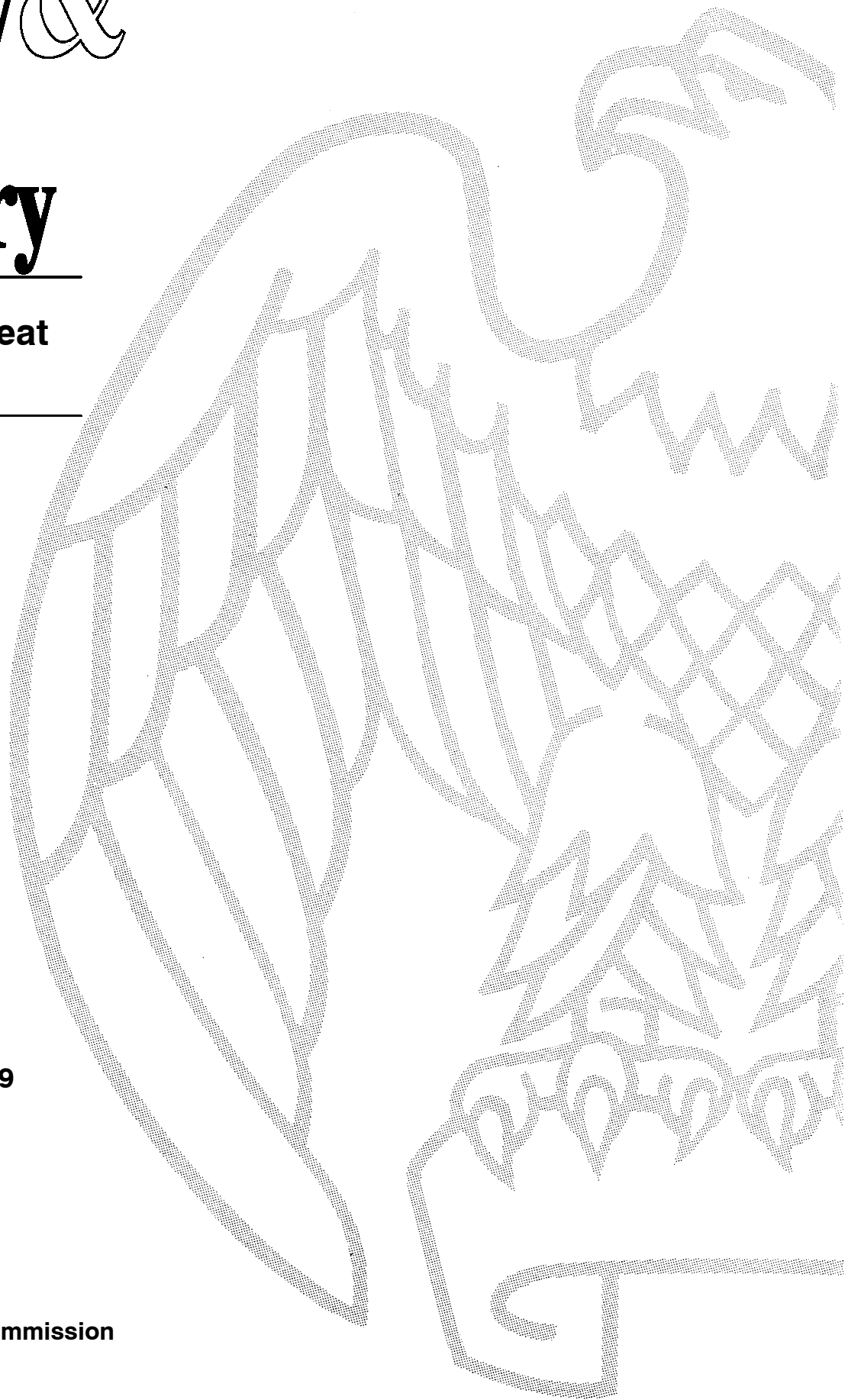


Industry & Trade Summary

Live Sheep and Meat
of Sheep

USITC Publication 3579
February 2003

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 live sheep and meat of sheep covers the period 1997-2001. Listed below are the individual summary reports published to date on the agriculture and forest products 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

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.

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<i>USITC publication number</i>	<i>Publication date</i>	<i>Title</i>
2762	April 1994	Coffee and Tea
2859	May 1995	Seeds
2865	April 1995	Malt Beverages
2875	May 1995	Certain Fresh Deciduous Fruits
2898	June 1995	Certain Miscellaneous Vegetable Substance 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
3145	December 1998	Wool and Related Animal Hair
3148	December 1998	Poultry
3171	March 1999	Dried Fruits Other Than Tropical
3268	December 1999	Eggs
3275	January 2000	Animal Feeds
3350	September 2000	Grain (Cereals)
3352	September 2000	Edible Nuts
3355	September 2000	Newsprint
3373	November 2000	Distilled Spirits
3391	January 2001	Cotton
3405	March 2001	Sugar
3461	October 2001	Cured Fish
3463	October 2001	Fresh or Frozen Fish
3490	February 2002	Wood Pulp and Waste Paper
3576	February 2003	Oilseeds

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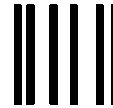
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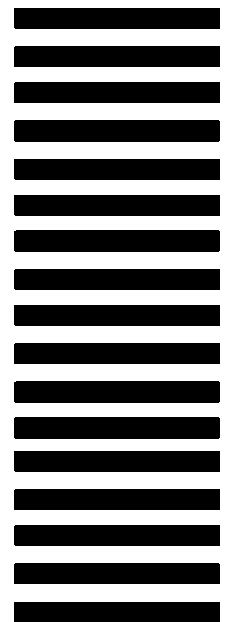
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ABSTRACT

This summary addresses trade and industry conditions for the live sheep and meat of sheep industry for the period 1997-2001.

- Australia and New Zealand are the major global competitors in trade in live sheep and meat of sheep. The EU is also a major trader in live sheep and sheep meat; however, such trade consists primarily of intra-EU trade. The United States is not a major global competitor, accounting for less than 1 percent of world sheep inventories in 2001.
- The number of sheep-raising operations in the United States totaled 65,120 in 2001, down 10 percent from 1997. U.S. sheep meat production is small and shows no signs of increasing significantly. During 1997-2001, lamb meat production in the United States declined from 251 million pounds in 1997 to 222 million pounds in 2001. Lamb meat consumption, however, rose irregularly from 310 million pounds in 1997 to 329 million pounds in 2001, reflecting an increase in imports.
- The aggregate trade-weighted average duty rate for all products included in this summary was 5.4 percent ad valorem in 2001. The ad valorem equivalent for imports of fresh, chilled, or frozen lamb meat was 0.2 percent (exclusive of tariff-rate quota duties) and was 2 percent for mutton.
- Australia and New Zealand are the principal U.S. import sources of lamb meat, accounting for 63 percent and 37 percent, respectively of total U.S. imports in 2001. Such imports rose from 60 million pounds in 1997 to 108 million pounds in 2001. Imports of lamb meat as a share of domestic consumption rose from 20 percent in 1997 to 33 percent in 2001.
- The U.S. International Trade Commission conducted three investigations with respect to lamb meat during 1997-2001. The first investigation was conducted following the filing of a petition under section 202 of the Trade Act of 1974 (Trade Act) by the American Sheep Industry Association, et al. In April 1999, the Commission determined that increased imports of lamb meat are a substantial cause of the threat of serious injury to the domestic lamb meat industry. On July 7, 1999, the President imposed import relief in the form of a tariff- rate quota (TRQ) on imports of fresh, chilled, and frozen lamb meat for a period of 3 years and 1 day. The President terminated the TRQ on November 15, 2001 following a ruling by the WTO Appellate Body and the reaching of a settlement agreement with Australia and New Zealand. In addition to implementing the TRQ, the President directed USDA to develop an adjustment assistance package to help the domestic industry compete effectively with imports. The Commission conducted two additional investigations under section 204 of the Trade Act relating to the President's import relief action: the first of these, completed on January 22, 2001, was for the

ABSTRACT—*Continued*

purpose of providing a midterm report to the President and Congress on the results of monitoring domestic industry developments after the imposition of the TRQ on lamb meat imports. The second, completed on May 14, 2002, was for the purpose of providing a report to the President and the Congress on the effectiveness of the action in facilitating positive adjustment by the domestic industry to import competition after termination of the remedy.

INTRODUCTION

The scope of this summary includes live sheep and lambs and fresh, chilled, or frozen meat of sheep and lambs, but does not include meat preparations such as sausages or offals. In this summary, the discussion of sheep refers to both mature animals and lambs and the discussion of sheep meat refers to both mutton and lamb meat unless otherwise specified. For purposes of this summary, the U.S. industry is defined to include sheep producers, lamb feedlot operators, meat packers, and breakers. The summary also profiles certain foreign industries, provides information on tariff and nontariff measures in domestic and foreign markets, and analyzes the performance of the U.S. sheep industry in domestic and foreign markets. The period reviewed is 1997-2001. Appendix A contains an explanation of tariff and trade agreement terms.

Sheep are ruminant animals that range in weight from 125 to 300 pounds at maturity, depending on breed and sex. In general usage, the term “sheep” refers to mature animals, and “lambs” to animals—usually under 14 months of age—that have not cut their first pair of permanent incisor teeth. Lamb meat, derived from young sheep usually under 1 year in age, is light red in color, compared with the dark red color of the meat of older sheep (mutton). Mutton is a low-value product and competes only on a limited basis with lamb meat. In 2001, lamb meat accounted for 95 percent of Federally inspected sheep slaughter. U.S. consumption of lamb meat and mutton totaled 370 million pounds, or about 1 percent of U.S. consumption of red meat in 2001.

U.S. imports of live sheep and lambs are small, accounting for 2 percent or less of U.S. consumption in 2001. Canada supplied nearly all live sheep and lamb imports, most of which consisted of lambs for slaughter. Total lamb meat and mutton imports rose steadily from 83 million pounds in 1997 to 146 million pounds in 2001 and accounted for about 39 percent of U.S. consumption (by quantity). Australia and New Zealand supplied nearly all U.S. sheep meat imports during the period. During 1997-2001, the quantity of U.S. lamb meat imports annually accounted for between 69 percent and 74 percent of total sheep meat imports and averaged about 26 percent of U.S. lamb meat consumption.

In the United States, sheep are kept mainly for the production of lambs for meat; however, wool and pelts are important secondary byproducts and provide additional income to the grower. The official USDA quality grades of lambs (both live lambs and lamb carcasses) are Prime, Choice, Good, and Utility. Most purchasers prefer cuts from carcasses that are Choice, and most lamb carcasses are so graded. Mature sheep are usually sold only when farmers and ranchers cull their flock of animals no longer useful for breeding.

U.S. INDUSTRY PROFILE

Industry Structure

The structure of the U.S. sheep industry is illustrated in figure 1. The North American Industry Classification System numbers that pertain to this summary are Sheep Farming (112410), Support Activities for Animal Production (115210 pt.), Animal (except poultry) Slaughtering (311611 pt.), Meat Processed from Carcasses (311612 pt.), and Meats and Meat Product Wholesalers (422470 pt.).¹

Number of Firms, Concentration Among Firms, and Geographic Distribution

U.S. sheep and lamb growers consist of (1) purebred breeders, who keep purebred animals and sell rams for breeding purposes, (2) commercial market lamb producers, who maintain flocks for the production of lambs that are sent directly to slaughter, and (3) commercial feedlot operators who maintain feedlots where lambs are fed on grain or other concentrates until they reach slaughter weight. Some growers engage in more than one sheep-raising activity.² Not all lambs are placed in feedlots; some go to slaughter directly from pasture, where they may or may not have been provided with grains to supplement their diets of forage and ewe's milk. Lambs are the only common farm animals that can be grown to the Choice grade without supplemental feed, and when pastures are good, they are frequently so handled.

Sheep-raising operations

The number of sheep-raising operations³ in the United States declined from 72,680 in 1997 to 65,120 in 2001 or by 10 percent (table B-1).⁴ Many operations consist of only a few sheep and belong to part-time or hobby farmers. The live sheep and lamb sector is thought to be relatively unconcentrated, with even the largest volume operations accounting for only a small share of total production. In 2001, the Western States⁵ accounted for 40 percent of

¹ Standard Industrial Classification (SIC) numbers are Sheep and Goats (0214 pt.), Meat Packing Plants (2011 pt.), and Meat and Meat Products (5147 pt.).

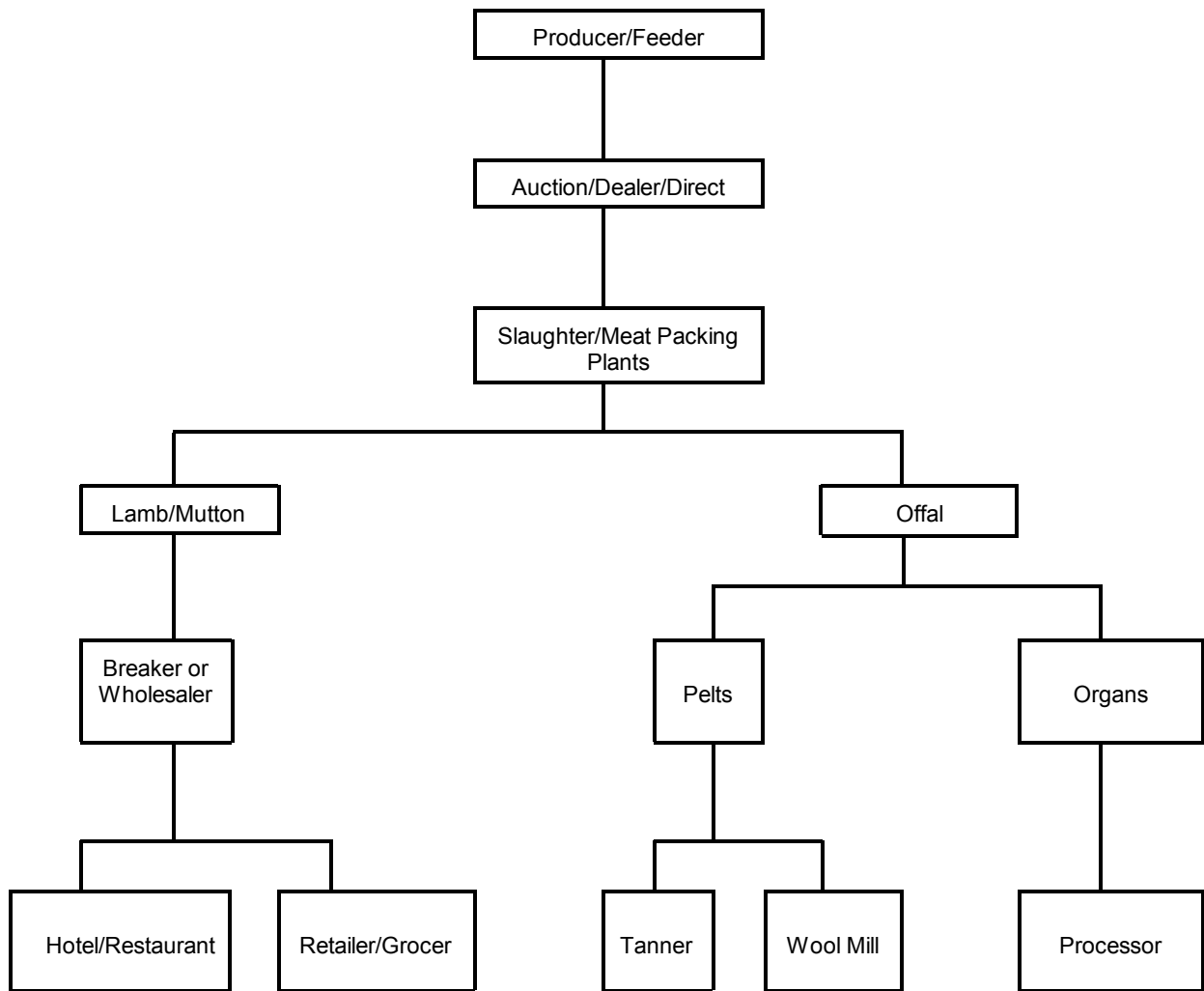
² Robert E. Taylor, *Scientific Farm Animal Production: An Introduction to Animal Science (Scientific Farm Animal Production)*, 4th ed. (New York: Macmillan Publishing Co., 1992), pp. 48-49.

³ An operation is any place having one or more sheep on hand at any time during the year.

⁴ Statistical tables are in appendix B.

⁵ The Western States are Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming.

Figure 1
Sheep and meat of sheep: Structure of the U.S. Industry



Source: American Sheep Producers Council and USITC staff.

sheep-raising operations and the Corn Belt⁶ region accounted for 37 percent of sheep-raising operations (table B-2). Most of the remaining 23 percent of U.S. sheep operations are in the Northeastern United States and border regions of the Southeastern United States.

