



United States
Department of
Agriculture

Animal and
Plant Health
Inspection Service

Veterinary Services

Centers for
Epidemiology and
Animal Health

Center for
Emerging Issues

Electronic Report from APHIS

The Goat Industry: Structure, Concentration, Demand and Growth

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Introduction

The goat industry within the U.S. is growing, both in inventory and markets for goat products. The changing demographics of the U.S. population are credited with increasing demand for goat products at the same time that increased hobby farming has resulted in more goat farms. The small size of goats and their ability to forage on marginal rangeland has contributed to the popularity of this diminutive ruminant throughout the world. Goats are also excellent providers of milk, thereby contributing both milk and meat to the household. Because of the familiarity with goats that many cultures have, it is no surprise that as those cultures become established within the U.S. they demand those foods with which they are familiar. Therefore, considering the international popularity of goats and goat's milk, the growth in the goat industry will continue as long as the ethnic population within the U.S. continues to grow.

Most experts agree that the published goat population statistics for the U.S. are low. However, a more accurate estimate of the true population size of goats is complicated by their many uses, direct sales of goats to consumers with no passage through a traditional concentration point (auction, slaughter plant) and increasing demand resulting in rapid entry into the market. Additionally, goats are multi-purpose with cull dairy and hair goats often sold into the meat market. Goats can also be pets, show animals, 4-H projects and biotech product producers.

This report briefly describes the common uses of goats, estimated populations, movements and concentration points. Population estimates are included from the USDA agricultural census population, state estimates, industry associations and expert opinions. Uses for goats, meat, hair, milk and other products are also identified and determined. Sources of information include industry publications, industry newspapers and magazines and personal communications with members of the goat industry.

The goat is a multi-purpose animal with uses that range from companionship to commercial meat production. Products made from goat's milk can include cheese, yogurt, soap and pharmaceuticals. Goats are also excellent pack animals capable of moving through terrain that horses and mules cannot navigate. The preference of goats for a variety of browse not generally favored by cattle can be used to improve pasture or to control noxious weeds. Some of the most

luxurious fibers known to man, cashmere and mohair, are produced by goats. Goats are also instrumental in the 4-H program in teaching youth responsibility, self-confidence and respect for life. The goat industry groups that are discussed in this report are listed below. A unique characteristic of the goat industry is that goats may be raised for food or fiber production or may be pets. There is no readily available information about the number of pet goats in the U.S., so they are not included on this list. The showing circuit also plays an important role in the goat industry, but will be discussed here as subsets of the meat and dairy industries.

Goat Industry Groups

1. Meat (includes show)
2. Dairy (includes show, pygmy and Nigerian dwarf)
3. Fiber or Hair (angora, cashmere)
4. 4-H
5. Industrial (weed control, hiking/pack)
6. Biotech

The largest industry group is the meat goat group, followed by the dairy industry group. Production of goats for hair, whether cashmere or mohair, has declined substantially since the removal of USDA subsidies in 1995. Many of those producers, however, did not leave the goat industry but instead switched to producing meat goats. Industrial use of goats, for brush thinning, weed control or hiking and packing, occurs across the country. Weed control goats may be used only for that purpose, or owners may be taking advantage of cheap or free pasture to reach market weight as a meat goat or as forage for dairy does. Finally, the use of genetically modified goats to produce biotechnological products is documented within the U.S., but population estimates were not made. These animals are isolated and likely few in number, though their value may be significant.

Meat Goat Industry

Characteristics of Meat Goat Production Within the U.S.

Meat goat production within the U.S. is being driven by increasing ethnic diversity amongst consumers. Demand for goat meat exceeds the supply of the two largest exporters of goat meat to the U.S., Australia and New Zealand. Imports from other countries are limited by the disease status of livestock in those countries.

Consequentially, the increasing demand for goat meat in the U.S. cannot be met by the amount of goat meat exported from Australia and New Zealand and domestic production of goat meat has increased to meet the domestic demand.

The most important ethnicities driving the demand for meat goats are the Hispanic, Muslim, Caribbean and Chinese consumers. Each ethnicity demands a different product. Hispanic consumers prefer the cabrito, a young milk-fed goat with light colored fat. In Texas, this usually is a 50-pound live goat which results in a carcass less than 25 pounds (personal communication). Muslim consumers, depending on the occasion, will consume does or bucks of all sizes and ages. In all cases, Muslim consumers demand a goat slaughtered under the conditions of Halal and will often purchase live goats for home or religious slaughter. Caribbean consumers demand older bucks which are cooked over a long period of time and are highly spiced. No information on the type of animal demanded by Chinese consumers was available. While holiday demand for goat meat plays a part in demand, federal slaughter statistics seem to show that demand is steady throughout the year, indicating that goat may form a part of ethnic diets on a regular basis.

Goat Production Characteristics

The average farm herd size of meat goats in the U.S. is between 28 and 30 goats. Does remain productive for four to five years. Most does are bred twice within three years, though the commonness of multiple births means that a market kid per doe per year is not unexpected.

On farm, veterinary usage is low. Factors contributing to this are the lack of knowledge by veterinarians regarding the biology of the goat and a perception of unwillingness on the part of veterinarians to work with goats. Additionally, there is a lack of products with labeled uses for goats. Consequentially, veterinarians must prescribe off-label uses for available pharmaceuticals. Either there is an unwillingness to prescribe off-label use or a difficulty in formulating the appropriate usage of products for goats. There does not appear to be an expectation that pharmaceutical companies will develop products specifically for goats. Home remedies or industry practices have been developed that may not necessarily be beneficial to goat production. Some of these practices include using products for other livestock to treat goats, or treatment for parasites or hoof rot that have not proved to be effective on goats. (personal communication).

While there appear to be benefits to either grazing goats with cattle or alternating the two species to improve pasture, experts contacted did not see significant use of goats either with cattle or following cattle on pasture.

Marketing Meat Goats

Meat goat producers seeking the home sales or direct sales markets may tailor their breeding programs to have the most number of goats available to correspond to the major Muslim holidays. Some producers may find it easier to sell goats through local or regional auction markets that may not be as reactive to local ethnic demand. Managing a breeding program to match ethnic demand may be challenging, especially when producers are new to goats or not familiar with religious events that produce seemingly random demand surges for kids.

Demand for goat meat is also not for individual cuts of meat, but for portions of the carcass such as whole carcasses, quarters or sixths of the carcass. Traditional cooking methods, such as roasting and stewing, are more conducive to the use of these larger, bone-in portions, and so far, a demand for steaks, roasts or loins has not arisen.

