storms during the winter of 1995 led to the death of over 500,000 sheep,¹⁵⁹ while drought, coupled with pasture overgrazing and a growing fox population (a lamb predator), contributed to the decline in sheep numbers during 1996 and the first half of 1997.¹⁶⁰ Argentine sheep are kept primarily for the production of wool; however, some producers raise dual purpose breeds, such as Corriedales. Wool breeds include Merino, crossbreeds, Lincoln, and Criolla. Such breeds produce wools with fiber diameters ranging from fine to coarse. The majority of Argentine wool is exported, and the EU, China, CIS, and India are the primary markets.

On August 1, 1997 the U.S. Department of Commerce revoked a countervailing duty order imposed on certain wools from Argentina.¹⁶¹ Exporters of wool from Patagonian ports receive small rebates to encourage processing and trade from this region; however, these rebates are being phased out and are expected to be eliminated in a few years.¹⁶²

South Africa¹⁶³

Sheep in South Africa are raised primarily for wool and mutton production. Most sheep are purebred Merinos or dual-purpose Merino strains, including Dohne Merino, the South African Mutton Merino, and the Letelle. The dual-purpose breed results in an animal with a longer body frame that produces slightly less wool per kilogram of body weight than the Merino. Using dual-purpose breeds maximizes the income of growers as there is little difference between the quality of the wool derived from South African dual-purpose breeds and that of wool derived from purebred Merinos. The average Merino fleece varies depending on the region in which the sheep was raised—4-5 kgs (9-11 pounds) from sheep raised in semi-arid regions, and up to 8 kg (18 pounds) from sheep grazing on cultivated pastures. Although the South African wool clip is predominantly a Merino clip, other breeds produce coarse and colored fibers that are also produced and marketed on a limited scale. The fiber diameter ranges from 18 to 27 microns, with over 80 percent of the clip finer than 24 microns.

Wool is produced throughout most of South Africa, with the Free State and eastern States of Kwazulu Natal and Eastern Cape each accounting for 26 percent of total wool production. The Western Cape accounts for 19 percent of wool production, followed by the Northern Cape area (11 percent), Eastern Transvaal (9 percent) and the remaining areas (9 percent). The generic trade term for all wool produced in South Africa is “Cape Wool.”

¹⁵⁹ USDA, FAS, *Argentine Sheep Losses*, AR5057, Aug. 25, 1995, p. 2.

¹⁶⁰ USDA, FAS, *Livestock Annual Report*, AR7065, July 30, 1997, p. 8.

¹⁶¹ See U.S. Government trade-related investigations described earlier in this summary.

¹⁶² USDA, FAS, *Livestock Annual Report*, AR7065, July 30, 1997, p. 10.

¹⁶³ This section is adapted from International Wool Secretariat (IWS), “Wool production in South Africa,” found at Internet address <http://www.wool.com.au.growers/sa/product/middle.html>, retrieved Nov. 21, 1997, unless otherwise noted.

Wool production in South Africa declined from 97 million pounds in 1992/93 to 82 million pounds in 1996/97, reflecting lower sheep inventory (table A-14). The sheep population declined from 21 million animals in 1992/93 to 16 million animals in 1995/96, before increasing to 19 million animals in 1996/97. Drought contributed to the overall decline in the sheep inventory, and low wool prices created little incentive to expand wool production at the expense of mutton.¹⁶⁴

The South African Wool Board (Board), an agricultural marketing board, represented the South African wool industry until August 29, 1997.¹⁶⁵ The Agricultural Products Marketing Act required the phasing out of all agricultural marketing boards; thus, the Board was replaced with a nonprofit organization: Cape Wools SA (Cape Wools). The principal functions of Cape Wools include generic Cape Wool promotion, global product development and promotion, research and development, and education and training including shearer training. South African wool growers are represented by the National Woolgrowers Association of South Africa (NWGA). The NWGA controls the majority of the seats in Cape Wools and determines the overall strategy and policy for implementation by the Cape Wools.

While wool in South Africa may be marketed through private agreements, the largest share of the clip is sold through auctions. Because much of South Africa's wool production is exported, wool is stored in warehouses located in four major ports, Port Elizabeth, Cape Town, East London, and Durban. From these ports, wool is exported to Europe, America, and the Far East.¹⁶⁶

South Africa is the world's largest mohair producer, accounting for about 53 percent of the world's total in 1997. Such production has remained fairly constant in recent years at 12 million pounds annually.¹⁶⁷ Approximately 75 percent of South African mohair exports consist of semiprocessed fibers.¹⁶⁸ Demand for adult mohair weakened during 1994-97, but demand for kid and young goat mohair remained fairly strong.¹⁶⁹

¹⁶⁴ USDA, FAS, *Livestock and Meat*, Pretoria, Republic of South Africa, SF6021, Aug. 1, 1996, p. 22 and USDA, FAS, *Livestock and Meat*, SF7020, June 13, 1997, p. 18.