The number of sheep and lambs in the United States totaled 7.0 million animals on January 1, 2001, down by 13 percent from 8.0 million animals on January 1, 1997 (table B-1). In 2001, about 77 percent of the sheep population was in the Western States, 17 percent in the Corn Belt, and most of the remaining 6 percent in the Northeastern and Southeastern regions of the United States (table B-3). Eleven States accounted for nearly 75 percent of the U.S. sheep population on January 1, 2001. Ten of those are Western States. Texas was the leading sheep-producing State and accounted for 17 percent of the total population. It was followed by California, Wyoming, South Dakota, and Colorado, with 12, 8, 6, and 6 percent respectively, of the total population. Iowa was the leading sheep-producing State in the Corn Belt and accounted for 4 percent of the total sheep population. The operations in the Western States averaged 205 animals each, while the Corn Belt operations averaged only 49 animals each.

In the Western States, sheep are often the primary or only source of income for the operator and are the only productive use of the often arid or semi-arid land, although sheep are also frequently part of diversified farming operations. In the Corn Belt, sheep are most commonly kept as components of diversified farming operations, or kept by part-time farmers. Sheep are frequently kept on land not suitable for raising grain or for other farming activities.

The U.S. sheep industry has been in a long-term decline. Industry sources report that increased imports of lamb meat are a substantial cause of serious injury, or the threat thereof to the domestic sheep industry.⁷ Labor shortages, death losses of sheep and lambs to disease and predators, and market infrastructure problems also contributed to the decline.⁸ Other factors include the termination of the National Wool Act, reduced access to Federal grazing lands, grazing fees and environmental and other restrictions under the National Environmental Policy Act and the Endangered Species Act.

Feedlot operators

The National Lamb Feeders Association (NLFA) represents nearly 400 U.S. lamb feeders⁹ that collectively maintain the majority of lambs fed for slaughter in the United States.¹⁰ Feedlot operators generally buy lambs from growers when they weight about 75 to 120 pounds and then feed them for the next 30 to 150 days until they reach slaughter

⁶ The Corn Belt States are Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, and Wisconsin.

⁷ Collier, Shannon, Rill & Scott, PLLC, *Petition for Relief from Imports of Lamb Meat under Section 201 of the Trade Act of 1974*, as Amended, Oct. 7, 1998, p. 1.

⁸ Collier, Shannon, Rill & Scott, PLLC, petitioners' prehearing brief on injury, inv. No. TA-201-68, Lamb Meat, Dec. 22, 1998, pp. 52-57.

⁹ Testimony of William B. Salina, vice president, National Lamb Feeders Association (NLFA), transcript of the hearing, USITC, In the Matter of Lamb Meat (Injury Phase), inv. No. TA-201-68, Jan. 12, 1999, p. 25.

¹⁰ Collier, Shannon, Rill & Scott, PLLC, petitioners' prehearing brief on injury, inv. No. TA-201-68, Lamb Meat, Dec. 22, 1998, p. 14.

weight.¹¹ There are probably only about 100 large-volume lamb feedlots in the United States, although there are many small-volume feedlots. Lamb feeding tends to be concentrated in the Western States, but there are some large feedlots in Iowa and Kansas.¹² Feedlot operators may feed lambs they own or may feed lambs for other people on a fee-for-service or partnership basis.

Packers and breakers

Lamb packers are companies that slaughter lambs, regardless of whether they process lamb meat. Some packers further divide or “break” lamb carcasses into primal, subprimal, or retail cuts. However, in many cases, these operations are performed by separate firms (referred to as processors or “breakers”), who also act as wholesale distributors.¹³

Since 1995, two new large-volume slaughtering plants have opened in the United States. Superior Colorado, a subsidiary of Transhumance Holding Co., Inc., opened in October 1995 and Ranchers Lamb of Texas, Inc., opened in October 1997. Three large-volume slaughtering plants have closed or ceased slaughtering lambs during the period 1995-2001, namely, Monfort, Inc. located in Greeley, CO, which closed in March 1995; Denver Lamb, which closed in August 1995; and John Morrell & Co., Sioux Falls, SD, which closed in August 1998. The largest-volume lamb slaughtering plants are in Colorado, Texas, Iowa, and California.

There is a significant degree of concentration in the meat packing sector and also among meat packers who feed lamb. During 1997-2001, Federally inspected (FI) packing plants accounted for about 96 percent of sheep and lamb slaughter annually in the United States.¹⁴ There were 538 FI sheep and lamb slaughtering plants in 2001, down by 6 percent from 1997. Of the FI plants, only 8 (1 percent) had the capacity to slaughter 100,000 or more sheep and lambs annually; these plants accounted for 84 percent of the slaughter in 2001.¹⁵ The four largest sheep and lamb slaughtering companies accounted for about 71 percent of sheep and lambs slaughtered in 1999 (latest data available).¹⁶

Breakers buy lamb carcasses from packers and cut them into primal, subprimal, and retail cuts. They then sell these products to grocery chains, food service distributors, and processors. Industry officials state that fewer than 10 major firms in the United States are engaged in the processing of lamb carcasses into primal, subprimal, and retail cuts.¹⁷

¹¹ Testimony of Harold Harper, Harper Livestock Co., transcript of the hearing, USITC, In the Matter of Lamb Meat (Injury Phase), inv. No. TA-201-68, Jan. 12, 1999, p. 27.

¹² Data collected by USDA’s NASS agency identifying feedlots by principal States has been discontinued because of confidentiality concerns. Steve Anderson, USDA, NASS, telephone interview by USITC staff, Apr. 6, 2000.

¹³ Collier, p. 4.

¹⁴ USDA, NASS, *Livestock Slaughter Summary*, various issues, 1998-2002.

¹⁵ USDA, NASS, *Livestock Slaughter Summary*, Mar. 2002, Mt An 1-2-1 (02); p. 86.

¹⁶ Sterling Marketing, Inc. and Watt Publishing, *Meat & Poultry Facts 2001*, (Mt. Morris, IL, Watt Publishing Co., 2002), p. 28.

¹⁷ Collier, Shannon, Rill, & Scott, PLLC, *Petition before the USITC for relief from imports of lamb meat under section 201 of the Trade Act of 1974, as amended*, Sept. 30, 1998.

Structural Changes

Some large-volume lamb packers have made significant changes in the way they slaughter sheep and lambs as well as the way they package lamb meat. Traditionally, sheep and lambs were hung by their rear feet and the skin was pulled down over the head. In recent years, however, some packers have converted to the “inverted chain” system. Under the inverted chain system, sheep and lambs after being slaughtered are hung by all four legs. Once the pelts are cut and pulled from the shoulders and back; the dead animals then hang from their front legs. The entire pelt is removed from the head down by an automatic hide puller.¹⁸ The cost to convert to this system is between \$1 million and \$2 million.¹⁹ The benefits of converting to the inverted chain system include faster processing and improved hygiene, and thus a more efficient operation. More than 50 percent of lambs slaughtered in the United States are now processed through the new system.²⁰

Packers and breakers are also changing the way in which lamb is packaged. By further processing the carcass to wholesale and retail cuts, the packer adds value to the product. Wholesalers and retailers can specify desired cuts and receive case-ready products. Many plants have upgraded to carbon dioxide packaging equipment and vacuum-packing machinery. Lamb meat packed using these packaging processes will maintain a shelf life of about 21 days.²¹

Vertical Integration

Some vertical integration exists in the lamb industry. For example, some packers further divide or “break” lamb carcasses into primal, subprimal, or retail cuts, and some packers also operate lamb feedlots. Some lamb growers also engage in other sheep-raising activity, such as feeding. As a way to obtain better prices and to market their lambs more efficiently, many lamb producers have formed or joined cooperatives. Cooperatives provide various services for their members, including marketing lambs and establishing trademarks for various types of lamb meat.

Extent of Globalization in Industry

The level of foreign investment in the U.S. sheep industry is low. However, Transhumance Holding Company, Inc. (Transhumance), the parent company for U.S. companies Superior Packing Company and Superior Farms, has acquired a joint venture interest in Woodbrae Pty, Ltd.²² Woodbrae is an Australian company that slaughters and processes sheep and lambs and exports chilled lamb meat from Australia and New Zealand into the United States.

¹⁸ ConAgra Lamb Co. official, interview by USITC staff, Greeley, CO, Aug. 10, 2000.

¹⁹ ASI, Sheep Industry News, “New technology turns lambs upside down”, Dec. 1999, found at <http://www.sheepusa.org/news>, retrieved Jan. 5, 2000.

²⁰ Ibid.

²¹ ASI, Sheep Industry News, “Mountain Meadows Lamb expands case-ready operation”, Apr. 2000.

²² Superior Packing Co. is the largest slaughterer, processor, and marketer of domestic lamb and Superior Farms is a lamb feeder. See post-hearing brief of Transhumance Holding Company, Inc. (Transhumance) on injury, inv. No. TA-201-68, Jan. 19, 1999, p. 1.

In 1998, Superior slaughtered and distributed the meat produced from more than 900,000 U.S. lambs, and accounted for about 30 percent of U.S. lamb meat production.²³ As a result of declining domestic sheep numbers, Superior has relied on Australian lamb meat as a source of supply. The joint venture increases the availability of lambs on a year-round basis to better serve the U.S. market.²⁴ In addition, in May 1997, Transhumance purchased Boston Lamb and Veal, a lamb breaker and distributor.²⁵

Special Considerations Related to Production Costs

Labor shortages, death losses of sheep and lambs to disease and predators, and market infrastructure problems have resulted in fewer sheep. According to a U.S. industry official, many sheep growers are unable to hire competent domestic sheep herders.²⁶ Although recent modifications in migrant labor laws and regulations have reportedly improved the labor situation somewhat, many growers express dissatisfaction with the difficulty in satisfying the requirements of these laws and regulations. Labor shortages also exist with regard to skilled shearers; thus, many sheep in the United States are sheared by crews from Australia and New Zealand.

Death losses of sheep and lambs are generally higher than those of other livestock, primarily because sheep are more susceptible to disease and are more vulnerable to attack by predators. Sheep and lamb losses from all causes totaled 742,900 animals in 1999.²⁷ Losses from animal predators totaled 273,000 animals, valued at \$16.5 million. Sheep and lamb losses due to coyotes totaled 165,800 animals and accounted for 61 percent of the losses due to predators. Dogs were the second-leading predator, accounting for 15 percent of sheep and lamb losses.

Other factors relating to production cost include the return that sheep producers receive on certain lamb and sheep byproducts, specifically wool and pelts. In recent years, the value of wool has declined to the point that many growers do not even break even on the cost of shearing.²⁸ Some wool warehouses reported that some producers were unwilling to commit wool for core sampling²⁹ because current prices would not cover the cost of shearing.³⁰

The returns that sheep producers receive for their lambs include a skin price. Lamb skin values typically range from about 5 to 10 percent of the value of the lamb at slaughter time. Although sheepskins represent a smaller proportion of the value of the slaughtered lamb than lamb meat, they remain an important indirect determinant of profit for the producer because the value of the skin is included in the price paid by the packer. In recent years, between 60 and 80 percent of U.S. sheepskins have been exported, with Turkey and Poland being the

²³ Transcript of hearing (injury phase), inv. No. TA-201-68, Jan. 12, 1999, p. 260.

²⁴ *History of Superior Farms*, found at <http://www.superiorfarms.com>, retrieved Oct. 2, 2002.

²⁵ Transcript of hearing (injury phase), p. 259.

²⁶ John Etchepare, president, Warren Live Stock Co., interviewed by USITC staff, Cheyenne, WY, Oct. 13, 1994.

²⁷ USDA, NASS, *Sheep and Goats Predator Loss*, May 5, 2000, pp. 1-6.

²⁸ ASI official, telephone interview by USITC staff, Apr. 6, 2000.

²⁹ A method of coring a package of wool by means of special tools to obtain a representative sample of the wool. See USDA, AMS, *United States Standards for Grades of Wool*, Dec. 21, 1968.

³⁰ ASI, *Sheep Industry News*, *Wool Market Still Slow*, May 2000, p. 3.

leading markets. Many of the sheepskins are converted into sheepskin doubleface³¹ coats and exported to Russia. However, in August 1998, the Russian ruble collapsed and the market for sheepskins also collapsed. Premium lamb skin values dropped from about \$20 a skin during the spring and summer of 1998 to zero in September 1998.³² Lamb skin demand has recovered somewhat as reflected in the premium lamb skin values that ranged from \$8.00 to \$15.50 during 2001.³³

Industry sources report that as the number of producers and sheep flocks decline, there is a corresponding decline in infrastructure, namely shepherds, shearers, and slaughtering plants. The decline in the number of slaughtering plants has limited growers' opportunities to market their lambs.³⁴

Domestic producers report that increased lamb meat imports was the major factor affecting the decline of U.S. sheep production and contributing to low and declining operating income margins; consequently, the U.S. lamb meat industry has been unable to generate adequate capital to finance necessary improvements to production facilities, machinery, and equipment.³⁵ Industry sources report that some domestic operations have gone out of business, while others have cut back production substantially in order to mitigate financial losses. However, as a result of the tariff-rate quota (TRQ) imposed on lamb meat imports in July 1999 and the domestic assistance program announced in January 2000, some U.S. producers, feeders, and packers/breakers have invested in some capital improvements, including purchasing of new equipment, remodeling plants, and installing the inverted dressing system.³⁶

Channels of Distribution

Growers have several methods available for selling their animals, though some methods are more prevalent than others in certain areas of the country. Transportation costs, marketing fees and services, and other factors of competition are important considerations for producers when selecting a marketing strategy.

Live lambs in the United States, whether feeders or slaughter lambs,³⁷ may be sold at auction markets, terminal markets, or nonpublic markets. In recent years, some lambs have been sold

³¹ Doubleface coat has leather on the outside and wool on the inside.

³² ASI, News & Information, *Pelt market rising from the ashes*, May 2000.

³³ USDA, AMS, *Weekly Lamb Pelts Price Report, FOB Major Production Points*, Des Moines, IA, weekly reports, Jan-Dec 2001, found at <http://www.ifas.ufl.edu/~marketing/ls/nwls.443>, retrieved Dec. 12, 2001.

³⁴ Ernest E. Davis, Texas A&M Univ., Glen Whipple, Univ of WY, and David P. Anderson, Livestock Marketing Information Center, *Wool and Mohair Policy*, found at <http://ianrwww.unl.edu>, retrieved May 10, 2002.

³⁵ Collier, Shannon, Rill & Scott, PLLC, *Petition for Relief from Imports of Lamb Meat under Section 201 of the Trade Act of 1974, as Amended*, Oct. 7, 1998, p. 18.

³⁶ USITC, *Lamb Meat: Evaluation of the Effectiveness of Import Relief*, inv. No. TA-204-8, pub. No. 3512, May 2002, pp. IV-7/IV-11.

³⁷ Differentiation between feeder and slaughter lambs is based solely on their intended use rather than on specific identifiable characteristics of the lambs. Feeder lambs are those which are intended for slaughter after a period of feeding. Slaughter lambs are those that are intended for slaughter immediately or in the very near future.

through electronic marketing systems. The majority of sales of lambs for slaughter is through nonpublic markets, primarily direct sales to packers, and are usually negotiated by growers or middlemen. Large-volume packers generally purchase their lambs directly from lamb feeders. Almost all firms that slaughter lambs process at least some of their carcasses into primal and subprimal cuts, and some firms produce retail cuts as well. Some carcasses move to a breaker. Increasingly, lamb meat including lamb carcasses has been sold as boxed lamb. Boxed lamb is lamb meat that has been divided into primal or subprimal cuts and sealed in air-tight plastic material.³⁸

Pricing Practices

Growers and feeders typically sell live lambs in the spot market or on short-term contracts. The use of a particular pricing method depends on the location of the seller and upon the packer's familiarity with the seller or marketing agents. Most lambs are purchased on a live weight basis with the grower being paid a market price per pound based on the weight of the animal when sold. There are, however, several variations of the live weight purchase method currently in practice. For example, some lambs are sold with a guaranteed yield, and with the knowledge that lambs weighing over a specific weight will be price discounted.³⁹ Some packers and breakers determine purchase prices for live lambs from prices reported by the USDA, auction information, negotiation, market conditions, and the USDA *Market News Reports*.