While most experts agree that ethnic demand is driving the growth of the goat industry, the diversity of ethnicities demanding goats and their differing preferences for types of goat meat have resulted in two marketing avenues for goats.

The first path is direct sales of live goats to consumers. Producers may sell direct to consumers who slaughter the goats themselves, or the producer may provide the service by slaughtering the selected goats for the consumer. Another component of direct sales involves limited wholesaling, where live goat sales are made and then the animals are delivered via a marketing agreement or as part of a cooperative small-scale marketing program involving a limited number of farms to individual restaurants or small processors in a local metropolitan area. Groups of buyers may also join forces, especially at holidays, to purchase goats directly and may slaughter the goats according to religious specifications. The volume of direct sales is unknown, but it likely exceeds the federally inspected slaughter volume of 600 thousand head in fiscal year 2003.

The producers' other option, which has increased substantially in the past few years, is to sell live goats at an auction house. These auctions may be virtual, utilizing teleconferences or video, or live, where the

goats are delivered and bid on in the traditional manner. The goats are then delivered in trailer loads to metropolitan markets, which may be significantly distant from the site of the auction. Animals may be sold to small, religious or custom slaughter facilities where animals are processed according to the buyer's specifications. Alternatively, these animals may be delivered to large metropolitan areas where a number of slaughter houses process goats for the ethnic meat market. Cull animals may also be sold through auctions, though prices are significantly lower; these animals are processed by large slaughterhouses and the meat is sold at a discount at the retail level. Prices in 2004 for young goats were around \$1.00 to \$1.05 per pound, live, with maximum prices around \$1.40 per pound. Federally inspected slaughter in fiscal year 2003 was reported to be in excess of 600 thousand head.

The availability of Halal slaughter may be important in the continued development of goat markets as many of the ethnic groups demanding goat meat are Muslim. Kosher slaughter capacity may also be important as kosher slaughter may satisfy the requirements of Halal slaughter (Lawai). There are at least two large Halal slaughter facilities in Texas: one in Dallas/Fort Worth and one in Houston; Texas' federally inspected goat slaughter is second only to New Jersey. As ethnic populations develop in metropolitan areas across the country, demand for goat is growing and may no longer be concentrated in the coastal metro-ethnic centers. Demand for goat meat may also be high in university towns, where high concentrations of relatively affluent ethnic populations flourish, resulting in efforts to develop local Halal slaughter or group-direct purchases of goats from producers. In urban areas of Ohio where well-educated, well-employed Muslims reside, there is a \$0.50 – to \$1.00 premium for fresh goat over goat sold fresh in rural areas (personal communication).

Meat Goat Breeds

There are approximately eleven breeds of goats raised within the U.S. for meat. While initial goat production in the U.S. utilized goats for dual purposes, milk and meat, the increase in the production of goat meat in the U.S. has led to specialization in meat goat and dairy type breeds. Crossing meat type goats with dairy breeds ensures that a market for dairy offspring continues, but many meat goat producers are utilizing the genetic potential of the Boer goat to significantly improve the commercial characteristics of the U.S. goat herd. Importation of live goats for breeding purposes has been restricted by the incidence of disease in other

countries. Live goat imports in the last five years have only been from Canada or Australia, with imports of live Canadian goats into the U.S. ending in 2003. Essentially, since the initial influx of Boer or Kiko goats in the mid to late nineties, the U.S. meat goat breeding herd has been self-sustaining. The three major meat goat breeds are discussed below.

Boer

The introduction of Boer goats from South Africa in 1993 into the U.S. has been the most important event in U.S. goat meat production (American Boer Goat Association [ABGA]). The Boer goat is a large, impressive-looking animal, capable of three kiddings every two years (ABGA). Bucks can weigh between 240 - 300 pounds and does between 200 – 225 pounds (Breeds of Livestock, Oklahoma State University [OSU]). Twins are common and the breed reaches maturity early resulting in a young, large carcass. The incredible size of the Boer males and their impressive appearance has created a “mystique” that may have contributed to the rapid increase of U.S. goat ranching in the 1990s. However, as the Boer breed has spread across the U.S., there have been issues with fitness required for commercial livestock production. This may have occurred because, outside of the southwest, Boers are being raised in conditions different from their native South African climate, or as a result of herd management focused on the value of the pedigree versus suitability for commercial production. An increased use of crosses, especially with native Spanish type goats, seems to offer an opportunity to retain the best characteristics of the Boer goat while improving the commercial meat characteristics of the U.S. goat herd.

Kiko

The Kiko goat was developed from the native goats of New Zealand by the Goatex Group, LLC. The feral native New Zealand goats were captured and bred for superior meat production and an ability to produce that meat on pasture without supplemental feeding. The Kiko goat is large- framed and does well both in mountainous and arid conditions. Kiko goats have been introduced in limited numbers to the U.S. Much like the Boers, with their large frame size, the Kiko's natural feed efficiency and hardiness make them a welcome addition to the genetic pool of U.S. goat meat species (Kiko Goats Information Resource). It is expected that the Kiko goat may improve the productivity and quality of goat meat production in the southeastern U.S., where Boer goats have not proved as successful.

Spanish

The Spanish goat is a hardy U.S. goat developed from feral goats originally introduced by the Spanish explorers in the sixteenth century (OSU). Spanish goats developed without human intervention for hundreds of years. Once domesticated, the Spanish goats proved to be hardy animals that have recently been bred more intensively to improve meat characteristics (Luginbuhl, 2000). Goats of unknown or mixed ancestry may also be referred to as Spanish goats (OSU). The Spanish goat is a relatively small, agile goat that is being bred for increased size and preferred meat characteristics. Spanish goats are often crossed with the Boer goat to produce commercial meat goats. Continued use of the Spanish goats in cross-breeding programs may result in a loss of the genetic identity of Spanish goats (personal communication).

The Dairy Goat Industry

The dairy goat industry seems to differ significantly from the meat goat industry. While the meat goat industry is continuing to increase the use of commercial production characteristics begun in Texas utilizing the Boer goat, the dairy industry seems to have retained many small farms where the products are used either for home consumption or in the production of dairy products on a small scale. There are, of course, notable exceptions of large dairy herds supplying processors or producing milk on a large scale for commercial goat cheese production.