¹⁶⁵ International Wool Secretariat (IWS), "Structure of the South African Wool Industry," found at Internet address <http://www.wool.com.au/growers/sa/structure/middle.html>, retrieved Nov. 21, 1997.

¹⁶⁶ IWS, "Cape Wools," found at Internet address <http://www.wool.com.au/growers/sa/cape/middle/html>, retrieved Nov. 21, 1997.

¹⁶⁷ *Wool Record*, "South Africans try to Rekindle Interest in Adult Mohair Fibre," World Textile Publications, Ltd., Bradford, West Yorkshire, England, Mar. 1998, p. 45.

¹⁶⁸ *Ibid.*

¹⁶⁹ Cape Mohair and Wool, *Mohair Market*, Sept. 30, 1997, found at Internet address <http://www.pe.co.za/mohair>, retrieved Nov. 21, 1997.

APPENDIX A

STATISTICAL TABLES

Table A-1

Wool grades based on the American blood count, English spinning count, and the micron system; and breeds of sheep that produce these grades

American blood count	English (Bradford) spinning count (hanks from 1 lb)	Micron system (microns)	Breeds¹
Fine wool	80	17.70-19.14	Merino
Fine	70	19.15-20.59	Rambouillet
Fine	64	20.60-22.04	Targhee, Southdown
Half blood	60 to 62	22.05 to 24.94	Corriedale, Columbia
Three-eighths blood	56 to 58	24.95 to 27.84	Panama, Romeldale
One-fourth blood	50 to 54	27.85 to 30.99	Suffolk, Dorset, Hampshire
Low one-fourth	46 to 48	31.00 to 34.39	Romney
Common	44 to 40	34.40 to 36.19	Cotswold, Lincoln
Braid	40 to 36	36.20 to 40.20	Cotswold, Lincoln

¹ Breeds according to average grades.

Source: This table is derived from information published by Dr. Glen Spurlock and Dr. Vern B. Swanson as reported by Texas A&M, Wool and Mohair Policy paper; and from *Scientific Farm Animal Production*, p. 133.

Table A-2

Wool: Value of shorn wool marketed, U.S. Federal Government payments, and average price received by producer, 1993-97

Year	Value of shorn wool grown	U.S. Federal government payments	Total	Share of wool income from U.S. Federal government payments	Average price received by producer
))))))))) <i>Millions of dollars</i>)))))))))			— <i>Percentage</i> —	<i>Cents per pound</i>
1993	39.1	132.9	172.0	77	0.51
1994	52.4	75.3	127.7	59	0.78
1995	64.3	36.3	100.6	36	1.04
1996	39.7	0.0	39.7	0	0.70
1997	45.2	0.0	45.2	0	0.84

Source: *National Wool Act Programs 1954-1995*, Fibers Analysis Div., FSA, USDA.

Table A-3

Mohair: Value of mohair grown, U.S. Federal Government payments, and average price received by producer, 1993-97

Year	Value of shorn mohair grown	U.S. Federal Government payments	Total	Share of mohair income from U.S. Federal government payments	Average price received by producer
))))))))) <i>Millions of dollars</i>)))))))))) <i>Percentage</i>)	<i>Cents per pound</i>
1993	12.1	68.9	81.0	85	0.82
1994	32.2	21.9	54.1	40	2.56
1995	22.1	18.4	40.5	45	1.84
1996	15.5	0.0	15.5	0	1.92
1997	15.6	0.0	15.6	0	2.25

Source: *National Wool Act Programs 1954-1995*, Fibers Analysis Div., FSA, USDA.

Table A-4

Wool: U.S. beginning stocks, production, imports, supply, consumption, exports, total use, and ending stocks, 1993-97

(Millions of pounds, clean basis)

Year	Beginning stocks Jan. 1	Production	Imports	Other ¹	Total supply	Consumption ²	Exports	Total use	Ending stocks Dec. 31	Ratio imports to consumption	Ratio exports to production
1993	48.0	41.2	100.3	7.0	196.5	156.8	2.5	159.3	37.2	64	6
1994	37.2	36.5	91.7	42.5	207.9	153.3	2.9	156.2	51.7	60	8
1995	51.7	33.7	88.8	20.0	194.2	142.0	6.0	148.0	46.2	63	18
1996	46.2	30.0	75.4	20.0	171.6	123.3	5.7	129.0	42.6	61	19
1997	42.6	28.0	76.4	25.4	172.4	121.9	4.7	126.6	45.8	63	17

¹ Other represents wool lost or in transit as estimated by the USDA.

² Imports for consumption include entries for immediate consumption and warehouse withdrawals for consumption.

Note.—Data in this table may differ from other tables in this summary as this table includes imports from warehouse withdrawals and other wool lost or in transit.

Sources: U.S. Department of Commerce, Bureau of Census and USDA, ERS, *Cotton and Wool Outlook*, various issues.