Special U.S. Government Programs

In addition to the TRQ applied on imports of fresh, chilled, or frozen lamb meat, the President on July 7, 1999 directed the administration to develop an effective adjustment assistance package to help the domestic lamb meat industry to make a positive adjustment to import competition.⁴⁰ Subsequently, on January 13, 2000, USDA announced a 3-year, \$100 million assistance package for sheep and lamb producers.⁴¹ At the time, the U.S. Trade Representative (USTR) announced the termination of the lamb meat TRQ (effective November 15, 2001), it also announced that the United States would provide the U.S. lamb industry with up to \$42.7 million in additional assistance through fiscal year 2003 to help the industry to continue adjusting to import competition.⁴²

On April 11, 2002, USDA Agricultural Marketing Service (AMS) issued a final rule establishing a national, industry-funded lamb promotion, research, and information order

³⁸ *Lamb Meat: Competitive Conditions Affecting the U.S. and Foreign Lamb Industries*, inv. No. 332-357, pub. No. 2915, Aug. 1995, p. 2-31.

³⁹ ASI, *Sheep Production Handbook*, pp. 501-527.

⁴⁰ See Presidential Proclamation 7208 of July 7, 1999 to Facilitate Positive Adjustment to Competition From Imports of Lamb Meat, 64 FR 37389 (July 9, 1999) and *Action Under Section 203 of the Trade Act of 1974 Concerning Lamb Meat*, 64 FR 37393 (July 12, 1999).

⁴¹ USDA news release, *Glickman Announces \$100 Million Assistance Package for Sheep and Lamb Farmers*, Jan. 13, 2000. For background and descriptive information on the domestic assistance package see *Lamb Meat*, inv. No. TA-204-3, USITC pub. No. 3389, Jan. 2001.

⁴² USTR press release, *Bush Administration Settles Lamb Safeguard Issue with Australia & New Zealand*, Aug. 31, 2001.

(program).⁴³ The program provides for an industry board to carry out promotion, research, and information programs designed to increase the demand for lamb and lamb products, including pelts but excluding wool and wool products. The program will be funded by assessments on domestic producers, feeders, exporters, packers, and processors. Lamb and lamb products imports will not be assessed under the program. It is estimated that this program will raise about \$3 million annually. The order will be continued subject to its approval in a delayed referendum conducted within 3 years after assessments first begin. Assessments began on July 1, 2002 and are being collected by the USDA.⁴⁴

The sheep industry also received Federal assistance under the Wool and Mohair Market Loss Assistance Program (WAMLAP).⁴⁵ The WAMLAP was designed to provide relief to sheep producers who suffered economic loss due to low wool prices.⁴⁶ WAMLAP payments to eligible wool producers during calendar years 1999-2001 totaled \$8.7 million, \$17.6 million, and \$15.5 million respectively.⁴⁷

In addition, marketing assistance loans and a loan deficiency payment for wool were included in the Farm Security and Rural Investment Act of 2002 (Farm Bill of 2002).⁴⁸ The nonrecourse loans for wool and mohair extend from the 2002 through 2007 marketing years.

U.S. MARKET

Consumer Characteristics and Factors Affecting Demand

Sheep meat consumers are concentrated in distinct U.S. markets, specifically, the East and West Coasts. Sheep meat consumption is more common among ethnic groups of Middle Eastern, African, Latin American, and Caribbean descent and to certain religious groups, notable those persons of the Jewish and Islamic faiths. Some consumers only consume lamb during seasonal periods such as Easter, Christmas, and other religious holidays. It has also been noted that there are high-end and low-end consumers.

The demand for lamb meat is influenced by consumer tastes and preferences; prices of lamb meat and substitute meats, e.g., beef, pork, and poultry; and consumer income. Lamb meat prices are generally higher than those of substitute meats, and per capita consumption of lamb meat is significantly less than consumption of beef, pork, and poultry. Lamb meat

⁴³ USDA, AMS, *Lamb Promotion, Research, and Information Order, Final Rule*, 67 FR 17848 (Apr. 11, 2002).

⁴⁴ USDA news release, *Veneman Announces Lamb Promotion Board Appointments*, Oct. 7, 2002.

⁴⁵ The WAMLAP was mandated by Congress in the Agriculture Risk Protection Act of 2000. For additional information on the WAMLAP see *Lamb Meat: Evaluation of the Effectiveness of Import Relief*, inv. No. TA-204-8, USITC pub. No. 3512, May 2002.

⁴⁶ The WAMLAP was also available to mohair producers.

⁴⁷ Fax submission from USDA, FSA, Price Support Division, Mar. 6, 2002.

⁴⁸ *The New Farm Bill: "Farm Security and Rural Investment Act of 2002"*, found <http://agriculture.house.gov/fbconfrpt.htm>, retrieved May 10, 2002.

consumption has been approximately 1 pound per person in recent years. A consistent year-round supply is another factor that influences demand for lamb meat. Some lamb meat purchasers reported that they had been unable to purchase lamb meat in the quantities desired from U.S. sources.⁴⁹ Another study concluded that “a significant proportion of people who eat lamb report that lamb is not available when they look for it where they shop.”⁵⁰

Consumption

U.S. lamb meat, mutton, and total sheep meat consumption as estimated by USITC staff, is shown in figure 2 and tables B-4 through B-6. U.S. consumption of all sheep meat increased from 341 million pounds in 1997 to 370 million pounds in 2001 (table B-4). Approximately 90 percent of consumption consisted of lamb meat, and the ratio of imports to consumption (by quantity) for lamb meat was 33 percent in 2001. The import-penetration ratio for mutton was 92 percent and for live sheep it was 2 percent (table B-7). Changes in consumption of sheep meat reflected an increase in imports as U.S. production of lamb and mutton declined steadily during the period.

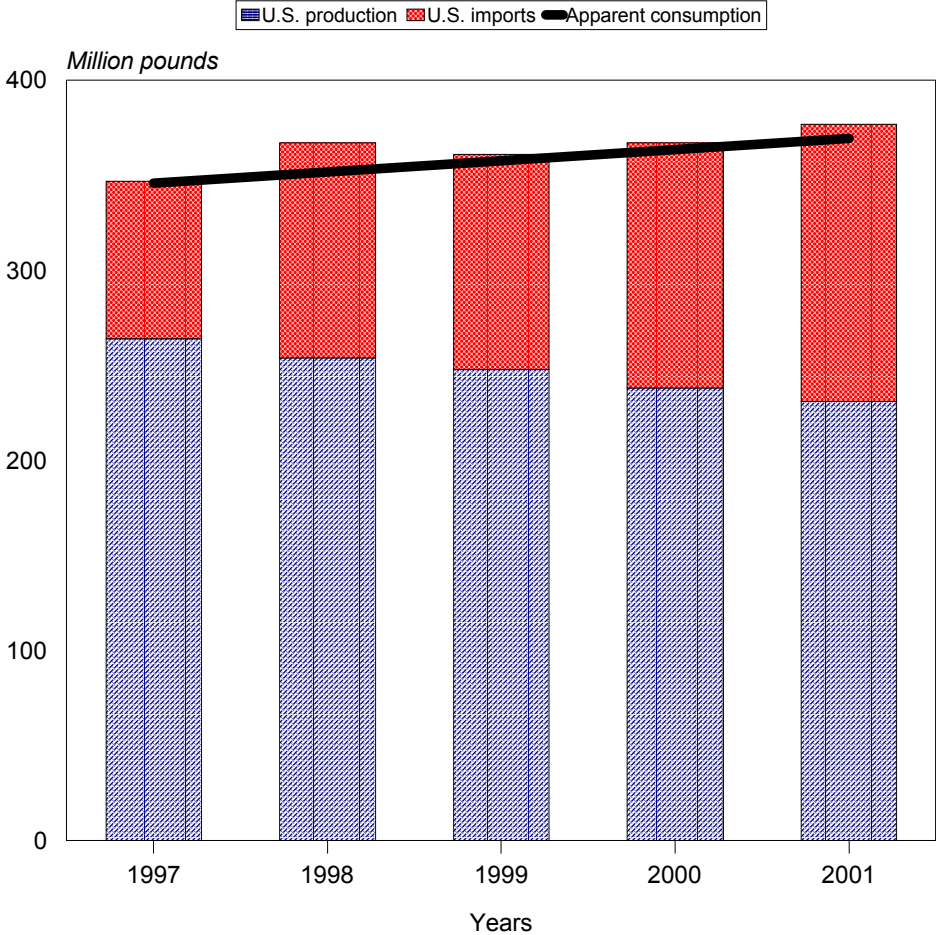
Lamb Meat

U.S. lamb meat consumption rose from 310 million pounds in 1997 to 329 million pounds in 2001 (table B-5). U.S. per capita lamb meat consumption remained fairly constant, at about 1 pound (carcass-weight equivalent). U.S. produced lamb meat is generally shipped chilled, with freezing generally being limited to certain times of the year owing to irregular seasonal demand on certain rather low-priced cuts (such as shanks) produced in limited quantities. Traditionally, the bulk of U.S. lamb meat imports was frozen. However, there has been a trend in recent years toward importation of chilled lamb. In 2001, 64 percent of U.S. lamb meat imports consisted of fresh or chilled product and 36 percent was frozen. Imported lamb carcasses and the cuts derived from them are typically smaller than U.S. carcasses and cuts, in part because of the genetic makeup of the animals and in part because U.S. animals are typically grain fed. In 2001, U.S. carcasses averaged 71 pounds each; New Zealand carcasses, 37 pounds each; and Australian carcasses about 43 pounds each. New Zealand and Australian lamb is primarily grass fed compared with the common U.S. practice of finishing with grain feeds.

⁴⁹ USITC, *Lamb Meat*, inv. No. TA-204-3, pub. No. 3389, Jan. 2001, p. VI-2.

⁵⁰ *Keys to Building the Lamb Market in the United States: Findings of a Strategic Market Assessment*, sponsored by the National Meat Association, North American Meat Processors Association, Meat and Livestock Australia, and Meat New Zealand, Final Report, 2001, prepared by Market Solutions LLC, p. 109.

Figure 2
Lamb meat and mutton: U.S. imports, domestic production, and apparent consumption, 1997-2001



Source: U.S. production estimated by USITC staff; import data compiled from official statistics of the U.S. Department of Commerce.

Mutton

U.S. mutton consumption is small relative to lamb meat, and most other meats as well. Most mutton is referred to as manufacturing meat and is utilized in the production of certain sausages and other comminuted products. Mutton is not generally directly competitive with lamb meat. During 1997-2001, mutton consumption averaged 38 million pounds annually (table B-6). Imports accounted for between 74 and 92 percent of consumption during the period.

U.S. PRODUCTION

Lambs

The number of lambs born during the year, the so-called lamb crop, is generally referred to as U.S. production. The U.S. lamb crop declined by 16 percent between 1997 and 2001 (table B-1). The lamb crop depends on the number of ewes that are 1 year old or older and kept for breeding purposes, and on the number of lambs born per ewe (lambing rate). The number of breeding ewes 1 year and older declined by 17 percent during 1997-2001, and totaled 4.1 million animals on January 1, 2001. Replacement lambs under 1 year of age as well as rams 1 year old and older also declined. Other factors that may contribute to lower lamb crops include adverse weather and the nature of the January 1 inventory of ewes (kept for breeding purposes). In some States, especially the Western States, the lamb crop is estimated when the young lambs (about 2 weeks of age) are “worked,” i.e., when the lambs have their tails removed (docked) and when the ram lambs are castrated. In years with adverse weather, many lambs die before they are “worked” and thus are not included in the lamb crop. The decline in the lamb crop could reflect the anticipation of lower feeder lamb prices by sheep growers.

Lamb Meat

U.S. production of lamb meat,⁵¹ as estimated by USITC staff, declined steadily from 251 million pounds in 1997 to 222 million pounds in 2001, or by 12 percent (table B-5). Lamb meat production reflects both the number of lambs slaughtered and the average carcass weight. The decrease in lamb meat production largely reflected a 17-percent decrease in the number of lambs slaughtered (table B-1). The average carcass weight was 71 pounds in 2001, up from 67 pounds in 1997. The increase in average carcass weight may reflect a trend to genetically larger animals, feeding to heavier weights (encouraged by moderate grain prices), and on the negative side, feeding to excessive weights as growers retain animals beyond optimum slaughter weights, largely in anticipation of higher prices.

⁵¹ U.S. production of mutton accounts for approximately 5 percent of total U.S. sheep meat production.

U.S. Inventories

Fresh or chilled lamb meat is a perishable product, thus inventories do not build up to any extent. Although freezing significantly extends the shelf life of lamb meat, U.S. consumers prefer fresh meat over frozen. Freezing lowers the value of the meat and is generally limited to lower-value cuts. Shanks, for example, may be frozen and collected until sufficient quantities are available for shipment. Also, at certain times of the year, especially holiday seasons, demand increases significantly for fresh high-value cuts (e.g., racks). Consequently, certain other cuts are often in temporary excess supply (e.g., legs) and are frozen or chilled for short periods of time.

During 1997-2001, monthly cold storage lamb and mutton supplies⁵² in the United States ranged from a low of 8.7 million pounds in December 1999 to a high of 19.4 million pounds in August 1997.⁵³ In 2001, cold storage supplies peaked at 15.7 million pounds in July and declined to 11.9 million pounds in December.

U.S. TRADE

Overview

Tables B-8 and B-9 show the U.S. trade balances for live sheep and lambs and sheep meat, respectively. The United States is by far a net importer of sheep meat, posting a negative trade balance in every year during 1997-2001 (table B-9). The deficit increased from \$132 million in 1997 to \$224 million in 2001. As stated earlier, the U.S. sheep industry has been in a long-term decline; hence, U.S. lamb meat production is small and shows no signs of increasing significantly. The United States had a positive trade balance for live sheep and lambs during 1997-2001 (table B-8). However, the balance declined from \$53 million in 1997 to \$11 million in 2001, primarily due to a reduction in live sheep exports to Mexico.

⁵² USDA does not distinguish between the country of origin of the meat in storage nor do they distinguish whether the meat stored is lamb or mutton.

⁵³ USDA, NASS, *Cold Storage Annual Summary*, various issues.

U.S. Imports

Live Sheep and Lambs

U.S. imports of live sheep and lambs are small and accounted for 2 percent or less of U.S. consumption of sheep during 1997-2001 (table B-7). Canada supplied virtually all such imports with imports averaging about 49,000 animals annually during 1997-2000 (table B-10). U.S. live sheep and lamb imports rose to 85,000 animals in 2001 reflecting the decrease in sheep numbers in the United States combined with a depreciated Canadian dollar.⁵⁴ Such imports consisted primarily of lambs for slaughter.

Lamb Meat and Mutton Imports

Australia and New Zealand supply virtually all U.S. imports of lamb meat. The share of lamb meat imports, by quantity, supplied by Australia rose steadily from 55 percent in 1997 and 1998 to 63 percent in 2001. The share of imports supplied by New Zealand peaked in 1998 at 45 percent before declining steadily to 37 percent in 2001. Australia supplied virtually all U.S. mutton imports during 1997-2001.

Import Levels and Trends

Total U.S. sheep meat imports rose from 83 million pounds carcass weight equivalent (cwe) in 1997 to 146 million pounds in 2001, or by 76 percent (table B-11).⁵⁵ Lamb meat made up the majority of the imports. Imports of mutton, virtually all from Australia (table B-12), accounted for between 26 and 31 percent of total sheep meat imports during the period.

U.S. lamb meat imports increased steadily from 60 million pounds, valued at \$123 million in 1997, to 108 million pounds, valued at \$206 million in 2001 (table B-13). Australia and New Zealand supplied nearly all U.S. lamb meat imports during 1997-2001. The share of U.S. lamb meat imports (quantity) supplied by Australia rose from 55 percent in 1997 to 63 percent in 2001; conversely, New Zealand's share declined from 45 percent to 37 percent. Imports of lamb meat as a share of domestic consumption rose from 20 percent in 1997 to 33 percent in 2001 (table B-5).

During 1997-2001, U.S. imports of fresh or chilled lamb meat increased steadily from 24 million pounds to 69 million pounds, or by 186 percent, whereas imports of frozen lamb meat rose only by 8 percent overall during 1997-2001 (table B-14). The temporary TRQ placed on U.S. imports of lamb meat from Australia and New Zealand in July 1999 resulted in exporters focusing on exporting higher value-added products and contributed to the rise in fresh or chilled lamb meat imports. The majority of U.S. imports during the period

⁵⁴ Ontario Sheep Marketing Agency, *Ontario Sheep News - Market Update*, OSN Market Report: May-June 2002, found at <http://www.ontariosheep.org/osnmarke.html>, retrieved Nov. 5, 2002.

⁵⁵ Carcass weight equivalent, unless otherwise noted.

consisted of fresh, chilled, or frozen bone-in cuts, followed by boneless cuts, and then carcasses (table B-15). Fresh, chilled, or frozen imported lamb meat is sold mainly to distributors, retailers, restaurants, and food service establishments.