Uses of Goat Milk

Goat milk is slightly higher than cow's milk in fat content, 3.8 percent vs. 3.6 percent, although the Nubian breed averages fat content of 4.5 (Animal Improvement Programs Library [AIPL]). Higher fat content increases the amount of cheese that can be produced per gallon of milk, this fact contributes to goat milk's popularity in cheese making. Goat milk is also easier to digest than cow's milk and can usually be drunk by those who are unable to digest lactose from cow's milk. While goat's milk is the most commonly consumed milk worldwide (*Dairy Goats*, Ft. Valley State University [FVSU], 2004), the U.S. market for goat's milk is relatively small. The fluid goat milk market in the U.S. is dominated by a large California goat milk processor with estimated annual sales of less than \$10 million (Kentucky Agricultural Development Fund [KADF], 2003). This processor sells ultra-pasteurized milk with a 64-day shelf life and has a 100 percent buy-back program for any unsold milk at retail grocery stores. The processor's products are available

in most major grocery chains throughout the U.S., following its recent introduction of products to retail markets in the East. Transportation costs from California may hinder continued growth for the processor.

There may be limited or regional markets for goat's milk in natural or organic stores, though sales and demand for those outlets are unknown. Goat milk is also used as feed replacer for calves and foals, and local milk sales may be possible. Raw goat's milk has gained popularity as a health product promoted by organic as well as flavor purists. Goat's milk has the same risks as cow's milk when unpasteurized, but many people may be willing to trade flavor and perceived naturopathic benefits for potential disease risks. Since most states do not allow raw milk retail sales, most raw goat milk sales are likely to be direct from the farm and, therefore, no statistical estimates of the volume of sales is possible.

Significant limitations to goat milk production include the requirements to meet the Grade A dairy standard necessary to market milk. These standards vary by state, and since most were defined according to cows but are applied to goats, it may be difficult to receive the needed regulatory certification. Additionally, the standard somatic cell counts for indication of abnormal milk secretion in cows are not appropriate for goat's milk (Haenlein) though they are applied to goat's milk.

The fastest growing market for goat's milk is in the production of cheese. There are many producers of goat's milk cheese within the U.S., but the volume produced is small and about half of the goat's milk cheese consumed in the U.S. is imported (KADF, 2003). No single firm dominates goat cheese production within the U.S. In addition to gourmet cheeses produced for finer retail markets, there is a strong artisanal or farmstead cheese market through farmers' markets, local retailers and direct sales (in-person or internet). U.S. goat cheese producers have been able to compete well in the gourmet world of cheese, receiving multiple gold medals at international cheese competitions.

There are in excess of 100 goat cheese producers in the U.S., though exact numbers are difficult to determine because of the mixture of artisanal and commercial producers. Artisanal producers tend to raise their own goats and utilize the milk produced to create their cheeses. Herds may be small (under 30 does) and production may be seasonal depending on the dairy herd management strategy. Raw or pasteurized milk

may be utilized, depending on the cheesemaker's preference, and there is a market in the U.S. for both fresh, soft goat cheeses and aged hard goat's cheeses. "Chevre" is the French word that is also used in the U.S. to refer generically to goat's cheese. However, chevre is also a soft, white, unripened cheese that derives its flavor from goat's milk. Chabichou, feta, gjetost, and pyramide cheeses are all traditionally made from goat's milk, though goat's milk can be used to make any sort of cheese. Raw milk cheese is generally acceptable as long as it is aged for a period of time, which varies according to state regulation.

Showing appears to be a significant component of the dairy industry group. Goats may compete for conformation to breed standards as well as on milk productivity. Milk and cheese producers may participate by showing their animals and may purchase or sell breeding stock. Young dairy goats not retained for the herd or sold to other dairies may be sold as meat animals. Many dairy/meat breed crosses are sold this way, as a dairy goat crossed with a Boer goat will produce a kid suitable for the meat market while the retained doe provides milk for the dairy. Cull dairy goats may also be sold at local or regional auctions for eventual processing for the domestic frozen goat meat market. There is a significant discount on the price received for cull dairy goats when compared to young kids; however, there is a market for the meat of these animals.

Average dairy farm inventory was 13 across the U.S., though California had an average herd size of 29 and the average herd size in Wisconsin was 39. Sales of dairy goats, as reported in the 2002 census, were only five goats per all farms. For those farms making sales, 2002 average sales per farm were thirteen. Total average sales, for farms making sales, was 30 goats per farm.

Breeds of Dairy Goats

Goats may very well be the first domesticated ruminant. Their ability to provide both milk and meat was, and continues to be, very important in many rural cultures. However, as the U.S. goat industry has grown, and commercial meat production has increased, the past history of utilizing the dual purpose of goats for milk and meat has subsided somewhat. Producers of meat goats may utilize the larger dairy breeds (Nubians for instance), but it is more likely that dairy herds will utilize meat-type bucks to improve the marketability of dairy offspring for the meat markets.

The importance of registered, pedigreed dairy animals in both the breeding and showing components of dairy goat production has also reduced the influence of meat genetics in the dairy goat industry group. Additionally, many dairy producers do not choose to sell offspring into the meat market and to some extent, the dairy industry is not moving, as a whole, towards commercialization like the meat industry. The final product for the milk may also determine the breeds utilized, as the higher the butterfat, the more cheese each gallon of milk can produce. However, each of these breeds has reputations associated with the flavor of their milk and that, combined with butterfat content, may determine the breed dynamics of a working dairy herd.

Because of the emphasis in the dairy goat sector on the U.S. breed standards, dairy goats are not usually imported into the U.S. Since breed standards can vary significantly across countries, there is likely little incentive to import goats or goat genetics from other countries. Most of the live goats imported into the U.S. in the past were meat breeds. There has been limited importation of goat genetics (semen), with possibly 400 straws of non-meat breed goat semen imported in 2003. The following eight breeds include the dairy breeds recognized by the American Dairy Goat Association (ADGA), as well as the two miniature goat breeds gaining in both popularity and size as dairy goats.

Alpine (French-Alpine)

The Alpine is a large breed of dairy goat which may have a variety of coat colors (OSU). Alpines have erect ears, and multiple coat colors are acceptable. The Alpines are excellent milkers and can produce milk over an extended period of time (Hamby). The Alpine is the second most registered of the dairy breeds (Hamby). Average milk fat content for Alpines was 3.5 percent in 2003 and average milk production per doe was 2,083 pounds, according to national Dairy Herd Improvement statistics.

LaMancha

The LaMancha is distinctive because of their lack of external ears. The breed standard is very specific about the characteristics of the LaMancha ear, with only the gopher type being eligible for registration for bucks. Average milk production in 2003 was 1,687 pounds per doe, for those does measured, with butterfat concentration of 3.7 percent (AIPL). Coats of any color are acceptable.