A-3

Table A-5

U.S. Angora goat inventory and mohair production, 1993-97

Category	1993	1994	1995	1996	1997
Goat inventory (1,000 animals)	1,798	1,722	1,250	1,400	1,127
Mohair production:					
Quantity (1,000 pounds)	14,847	12,608	12,019	8,045	6,929
Value (1,000 dollars)	12,066	32,247	22,089	15,486	15,563

Note.—Data are for the four major producing states (Arizona, New Mexico, Oklahoma, and Texas).

Source: Compiled from official statistics of the USDA, NASS, *Wool and Mohair*, and *Sheep and Goats*, various issues.

Table A-6

Wool and related animal hair: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1993-97¹

(Million dollars)

	1993	1994	1995	1996	1997
U.S. exports of domestic merchandise:					
Australia	(²)	0	(²)	(²)	(²)
New Zealand	(²)	(²)	(²)	(²)	(²)
China	1	1	1	1	(²)
United Kingdom	7	22	14	5	5
Mongolia	0	0	0	0	0
Uruguay	0	0	(²)	1	0
Republic of South Africa	(²)	1	(²)	2	2
Canada	1	1	1	(²)	1
Spain	(²)	0	(²)	(²)	(²)
Italy	1	(²)	1	1	(²)
Mexico	(²)	1	5	4	5
All other	4	10	13	6	4
Total	14	36	35	20	17
EU15	9	27	20	8	8
U.S. imports for consumption:					
Australia	111	99	136	107	104
New Zealand	22	29	35	30	33
China	9	10	6	12	15
United Kingdom	7	8	11	6	7
Mongolia	5	4	1	4	6
Uruguay	8	7	5	3	4
Republic of South Africa	2	2	2	2	3
Canada	1	1	2	2	1
Spain	(²)	(²)	0	0	1
Italy	(²)	1	1	(²)	1
Mexico	(²)	(²)	1	(²)	(²)
All other	9	11	13	8	5
Total	175	173	214	173	179
EU15	10	12	16	9	11
U.S. merchandise trade balance:					
Australia	-111	-99	-136	-107	-104
New Zealand	-22	-29	-35	-30	-33
China	-8	-9	-5	-11	-15
United Kingdom	0	14	3	-1	-2
Mongolia	-5	-4	-1	-4	-6
Uruguay	-8	-7	-5	-2	-4
Republic of South Africa	-2	-1	-2	0	-1
Canada	0	0	-1	-2	0
Spain	0	0	0	0	-1
Italy	1	-1	0	1	-1
Mexico	0	1	4	4	5
All other	-5	-1	0	-2	-1
Total	-161	-137	-179	-153	-162
EU15	-1	15	4	-1	-3

¹ Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export.

² Less than \$500,000.

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

Table A-7
Wool and related animal hair: U.S. imports by type, 1993-97

Type	1993	1994	1995	1996	1997
	<i>Quantity (1,000 pounds)</i>				
Wool	100,310	91,717	89,693	75,369	76,445
Related animal hair	5,875	5,020	3,181	3,056	3,355
Mohair	13	194	143	42	4
Total	106,198	96,931	93,017	78,467	79,804
	<i>Value (1,000 dollars)</i>				
Wool	152,496	148,698	197,119	151,934	154,133
Related animal hair	22,897	23,907	16,501	21,412	24,895
Mohair	10	224	501	77	37
Total	175,403	172,829	214,121	173,423	179,065
	<i>Unit value (dollars per pound)</i>				
Wool	1.52	1.62	2.20	2.02	2.02
Related animal hair	3.90	4.76	5.19	7.01	7.42
Mohair	0.77	1.15	3.50	1.83	9.25
Average	1.65	1.78	2.30	2.21	2.24

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

Table A-8
Wool: U.S. imports by principal suppliers, 1993-97

Source	1993	1994	1995	1996	1997
	<i>Quantity (1,000 pounds)</i>				
Australia	65,155	53,566	51,890	47,503	44,370
New Zealand	19,240	21,676	20,137	17,727	21,131
United Kingdom	5,046	6,343	7,209	3,904	3,988
Uruguay	5,924	5,536	2,513	1,554	2,130
South Africa	1,292	915	891	805	1,257
Canada	1,312	880	1,680	1,290	1,041
All other	2,341	2,802	5,373	2,586	2,529
Total	100,310	91,717	89,693	75,369	76,445
	<i>Value (1,000 dollars)</i>				
Australia	111,347	98,793	136,075	106,518	104,143
New Zealand	22,441	28,368	34,216	29,970	32,437
United Kingdom	4,799	7,635	10,203	5,720	6,015
Uruguay	8,123	7,462	5,262	3,093	3,921
South Africa	2,282	1,847	2,156	1,858	2,976
Canada	1,067	1,037	2,322	1,647	1,283
All other	2,437	3,556	6,885	3,128	3,358
Total	152,496	148,698	197,119	151,934	154,133
	<i>Unit value (dollars per pound)</i>				
Australia	1.71	1.84	2.62	2.24	2.35
New Zealand	1.17	1.31	1.70	1.69	1.54
United Kingdom	0.95	1.20	1.42	1.47	1.51
Uruguay	1.37	1.35	2.09	1.99	1.84
South Africa	1.77	2.02	2.42	2.31	2.37
Canada	0.81	1.18	1.38	1.28	1.23
All other	1.04	1.27	1.28	1.21	1.33
Average	1.52	1.62	2.20	2.02	2.02