U.S. Trade Measures

Tariff Measures

The provisions of the HTS for the live sheep and sheep meat covered in this summary are shown in table B-16. This table shows the general and special column 1 rates of duty applicable to U.S. imports of live sheep and meat of sheep as of January 1, 2002. Live sheep trade is covered in chapter 1, sheep meat is covered in chapter 2. In addition, the table shows U.S. exports and imports of live sheep and sheep meat, by HTS subheading, during 2001. Appendix A includes an explanation of tariff and trade agreement terms.

The aggregate trade-weighted average rate of duty for all products included in this summary was 5.4 percent ad valorem in 2001. The ad valorem equivalent for imports of fresh, chilled, or frozen lamb meat was 0.2 percent, exclusive of TRQ duties, and 5.8 percent when TRQ rates are included. The ad valorem equivalent for mutton imports averaged 2 percent for 2001.

Nontariff Measures

U.S. imports of live sheep and meat of sheep are subject to animal and health and sanitary regulations administered by the USDA. The Federal Meat Inspection Act⁵⁶ generally limits U.S. imports of fresh, chilled, or frozen meat to those from countries that enforce inspection and other requirements that are at least equal to those applied at Federally-inspected establishments. In addition, most U.S. imports of live sheep and meat of sheep are generally limited to those from countries that have been declared free of rinderpest and Foot-and-Mouth (FMD)⁵⁷ diseases by the U.S. Secretary of Agriculture. The general effect of such prohibitions has been to allow imports only from Australia, New Zealand, North America, and certain areas of Europe.

Mutton imports may be subject to additional import duties of 0.9¢ per kilogram under the safeguard provisions implemented pursuant to the Uruguay Round Agreement on Agriculture. The safeguard quantity trigger level was 14,101 metric tons in 2001 and is 14,679 metric tons for 2002.⁵⁸ The quantity of U.S. mutton imports in 2001 did not invoke the safeguard.

⁵⁶ 21 U.S.C. 661 and 21 U.S.C. 620.

⁵⁷ Foot and mouth disease is a highly contagious, infectious disease that can afflict cloven-footed animals (such as cattle, swine, sheep, and goats). Because the disease is easily transmitted and is debilitating, it is an ever-present threat to livestock industries. The disease does not present a direct threat to human health.

⁵⁸ USDA, Foreign Agricultural Service (FAS), *Uruguay Round Agricultural Safeguard Trigger Levels*, 66 FR 36993-36994 (July 15, 2001) and 67 FR 38927-38928 (June 6, 2002).

The Farm Security and Rural Investment Act of 2002, more commonly known as the 2002 Farm Bill, was enacted on May 13, 2002. One of many provisions of the 2002 Farm Bill requires country of origin labeling for beef, lamb, pork, fish, perishable agricultural commodities (fresh and frozen fruits and vegetables) and peanuts. The new law requires regulations be issued by USDA for a mandatory program be promulgated no later than September 30, 2004.⁵⁹

U.S. Government Trade-Related Investigations

The U.S. International Trade Commission (Commission) has conducted three investigations in recent years with respect to lamb meat. In April 1999, the Commission made an affirmative injury determination and remedy recommendation under section 202 of the Trade Act of 1974 (Trade Act). The Commission unanimously determined that lamb meat was being imported into the United States in such increased quantities as to be a substantial cause of the threat of serious injury to the domestic industry producing an article like or directly competitive with the imported article.⁶⁰ Following the Commission's determination and remedy recommendation, the President, on July 7, 1999, issued Proclamation 7208, which imposed import relief in the form of a TRQ.⁶¹ The TRQ was imposed for a period of 3 years and 1 day but was terminated on November 15, 2001. In addition to the TRQ applied to imports of fresh, chilled, or frozen lamb meat, the President directed the administration to develop an effective adjustment assistance package to help the domestic lamb meat industry to make a positive adjustment to import competition. Consequently, on January 13, 2000, the U.S. Secretary of Agriculture announced a 3-year, \$100 million assistance package for sheep and lamb farmers.⁶²

A second investigation was instituted on July 17, 2000. In January 2001, the Commission supplied a midterm report to the President and Congress, required under section 204(a) of the Trade Act, that provided the results of the Commission's monitoring of developments with respect to the lamb meat industry since the imposition of the TRQ on imports of lamb meat.⁶³

In October 1999, Australia and New Zealand challenged the U.S. lamb meat safeguard measure under the World Trade Organization (WTO) dispute settlement procedures. In December 2000, a WTO dispute panel ruled that the lamb meat safeguard measure violated various provisions of the General Agreement on Tariffs and Trade (GATT) and the WTO

⁵⁹ USDA, Agricultural Marketing Service (AMS) news release: *USDA Solicits Comments on Country of Origin Labeling Guidelines*, AMS No. 173-02, July 25, 2002.

⁶⁰ See *Lamb Meat*, inv. No. TA-201-68, USITC pub. No. 3176, Apr. 1999.

⁶¹ Proclamation 7208 was subsequently amended by Proclamation 7214 of July 30, 1999, which made the relief effective for goods exported on or after July 22, 1999, thereby exempting some shipments from application of the relief.

⁶² USDA news release, *Glickman Announces \$100 Million Assistance Package for Sheep and Lamb Farmers*, Jan. 13, 2000.

⁶³ USITC, *Lamb Meat*, inv. No. TA-204-3, pub. No. 3389, Jan. 2001.

Safeguards Agreement.⁶⁴ The United States appealed the decision to the WTO Appellate Body, which in May 2001 upheld the ruling in part. The USTR announced on August 31, 2001 that a settlement agreement had been reached with Australia and New Zealand. Under the terms of the agreement, the United States would end its TRQ but continue to provide adjustment assistance to domestic lamb producers through FY 2003.⁶⁵ On November 14, 2001, the President issued Proclamation 7502 providing for early termination of the TRQ on lamb meat.

A third investigation was instituted by the Commission on January 22, 2002. Section 204(d) of the Trade Act requires that the Commission, after termination of any action taken under section 203, is to “evaluate the effectiveness of the actions in facilitating positive adjustment by the domestic industry to import competition, consistent with the reasons set out by the President in the report submitted to the Congress under section 203(b).⁶⁶ The Commission’s report evaluating the effectiveness of the TRQ and the domestic assistance package was submitted to the President and Congress on May 14, 2002.⁶⁷

U.S. Exports

Live Sheep and Lambs

U.S. exports of live sheep and lambs account for about 9 percent of U.S. production based on the 2001 lamb crop. Such exports declined steadily from 1.4 million animals in 1997 to 384,254 animals in 2001 (table B-17). The quantity of U.S. exports (primarily to Mexico) were unusually high in 1997 and 1998 and reflected low prices in the U.S. market.⁶⁸ Mexico is the primary market for U.S. live sheep and lamb exports; such exports generally consists of cull ewes for slaughter.

Lamb Meat and Mutton

U.S. exports of lamb meat and mutton are negligible, accounting for 2 percent of U.S. production annually during 1997-2001. Such exports totaled 6.5 million pounds in 2001, with Mexico accounting for 71 percent of total exports (table B-18). Canada was the second-largest market, accounting for 7 percent of U.S. exports. The U.S. exporters of lamb and mutton consist mostly of large U.S. food distributors.

⁶⁴ World Trade Organization, *United States-Safeguard Measures on Imports of Fresh, Chilled or Frozen Lamb Meat from New Zealand and Australia*, report of the panel, found at http://www.wto.org/english/tratop_e/dispu_e/177r-178r_a_e.pdf, retrieved Feb. 19, 2003.

⁶⁵ USTR press release, Aug. 31, 2001, found at <http://www.ustr.gov>, retrieved Sept. 4, 2001.

⁶⁶ *Action Under Section 203 of the Trade Act of 1974 Concerning Lamb Meat*, 64 FR 37393, July 12, 1999.

⁶⁷ USITC, *Lamb Meat: Evaluation of the Effectiveness of Import Relief*, inv. No. TA-204-8, pub. No. 3512, May 2002.

⁶⁸ USDA, FASonline, Sheep and Goats, found at <http://www.fas.usda.gov/dlp2/circular/1998/98-10LP/sheep3.htm>, retrieved Oct. 4, 2002.

FOREIGN INDUSTRY PROFILE

Table B-19 shows the sheep population for certain sheep-producing countries for 1997 and 2001. China is the largest sheep-producing country in the world, followed by Australia.⁶⁹ During 1997-2001 the world sheep population remained fairly constant, averaging 1.0 billion animals annually. Declines in sheep populations in many major sheep producing countries, including Australia, New Zealand, the former Soviet Union,⁷⁰ and Uruguay, were offset by increases in sheep numbers in China and Iran.

Table B-20 shows world sheep population, lamb and mutton production, and imports and exports for developed and developing countries. Developing countries account for nearly 65 percent of the world sheep population and the developed countries account for the remainder.⁷¹ However, developed countries account for the majority of trade in mutton and lamb. In 2000, developed countries accounted for 95 percent of lamb and mutton exports and accounted for 69 percent of imports of lamb and mutton.

Sheep kept for the production of wool are common in Argentina, Australia, South Africa, China, and New Zealand. In some areas of the world such as EU, Turkey, and Saudi Arabia, sheep are often kept for the production of milk as well as for meat.

Australia and New Zealand are the major sheep meat exporters, accounting for approximately 90 percent of annual world exports during 1997-2000.⁷² These two countries are also major world suppliers of live sheep and lambs. The EU is also a major lamb meat and mutton exporter; however, the majority of such exports consist of intra-EU trade.

China

In 2001, China was the world's largest sheep-producing country with a sheep population totaling 134.9 million, up from 114.1 million in 1997.⁷³ Sheep are raised principally in Shandong, Inner Mongolia, Xinjiang, Tibet, and Henan Provinces. Most Chinese sheep operations are family operated with a flock size of 50 or fewer sheep; however, there are some large-scale operations on state farms.⁷⁴ Most sheep are kept primarily for the production of wool and mutton, and there is little lamb meat produced.⁷⁵ Sheep in China are generally pasture fed but in recent years overgrazing and lack of good forage in many major

⁶⁹ International Wool Textile Organisation (IWTO), *Wool Statistics, 2000-01*, ISSN 0260-2016, p. 27. The data on foreign industries are adapted from Food and Agriculture Organization of the United Nations (FAO), found at <http://www.fao.org>, retrieved Apr. 14, 2000, unless otherwise noted.

⁷⁰ Primarily Russia and the Central Asian Republics.

⁷¹ FAOSTAT database, found at <http://apps.fao.org/>, retrieved Apr. 14, 2000.

⁷² *Ibid.*, retrieved Aug. 21, 2002 (excludes EU-intra trade).

⁷³ International Wool Textile Organisation 2000-01, *Wool Statistics*, p. 27.

⁷⁴ USDA, FAS, GAIN Report #CH9037, Peoples Republic of China, *Dairy Livestock and Poultry Livestock Annual 1999*, June 24, 1999, pp. 19-20.

⁷⁵ *Ibid.*

sheep provinces have placed constraints on sheep (and goat) production. Thus, many producers are encouraged to finish (fatten) their sheep at feedlots. Pasture fed sheep are generally slaughtered for mutton at about 18 months of age; by contrast, sheep fed grain in feedlots are ready for slaughter in a little over a year, thus shortening the slaughter cycle.⁷⁶ The average slaughter weight is about 75 pounds, and yields are about 29 pounds of meat carcass weight equivalent (cwe).

China's mutton production totaled 1.4 million metric tons in 2001, most of which is consumed domestically (table B-21). Mutton accounts for less than 5 percent of all meat production in China.⁷⁷ Chinese imports of sheep meat (mainly mutton), primarily from New Zealand and Australia, totaled 34,076 mt in 2000, up by 66 percent from 1997. Lower international prices for mutton compared with domestic prices contributed to the increase in mutton imports. Imports of small quantities of lamb meat primarily from New Zealand are marketed in upscale markets in major cities.⁷⁸ Imports of live sheep are small and consist mainly of sheep for breeding purposes, with Australia and New Zealand the main suppliers. U.S. sheep and sheep meat are banned from China because of scrapies.^{79, 80}

China imposes an ad valorem rate of duty, as well as a value added tax (VAT) on imports of live sheep and meat of sheep. China's accession to the WTO is expected to have little effect on sheep meat imports as sheep meat tariffs declined from a range of 22-23 percent ad valorem to 16.4-18.2 percent.⁸¹ The VAT declined from 17 to 13 percent in 2002. The effective duty rate (MFN+VAT) on imports of fresh, chilled, and frozen mutton and lamb ranged from 31.5 percent to 39 percent in 2000.⁸²

Australia

Australia has the second-largest sheep inventory in the world, accounting for about 11 percent of the world's total (table B-19). Sheep are raised in a wide range of climates, from dry regions of inland Australia to the moister sheep-raising regions of New South Wales and Victoria. Australia's sheep producers range from those that concentrate solely on sheep production to mixed farm operations incorporating sheep, cattle, and crop production.

In Australia, approximately 80 percent of the sheep are maintained for the production of wool. The Australian Merino accounts for virtually all of Australia's wool-type sheep. It is generally recognized as efficient in the production of very high-quality wool. Although the

⁷⁶ USDA, FAS, GAIN Report #CH1033, Peoples Republic of China, *Livestock and Products Annual 2001*, Aug. 13, 2001, p. 16.

⁷⁷ USDA, ERS, *China: Agriculture in Transition*, WRS-01-2, p. 62.

⁷⁸ USDA, FAS, GAIN Report #CH9037, Peoples Republic of China, *Dairy Livestock and Poultry Livestock Annual 1999*, June 24, 1999, pp. 19-20.

⁷⁹ *Ibid.*

⁸⁰ Scrapie is a degenerative and eventually fatal disease affecting the central nervous systems of sheep and goats.

⁸¹ USDA, FAS, GAIN Report #CH2009, China, *Livestock and Product Semi-Annual 2002*, Feb. 19, 2002, pp. 20-25.

⁸² *Ibid.*

Merino is efficient in the production of wool, it is generally recognized as relatively inefficient in the production of lamb meat. Merinos are usually sold for mutton after they reach 5 to 7 years of age and are no longer suitable for the production of wool.

A large share of the lamb meat for the Australian market is derived from lambs that are the offspring of crossbred ewes.⁸³ To produce high-quality lambs, so-called Australian prime lambs, for lamb meat, a common practice is to mate first cross ewes with short-wool, meat-type breeds, such as the Dorset or Suffolk. Australian lambs are range fed, grazing on pasture to reach slaughter weights. First and second cross lambs represent approximately 70 percent of total lambs slaughtered.⁸⁴

Australian sheep and lambs are sold at auctions, directly to buyers from producers, over the hook, through forward contracts, and over the Internet. While most are sold through auction markets, there has been an increase in the number of lambs sold over the hook. Under this method, producers sell sheep or lambs to a processor, with payment based on such criteria as weight after processing, the fatness of the lamb, and the value of the skin. This method not only helps the processor in matching up lambs with specific markets but also provides a marketing tool for the producer.⁸⁵

Meat-packing plants are found throughout Australia; however, major processing regions include Victoria, New South Wales, and southern Queensland. Most meat-packing establishments in Australia are single species. There is typically little further processing of lamb at meat-packing plants for the domestic market as carcasses are shipped to butchers or retail outlets for processing into retail cuts. Meat-packing plants that process for the export market generally further process the carcasses into various cuts.⁸⁶

The number of sheep and lambs in Australia declined from 120.2 million animals in 1997 to 113.3 million animals in 2001, or by 6 percent (table B-22). New South Wales accounted for about 37 percent of Australia's sheep inventory during 2000, Western Australia about 22 percent, Victoria about 19 percent, South Australia about 12 percent, Queensland about 8 percent, and Tasmania about 3 percent. The decline in Australia's sheep inventory reflects the declining profitability of wool production and adverse production conditions resulting from drought. Consequently, many producers are shifting away from livestock to cropping activities in mixed farming and grazing areas.⁸⁷

Australia's production of sheep meat rose from 1.3 billion pounds in 1997 to 1.6 billion pounds in 2000/01(cwe) (table B-23).⁸⁸ Australian production of lamb meat rose steadily from 622 million pounds in 1997 to 823 million pounds in 2000, then declined slightly to

⁸³ To derive ewes that produce lambs for the meat market, the most common cross is Merino ewes bred to long-wool rams, usually the Border Leicester breed. For further information on crossbred ewes see USITC report *Lamb Meat: Competitive Conditions Affecting the U.S. and Foreign Lamb Industries*, inv. No. 332-357, pub. No. 2915, Aug. 1995, p. 3-4.

⁸⁴ MLA, Market Information Services, *Sheepmeat Farm Sector*, found at <http://www.mla.com.au>, retrieved June 20, 2000.

⁸⁵ MLA, *Sheepmeat Industry*, found at <http://www.mla.com.au>, retrieved Sept. 3, 2002.

⁸⁶ *Lamb Meat: Competitive Conditions Affecting the U.S. and Foreign Lamb Industries*, inv. No. 332-357, pub. No. 2915, Aug. 1995, p. 3-6.