Nubian

The Nubian is the single most popular breed of dairy goat within the U.S., outnumbering all other registered breeds (International Nubian Breeders Association). The Nubian is a medium-large goat with long, pendulous ears and a Roman nose. These animals were developed by crossing British goats with goats imported into Britain from Asia (OSU). Does must weigh more than 135 pounds and bucks must be larger than 175 pounds. The Nubian is not as prolific a milk producer as the Swiss breeds (Alpine, Oberhasli, Saanen, Toggenberg) but produces milk with a butterfat content of 4.6 percent, higher than any other goat breed (OSU). The Nubian is short haired and any combination of colors is acceptable.

Oberhasli

The Oberhasli is a Swiss breed of goat imported into the U.S. The breed was only officially recognized by the ADGA in 1979. The color of the Oberhasli is chamois, a bay color with the deepest reds being preferred. Does may be black in color but bucks may not be. Black markings on the face, back, dorsal stripe, belly, udder, lower legs and tail are also required. Minimum weight for does is 135 pounds and 170 pounds for bucks (Oberhasli Breeders of America). The ears are upright and the breed overall is shorter and wider than the Alpine breed. Oberhasli milk production has increased, since recognition by the ADGA, to about 1,472 pounds in 2003, but the milk produced is not particularly high in butterfat (3.7%) (AIPL).

Saanen

The Saanen is a white or cream-colored goat. Colored Saanens are referred to as Sable and are not recognized by the Saanen breed standard. Saanens have upright ears and are productive milkers, second only to the Alpine. Saanen milk has a butterfat content of 3.5 percent with average production per doe of 1,921 pounds (AIPL).

Toggenburg

The Toggenburg is the oldest known dairy breed of goat and originated in the Toggenburg valley in Switzerland (OSU). The goats are medium-sized with does weighing at least 120 pounds. Toggenburgs are brown (fawn to dark chocolate) with distinctive white markings on the face, ears, muzzle, legs and tail. These goats average 1,852 pounds per doe in 2003 and have an average butterfat content of 3.3 percent (AIPL).

Dwarf Goats

Two breeds of goat are significantly smaller than the

majority of goats. The pygmy goat and the Nigerian Dwarf are unique goat breeds originating in Africa, and both have multiple uses. The pygmy goat is a heavily muscled animal and a prolific milker, making the pygmy a potential meat or milk producer. The Nigerian Dwarf is a leaner animal than the pygmy goat, and currently the Nigerian Dwarf appears to have the most potential in America as a dairy animal. The diminutive size of both of these breeds has, however, made the primary use as pets. These animals are also popular as 4-H animals, since their small size can serve as young 4-H competitors' introduction to handling livestock. More specifications of these breeds are described below.

Nigerian Dwarf

The Nigerian dwarf goat is native to western Africa and is balanced in proportion, but bucks do not exceed a maximum of 23.6 inches. The Nigerian dwarf is distinct from the pygmy goat and the two breeds have different breed characteristics in body conformation. All colors and markings are acceptable and the unpredictability in coloration has contributed to the popularity of Nigerian dwarves. The Nigerian dwarf is easily handled and is popular as an animal for 4-H youth. Nigerian dwarf goats can breed year-round and multiple births are common (triplets and quadruplets). These goats are prolific milkers for their size, giving 3 to 4 pounds per day with butterfat content between 6 and 7 percent. (OSU)

Pygmy

The pygmy goat is a small dairy goat originating in western Africa (OSU). The pygmy goat is short, heavily muscled, and stocky in appearance. Maximum height for does is 22.4 inches and for bucks is 23.6 inches (American Goat Society [AGS]). Milk production is generous for their size, with high butterfat (National Pygmy Goat Association [NPGA]). Pygmy goats may be bred year-round, unlike many of the other dairy breeds (NPGA). Pygmies bear one to four offspring after a five-month gestation period (NPGA). The coat is heavy and medium length and all colors are acceptable (AGS). The American Goat Society has had a registry for pygmy goats since 1976.

The Hair Goat Industry

The third important goat industry group is the hair goat group. Two types of goat fiber have significant value as a textile: mohair, the cleaned product of the hair of the Angora goat, and cashmere, the hair of goats with a predisposition to produce the fine underdown that is called cashmere (Office for Small-Scale Agriculture

[OSSA]). Any goat breed, except for Angora, may produce cashmere, though stringent selective breeding is necessary to develop significant amounts of the down.

Angora Goat Industry Group

Prior to the repeal of the Wool Act of 1954, Angora producers were eligible to receive payments to subsidize mohair production. Those subsidies were phased out beginning in 1993, and the last Wool Act payments were in 1996. Because of the subsidy reduction, Angora goat herd numbers dropped by two-thirds between 1997 and 2002. Drought and trade issues have also contributed to this reduction. Since the Wool Act was repealed, ad hoc programs have been enacted and Angora producers are still eligible for a subsidy on mohair production, though not as much as in previous years.

Mohair may be divided into three types: kid, young adult, and adult hair (Anderson, 2001). The younger the goat, the finer the hair. The mohair from young kids is most prized and tends to be more valuable than the mohair from adult goats. Angora goats are shorn twice a year and the resulting fleece produces fiber with a staple length between 12 and 15 cm (Mohair Council of America [MCA]). The average Angora fleece in the U.S. is about five pounds for a total of ten pounds of fleece produced per year (MCA). There are two types of hair produced by Angora goats in the U.S.: the ringlet type, also referred to as C type, and the flat lock, also called B type. The C type hair is a tight ringlet throughout the length of the hair and produces the finest

mohair. Mohair accepts dyes readily and is also flame resistant (MCA).

As with all of the other goat breeds, cull animals and animals not retained for the production herd can be sold into the meat market. However, Angora goats are smaller than meat goats and since they are bred for fleece characteristics and not commercial characteristics, the breed tends to be more difficult to manage than other, hardier types of goats (Sell, 1993). The value of marketed kids for the meat market does not appear to contribute substantially to the profitability of an Angora farm (Anderson).

Angora goat production is centered in Texas. Seventy-six percent of the inventory of Angora goats reported in the 2002 Agricultural Census was in Texas. Texas also produced 81 percent of the total pounds of mohair produced in the U.S. in 2002. However, the number of farms producing mohair in Texas was only 18 percent of the total number of angora farms but no other state had more than 10 percent of the recorded Angora goat population. Average herd size in Texas was 253 and 527 in Arizona, the state with the second largest Angora goat population. New Mexico, California and Missouri complete the top five for total Angora goat inventory.

As the amount of U.S. mohair production has decreased, the amount of mohair exported has also decreased. The U.S. never had a significant export market in raw mohair, and since 2001 exports have completely disappeared.