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

Table A-9
Wool: U.S. imports, dutiable and duty-free, 1993-97

Type	1993	1994	1995	1996	1997
<i>Quantity (1,000 pounds)</i>					
Dutiable	78,434	67,072	63,809	54,072	51,484
Duty-free	21,876	24,645	25,884	21,297	24,961
Total	100,310	91,717	89,693	75,369	76,445
<i>Value (1,000 dollars)</i>					
Dutiable	129,398	118,620	156,840	118,295	117,416
Duty-free	23,098	30,078	40,279	33,639	36,717
Total	152,496	148,698	197,119	151,934	154,133
<i>Unit value (dollars per pound)</i>					
Dutiable	1.65	1.77	2.46	2.19	2.28
Duty-free	1.06	1.22	1.56	1.58	1.47
Average	1.52	1.62	2.20	2.02	2.02

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

Table A-10

Wool and related animal hair; Harmonized Tariff Schedule subheading; description;¹ U.S. col. 1 and special rates of duty as of Jan. 1, 1998; U.S. exports, 1997; and U.S. imports, 1997

HTS subheading	Description	Col. 1 rate of duty as of Jan. 1, 1998		U.S. exports	U.S. imports
		General	Special ²	1997	1997
<i>Thousand dollars</i>					
5101.11.10	Wool, not carded or combed: Unimproved wool and other wool, not finer than 46s, greasy, shorn for special uses	Free		³ 3,046	1,288
5101.11.20	Unimproved wool and other wool not finer than 40s, greasy, shorn	Free		(³)	10,242
5101.11.40	Unimproved wool, finer than 40s but not finer than 44s, greasy, shorn	Free		(³)	2,756
5101.11.50	Unimproved wool, finer than 44s but not finer than 46s, greasy, shorn	Free		(³)	1,128
5101.11.60	Wool, finer than 46s, greasy, shorn	19.8¢ clean kg	Free (CA,E,IL,J,MX)	(³)	90,764
5101.19.10	Unimproved wool; other wool not finer than 46s, greasy, not shorn, for special uses	Free		⁴ 154	131
5101.19.20	Unimproved wool; other wool not finer than 40s, greasy, not shorn	Free		(⁴)	661
5101.19.40	Unimproved wool; finer than 40s but not finer than 44s, greasy, not shorn	Free		(⁴)	783
5101.19.50	Unimproved wool; finer than 44s but not finer than 46s, greasy, not shorn	Free		(⁴)	221
5101.19.60	Wool, finer than 46s, greasy, not shorn	19.8¢ clean kg	Free (CA,E,IL,J,MX)	(⁴)	504
5101.21.10	Unimproved wool; other wool not finer than 46s, degreased, not carbonized, shorn, for special uses	Free		⁶ 388	2,410
5101.21.15	Unimproved wool; other wool not finer than 40s, degreased, not carbonized, shorn	Free		(⁵)	1,216
5101.21.30	Other wool; finer than 40s but not finer than 44s, degreased, not carbonized, shorn	Free		(⁵)	7,583
5101.21.35	Other wool; finer than 44s but not finer than 46s, degreased, not carbonized, shorn	Free		(⁵)	2,692
5101.21.40	Wool, finer than 46s, degreased, not carbonized, shorn	21.8¢ clean kg	Free (CA,E,IL,J,MX)	(⁵)	20,020
5101.21.65	Unimproved wool; other wool, not finer than 46s, degreased, shorn, not carbonized	Free		(⁵)	1,824
5101.21.70	Other wool finer than 46s, degreased, shorn, not carbonized	6.9¢/kg +5.6%	Free (CA,IL,MX)	(⁵)	0

See footnotes at end of table.

Table A-10—Continued

Wool and related animal hair; Harmonized Tariff Schedule subheading; description;¹ U.S. col.1 and special rates of duty as of Jan 1, 1998; U.S. exports, 1997; and U.S. imports, 1997