⁸⁷ USDA, FAS, GAIN Report AS2004, *Australia Livestock and Products Semi-Annual 2002*, Feb. 1, 2002, p. 9, found at <http://www.fas.usda.gov>, retrieved Sept. 3, 2002.

⁸⁸ The quantity of Australian sheep meat is on a carcass weight equivalent (cwe), unless noted otherwise.

809 million pounds in 2001. Lamb meat production accounted for 51 percent of the total sheep meat production up from 48 percent in 1997. Mutton production increased from 676 million pounds in 1997 to 767 million pounds in 2001, reflecting in part the unfavorable outlook for wool and thus an increase in adult sheep slaughtering. Indeed, sheep slaughter rose from 14.3 million animals in 1997 to 16.6 million animals in 2001 (table B-22). Lamb slaughter also rose during the period totaling 18.6 million animals in 2001, up 27 percent from 1997. Mutton production is strongly influenced by seasonal conditions and wool prices. Sheep producers will retain sheep for wool production if wool prices are favorable rather than send them to slaughter.

Australia is the second-largest lamb meat exporter and the world's largest mutton exporter. Australia's sheep meat exports rose from 583 million pounds in 1997 to 805 million pounds in 2001, or by 38 percent (table B-23). Factors contributing to the increase in Australian exports include greater market share in the Middle East, an increase in exports to Mexico, and the depreciation of the Australian dollar.⁸⁹ The share of sheep meat exports made up of lamb meat rose from 27 percent in 1997 to 35 percent in 2001, while the share accounted for by mutton declined from 73 percent to 65 percent. During 1997-2001, Australian exports of lamb meat rose steadily from 155 million pounds to 285 million pounds (table B-23). Exports also rose as a share of Australian lamb meat production, from 25 percent in 1997 to 35 percent in 2001. Australian exports of mutton rose irregularly from 428 million pounds in 1997 to 520 million pounds in 2001. While the bulk of Australian lamb meat production is consumed domestically, most mutton production is exported. Such exports accounted for about 68 percent of Australian mutton production annually during 1997-2001.

Table B-24 shows Australian sheep meat exports by type (lamb and mutton), for selected markets for 2001. The United States was the largest single market for Australian exports of lamb meat, accounting for 26 percent of such exports. South Africa was the largest single export market for Australian mutton, accounting for 14 percent of total exports in 2001. Other important markets for Australian sheep meat include Asia, the Middle East (primarily Saudi Arabia and Dubai (United Arab Emirates)), Papua New Guinea, and the EU (primarily the United Kingdom).

Australian sheep meat exports to Asian markets totaled 193.2 million pounds in 2001, with mutton accounting for 79 percent of total sheep meat exports. Mutton accounted for 65 percent of Australia's sheep meat exports in 2001. Japan is the largest Asian market followed by Taiwan; however, exports to Malaysia and Singapore grew considerably during the period. Mutton is primarily sold in these Asian markets through small food service outlets and to a lesser extent wet markets (mass markets) for in-home consumption.⁹⁰ Australian lamb meat exports to Asian markets rose from a low of 19.5 million pounds (product weight equivalent) in 1998 to 32.9 million pounds in 2001, or by 69 percent. Exports of lamb meat to China grew from 163,142 pounds in 1997 to 8.0 million pounds in 2001, and accounted for 24 percent of Australian exports to Asia. A large share of the growth in Australian lamb meat exports consists of lower value products (which are not traditionally in strong demand in existing markets) and includes such cuts as the neck, shoulders, and briskets.⁹¹ Lamb meat promotional and educational programs aimed at both the retail and food service sector have contributed to the increase in Asian lamb meat consumption.

⁸⁹ USDA, FAS, FASonline, *Sheep and Goats*, found at <http://www.fas.usda.gov>, retrieved Aug. 29, 2002.

⁹⁰ MLA, South Asia sheepmeat, found at <http://www.mla.com.au>, retrieved Sept. 3, 2002.

⁹¹ Ibid.

Australian mutton exports to South Africa rose from 45.7 million pounds (product weight equivalent) in 1997 to 71.3 million pounds in 2001, or by 56 percent. The increase in exports to South Africa reflects a shortage of domestic stock in that country due to flock rebuilding and also a growth in domestic mutton consumption.⁹² The increase in exports to South Africa was primarily made up of low-valued product.⁹³

Exports of sheep meat to North America rose from 81.6 million pounds in 1997 to 170.4 million pounds (product weight) in 2001. The United States accounted for 59 percent of Australian exports to the North American market, followed by Mexico with 35 percent and Canada with 6 percent. The increase in exports to the North American markets reflects low supplies of domestic sheep in these markets.⁹⁴ In addition, lamb meat exports to the United States were subject to a tariff rate quota (TRQ) in July 1999, which served to curtail Australian exports to the United States.⁹⁵ The TRQ ended in November 2001, and Australian lamb meat exports to the United States are expected to continue to increase.⁹⁶ Mutton exports to the United States have also increased.

Saudi Arabia and the United Arab Emirates (UAE) are the largest markets for Australian mutton in the Middle East. Such exports consist largely of frozen carcasses and bone-in cuts and are often consumed by migrant workers employed in oilfields, construction sites, and service industries. Such meat is seen as a low-cost protein source, competing with poultry, manufacturing beef, and buffalo.⁹⁷

Australia is the world's largest exporter of live sheep. Such exports trended downward from 5.2 million animals in 1997 to 4.9 million animals in 2000, then rose to 5.9 million animals in 2001 (table B-25). Approximately 79 percent of Australia's live sheep exports originate from Western Australia⁹⁸. The principal market for live sheep exports was the Middle East.⁹⁹ The demand for live sheep imports in the Middle East is driven in part by a preference for freshly slaughtered sheep meat processed in accordance with Islamic religious beliefs. Saudi Arabia was the single largest market in 2001 for live sheep exports, importing 2.1 million animals; Kuwait was the second-largest market, taking 1.5 million animals, the United Arab Emirates was third with 0.7 million animals; and Jordan fourth with 0.5 million animals.¹⁰⁰ Australian live sheep exporters abandoned the Saudi Arabian market over 10 years ago because of repeated rejections by Saudi Quarantine Service.¹⁰¹ Factors contributing to the

⁹² USDA, FAS, *Sheep*, found at <http://www.fas.usda.gov>, retrieved Aug. 12, 2002.

⁹³ *Ibid.*

⁹⁴ Sheepmeat Council of Australia (SCA), fact sheet, *Sheepmeat Market Update 1999/2000*, Feb. 2001, found at <http://www.farmwide.com.au>, retrieved Aug. 23, 2002.

⁹⁵ MLA, *US Sheepmeat Market*, found at <http://www.mla.com.au>, retrieved Sept. 3, 2002.

⁹⁶ USDA, ERS, *Lamb and Mutton Production Lower, Imports Increase to Meet Demand*, found at www.ers.usda.gov, retrieved Sept. 9, 2002.

⁹⁷ MLA, *The Middle East as a sheepmeat market*, found at <http://www.mla.com.au>, retrieved Sept. 3, 2002.

⁹⁸ MLA, Australia's Sheepmeat Industry Fast Facts, June 2000, found at <http://www.mla.com.au/uploads/templates/otherpdf/FFSheep01.pdf>, retrieved Sept. 10, 2002.

⁹⁹ MLA, Sheep exports, found at <http://www.mla.com.au>, retrieved Sept. 10, 2002.

¹⁰⁰ MLA, Live export Media Release, *Livestock Exports ride on the sheep's back*, Feb. 4, 2002, found at <http://www.mla.com.au>, retrieved Sept. 10, 2002.

¹⁰¹ USDA, FAS, GAIN Report #SA0007, *Saudi Arabia Livestock Australia Resumes Exports of Live Sheep to Saudi 2000*, Mar. 11, 2000, found at <http://www.fas.usda.gov>, retrieved Sept. 11, 2002.

increase in Australian live sheep exports to the Middle East included the reentry of Saudi Arabia as an export market, the depreciation of the Australian dollar, strong oil prices, and the banning of live sheep imports from other supplying countries due to the prevalence of FMD and other animal diseases.

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 wool and meat. The most common breed is the Romney, a breed not commonly raised in the United States. Sheep meat exports are vital to the New Zealand sheep industry because the domestic market is too small to absorb the quantity of production.

Sheep in New Zealand require no shelter and little or no supplement feed (grain) because grazing is available in most of New Zealand throughout the year. Loss of sheep to predators appears to be negligible. Farmer-owned cooperatives account for most of New Zealand's sheep/lamb meat processing sector.

Sheep on New Zealand farms declined from 46.8 million animals in 1997 to 44.0 million animals in 2001 (year ending June 30) (table B-26). The decline in sheep numbers reflects a continuing shift to other land uses (such as deer, forestry, and dairy), drought conditions, and farming policy shifts from sheep to beef.¹⁰² Production of live lambs (lamb crop), as measured by the number of lambs tailed (docked), declined from 38.5 million animals in 1997 to 34.9 million animals in 1999, then rose to 36.0 million animals in 2001. The increase in lamb production during 2000-01 reflects a decrease in sheep slaughterings (retaining more ewes for breeding purposes) and to record lambing percentages,¹⁰³ which rose to 119 percent up from 108 percent in 1998 (table B-26).

During 1997-2001,¹⁰⁴ New Zealand's sheep meat production (cwe) increased by 3.5 percent to 1.2 billion pounds in 2001 (table B-27). Lamb meat production totaled 955 million pounds in 2001, accounting for about 77 percent of total sheep meat production. Mutton production totaled 284 million pounds in 2001. Changes in the volume of production generally reflect the number of lambs and adult sheep slaughtered, as well as the average carcass weight.

New Zealand is the world's largest exporter of sheep meat, accounting for about 52 percent of world sheep meat exports annually.¹⁰⁵ Exports accounted for about 94 percent of New Zealand's sheep meat production annually during 1997-2001. Lamb meat exports declined from 888 million pounds in 1997 to 860 million pounds in 1999, then rose to 935 million pounds in 2001 as shown in table B-27. Mutton exports fluctuated and totaled 243 million

¹⁰² Ministry of Agriculture and Forestry, New Zealand, found at www.maf.govt.nz, retrieved Sept. 11, 2002.

¹⁰³ The lambing rate is the lambs tailed (docked) as a percentage of ewes mated in the previous autumn.

¹⁰⁴ Yearend September 30.

¹⁰⁵ Data collected from FAO, FAOSTAT Database, found at <http://apps1.fao.org>, retrieved Sept. 19, 2002. Includes data for calendar years 1997-2000 and excludes intra-EU trade.

pounds in 2001. Changes in the quantity exported (like production) generally reflected the number of lambs/sheep slaughtered and the average export carcass weight.

The share of New Zealand lamb meat exported in the form of carcasses has decreased, while the share exported in the form of bone-in cuts has increased. Table B-28 shows New Zealand's exports by type for 1997-2001. During this time, exports of bone-in cuts increased from 75 percent to 89 percent of total lamb meat exports, while exports of lamb carcasses fell from 23 percent to 9 percent. Boneless lamb exports remained constant, accounting for 2 percent. Shipments of chilled product versus frozen products also grew during the period. Exports of mutton on a product-weight basis generally declined during the period.

New Zealand's sheep meat exports on a product-weight basis declined from 782 million pounds in 1997 to 715 million pounds in 1999, then rose to 787 million pounds in 2001 (table B-29). Lamb meat makes up between 82 and 85 percent of these exports. The EU is the largest market for New Zealand sheep meat exports and accounted for 53 percent, by quantity, of lamb meat and mutton exports respectively. Other significant exports market areas include Asia, North America, Pacific,¹⁰⁶ and the Middle East.

The United Kingdom is the largest single market, accounting for 22 percent of total lamb meat exports by quantity in 2001. Other significant EU markets included Germany, France, and Belgium. Although total lamb meat exports to the EU rose in 2001 compared with the 2000 level, exports to the United Kingdom declined (table B-30). Concern over an oversupply of sheep meat in the British market as a result of FMD outbreaks resulted in a shift of New Zealand sheep meat exports from the United Kingdom to other EU countries, primarily Germany and France.¹⁰⁷ The increase in New Zealand lamb meat exports to Germany also reflected dissatisfaction by consumers to domestic beef due to Bovine Spongiform Encephalopathy (BSE) concerns.¹⁰⁸ The United Kingdom and Germany are the largest export markets for mutton. Such exports consist mainly of cuts or boneless (chilled or frozen) product used in the manufacturing meat sector.

Asia is the second-largest export market region for New Zealand mutton exports and the third-largest region for lamb meat (table B-30). Exports of sheep meat to Asian markets generally rose during the period, totaling 104 million pounds in 2001 (product weight), reflecting in part Asia's improved economy and growing demand. China has become an important lamb meat export market, especially for low-valued cuts such as breasts and flaps. Exports to China grew from 8.5 million pounds in 1997 to 41.6 million pounds in 2001.¹⁰⁹ Taiwan, Malaysia, and Japan were the largest markets for New Zealand mutton, accounting

¹⁰⁶ Pacific as identified in *Meat New Zealand, Annual Report 2000-01*, includes American Samoa, Australia, Cook Islands, Federation States of Micronesia, Fiji, Guam, Northern Marianas, New Caledonia, Norfolk Island, Niue, Pacific Island Trust Territory, French Polynesia, Papua New Guinea, Tonga, Tuvalu, Vanuatu, Wallis and Futuna Islands, and Western Samoa.

¹⁰⁷ *Meat New Zealand, Annual Report 2000-01*, p. 10.

¹⁰⁸ The EU has been plagued with another animal disease, Bovine Spongiform Encephalopathy (BSE), also known as "Mad Cow Disease." BSE is a fatal degenerative disease affecting the central nervous system of cattle. BSE has had a significant impact on the EU cattle industry and has caused financial losses to EU cattle producers.

¹⁰⁹ *Meat New Zealand, Annual Report 2000-01*, p. 16.

for 39, 30, and 19 percent, respectively, of the total. Exports to Taiwan have benefitted from a reduction in Taiwan import tariffs on sheep meat.¹¹⁰

North America is New Zealand's third-largest sheep meat market, with lamb meat exports accounting for 93 percent of total sheep meat shipments to North America in 2001. New Zealand lamb meat exports to North America increased from 52 million pounds (product weight) in 1997¹¹¹ to 88 million pounds in 2001 (table B-29). Exports to the United States grew by 28 percent despite the imposition of a TRQ, reflecting a shift to exports of higher-value chilled cuts as well as a weak New Zealand dollar.¹¹² The United States annually accounted for about 6 percent of New Zealand's lamb meat exports during 1997-2001. Exports to Mexico and Canada also rose during the period.

New Zealand's exports to the Pacific and the Middle East, the fourth- and fifth-largest markets for sheep meat, declined during 1997-2001. Papua New Guinea and Fiji were the major markets in the Pacific and Saudi Arabia and Jordan were leading markets in the Middle East. The decline in exports to these markets reflects in part limited production and a shift of product to higher-value markets such as the United States and the EU.¹¹³

Live sheep exports compete directly with the slaughter of sheep for the export market.¹¹⁴ Live sheep exports dropped to zero in 2000 from 166,600 animals in 1997 (table B-31). Exports resumed in 2001 and totaled 32,800 animals. Factors contributing to the decline in livestock exports include competitive export prices for lamb meat and mutton, age restriction requirements on lamb exports, a preference for Awassi¹¹⁵ sheep (the dominant breed of sheep in the Middle East¹¹⁶ but one which has limited production in New Zealand), and competition from lower-priced Australian live sheep exports.¹¹⁷

¹¹⁰ USDA, FAS, GAIN Report #NZ2027, *New Zealand Livestock and Products, Annual 2002*, Sept. 5, 2002, p. 16.

¹¹¹ USITC, *Lamb Meat*, inv. No. TA-204-3, pub. No. 3389, Jan. 2001, p. V -9.

¹¹² USDA, FAS, GAIN Report, *New Zealand Livestock and Products Annual 2001*, found at <http://www.fas.usda.gov>, retrieved Sept. 17, 2002.

¹¹³ USDA, FAS, GAIN Report NZ2027, *New Zealand Livestock and Products Annual 2002*, Sept. 5, 2002, p. 16.

¹¹⁴ Meat and Wool Economic Service of New Zealand, *Annual Review of the New Zealand Sheep and Beef Industry 1999-2000*, p. 23.

¹¹⁵ Awassi sheep are raised for their milk, meat, and wool production.

¹¹⁶ Western Australia, Department of Agriculture, found at <http://www.agric.wa.gov.au/agency/pubns/farmnote/1994/f06894.htm>, retrieved Sept. 20, 2002.

¹¹⁷ The Economic Service, *Annual Review of the New Zealand Sheep and Beef Industry 2000-01*, p. 23.