Table 1: U.S. Mohair Trade in Unprocessed Fiber

Year	Export Quantity	Export Value
	Metric Tons	U.S. Dollars
1999	3	7,600
2000	23	78,248
2001	7	20,004
2002	0	0
2003	0	0
2004	0	0

U.S. Customs Trade Data. Export Code: 5102107000.

Cashmere Type Goat Industry Group

Cashmere goats are not a specific breed of goat, but instead are a type that produces a soft underdown of hair that meets the international specifications in shaft size and texture to qualify as cashmere. While cashmere production is likely concentrated in Texas, there is evidence to suggest that goats raised in northern U.S. climates may produce more and finer underdown (Lupton, et al., 2000). Cashmere is harvested when the goats shed their hair naturally. Coats can be shorn or combed, though it is reasonable to expect that larger commercial operations will shear their animals (Maier and Maier). The yield per goat per shearing may be up to one pound, which produces four to six ounces of underdown once the guard hairs are removed (dehairing) (Cashmere and Camel Hair Manufacturers Institute [CCMI]). The natural colors of cashmere are gray, brown and white and cashmere accepts dye well.

Cashmere quality is related to the diameter of the shaft of the underdown. To even qualify to be termed cashmere, the underdown must have a diameter of less than 19 microns, and an average range is between 16 and 19 microns. The more tightly crimped the down is, the more desirable the cashmere. Small diameter and high crimp will result in the most valuable cashmere (OSSA).

In the U.S., the Spanish breed can produce cashmere and also provide lamb for the meat market. Toggenburg, Saanen and Nubian goats have also been used to produce cashmere. Though the demand for

cashmere has traditionally exceeded the supply, the number of cashmere-producing goats within the U.S. remains small. Access to facilities to dehair the fleece may also be limited. U.S. cashmere may also not be of very high quality, which has resulted in relatively low demand for the product. Australia and New Zealand have begun producing cashmere through intensive breeding of native goat populations and have increased the worldwide production of cashmere.

The exact number of cashmere type goats in the U.S. is unknown. Cashmere goats are not elicited as an individual group within the Agricultural Census. They are included within the “meat and other” type category. A current estimate of the number of goats in the U.S. producing cashmere is unknown, though an estimate from 1996 was 25,000 (Capricorn Cashmere). It does appear that there is greater cashmere production in the U.S. since 1999. In 2000 and 2001, there were no exports of raw or minimally processed cashmere fiber from the U.S. In 2002, 401 metric tons of cashmere hair, underdown and guard hairs were exported. Exports fell to 50 metric tons in 2003. In 2004, exports were 9 metric tons. Assuming that each U.S. goat reaches the international average of one pound sheared (CCMI) composed of guard hair and underdown, then nearly 109 thousand goats would be required to produce 50 metric tons of cashmere underdown and hair. Approximately, 20,000 goats would be needed to produce 9 metric tons of underdown and hair. Export numbers may not be reflective of the U.S. cashmere population if significant fiber was being processed within the U.S.

Table 2: U.S. Cashmere Trade in Unprocessed Fiber

Year	Export Quantity	Export Value
	Metric Tons	U.S. Dollars
2001	0	0
2002	401.4	817,557
2003	49.8	504,382
2004	9.2	32,920

U.S. Customs Trade Data. Export codes: 5102119000, 5102111000.

4-H Goat Industry

Another significant group that utilizes goats is the 4-H program. Goats are used to educate youth on topics such as animal health, animal care and positive self-image. The national 4-H enrollment report does not include information about the number of animals that are utilized in the accomplishment of 4-H programs. However, the enrollment report does include the number of students who participate per state in any

program. Total enrollment in 2003 in the goats category, including dairy, hair and meat type goat programs, was 101,955. The largest number of youths participating in goat projects was in Texas, followed by large numbers of participants in Minnesota, Indiana, Nebraska and Ohio (Research, Education, and Economics Information System [REEIS], United States Department of Agriculture website).

Participants in the 4-H goat projects may have been counted in the 2002 Agricultural Census if the youth participant lived on a farm that produced more than \$1,000 in agricultural sales per year. However, goats are relatively small animals that could be maintained on residences that were not included in the Agricultural Census. It is not known how many of the 4-H goats were included in the 2002 census. It is also unknown what the average number of goats that a 4-H project participant owns. One goat seems to be a reasonable estimate, so the number of goats that can be attributed to the 4-H industry group was about 100 thousand in 2003.

There appears to be a plentiful supply of goats for 4-H participants. Various websites that sell goats or broker goat sales indicate that special arrangements can be made for 4-H participants. Since the 4-H projects are heavily aligned with the showing aspects of the industry sub-groups of meat, hair and dairy, it is likely that the majority of goats for 4-H projects are sourced from the large number of animals currently bred and raised for the showing aspect of the goat industry.

Industrial Goat Industry

The industrial group, with potentially the largest number of goats, appears to use goats for ground cover management. This would include grazing goats to keep weeds down, remove noxious or invasive plants, clear rights of ways, verges or roadsides and for fire suppression in adverse terrain. However, the number of goats currently being used in this manner is unknown. Most descriptions suggest that owners of these ground cover management goats graze their goats on a contract basis, providing the goats and a temporary fencing system to the designated area for ground cover grazing.

Since producers can be paid for grazing their goats in troubled areas, there appears to be a synergy to this type of operation with either dairy or meat (market kid) production. Producers could receive payment for grazing and then sell kids or dairy products, thereby benefiting twice from their goat herd. On the other hand, producers could graze their animals at no cost and merely subsidize their production of meat or dairy products. Some of the contracts mentioned in press reports are quite large, and it may be that the goats are significantly more valuable as grazing machines, and therefore the selling of offspring to the meat market may be less than the marginal value of an additional grazer. In any case, the number of goats used for ground cover management is unknown. A second industrial use of goats is as pack animals.

Though small, the pack goat industry group, represented by the North American Pack Goat Association (NAPGA), uses goats throughout the U.S. to facilitate access to remote areas of wilderness. Goats are generally allowed in state parks and are allowed in National Forests and Bureau of Land Management land. Goats are not currently allowed in national parks (NAPGA). Goats may be trained as pack animals relatively easily as young animals (yearlings) and can be expected to carry about 25 percent of their body weight (NAPGA). Wethers (neutered males) are popular as pack goats because of their larger size, but any trained goat can be a pack goat. Goats are also smaller than horses or mules and can access areas where horses cannot go. Pack goats may also be used for trail maintenance, and the NAPGA annual rendezvous includes a service component in which members' goats participate in a trail cleaning or improvement project.