HTS subheading	Description	Col. 1 rate of duty as of Jan. 1, 1998		U.S. exports	U.S. imports
		General	Special ²	1997	1997
<i>Thousand dollars</i>					
	Wool, not carded or combed—Continued:				
5101.29.10	Unimproved wool; other wool, not finer than 46s, degreased, not carbonized, not shorn, for special uses	Free		⁶ 332	0
5101.29.15	Unimproved wool; other wool, not finer than 40s, degreased, not carbonized, not shorn	Free		(⁶)	243
5101.29.30	Other wool, finer than 40s but not finer than 44s, degreased, not carbonized, not shorn	Free		(⁶)	2,400
5101.29.35	Other wool, finer than 44s but not finer than 46s, degreased, not carbonized, not shorn	Free		(⁶)	950
5101.29.40	Wool, finer than 46s, degreased, not carbonized, not shorn	21.8¢/clean kg.	Free (CA,E,IL,J,MX)	(⁶)	4,392
5101.29.65	Unimproved wool; other wool, not finer than 46s, degreased, not carbonized, not shorn	Free		(⁶)	141
5101.29.70	Wool, finer than 46s, degreased, not carbonized, not shorn	6.9¢/kg+5.6%	Free (CA,IL) 0.7¢/kg+0.6%(MX)	(⁶)	6
5101.30.10	Unimproved wool; other wool not finer than 40s	Free		⁷ 4,333	49
5101.30.15	Other wool, finer than 40s but not finer than 44s	Free		(⁷)	0
5101.30.30	Other wool, finer than 44s but not finer than 46s	Free		(⁷)	0
5101.30.40	Other wool, finer than 46s	25.8¢/kg	Free (CA,E,IL,J,MX)	(⁷)	1,727
5101.30.65	Unimproved wool; other wool, not finer than 46s	Free		(⁷)	0
5101.30.70	Other wool finer than 46s	6.9¢/kg+5.6%	Free (CA,IL,MX)	(7)	2
5102.10.20	Fine hair of the camel, not processed in any manner beyond the degreased or carbonized condition, not carded or combed	7¢/clean kg	Free (CA,E,IL,J,MX)	⁸ 349	423
5102.10.40	Fine hair of the cashmere goat and like hair of other animals, not processed beyond the degreased or carbonized condition, not carded or combed	6.1¢/clean kg	Free (CA,E,IL,J,MX)	(⁸)	2,185
5102.10.60	Fine hair of the angora goat and other fine animal hair, not processed beyond the degreased or carbonized condition, not carded or combed	0.6%	Free (A,CA,E,IL,J,MX)	⁸ 5,421	353

See footnotes at end of table.

Table A-10—Continued

Wool and related animal hair; Harmonized Tariff Schedule subheading; description;¹ U.S. col.1 and special rates of duty as of Jan 1, 1998; U.S. exports, 1997; and U.S. imports, 1997

HTS subheading	Description	Col. 1 rate of duty as of Jan. 1, 1998		U.S. exports	U.S. imports
		General	Special ²	1997	1997
<i>Thousand dollars</i>					
	Wool, not carded or combed--Continued:				
5102.10.80	Fur, prepared for hatters' use, not carded or combed	Free		⁹ 2,168	1,332
5102.10.90	Fine animal hair, further processed, not carded or combed	5.8¢/kg+4.8%	Free (CA,IL,MX)	(⁹)	20,215
5102.20.00	Coarse animal hair, not carded or combed	Free		340	423

¹ Some tariff descriptions have been condensed. For the precise legal tariff description see HTS Chapter 51.

² Programs under which special tariff treatment may be provided and the corresponding symbols for such programs as they are indicated in the "Special" subcolumn are as follows: Generalized System of Preferences (A); Goods of Canada pursuant to the NAFTA (CA); Caribbean Basin Economic Recovery Act (E); United States-Israel Free Trade Agreement (IL); Andean Trade Preference Act (J); Good of Mexico pursuant to the NAFTA (MX).

³ Exports under Schedule B subheading 5101.11.10 are reported under the first relevant subheading in the table.

⁴ Imports under HTS subheadings 5101.19.10, 5101.19.20, 5101.19.40, 5101.19.50, and 5101.19.60 correspond to exports under Schedule B subheading 5101.19.00. Exports under Schedule B subheading 5101.19.00 are reported under the first relevant subheading in the table.

⁵ Imports under HTS subheadings 5101.21.10, 5101.21.15, 5101.21.30, 5101.21.35, 5101.21.40, 5101.21.65, and 5101.21.70 correspond to exports under Schedule B subheading 5101.21.00. Exports under Schedule B subheading 5101.21.00 are reported under the first relevant subheading in the table.

⁶ Imports under HTS subheadings 5101.29.10, 5101.29.15, 5101.29.30, 5101.29.35, 5101.29.40, 5101.29.65, and 5101.29.70 correspond to exports under Schedule B subheading 5101.29.00. Exports under Schedule B subheading 5101.29.00 are reported under the first relevant subheading in the table.

⁷ Imports under HTS subheadings 5101.30.10, 5101.30.15, 5101.30.30, 5101.30.40, 5101.30.65, and 5101.30.70 correspond to exports under Schedule B subheading 5101.30.00. Exports under Schedule B subheading 5101.30.00 are reported under the first relevant subheading in the table.

⁸ Imports under HTS subheadings 5102.10.20, 5102.10.40, and 5102.10.60 correspond to exports under Schedule B subheadings 5102.10.60.30 and 5102.10.70.00. Exports under Schedule B subheadings 5102.10.60.30 and 5102.10.70.00 are reported under the first relevant subheading in the table.