The EU sheep population totaled 94.2 million animals in 2001, with the United Kingdom, Spain, Italy, and France accounting for 29, 26, 12, and 10 percent of the total, respectively (table B-19).¹¹⁸ Sheep are kept for the production of meat (mostly lamb), dairy products, and wool. Many operations that keep sheep also raise cattle. Sheep are generally grass fed. Table B-32 shows EU sheep meat production, imports, and exports for major EU sheep-producing countries. The United Kingdom was the leading sheep meat producer and accounted for 27 percent of EU sheep meat production in 2001, followed by Spain (25 percent) and France (14 percent).

EU sheep meat production declined by about 10 percent in 2001 from year-earlier levels. The outbreak of FMD in the EU, primarily the United Kingdom, disrupted the EU livestock sector resulting in large economic losses and restrictions to trade. The FMD outbreaks restricted livestock and livestock products movement within the EU and also affected EU exports (primarily beef and pigmeat). Meat exports declined in 2001 as the result of import bans in a number of third countries due to FMD and BSE. In the United Kingdom, over 4 million livestock animals were slaughtered, of which about 3.5 million were sheep as a result of the FMD outbreaks. The United Kingdom and several other EU countries were removed from the Office International des Epizooties (OIE)¹¹⁹ list of countries free of FMD. Thus, shipments of animals and animal products from the EU were generally blocked by potential importing countries. The United Kingdom regained its previously recognized status of “FMD free country where vaccination is not practiced” on January 22, 2002.¹²⁰

The bulk of EU sheep meat production is consumed within the EU. The following tabulation shows EU intra and non-intra EU sheep meat trade, 2000 (metric tons), (Source: FAO):

EU	Imports	Exports
Intra EU	210,117	192,712
Non-intra EU	<u>221,431</u>	<u>3,571</u>
Total	<u>431,548</u>	<u>196,283</u>

EU imports of sheep meat totaled 432,000 metric tons in 2000 (latest data available). Much of these imports occur between member states. The United Kingdom and Ireland are the major exporters of sheep meat within the EU, and France is the major importer. The United Kingdom imports the most lamb and mutton from outside the EU.

¹¹⁸ International Wool Textile Organisation, *Wool Statistics*, 2000-01, ISSN 0260-2016, p. 27.

¹¹⁹ The Office International des Epizooties (OIE), is an intergovernmental organization whose mission includes developing sanitary rules for international trade in animals and animal products. OIE standards are recognized by the WTO as reference international sanitary rules. Found at <http://www.oie.int/eng>, retrieved Aug. 20, 2002.

¹²⁰ OIE, *Foot and Mouth Disease in the United Kingdom*, restoration of free status without vaccination- 22 Jan. 2002, found at <http://www.oie.int/eng>, retrieved Aug. 20, 2002.

New Zealand is by far the largest supplier of non-intra EU sheep meat imports; such imports totaled 189,798 metric tons in 2001, up 4 percent from 2000 (183,136 mt).¹²¹ Lamb meat accounted for 84 percent of the total New Zealand sheep meat imported and mutton accounted for the remainder. The United Kingdom is the major EU market for New Zealand sheep meat, accounting for 41 percent of New Zealand's exports to the EU in 2001. Such imports into the United Kingdom declined by 7 percent (in quantity) from year-earlier levels. An import ban on UK sheep meat as a result of FMD outbreaks resulted in New Zealand redirecting sheep meat exports to other EU member states. The ban on UK sheep meat exports created an increase demand for New Zealand sheep meat in other EU countries, principally Germany and France.¹²² German imports from New Zealand rose 17 percent from 2000, and French imports from New Zealand rose by 20 percent. The other significant non-intra EU supplier of sheep meat into the EU was Australia. Such exports totaled 17,916 mt (product weight) in 2001. The United Kingdom was the primary market, accounting for 56 percent of Australian sheep meat exports to the EU. Historically, Australian shipments of sheep meat to the EU consisted primarily of mutton; however, the share of sheep meat shipments to the EU that consists of lamb meat grew in the 1990s and accounted for more than 65 percent of shipments in 2001, up from 34 percent in 1995.¹²³

As a result of concessions made under the Uruguay Round Agreement, imports of sheep meat into the EU became subject to a tariff-rate quota. The EU in-quota quantities, 283,825 metric tons (carcass weight equivalent), enter duty free.¹²⁴ The over-quota rate ranges from 12.8 percent plus 902 €/per metric ton (US\$807 with 2001 exchange rate) to 12.8 percent plus 3,118 €/ton (US\$2,791) depending on the HTS subheading.¹²⁵ Industry sources report that the over-quota tariff rates are so high as to be import prohibitive. The in-quota tariff quota is country-specific with New Zealand allocated 226,700 metric tons and Australia allocated 18,650 metric tons. There is no specific in-quota allocation concerning imports with respect to the United States.¹²⁶

The EU provides benefits to sheep growers in the form of "ewe premium payments." In December 2001, reforms were made to the sheep annual premium scheme, including the way benefits are paid to sheep farmers. These reforms became effective January 1, 2002. The principal modification provides for a flat rate ewe premium payment replacing the deficiency payment (the difference between the average EC market price and a guide price). The scheme is fully funded by the EU. For the 2002 production year, the value of ewe premium

¹²¹ Meat New Zealand, *Annual Report 2000-01*, pp. 22 and 23. Quantity reported on a product weight basis.

¹²² *Ibid.*, p. 10.

¹²³ Meat and Livestock Australia, *Marketing Australian Red Meat Around the World*, Australia Meat Exports by Destination, found at <http://www.mla.com>, retrieved Aug. 15, 2002.

¹²⁴ Official Journal of the European Communities, *Tariff and Statistical Nomenclature on the Common Custom Tariff*, L279 Legislation, ISSN 0378-6978, Vol. 44, Oct. 23, 2001, found at <http://www.eurunion.org/legislat/customs.htm#TARIFFSCHEDULE>, retrieved Aug. 14, 2002.

¹²⁵ Exchange rate: U.S. dollar .8952 per Euro annual 2001. Board of Governors of the Federal Reserve System, *Foreign Exchange Rates*, found at <http://www.federalreserve.gov/releases/g5a/current>, retrieved Aug. 15, 2002.

¹²⁶ Official Journal of the European Communities, *Tariff and Statistical Nomenclature on the Common Custom Tariff*, L279 Legislation, ISSN 0378-6978, Vol. 44, Oct. 23, 2001, found at <http://www.eurunion.org/legislat/customs.htm#TARIFFSCHEDULE>, retrieved Aug. 14, 2002.

payment is set at €21 per ewe plus a national envelope of €1.20 per ewe.¹²⁷ The national envelope provides extra funding allocations (€72 million for the entire EU) to member states to provide more flexibility in the ways that the sheep sector is supported.¹²⁸ The premium is independent of lamb price and is payable in total in one payment in October of each year. An additional €7 is payable to those producers keeping sheep in Less Favoured Areas (Rural World Premium). Total EU expenditures for the sheep meat and goatmeat sector totaled €1,447.3 million in 2001, accounting for about 3.4 percent of EU's Common Agriculture Program (CAP) expenditures that year.¹²⁹

A scheme for Private Storage Aid (PSA), whereby a quantity of sheep meat can be removed from the marketplace for a temporary period to relieve short-term oversupply was adopted by the EU Sheepmeat Management Committee in September 1999.¹³⁰ Under the scheme, a total of 2,700 metric tons of sheep meat can be stored, with the United Kingdom allocated 2,350 metric tons, Ireland 250 metric tons, and Finland 100 metric tons.¹³¹ The aid rate is fixed at €1,400 per metric ton of frozen lamb placed in storage for 3 months, with additional aid of €1.45 per metric ton per day, for additional storage up to 7 months.¹³²

The EU is a major live sheep exporter; however, most trade occurs between member states. In 2000, EU exports amounted to 2.2 million sheep.¹³³ Such exports generally represented sheep other than pure-bred breeding animals.

¹²⁷ Department of Environment, Food & Rural Affairs, *Sheep Annual Premium Scheme*, found at <http://www.defra.gov.uk/farm/schemes/cssapsn.htm>, retrieved Aug. 16, 2002.

¹²⁸ Agra Europe, *Council finalises EU sheep reform deal*, No. 1983, Dec. 21, 2001, p. EP/1.

¹²⁹ Agra Europe, *CAP underspent by €2bn in 2001*, No. 1983, Dec. 21, 2001, p. EP3.

¹³⁰ The Sheepmeat Sector, 1.6 The EU Sheepmeat Regime, found at <http://www.irlgov.ie/daff/shm1-6.htm>, retrieved Apr. 18, 2000.

¹³¹ Agra Europe, No. 1868, Commission grants sheep meat PSA scheme, Sept. 24, 1999, p. EP/6.

¹³² South Pressure Gets EU Boost for Beleaguered Lamb Market, MAFF news release, found at <http://www.maff.gov.uk>, retrieved Apr. 18, 2000.

¹³³ Sheepmeat and goatmeat - EU trade, by species, found at http://europa.eu.int/comm/agriculture/agrista/2001/table_en/en41731.pdf, retrieved Dec. 16, 2002.

APPENDIX A
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 normal trade relations rates; many general rates have been eliminated or are being reduced due to 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) (Cuba, Laos, and North Korea) plus Serbia and Montenegro, which are subject to the statutory rates set forth in *column 2*. Specified goods from designated general-rate countries may be eligible for reduced rates of duty or duty-free entry under preferential tariff programs, as 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 list countries covered by a total or partial embargo.

The *Generalized System of Preferences* (GSP) affords nonreciprocal tariff preferences to designated beneficiary developing countries. The U.S. GSP, enacted in title V of the Trade Act of 1974 for 10 years and extended several times thereafter, applies to merchandise imported on or after January 1, 1976, and before the close of September 30, 2001. Indicated by the symbol "A", "A*", or "A+" in the special subcolumn, GSP provides duty-free entry to eligible articles the product of and imported directly from designated beneficiary developing countries (see HTS gen. note 4). Eligible products of listed sub-Saharan African countries may qualify for duty-free entry under the *African Growth and Opportunity Act* (AGOA) (see HTS gen. note 16) through September 30, 2008, as indicated by the symbol "D" in the special subcolumn; see subchapter XIX of chapter 98.

The *Caribbean Basin Economic Recovery Act* (CBERA) affords nonreciprocal tariff preferences to designated developing countries in the Caribbean Basin area. 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 goods entered, or withdrawn from warehouse for consumption, on or after January 1, 1984. Indicated by the symbol "E" or "E*" in the special subcolumn, 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 (see HTS gennote 7). Eligible products of listed beneficiary countries may qualify for duty-free or reduced-duty entry under the *Caribbean Basin Trade Partnership Act* (CBTPA) (see HTS gen. note 17), through September 30, 2008, as indicated by the symbol "R" in the special subcolumn; see subchapter XX of chapter 98.

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; see also subchapter VIII of chapter 99.

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 from 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–Dec. 4, 2001) (see HTS gen. note 11).

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* (NAFTA), 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.

Preferential rates of duty in the special subcolumn followed by the symbol "JO" are applicable to eligible goods of Jordan under the *United States-Jordan Free Trade Area Implementation Act*, (JFTA) effective as of Dec. 17, 2001; see HTS gen. note 18 and subchapter IX of chapter 99.

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

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

APPENDIX B
STATISTICAL TABLES

Table B-1**U.S. sheep and lamb: Number of operations with sheep and lambs, inventory, breeding sheep, lamb crop, and lamb slaughter, 1997-2001**

Type	1997	1998	1999	2000	2001	Percent change 1997-01
Number of operations with sheep (<i>as of Jan. 1</i>)	72,680	68,550	66,800	66,100	65,120	(10)
Sheep and lamb inv (<i>1,000 animals; as of Jan. 1</i>)	8,024	7,825	7,215	7,032	6,965	(13)
Breeding ewes 1 yr and older (<i>1,000 animals</i>)	4,912	4,570	4,322	4,229	4,091	(17)
Replacement lambs under 1 year old	787	839	774	730	675	(14)
Rams 1 year old and older	220	203	203	206	201	(9)
Total breeding sheep	5,919	5,611	5,299	5,164	4,967	(16)
Lambing percentage per 100 ewes	109	110	109	109	110	1
Lamb crop (<i>1,000 animals</i>)	5,356	5,007	4,719	4,622	4,495	(16)
Lamb slaughter (<i>1,000 animals</i>)	3,687	3,583	3,502	3,287	3,071	(17)

Source: Number of operations with sheep, inventory, breeding ewes, and lamb crop compiled from USDA, NASS, *Sheep and Goats, Final Estimates 1994-98* and NASS *Sheep and Goats*, various issues. Lamb slaughter estimated by USITC staff based on data compiled from USDA, *Livestock Slaughter Annual Summary*, various issues.

Table B-2**Operations with sheep, by region, 1997-2001**

Region	1997	1998	1999	2000	2001
Western States	29,900	27,150	26,500	26,500	26,120
Corn Belt	26,700	24,900	24,700	24,500	23,900
Other	16,080	16,500	15,600	15,100	15,100
Total	72,680	68,550	66,800	66,100	65,120

Source: Compiled from USDA, NASS, *Sheep and Goats*, various issues.

Table B-3**U.S. sheep population, by region, 1997-2001**

Region	As of January 1—				
	1997	1998	1999	2000	2001
	1,000 animals				
Western States	6,206	6,212	5,649	5,460	5,359
Corn Belt	1,221	1,150	1,126	1,135	1,180
Other	597	463	440	437	426
Total	8,024	7,825	7,215	7,032	6,965

Source: Compiled from USDA, NASS, *Sheep and Goats*, various issues.

Table B-4**Lamb meat and mutton; fresh, chilled, or frozen: U.S. production, exports of domestic merchandise, imports for consumption, and apparent U.S. consumption, 1997-2001**

Year	U.S. production ¹	U.S. exports ²	U.S. imports ³	Apparent U.S. consumption	Ratio of imports to consumption
1997	264	6	83	341	24.4
1998	254	6	113	361	31.1
1999	248	5	113	355	31.7
2000	238	5	129	362	35.6
2001	231	7	146	370	39.4
Value ⁴ (million dollars)					
1997	454	6	137	586	23.4
1998	385	7	161	538	29.8
1999	414	6	174	582	29.9
2000	411	6	201	606	33.1
2001	338	6	230	562	40.8

¹ Estimated by USITC staff.² Includes Schedule B headings 0204.10.0000, 0204.21.0000, 0204.22.0000, 0204.23.0000, 0204.30.0000, 0204.41.0000, 0204.42.0000, and 0204.43.0000.³ Includes HTS subheadings 0204.10.00, 0204.21.00, 0204.22.20, 0204.22.40, 0204.23.20, 0204.23.40, 0204.30.00, 0204.41.00, 0204.42.20, 0204.42.40, 0204.43.20, and 0204.43.40.⁴ Export value is FAS value and Import value is Customs value.

Note.—Because of rounding, figures may not add to the totals shown.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

Table B-5**Lamb meat; fresh, chilled, or frozen: U.S. production, exports of domestic merchandise, imports for consumption, and apparent U.S. consumption, 1997-2001**

Year	U.S. production ¹	U.S. exports ²	U.S. imports ³	Apparent U.S. consumption ⁴	Ratio of imports to consumption
1997	251	1	60	310	19.5
1998	242	1	78	319	24.5
1999	237	1	83	319	26.0
2000	228	1	95	321	29.4
2001	222	1	108	329	32.9
Value ⁵ (million dollars)					
1997	448	1	123	571	21.6
1998	379	2	141	518	27.2
1999	408	1	161	567	28.3
2000	405	1	183	587	31.2
2001	334	1	206	539	38.2

¹ Estimated by USITC staff. Includes Federally inspected, commercial, and farm slaughter.² Includes Schedule B headings 0204.10.0000 and 0204.30.0000.³ Includes HTS headings 0204.10.00, 0204.22.00, 0204.23.20, 0204.30.00, 0204.42.20 and 0204.43.20.⁴ Does not account for lamb in storage (stocks).⁵ Export value is FAS value and import value is Customs value.

Note.—Because of rounding, figures may not add to the totals shown.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

Table B-6**Mutton; fresh, chilled, or frozen: U.S. production, exports of domestic merchandise, imports for consumption, and apparent U.S. consumption, 1997-2001**

Year	U.S. production ¹	U.S. exports ²	U.S. imports ³	Apparent U.S. consumption	Ratio of imports to consumption
1997	13	5	23	31	73.6
1998	13	5	35	43	80.7
1999	11	5	29	36	82.0
2000	11	4	34	40	84.8
2001	9	6	38	41	91.7
Value ⁴ (<i>million dollars</i>)					
1997	6	5	14	15	93.1
1998	6	5	19	20	97.8
1999	6	5	14	15	91.6
2000	6	5	17	19	92.3
2001	4	5	23	23	101.8

¹ Estimated by USITC staff. Mutton production derived by taking the number of FI sheep slaughtered times the average dressed sheep weight, figures in this report may differ from other USITC reports.