The NAPGA has approximately 70 members located across the U.S. A membership survey of the NAPGA in 2004 indicated that their membership owned more than 400 goats. Multiple breeds were represented, but most members preferred crossbred goats with Saanan/Alpine goats leading the way, followed by Saanans or Alpines crossed with other breeds. Pack goat owners may own trailers or may transport one or two goats in the bed of a covered pickup truck.

Biotech Goat Industry

There have been multiple articles mentioning the use of goats in the production of biotechnological products. These products seem to be the result of transgenic manipulation of the genetic structure of goats to produce products that are valuable to society. Pharmaceutical production from goat milk is currently under investigation as is the production of spider silk within goat milk.

The number, distribution and characteristics of the goats used in this manner are unknown. The meat and milk of these animals is not eligible for sale for food because of genetic manipulation.

Goat Population Estimates

The actual size of the U.S. goat industry is difficult to accurately define. While the U.S. Department of Agriculture's Census of Agriculture does include goat populations within the sampling program, coverage may not be complete. Reasons for incomplete goat population estimates may include the small size and

value of most goat farms, and the non-traditional nature of goat production, which could result in producers being excluded from the sampling frame (usually coupled with a small farm size or non-agricultural use of the animals, such as weed management, fire suppression, biotechnology, or packing). Another use of goats which could be included within the agricultural census estimates are the use of goats for 4-H projects. However, they would only be accounted for if the children involved in the 4-H project lived on a farm that produced enough agricultural products to be included in the census. Farms making sales of greater than \$1,000 per year should be included in the Agricultural Census,

but as stated before, coverage may not be complete. The estimates from 2002, 1997, 1992 and 1987 for the various goat categories included in the Agricultural Census are provided in the following table. The table shows that over time a shift away from production of Angora goats to other types of goats, mainly the “meat and other goats” category, has occurred. Subsidies for mohair, the fiber produced by Angora goats, were phased out beginning after the repeal in 1993 of the Wool Act of 1954. This has contributed to the reduction in the number of Angora goats raised, and the amount of mohair produced.

Table 3: Agricultural Census: Goats 1987-2002

	2002	1997	1992	1987
Number of Head				
Meat and other goats	1,938,924	1,033,730	591,543	415,196
Milk goats	290,789	190,588	124,718	129,225
Angora goats	300,753	829,263	1,799,280	1,702,166
Total	2,530,466	2,053,581	2,515,541	2,246,587
Number of Farms				
Meat and other goats	74,980	63,422	34,901	29,354
Milk goats	22,389	15,451	11,559	15,443
Angora goats	5,075	5,485	6,150	5,352
Total	102,444	84,358	52,610	50,149

The Agricultural Census also tracks products from goats including mohair and goat milk. The trend in increasing milk production is seen through 1997; the 2002 census did not include goat milk production.

As can be seen from the reduction in the census for Angora goats, there has been a corresponding decrease in mohair production.

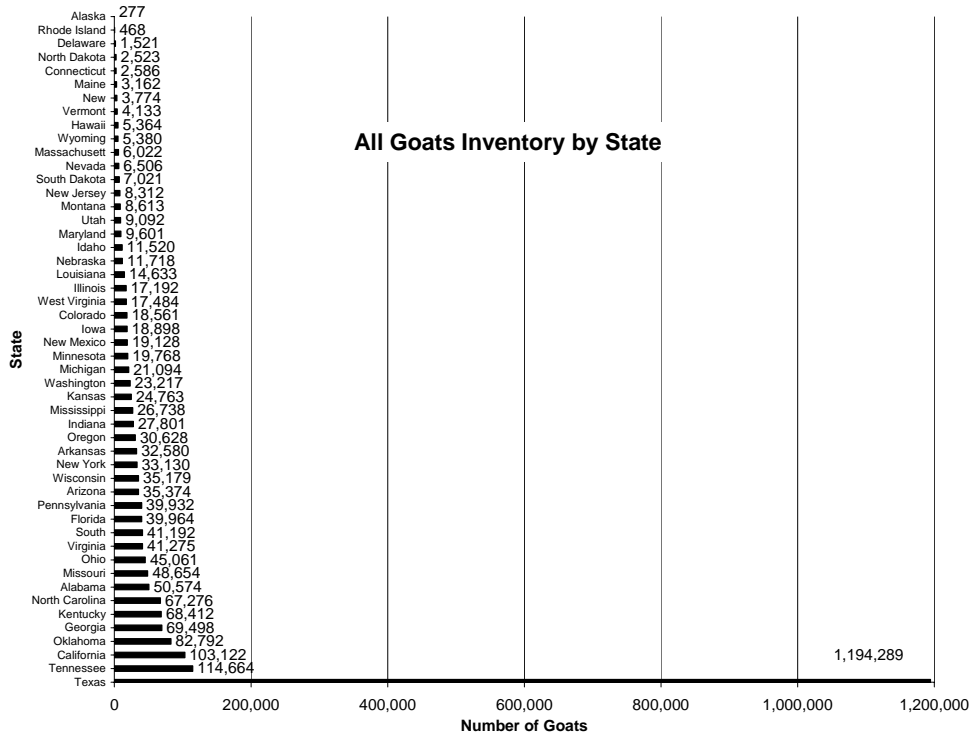
Table 4: Agricultural Census: Goat Products 1987-2002

Product	2002	1997	1992	1987
Milk - Million gallons	n.a.	9	7.2	4.4
Mohair - Million pounds	2.4	5.3	13.6	13.2

Texas has the largest population of goats within the U.S. Most of those goats are meat goats, with about 1,200,000 angora goats and about 22,000 dairy goats. The Texas share of the total U.S. goat inventory was 47 percent, but only 19 percent of the total number of goat farms. Tennessee had the second largest goat inventory, and most of the goats in Tennessee are raised

for meat production. California has the largest population of milk-producing goats. The following figure shows the distribution of goat inventories across the U.S. from the 2002 Agricultural Census; figures 2 - 4 show the sub-categories for goats included in the census.