⁹ Imports under HTS subheadings 5102.10.80 and 5201.10.90 correspond to exports under Schedule B subheading 5102.10.85. Exports under Schedule B subheading 5102.10.85 are reported under the first relevant subheading in the table.

Source: U.S. exports and imports compiled from official statistics of the U.S. Department of Commerce.

Table A-11
Wool and related animal hair: U.S. exports by type, 1993-97

Type	1993	1994	1995	1996	1997
<i>Quantity (1,000 pounds)</i>					
Wool	2,529	2,862	6,041	5,714	4,731
Mohair	6,671	8,735	4,870	3,538	1,889
Related animal hair	2,831	4,050	1,082	562	754
Total	12,031	15,647	11,993	9,815	7,374
<i>Value (1,000 dollars)</i>					
Wool	3,348	3,778	12,605	9,078	8,253
Mohair	7,452	22,999	15,937	8,090	5,421
Related animal hair	2,816	9,156	6,300	2,501	2,856
Total	13,616	35,933	34,842	19,669	16,530
<i>Unit value (dollars per pound)</i>					
Wool	1.32	1.32	2.09	1.59	1.74
Mohair	1.12	2.63	3.27	2.29	2.87
Related animal hair	0.99	2.26	5.82	4.45	3.79
Average	1.13	2.30	2.91	2.00	2.24

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

Table A-12
Wool: U.S. exports by major markets, 1993-97

Country	1993	1994	1995	1996	1997
<i>Quantity (1,000 pounds)</i>					
Mexico	9	699	1,773	1,861	1,863
Germany	273	313	595	690	924
United Kingdom	558	148	157	331	650
Belgium	108	71	35	0	317
Canada	284	293	295	198	187
Italy	172	223	190	864	243
All other	1,125	1,115	2,996	1,770	547
Total	2,529	2,862	6,041	5,714	4,731
<i>Value (1,000 dollars)</i>					
Mexico	14	1,028	4,528	4,062	4,458
Germany	209	332	735	754	1,060
United Kingdom	621	197	239	476	891
Belgium	134	112	61	0	404
Canada	486	497	494	334	318
Italy	157	164	312	916	280
All other	1,727	1,448	6,236	2,536	842
Total	3,348	3,778	12,605	9,078	8,253
<i>Unit value (dollars per pound)</i>					
Mexico	1.56	1.47	2.55	2.18	2.39
Germany	0.77	1.06	1.24	1.09	1.15
United Kingdom	1.11	1.33	1.52	1.44	1.37
Belgium	1.24	1.58	1.74	0.00	1.27
Canada	1.71	1.70	1.67	1.69	1.70
Italy	0.91	0.74	1.64	1.06	1.15
All other	1.54	1.30	2.08	1.43	1.54
Average	1.32	1.32	2.09	1.59	1.74

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

Table A-13
Wool: U.S. exports by type, 1993-97

Type	1993	1994	1995	1996	1997
	<i>Quantity (1,000 pounds, clean basis)</i>				
Carbonized	880	840	1,367	794	1,773
Shorn	1,111	1,543	2,370	3,629	2,659
Pulled	540	481	2,304	1,294	300
Total	2,531	2,864	6,041	5,714	4,731
	<i>Value (1,000 dollars)</i>				
Carbonized	1,009	967	4,071	2,185	4,333
Shorn	1,378	1,994	4,064	5,143	3,435
Pulled	961	817	4,470	1,749	485
Total	3,348	3,778	12,605	9,078	8,253
	<i>Unit value (dollars per pound)</i>				
Carbonized	1.15	1.15	2.97	2.75	2.44
Shorn	1.24	1.29	1.71	1.42	1.29
Pulled	1.78	1.70	1.94	1.35	1.62
Average	1.32	1.32	2.09	1.59	1.74

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

Table A-14
Wool: Production and exports by major foreign producing countries 1992/93-1996/97¹

	1992/93	1993/94	1994/95	1995/96	1996/97
Wool production:	<i>(Million pounds, clean)</i>				
Australia	1,263	1,199	1,043	996	994
New Zealand	426	472	470	439	448
China	262	265	282	306	337
CIS ²	456	425	346	273	220
Uruguay	141	146	132	123	138
Argentina	132	115	106	95	90
South Africa	97	95	84	86	82
World	3,788	3,688	3,426	3,272	3,236
Wool exports:	<i>(Million pounds, clean)</i>				
Australia	1,069	1,083	916	834	940
New Zealand	383	480	451	387	416
Argentina	64	91	73	48	50
South Africa	42	45	38	42	30
Uruguay	40	59	28	26	29
Total	1,599	1,758	1,506	1,336	1,465

¹ July-June marketing year.

² Commonwealth of Independent States, previously referred to as the Soviet Union.

Source: International Wool Textile Organization in Succession to the Commonwealth Secretariat.