² Includes Schedule B headings 0204.21.0000, 0204.22.0000, 0204.23.0000, 0204.41.0000, 0204.42.0000, and 0204.43.0000.

³ Includes HTS subheadings 0204.21.00, 0204.22.40, 0204.23.40, 0204.41.00, 0204.42.40, and 0204.43.40.

⁴ Export value is FAS value and import value is Customs value.

Note.—Because of rounding, figures may not add to the totals shown.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

Table B-7**Live sheep and lambs: U.S. production, exports of domestic merchandise, imports for consumption, and apparent U.S. consumption, 1997-2001**

Year	U.S. production ¹	U.S. exports	U.S. imports	Apparent U.S. consumption	Ratio of imports to consumption
1997	5,356	1,407	46	3,995	1
1998	5,007	664	46	4,389	1
1999	4,719	445	52	4,326	1
2000	4,622	381	52	4,292	1
2001	4,495	384	85	4,196	2
Value (<i>million dollars</i>)					
1997	643	59	6	590	1
1998	478	28	5	455	1
1999	468	19	5	454	1
2000	495	18	5	483	1
2001	425	19	8	415	2

¹ Lamb crop.

Note.—Because of rounding, figures may not add to the totals shown.

Source: Quantity of production compiled from official statistics of the U.S. Department of Agriculture; value of production estimated by USITC staff; imports and exports compiled from tariff and trade data from the U.S. Department of Commerce, the U.S. Treasury, and the USITC.

Table B-8

Live sheep and lambs: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries, 1997-2001¹

	1997	1998	1999	2000	2001
	<i>Thousand dollars</i>				
U.S. exports of domestic merchandise:					
Mexico	57,395	26,750	18,066	17,350	18,558
Canada	890	1,139	814	284	75
All other	850	126	84	138	42
Total	59,135	28,015	18,964	17,772	18,675
U.S. imports for consumption:					
Mexico	32	35	31	20	13
Canada	6,244	5,175	4,980	5,442	8,046
All other	55	25	0	0	3
Total	6,331	5,235	5,011	5,462	8,062
U.S. merchandise trade balance:					
Mexico	57,363	26,715	18,035	17,330	18,545
Canada	-5,354	-4,036	-4,166	-5,158	-7,971
All other	795	101	84	138	39
Total	52,804	22,780	13,953	12,310	10,613

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

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 2001.

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

Table B-9**Meat of sheep: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries, 1997-2001¹**

Country	1997	1998	1999	2000	2001
<i>Thousand dollars</i>					
U.S. exports of domestic merchandise:					
Mexico	3,113	3,148	3,373	3,580	3,373
Canada	908	1,145	694	278	665
New Zealand	0	5	132	0	34
Australia	0	42	0	5	3
All other	2,238	2,856	1,729	1,697	1,938
Total	6,259	7,196	5,928	5,560	6,013
U.S. imports for consumption:					
Mexico	0	0	0	26	0
Canada	99	291	259	187	239
New Zealand	61,488	72,935	77,562	80,771	88,552
Australia	74,900	86,657	95,666	117,941	139,440
All other	984	812	951	1,621	1,391
Total	137,471	160,695	174,438	200,546	229,622
U.S. merchandise trade balance:					
Mexico	3,113	3,148	3,373	3,554	3,373
Canada	809	854	435	91	426
New Zealand	-61,488	-72,930	-77,430	-80,771	-88,518
Australia	-74,900	-86,615	-95,666	-117,936	-139,437
All other	1,254	2,044	778	76	547
Total	-131,212	-153,499	-168,510	-194,986	-223,609

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

Note.—Calculations based on unrounded data. The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products in 2001.

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

Table B-10**Live sheep and lambs: U.S. imports for consumption, by principal source, 1997-2001**

Source	1997	1998	1999	2000	2001
<i>Quantity (number of animals)</i>					
Canada	46,183	46,061	51,960	51,523	85,023
All other	50	58	39	23	19
Total	46,233	46,119	51,999	51,546	85,042
<i>Value (1,000 dollars)¹</i>					
Canada	6,244	5,175	4,980	5,442	8,046
All other	87	60	31	20	16
Total	6,331	5,235	5,011	5,462	8,062
<i>Unit value (dollars per animal)</i>					
Canada	135.21	112.35	95.84	105.63	94.64
All other	1740.00	1033.71	1794.87	869.57	842.11
Average	136.94	113.51	96.37	105.96	94.80

¹ Customs value.

Note.—Because of rounding, figures may not add to the totals shown.

Source: Compiled from tariff and trade data from the U.S. Department of Commerce, U.S. Department of Treasury, and the USITC.

Table B-11
Lamb meat and mutton: U.S. imports for consumption, by principal sources, 1997-2001

Source	1997	1998	1999	2000	2001
	Quantity (1,000 pounds, cwe)				
Australia	54,187	74,894	77,227	91,442	104,639
New Zealand	27,805	36,762	34,632	35,979	40,117
All other	1,043	667	656	1,484	956
Grand total	83,035	112,323	112,515	128,905	145,712
	Value(1,000 dollars) ¹				
Australia	74,900	86,657	95,666	117,941	139,440
New Zealand	61,488	72,935	77,562	80,771	88,552
All other	1,084	1,103	1,210	1,834	1,630
Grand total	137,471	160,695	174,438	200,546	229,622
	Unit value (dollars per pound)				
Australia	1.38	1.16	1.24	1.29	1.33
New Zealand	2.21	1.98	2.24	2.24	2.21
All other	1.04	1.65	1.84	1.24	1.71
Average	1.66	1.43	1.55	1.56	1.58

¹ Customs value.

Note.—Because of rounding, figures may not add to the totals shown.

Source: Compiled from tariff and trade data from the U.S. Department of Commerce, U.S. Department of Treasury, and the USITC.

Table B-12
Mutton: U.S. imports for consumption, by principal sources, 1997-2001

Source	1997	1998	1999	2000	2001
	Quantity (1,000 pounds, cwe)				
Australia	21,218	32,456	28,640	33,559	36,865
New Zealand	1,388	1,963	641	752	541
All other	1	90	182	31	102
Grand total	22,607	34,510	29,463	34,342	37,508
	Value(1,000 dollars) ¹				
Australia	13,178	18,392	13,425	16,758	23,183
New Zealand	836	1,033	259	311	234
All other	2	43	60	17	43
Grand total	14,015	19,472	13,744	17,085	23,460
	Unit value (dollars per pound)				
Australia	0.62	0.57	0.47	0.50	0.63
New Zealand	0.60	0.53	0.40	0.41	0.43
All other	2.30	0.48	0.33	0.54	0.43
Average	0.62	0.56	0.47	0.50	0.63

¹ Customs value.

Note.—Because of rounding, figures may not add to the totals shown.

Source: Compiled from tariff and trade data from the U.S. Department of Commerce, U.S. Department of Treasury, and the USITC.

Table B-13
Lamb meat: U.S. imports for consumption, by principal sources, 1997-2001

Source	1997	1998	1999	2000	2001
— Quantity (1,000 pounds, carcass weight equivalent) —					
Australia	32,969	42,438	48,587	57,883	67,774
New Zealand	26,417	34,799	33,991	35,227	39,576
All others	1,042	577	474	1,453	854
Total	60,428	77,813	83,052	94,563	108,204
— Value(1,000 dollars) ¹ —					
Australia	61,722	68,265	82,242	101,183	116,257
New Zealand	60,653	71,903	77,303	80,460	88,318
All others	1,081	1,054	1,150	1,817	1,586
Total	123,456	141,222	160,694	183,461	206,161
— Unit value (dollars per pound) —					
Australia	1.87	1.61	1.69	1.75	1.72
New Zealand	2.30	2.07	2.27	2.28	2.23
All others	1.04	1.83	2.43	1.25	1.86
Average	2.04	1.81	1.93	1.94	1.91

¹ Customs value.

Note.—Because of rounding, figures may not add to the totals shown.

Source: Compiled from official statistics of the U.S. Department of Commerce, U.S. Department of Treasury, and the USITC.

Table B-14
Fresh, chilled, or frozen lamb meat: U.S. imports by principal sources and type, 1997-2001

Source	1997	1998	1999	2000	2001
— Quantity (1,000 pounds, carcass weight equivalent) —					
Australia:					
Fresh	16,158	25,367	30,083	38,635	50,997
Frozen	16,811	17,071	18,504	19,248	16,777
Total	32,969	42,438	48,587	57,883	67,774
New Zealand:					
Fresh	7,951	12,441	14,857	14,407	17,854
Frozen	18,466	22,358	19,134	20,819	21,723
Total	26,417	34,799	33,991	35,227	39,576
All other:					
Fresh	66	148	135	153	212
Frozen	976	429	339	1,300	641
Total	1,042	577	474	1,453	853
World:					
Fresh	24,175	37,956	45,076	53,196	69,063
Frozen	36,253	39,858	37,977	41,367	39,141
Total	60,428	77,813	83,052	94,563	108,204

Note.—Because of rounding, figures may not add to the totals shown.

Source: Compiled from tariff and trade data from the U.S. Department of Commerce, U.S. Department of Treasury, and the USITC.

Table B-15
Lamb meat: Fresh, chilled, or frozen lamb meat, by type, 1997-2001

Type	1997	1998	1999	2000	2001
	Quantity (1,000 pounds, carcass weight equivalent)				
Fresh:					
Carcasses	1,407	3,856	4,426	5,577	7,031
Bone-in cuts	1,367	21,405	26,631	31,341	40,775
Boneless	9,098	12,694	14,019	16,277	21,256
Total	24,175	37,956	45,076	53,196	69,063
Frozen:					
Carcasses	1,152	1,251	1,512	1,279	2,319
Bone-in cuts	25,996	29,104	25,862	29,691	27,846
Boneless	9,105	9,503	10,603	10,398	8,976
Total	36,253	39,858	37,977	41,367	39,141
Fresh and frozen:					
Carcasses	2,559	5,108	5,938	6,856	9,351
Bone-in cuts	39,667	50,509	52,492	61,032	68,621
Boneless	18,203	22,197	24,622	26,675	30,232
Total	60,428	77,813	83,052	94,563	108,204

Note.—Because of rounding, figures may not add to the totals shown.

Source: Compiled from tariff and trade data from the U.S. Department of Commerce, U.S. Department of Treasury, and the USITC.

Table B-16

Sheep and meat of sheep: Harmonized Tariff Schedule subheadings; description; U.S. col. 1 rate of duty as of Jan. 1, 2002; U.S. exports, 2001; and U.S. imports, 2001

HTS subheading	Suffix ¹	Brief description	Col. 1 rate of duty as of Jan. 1, 2002		U.S. exports 2001 (000 dollars)	U.S. imports 2001 (000 dollars)
			General	Special ²		
0104.10.00	00	Live sheep	Free		18,675	8,062
		Meat of sheep, fresh, chilled or frozen:				
0204.10.00	00	Carcasses and half-carcasses of lamb, fresh or chilled	0.7¢/kg	Free (A+,CA,D,E,IL,J,JO,MX)	421	6,801
		Other meat of sheep, fresh or chilled:				
0204.21.00	00	Carcasses and half-carcasses ³	2.8¢/kg	Free (A+,CA,D,E,IL,J,JO,MX)	44	49
0204.22		Other cuts with bone in:				
		Lamb:				
0204.22.20	10	Shoulders	0.7¢/kg	Free (A+,CA,D,E,IL,J,JO,MX)	(⁴)	6,836
0204.22.20	20	Legs	0.7¢/kg	Free (A+,CA,D,E,IL,J,JO,MX)	(⁴)	11,557
0204.22.20	30	Loins	0.7¢/kg	Free (A+,CA,D,E,IL,J,JO,MX)	(⁴)	35,054
0204.22.20	90	Other	0.7¢/kg	Free (A+,CA,D,E,IL,J,JO,MX)	(⁴)	44,494
0204.22.40	00	Other ³	2.8¢/kg	Free (A+,CA,D,E,IL,J,JO,MX)	(⁴)	17
0204.23		Boneless:				
0204.23.20	00	Lamb	0.7¢/kg	Free (A+,CA,D,E,IL,J,JO,MX)	(⁵)	25,482
0204.23.40	00	Other ³	2.8¢/kg	Free (A+,CA,D,E,IL,J,JO,MX)	(⁵)	8
0204.30.00	00	Carcasses and half-carcasses of lamb, frozen	0.7¢/kg	Free (A+,CA,D,E,IL,J,JO,MX)	743	2,086
		Other meat of sheep, frozen:				
0204.41.00	00	Carcasses and half-carcasses ³	2.8¢/kg	Free (A+,CA,D,E,IL,J,JO,MX)	293	5,071
0204.42		Other cuts with bone in:				
		Lamb:				
0204.42.20	10	Shoulders	0.7¢/kg	Free (A+,CA,D,E,IL,J,JO,MX)	(⁶)	2,859
0204.42.20	20	Legs	0.7¢/kg	Free (A+,CA,D,E,IL,J,JO,MX)	(⁶)	3,703
0204.42.20	30	Loins	0.7¢/kg	Free (A+,CA,D,E,IL,J,JO,MX)	(⁶)	1,687
0204.42.20	90	Other	0.7¢/kg	Free (A+,CA,D,E,IL,J,JO,MX)	(⁶)	56,498
0204.42.40	00	Other ³	2.8¢/kg	Free (A+,CA,D,E,IL,J,JO,MX)	(⁶)	16,523
0204.43		Boneless:				
0204.43.20	00	Lamb	0.7¢/kg	Free (A+,CA,D,E,IL,J,JO,MX)	(⁷)	9,105
0204.43.40	00	Other ³	2.8¢/kg	Free (A+,CA,D,E,IL,J,JO,MX)	(⁷)	1,792

¹ The suffix is not part of the legal HTS text.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); NAFTA of Canada (CA); Mexico (MX); African Growth and Opportunity Act (D); Caribbean Basin Economic Recovery Act (E); United States-Israel Free-Trade Area (IL); the Andean Trade Preference Act (J); and the United States-Jordan Free Trade Implementation Act (JO). See general notes to the HTS for more details on these programs.³ See subheading 9904.02.60. Sheep meat safeguard measure established pursuant to Article 5 of the Uruguay Round Agreement on Agriculture which allows for the imposition of additional duties based upon the quantity of goods imported into the United States. The duties are cumulative duties, which apply in addition to the duties, imposed in the tariff schedule. The amount of additional duties are 0.9¢ per kilogram.⁴ The value of U.S. exports is not available for this individual HTS subheading. However, total exports of fresh or chilled lamb and mutton cuts, with bone in was \$667,000 for 2001.⁵ The value of U.S. exports is not available for this individual HTS subheading. However, total exports of fresh or chilled boneless lamb and mutton was \$297,000 for 2001.⁶ The value of U.S. exports is not available for this individual HTS subheading. However, total exports of frozen lamb and mutton cuts, with bone in was \$2,872,000 for 2001.⁷ The value of U.S. exports is not available for this individual HTS subheading. However, total exports of frozen boneless lamb and mutton was \$674,000 for 2001.Source: Compiled from official statistics of the U.S. Department of Commerce and from USITC, *Harmonized Tariff Schedule of the United States* (2002), USITC publication 3477, 2002.

Table B-17**Live sheep and lambs: U.S. exports of domestic merchandise, by principal markets, 1997-2001**

Source	1997	1998	1999	2000	2001
Quantity (number of animals)					
Mexico	1,394,978	650,240	434,890	378,476	383,079
Canada	10,053	13,380	9,017	2,732	930
All other	1,908	525	1,400	208	245
Total	1,406,939	664,444	445,307	381,416	384,254
Value (1,000 dollars)					
Mexico	57,395	26,750	18,066	17,350	18,558
Canada	890	1,139	814	284	75
All other	850	125	84	138	42
Total	59,135	28,015	18,964	17,772	18,675
Unit value (dollars per animal)					
Mexico	41.14	41.14	41.54	45.84	48.44
Canada	88.49	85.14	90.34	104.10	80.30
All other	445.49	238.10	60.00	663.46	171.43
Average	42.03	42.16	42.59	46.59	48.60

Note.—Because of rounding, figures may not add to the totals shown.

Source: Compiled from tariff and trade data from the U.S. Department of Commerce, U.S. Department of Treasury, and the USITC.