Figure 1: All Goats Inventories by States, 2002 Agricultural Census

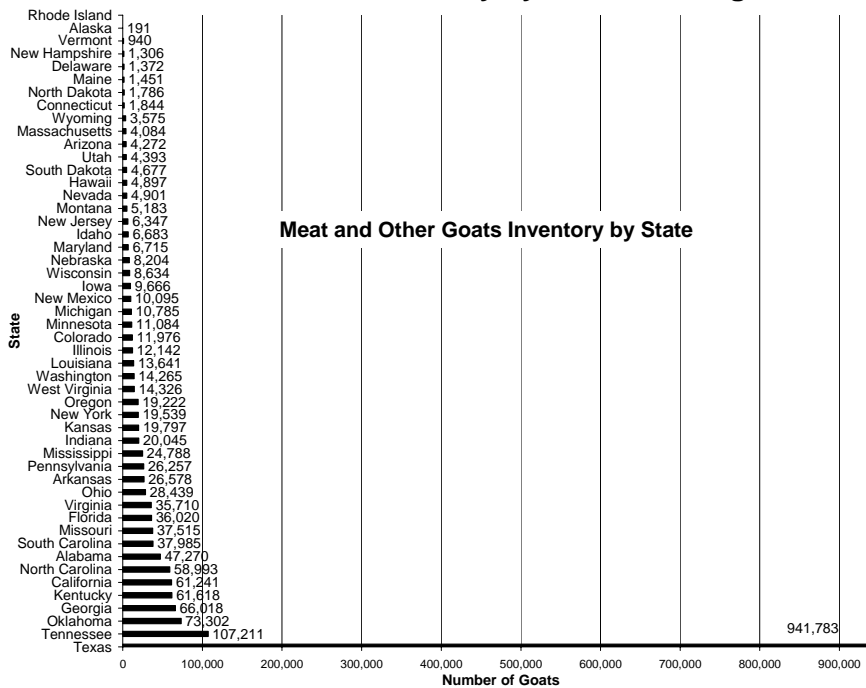


Source: NASS, 2002 Agricultural Census

The meat goat population is dominated by Texas. Seventy-nine percent of the goat population within Texas falls under the “meat and other goats” census

category. Other significant states within this category are Tennessee, Oklahoma, Georgia and Kentucky.

Figure 2: Meat and Other Goats Inventory by State, 2002 Agricultural Census

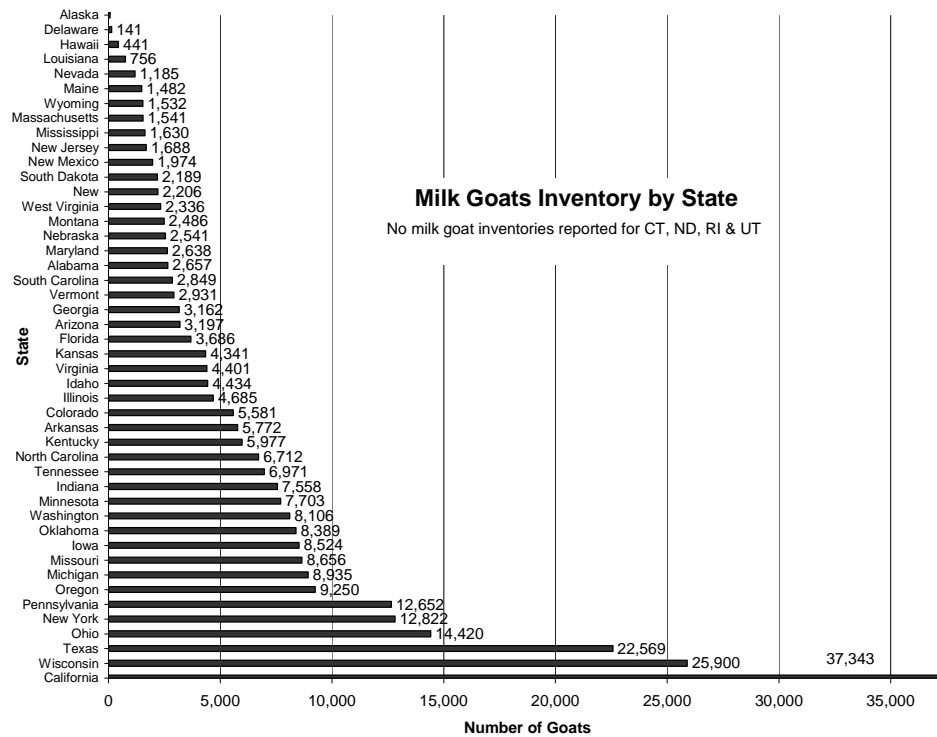


Source: NASS, 2002 Agricultural Census

Figure 3 shows milk goat inventory by state. California has the highest population of milk goats in the country. The largest goat milk processor is located in California and the correspondingly large population of goats likely supports this company. This processor's products, including ultra-high pasteurized and tinned milk, are found in mainstream grocery stores throughout the country. California also produces significant amounts

of goat cheese, as does Wisconsin, the state with the second largest population of milk goats. The majority of the goats in Wisconsin were dairy goats, while the proportion of dairy goats in the total goat inventory in California was only about 30 percent. Texas also has a large number of dairy goats, but the dairy goat population in Texas is only about 2 percent of the Texas total goat population.

Figure 3: Milk Goat Inventories by State, 2002 Agricultural Census

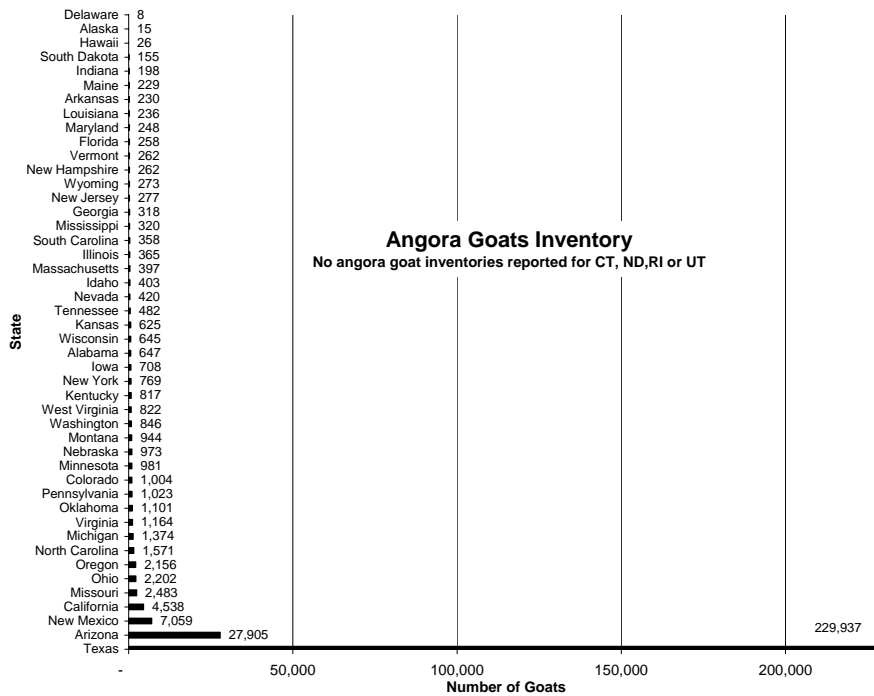


Source: NASS, 2002 Agricultural Census

Angora goat inventory is dominated by Texas and followed by Arizona and New Mexico. Most of the Angora goat population in the U.S. is

concentrated on the Edwards Plateau of Southwest Texas (MCA). Mohair production is also dominated by Texas.