APPENDIX B
UNITED STATES STANDARDS FOR
GRADES OF WOOL



United States
Department of
Agriculture

Agricultural
Marketing
Service

Livestock
and Seed
Division

United States Standards for Grades of Wool

Effective date December 21, 1968

United States Standards for Grades of Wool

§31.0 Official grades

The official grades of wool shall be those established in §§31.1 through 31.16: *Provided, however,* That the wool which qualifies for any of the grades in §§31.1 through 31.15 on the basis of its average fiber diameter shall be reduced in grade to the next coarser grade if its standard deviation in fiber diameter exceeds the maximum specified for the grade to which the average fiber diameter corresponds.

§31.1 Finer than grade 80's.

Wool with an average fiber diameter of 17.69 microns or less and a standard deviation in fiber diameter of 3.59 microns or less.

§31.2 Grade 80's.

Wool with an average fiber diameter of 17.70 to 19.14 microns, inclusive, and a standard deviation in fiber diameter of 4.09 microns or less.

§31.3 Grade 70's.

Wool with an average fiber diameter of 19.15 to 20.59 microns, inclusive, and a standard deviation in fiber diameter of 4.59 microns or less.

§31.4 Grade 64's.

Wool with an average fiber diameter of 20.60 to 22.04 microns, inclusive, and a standard deviation in fiber diameter of 5.19 microns or less.

§31.5 Grade 62's.

Wool with an average fiber diameter of 22.05 to 23.49 microns, inclusive, and a standard deviation in fiber diameter of 5.89 microns or less.

§31.6 Grade 60's.

Wool with an average fiber diameter of 23.50 to 24.94 microns, inclusive, and a standard deviation in fiber diameter of 6.49 microns or less.

§31.7 Grade 58's.

Wool with an average fiber diameter of 24.95 to 26.39 microns, inclusive, and a standard deviation in fiber diameter of 7.09 microns or less.

§31.8 Grade 56's.

Wool with an average fiber diameter of 26.40 to 27.84 microns, inclusive, and a standard deviation in fiber diameter of 7.59 microns or less.

§31.9 Grade 54's.

Wool with an average fiber diameter of 27.85 to 29.29 microns, inclusive, and a standard deviation in fiber diameter of 8.19 microns or less.

§31.10 Grade 50's.

Wool with an average fiber diameter of 29.30 to 30.99 microns, inclusive, and a standard deviation in fiber diameter of 8.69 microns or less.

§31.11 Grade 48's.

Wool with an average fiber diameter of 31.00 to 32.69 microns, inclusive, and a standard deviation in fiber diameter of 9.09 microns or less.

§31.12 Grade 46's.

Wool with an average fiber diameter of 32.70 to 34.39 microns, inclusive, and a standard deviation in fiber diameter of 9.59 microns or less.

§31.13 Grade 44's.

Wool with an average fiber diameter of 34.40 to 36.19 microns, inclusive, and a standard deviation in fiber diameter of 10.09 microns or less.

§31.14 Grade 40's.

Wool with an average fiber diameter of 36.20 to 38.09 microns, inclusive, and a standard deviation in fiber diameter of 10.69 microns or less.

§31.15 Grade 36's.

Wool with an average fiber diameter of 38.10 to 40.20 microns, inclusive, and a standard deviation in fiber diameter of 11.19 microns or less.

§31.16 Coarser than grade 36's.

Wool with an average fiber diameter of 40.21 microns or more.

OFFICIAL STANDARDS OF THE UNITED STATES FOR GRADES OF WOOL TOP

§31.100 Official grades.

The official grades of wool top shall be those established in §§31.101 through 31.116: *Provided, however,* That wool top which qualifies for any of the grades in §§31.101 through 31.116 on the basis of its average fiber diameter but fails to meet the fiber diameter dispersion requirements for that grade shall be assigned a dual grade designation. In such case, the first designation shall indicate the grade based on the average fiber diameter and the second designation shall be that of the next coarser grade and shall indicate merely that the fiber diameter dispersion does not meet the requirements specified for the grade corresponding to the average fiber diameter.

APPENDIX C
EXPLANATION OF TARIFF AND TRADE
AGREEMENT TERMS

TARIFF AND TRADE AGREEMENT TERMS

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 most-favored-nation (now referred to as 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), 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 June 30, 1999. 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 D
U.S. BASE RATE AND BOUND RATE OF
DUTY

Schedule XX - UNITED STATES OF AMERICA

PART I - MOST-FAVORED-NATION TARIFF
SECTION I - Agricultural Products
SECTION I - A Tariffs