Table B-18**Lamb meat and mutton: U.S. exports of domestic merchandise, by principal markets, 1997-2001**

Source	1997	1998	1999	2000	2001
Quantity (1,000 pounds, carcass weight equivalent)					
Mexico	3,480	3,174	3,188	4,038	4,657
Canada	542	687	449	196	475
All other	1,767	1,899	1,626	988	1,388
Total	5,790	5,760	5,263	5,222	6,520
Value (1,000 dollars)					
Mexico	3,113	3,148	3,373	3,580	3,373
Canada	908	1,145	694	278	665
All other	2,238	2,903	1,861	1,702	1,975
Total	6,259	7,196	5,928	5,560	6,013
Unit value (dollars per pound)					
Mexico	0.89	0.99	1.06	0.89	0.72
Canada	1.67	1.67	1.55	1.42	1.40
All other	1.27	1.53	1.14	1.72	1.42
Average	1.08	1.25	1.13	1.06	0.92

Note.—Because of rounding, figures may not add to the totals shown.

Source: Compiled from tariff and trade data from the U.S. Department of Commerce, U.S. Department of Treasury, and the USITC.

Table B-19
Sheep inventories: Major sheep-producing countries and areas, 1997 and 2001

Area	1997	2001	Percent change
<i>Millions of animals</i>			
China	114.1	134.9	18
Australia	120.2	113.3	(6)
Iran	51.5	53.9	5
New Zealand	47.0	45.3	(4)
India	40.0	40.0	0
Former Soviet Union:	60.8	49.2	(19)
Turkey	33.8	30.2	(11)
Argentina	13.2	13.4	(2)
Uruguay	17.9	13.0	(27)
United States	8.0	6.9	(14)
EU:			
United Kingdom	28.2	27.6	(2)
Spain	23.9	24.2	1
Italy	10.9	11.1	2
France	10.1	9.3	(8)
All other EU	23.0	22.0	(4)
Total EU	96.1	94.2	(2)
All other	380.4	411.5	8
World total	983.0	1005.8	2

Note.—Numbers in parenthesis are negatives.

Source: International Wool Textile Organisation (IWTO), *Wool Statistics*, 2000-01, ISSN 0260-2016, p. 27.

Table B-20
World sheep and lamb stocks, lamb and mutton imports and exports, by developing and developed countries, 2000-01

Category	Sheep population (1,000 animals)	Lamb and mutton:		
		Production	Imports	Exports
		<i>1,000 metric tons</i>		
Developing	675,215	4,461	271	44
Developed	380,969	3,072	604	889
Total	1,056,184	7,532	874	933

Note.—Sheep population based on 2001 data; lamb and mutton data based on 2000 data.

Source: Compiled from official statistics of Food and Agriculture Organization of the United Nations (FAO), found at <http://www.fao.org>, retrieved Aug. 12, 2002.

Table B-21
Sheep meat: Chinese production, imports, and exports, 1997-2001

Type	1997	1998	1999	2000	2001
<i>1,000 metric tons</i>					
Production	1,190	1,239	1,335	1,440	1,435
Imports	21	25	28	34	(¹)
Exports	(²)	(²)	(²)	1	(¹)

¹ Not available.

² Less than 500,000 metric tons.

Source: Compiled from official statistics of Food and Agriculture Organization of the United Nations (FAO), found at <http://www.fao.org>, retrieved Aug. 12, 2002.

Table B-22**Sheep and lambs: Australian total sheep inventory, number of ewes and lambs, and number of sheep slaughtered, 1997-2001**

Year	Number of					Sheep slaughtered	Lambs slaughtered
	Total sheep inventory	Breeding Ewes	Other sheep ¹	Lambs			
	<i>Million animals</i>						
1997	120.2	57.4	32.4	30.5		14.3	14.6
1998	117.5	55.7	31.8	30.0		16.3	15.0
1999	115.5	55.6	30.4	29.5		15.0	16.1
2000	118.6	54.8	33.1	30.7		15.6	17.6
2001	113.3	(²)	(²)	(²)		16.6	18.6

¹ Includes rams, wethers and non-breeding ewes.

² Not available.

Note.—Total sheep inventory, of ewes and lambs is for yearend March 31 for years 1997 to 1999; the collection period was changed in 2000 to June 30 to be better aligned with other ABS surveys.

Source: Sheep inventory, number of breeding ewes, other sheep, and lambs compiled from statistics of the Australian Bureau of Statistics, Australia Now, Agriculture Livestock, found at Internet address <http://www.abs.gov.au>, retrieved Aug. 26, 2002. Data on sheep and lambs slaughtered compiled from official statistics of the Department of Agriculture, Fisheries, and Forestry Australia (AFFA), Australian Food Statistics 2002, p. 40, found at <http://www.affa.gov.au>, retrieved Aug. 26, 2002.

Table B-23

Sheep meat: Australian production, exports by type, and exports as a share of production, 1997-2001

Type/year ¹	Production	Exports ²	Exports as a share of production
	<i>Million pounds, cwe</i>	<i>Million pounds, cwe</i>	<i>Percent</i>
Lamb:			
1997	622	155	25
1998	664	176	27
1999	703	199	28
2000	823	240	29
2001 ³	809	285	35
Mutton:			
1997	676	428	63
1998	697	498	71
1999	662	480	73
2000	766	511	67
2001 ³	767	520	68
Total sheep meat:			
1997	1,298	583	45
1998	1,361	675	50
1999	1,365	679	50
2000	1,589	751	47
2001 ³	1,576	805	51

¹ Year-end June 30.

² Australian Meat and Livestock Corp. (Predecessor to MLA) applied a factor of 2 to boneless mutton and lamb to derive a bone-in carcass weight equivalent.

³ Preliminary.

Note.—Because of rounding, figures may not add to the totals shown.

Source: Sheep meat production compiled from Department of Agriculture, Fisheries, and Forestry Australia (AFFA), *Australian Food Statistics 2002*, found at <http://www.affa.gov.au>, retrieved Aug. 26, 2002. Sheep meat exports for 1997-99 compiled from Australian Bureau of Statistics, Agriculture, Meat production and slaughterings, found at <http://www.abs.gov.au/ausstats/abs>, retrieved Aug. 27, 2002. Sheep meat exports for 2000-01 compiled from AFFA, found at <http://www.affa.gov.au>, retrieved Aug. 26, 2002.

Table B-24
Sheep meat, fresh, chilled, or frozen: Australian exports, by type, by selected markets, 2001¹

Market	Lamb meat	Mutton	Total sheep meat
	<i>1,000 pounds, cwe</i>		
Asia:			
Japan	17,214	47,563	64,777
Taiwan	2,967	44,624	47,591
Singapore	2,469	26,610	29,079
Malaysia	2,897	29,431	32,328
China	8,569	388	8,957
Other	7,156	3,347	10,503
Total Asia	41,273	151,963	193,235
North America:			
United States	75,129	40,243	115,372
Mexico	24,983	35,307	60,290
Canada	6,731	4,963	11,694
Total North America	106,843	80,513	187,356
Middle East:			
Saudi Arabia	4,403	68,008	72,411
Dubai (United Arab Emirates)	8,788	12,617	21,405
Kuwait	90	13,327	13,417
Abu Dhabi	2,745	1,878	4,623
Jordan	4,257	117	4,374
Other	1,138	17,608	18,746
Total Middle East	21,420	113,556	134,976
South Africa	21,297	76,542	97,839
Papua New Guinea	31,422	15,695	47,117
EU:			
United Kingdom	15,503	10,011	25,514
France	5,304	1,567	6,871
Belgium/Luxembourg	3,869	0	3,869
Other	2,639	7,582	10,221
Total EU	27,315	19,160	46,475
All other	35,199	62,342	97,541
Grand total	284,769	519,770	804,539

¹ Year-end June 30.

Note.—Because of rounding, figures may not add to the totals shown.

Source: Compiled from statistics of Department of Agriculture, Fisheries, Forestry Australia (AFFA), found at <http://www.affa.gov.au>, retrieved Aug. 26, 2002.

Table B-25
Live sheep: Australian exports, 1997-2001

Year	1,000 animals
1997	5,237
1998	4,961
1999	4,959
2000	4,859
2001	5,936

Source: Compiled from official statistics of the Department of Agriculture, Fisheries, and Forestry Australia (AFFA), Australian Food Statistics 2002, p. 40, found at <http://www.affa.gov.au>, retrieved Aug. 26, 2002.

Table B-26**Sheep and lambs: New Zealand total sheep inventory, ewes kept for breeding purposes, lambs docked, number of sheep and lambs slaughtered, and lambing percentage, 1997-2001¹**

Year	Total sheep inventory	Number of				Lambing percentage ²
		Breeding ewes	Lambs docked	Sheep slaughtered	Lambs slaughtered	
<i>Thousand of animals</i>						
1997	46,834	33,021	38,521	5,649	26,441	116.7
1998	45,956	32,355	34,854	5,866	27,063	107.7
1999	45,680	30,364	34,862	5,233	25,516	114.8
2000 ³	45,385	30,815	35,748	4,583	26,050	116.0
2001 ³	44,002	30,282	35,952	5,507	26,256	118.7

¹ The total number of sheep, ewes, and lambs docked (tailed) are for year-end June 30; the number of lambs slaughtered is for year-end September 30; and the lambing percentage is as of the spring of each calendar year.

² The number of lambs born per 100 ewes.

³ Estimated.

Source: Data compiled from statistics of The Economic Service (formerly New Zealand Meat & Wool Boards' Economic Service), *Annual Review of the New Zealand Sheep and Beef Industry 2001-02*, pp. 22-25.

Table B-27**Sheep meat: New Zealand production, exports by type, and exports as a share of production, 1997-2001**

Type/year	Production	Exports	Exports as a share of production
	<i>Million pounds, cwe</i>	<i>Million pounds, cwe</i>	<i>Percent</i>
Lamb:			
1997	924	888	96
1998	917	880	96
1999	884	860	97
2000	941	915	97
2001	955	935	98
Mutton:			
1997	273	236	86
1998	284	249	88
1999	258	223	86
2000	231	192	83
2001	284	243	86
Total sheep meat:			
1997	1,197	1,124	94
1998	1,201	1,129	94
1999	1,142	1,083	95
2000	1,172	1,107	94
2001	1,239	1,178	95

Note.—Because of rounding, figures may not add to the totals shown.

Source: Data derived from statistics of the New Zealand Meat & Wool Boards' Economic Service, *Annual Review of the New Zealand Sheep and Beef Industry 2001-02*, pp. 25-26.

Table B-28**Lamb meat: New Zealand exports by types, (product-weight basis), 1997-2001¹**

Item	1997	1998	1999	2000	2001²
	<i>Quantity (million pounds, product weight)</i>				
Carcasses	153.3	153.9	84.8	44.2	56.2
Bone-in cuts	494.4	476.9	527.1	578.3	588.9
Boneless	10.5	11.2	13.2	16.4	14.0
Total	658.2	642.0	625.2	638.9	659.1
	<i>Share of total percent</i>				
Carcasses	23	24	14	7	9
Bone-in cuts	75	74	84	91	89
Boneless	2	2	2	2	2
Total	100	100	100	100	100

¹ Year-end September 30.² Preliminary.

Note.—Because of rounding, figures may not add to the totals shown.

Source: Compiled from official statistics of Meat New Zealand, Annual Reports, various issues.

Table B-29**Sheep meat: New Zealand exports, by major markets, by type, 1997-2001**

Market	1997	1998	1999	2000	2001
	<i>Million pounds, product weight</i>				
EU:					
Lamb	357	344	326	343	350
Mutton	72	66	60	61	68
Total	428	410	386	404	418
Asia:					
Lamb	48	59	53	60	75
Mutton	36	33	32	26	29
Total	84	92	85	86	104
North America:					
Lamb	52	55	63	73	88
Mutton	7	7	6	5	6
Total	59	62	69	78	94
Pacific:					
Lamb	68	76	57	66	62
Mutton	11	8	8	5	7
Total	78	84	65	71	69
Middle East:					
Lamb	78	60	68	77	60
Mutton	8	10	6	5	5
Total	86	70	74	82	65
All other:					
Lamb	36	28	29	35	24
Mutton	8	7	6	9	12
Total	44	35	35	44	36
World:					
Lamb	639	622	596	654	659
Mutton	142	131	119	111	128
World total	782	753	715	765	787

Note.—Because of rounding, figures may not add to the totals shown.

Source: Data derived from statistics of Meat New Zealand, Annual Reports 98-99 and 2000-01.

Table B-30
Sheep meat: New Zealand exports, by selected markets, 1999-2001

Market	1999		2000		2001 ¹	
	Lamb	Mutton	Lamb	Mutton	Lamb	Mutton
<i>1,000 pounds, product weight</i>						
EU:						
UK	149,875	29,463	155,741	27,531	143,576	27,448
Germany	50,104	13,680	50,627	15,701	57,946	19,886
Belgium	30,468	5,725	30,660	5,077	27,911	6,916
France	36,500	2,972	44,767	4,107	53,321	5,324
Subtotal	<u>266,947</u>	<u>51,839</u>	<u>281,795</u>	<u>52,417</u>	<u>282,754</u>	<u>59,573</u>
Other	59,406	7,762	61,222	8,311	67,539	8,567
Total EU	326,352	59,602	343,017	60,729	350,292	68,140
Middle East:						
Saudi Arabia	35,012	1,210	42,512	829	34,657	1,082
Jordan	19,297	1,248	20,917	714	12,996	172
Subtotal	<u>54,309</u>	<u>2,458</u>	<u>63,429</u>	<u>1,543</u>	<u>47,653</u>	<u>1,254</u>
Other	13,909	3,843	13,913	3,697	11,936	4,195
Total Middle East	68,218	6,301	77,343	5,240	59,589	5,450
North America:						
United States	37,759	2,597	37,377	1,711	37,329	906
Mexico	11,078	2,595	20,882	2,529	30,986	4,974
Canada	14,619	1,008	14,751	772	19,892	536
Total North America ..	63,456	6,199	73,010	5,011	88,207	6,415
Pacific:						
Fiji	20,267	1,248	19,573	1,102	20,712	3,320
Papua New Guinea	19,414	5,860	27,778	2,577	21,572	2,573
Subtotal	<u>39,681</u>	<u>7,108</u>	<u>47,351</u>	<u>3,680</u>	<u>42,285</u>	<u>5,893</u>
Other	17,114	1,351	18,431	992	19,409	778
Total Pacific	56,795	8,459	65,782	4,672	61,694	6,671
Asia:						
Japan	20,723	5,333	17,436	4,482	18,812	5,582
Taiwan	1,396	12,161	1,579	9,749	2,136	11,360
China	18,137	597	27,789	302	39,410	2,176
Malaysia	3,236	5,320	3,931	6,843	5,183	8,891
Subtotal	<u>43,493</u>	<u>23,411</u>	<u>50,735</u>	<u>21,376</u>	<u>65,541</u>	<u>28,009</u>
Other	9,405	8,915	9,337	4,868	8,962	1,359
Total Asia	52,898	32,326	60,072	26,244	74,503	29,368
Subtotal of above	567,719	112,888	619,223	101,895	634,285	116,044
All other	28,561	6,173	34,588	9,156	24,447	11,854
Grand total	596,280	119,061	653,812	111,051	658,732	127,899

¹ Preliminary.

Note.—Because of rounding, figures may not add to the totals shown.

Source: Data derived from statistics of Meat New Zealand, Annual Reports, 98-99 and 2000-01.

Table B-31
Live sheep: New Zealand exports, 1997-2001

Year	Lambs	Total live sheep
	1,000 animals	
1997	1.7	166.6
1998	3.2	152.7
1999	1.1	84.7
2000	0.0	0.0
2001 ¹	0.0	32.8

¹ Estimate.

Source: The Economic Service, (formerly Meat and Wool Economic Service of New Zealand), *Annual Review of the New Zealand Sheep and Beef Industry 2000-01*, p. 23.

Table B-32
Sheep meat: EU production, imports and exports by major EU country, 1997 and 2000-01

Country	Production			Imports			Exports		
	1997	2000	2001	1997	2000	2001	1997	2000	2001
	1,000 metric tons								
EU:									
United Kingdom	321	359	258	124	109	(¹)	94	89	(¹)
Spain	229	232	240	9	11	(¹)	15	15	(¹)
France	141	133	135	150	169	(¹)	6	8	(¹)
Greece	89	78	78	14	19	(¹)	(²)	(²)	(¹)
Ireland	79	83	78	1	2	(¹)	45	53	(¹)
Italy	72	65	60	21	23	(¹)	2	2	(¹)
All other	100	106	103	86	99	(¹)	17	29	(¹)
Total EU	1,031	1,056	952	406	432	(¹)	181	196	(¹)

¹ Not available.

² Less than 500,000 kilograms.

Note.—Because of rounding figures may not add to the totals shown.

Source: Compiled from official statistics of the Food and Agriculture Organization of the United Nations, found at <http://www.fao.org>, retrieved Aug. 14, 2002.