Tariff item number	Description of products	Base rate of duty		Bound rate of duty		Implementation period from/to	Special safeguard	Initial negotiating right	Other duties and charges
		Ad valorem (%)	Other	U/B	Ad valorem (%)				
1	2	3		4		5	6	7	8
5101	Wool, not carded or combed: Greasy, including fleece-washed wool:								
5101.11	Shorn wool: Unimproved wool; other wool, not finer than 46s:								
5101.11.10	Wool for special uses:	0.0	under bond		0.0	1995			
	Other:								
5101.11.20	Unimproved wool; other wool, not finer than 40s:		5.5¢/clean kg		0.0	1995			
5101.11.40	Other wool, finer than 40s but not finer than 44s:		6.6¢/clean kg		0.0	1995			
5101.11.50	Other wool, finer than 44s:		22¢/clean kg		0.0	1995			
5101.11.60	Other:		22¢/clean kg		0.0	1995			
5101.19	Other: Unimproved wool; other wool, not finer than 46s:				18.7¢/clean kg				
5101.19.10	Wool for special uses:	0.0	under bond		0.0	1995			
	Other:								
5101.19.20	Unimproved wool; other wool, not finer than 40s:		5.5¢/clean kg		0.0	1995			
5101.19.40	Other wool, finer than 40s but not finer than 44s:		6.6¢/clean kg		0.0	1995			
5101.19.50	Other wool, finer than 44s:		22¢/clean kg		0.0	1995			
5101.19.60	Other:		22¢/clean kg		0.0	1995			
	Degreased, not carbonized:				18.7¢/clean kg				
5101.21	Shorn wool: Not processed in any manner beyond the degreased condition: Unimproved wool; other wool, not finer than 46s:								
5101.21.10	Wool for special uses:	0.0	under bond		0.0	1995			
	Other:								
5101.21.15	Unimproved wool; other wool, not finer than 40s:		6.6¢/clean kg		0.0	1995			
5101.21.30	Other wool, finer than 40s but not finer than 44s:		8.8¢/clean kg		0.0	1995			
5101.21.35	Other wool, finer than 44s:		24.3¢/clean kg		0.0	1995			
5101.21.40	Other:		24.3¢/clean kg		0.0	1995			
5101.21.60	Other:	6.3	+ 7.7¢/kg		5.3	20.6¢/clean kg + 6.5¢/kg			
5101.29	Other: Not processed in any manner beyond the degreased condition: Unimproved wool; other wool, not finer than 46s:								
5101.29.10	Wool for special uses:	0.0	under bond		0.0	1995			
	Other:								
5101.29.15	Unimproved wool; other wool, not finer than 40s:		6.6¢/clean kg		0.0	1995			

Schedule XX - UNITED STATES OF AMERICA

PART I - MOST-FAVORED-NATION TARIFF
SECTION I - Agricultural Products
SECTION I - A Tariffs

Tariff item number	Description of products	Base rate of duty		Bound rate of duty		Implementation period from/to	Special safeguard	Initial negotiating right	Other duties and charges
		Ad valorem (%)	Other	U/B	Ad valorem (%)				
1	2	3		4		5	6	7	8
5101.29.30	Other wool, finer than 40s but not finer than 44s.....		8.8¢/clean kg		0.0	1995			
5101.29.35	Other wool, finer than 44s.....		24.3¢/clean kg		0.0	1995			
5101.29.40	Other.....		24.3¢/clean kg						
5101.29.60	Other.....	6.3	+ 7.7¢/kg		5.3		20.6¢/clean kg + 6.5¢/kg		
5101.30	Carbonized: Not processed in any manner beyond the carbonized condition:								
5101.30.10	Unimproved wool; other wool, not finer than 40s.....		8.8¢/kg		0.0	1995			
5101.30.15	Other wool, finer than 40s but not finer than 44s.....		11¢/kg		0.0	1995			
5101.30.30	Other wool, finer than 44s but not finer than 46s.....		28.7¢/kg		0.0	1995			
5101.30.40	Other.....		28.7¢/kg				24.4¢/kg		
5101.30.60	Other.....	6.3	+ 7.7¢/kg		5.3		+ 6.5¢/kg		
5102	Fine or coarse animal hair, not carded or combed:								
5102.10	Fine animal hair: Not processed in any manner beyond the degreased or carbonized condition:								
5102.10.20	Hair of the camel.....		11¢/clean kg				5¢/clean kg		
5102.10.40	Hair of the cashmere goat and like hair of other animals.....		8¢/clean kg				5.1¢/clean kg		
5102.10.60	Other.....	0.9			0.4				
5102.10.80	Other:								
5102.10.80	Fur, prepared for hattersuse.....	15.0			0.0	1995			
5102.10.90	Other.....	6.3	+ 7.7¢/kg		4.0		+ 4.9¢/kg		
5102.20.00	Coarse animal hair.....	0.0			0.0				
5103	Waste of wool or of fine or coarse animal hair, including yarn waste but excluding garnetted stock:								
5103.10.00	Noils of wool or of fine animal hair.....		4¢/kg				2.6¢/kg		
5103.20.00	Other waste of wool or of fine animal hair.....		4¢/kg				2.6¢/kg		
5103.30.00	Waste of coarse animal hair.....	11.0			7.0				