Figure 4: Angora Goat Inventories by State, 2002 Agricultural Census



Source: NASS, 2002 Agricultural Census

Inventory Estimates

As mentioned previously, there are a number of reasons why the agricultural census data could underestimate the current goat population. Most industry experts contacted felt that the 2002 census data underestimated the goat population at the time the census was conducted. Experts in the goat industry suggest that between 55 to 65 percent of the actual goat population

was captured in the 2002 census. Assuming that the estimate of missed goat populations is correct, adjusted population figures for actual goat population are presented below. This results in an inventory of goats around 3.5 million head, or nearly 1 million more animals than were counted during the census. Farm numbers also rise by about 40 thousand.

Table 5: 2002 Agricultural Census and Industry Estimates of Goat Population

	2002	2002 Assuming Census Captured 55% of True Population	2002 Assuming Census Captured 60% of True Population	2002 Assuming Census Captured 65% of True Population
Number of Animals				
	1,938,924	2,811,440	2,714,494	2,617,547
Milk goats	290,789	392,565	407,105	392,565
Angora goats	300,753	406,017	421,054	406,017
Total	2,530,466	3,610,022	3,542,652	3,416,129
Number of Farms				
Meat and other goats	74,980	108,721	104,972	101,223
Milk goats	22,389	32,464	31,345	30,225
Angora goats	5,075	7,359	7,105	6,851
Total	102,444	148,544	143,422	138,299
Sales				
Meat and other goats	1,109,619	1,608,948	1,553,467	1,497,986
Milk goats	113,654	164,798	159,116	153,433
Angora goats	91,037	132,004	127,452	122,900
Total	1,314,310	1,905,750	1,840,034	1,774,319

Source: NASS, 2002 Census of Agriculture

Growth in the Goat Population

The total growth in population for the entire goat industry between 1997 and 2002 was 23 percent (NASS). The meat and other goats sector showed growth in inventory of 87 percent during the same period, and dairy goat population rose by 57 percent. The population of Angora goats continued to drop as subsidies for mohair production were reduced.

While growth in inventory has been dramatic, the growth in the number of farms producing meat goats has not been quite as large. Growth in meat and other goats farms was only 18 percent between 1997 and 2002. However, per farm inventory of meat goats increased from 19 to 26 head between 1997 and 2002. Total sales across all meat and other goats farms increased from 8 to 15 goats for total farms. Not all meat goat farms made sales but the percentage of farms making sales was 48 percent in 2002 up from 38 percent in 1997. Of those farms making sales, sales per farm grew from 22 to 30 head between 1997 and 2002.

The number of goat dairy farms increased by 44 percent between 1997 and 2002. Inventory per farm for goat dairy farms increased from 12 head to 13 head. Sales from dairy farms held steady at 5 per farm for all farms, and for those farms making sales, sales actually shrank from 1997 at 14 to 13 in 2002. Angora inventory per farm dropped from 151 head in 1997 to 59 in 2002 and inventory dropped from 44 to 15 per farm over the same period.

When growth in the goat population is described from 1987 to 2002, there is an overall increase in the goat industry. However, between 1992 and 2002 the significant drop in the population of Angora goats drove down overall growth. The changes in growth between the census estimates from 1987 to 2002 are presented below. Growth is expected to continue in the future. Demand for goat meat continues to outstrip domestic production, and dairy products have multiple marketing opportunities including milk, cheese, yogurt, soap and lotion products.

Table 6: Percentage Growth in Goat Inventories and Goat Producing Farms

	1997 to 2002	1992 to 1997	1987 to 1992	Total Change 1987 to 2002
Number of Head				
Meat and other goats	87.6	74.7	42.5	367%
Milk goats	52.6	52.8	-3.5	125%
Angora goats	-63.7	-53.9	5.7	-82%
Total	23.2	-18.36	12.0	13%
Number of Farms				
Meat and other goats	18.2	81.7	18.9	155%
Milk goats	44.9	33.7	-25.1	45%
Angora goats	-7.5	-10.8	14.9	-5%
Total	21.4	60.3	4.9	104%

Source: NASS, 2002 Census of Agriculture and historical census data

Considering the presumption that the census underestimated goat populations in the 2002 census, any estimate of 2004 goat populations should include that information. While the individual meat and other sector and the dairy sector saw tremendous growth according to the agricultural census, the Angora sector has seen a decrease in the number of animals raised for their mohair. However, the worldwide production of mohair is cyclical depending on trends in demand for finished textiles and the world wide production of mohair (Lupton et al.). The Angora goat population is assumed to be constant in the following estimates since it is unknown if the Angora goat population has stabilized at a core group of producers who will remain in the industry, or if the industry group will eventually

completely disappear within the U.S.

Industry experts believe the meat industry is growing between 12 and 14 percent per year, so the table below reflects growth of 13 percent for the meat and other category. Dairy animal inventory, according to the Agricultural Census, increased by more than 50 percent between 1992 and 1997 and again between 1997 and 2002. Therefore, dairy inventory increase is estimated at 8.5 percent annually in the following table. If assumptions about growth are correct, the total goat population within the U.S. in 2004 could be an estimated inventory of 4.4 million head of goats. The number of goat farms is potentially 178 thousand.

Table 7: Adjusted 2002 Census Estimates (60% of true population counted) and Current Estimates of the population

	2002 Assuming True Population is 40% Higher than Census	2003 Assuming 13% Growth in Meat and 8.5% in Dairy	2004 Assuming 13% Growth in Meat and 8.5% in Dairy
Number of Head			
Meat and other goats	2,714,494	3,067,378	3,466,137
Milk goats	407,105	441,709	479,254
Angora goats	421,054	421,054	421,054
Total	3,542,652	3,930,141	4,366,445
Number of Farms			
Meat and other goats	104,972	118,618	134,038
Milk goats	31,345	34,009	36,900
Angora goats	7,105	7,105	7,105
Total	143,422	159,732	178,043

Source: NASS, 2002 Census of Agriculture

Goat Industry Slaughter Estimates

Total federally inspected goat slaughter has increased significantly from 1983 to 2004 (Figure 5). Total goat slaughter in 1983 was 81 thousand head. In 2003, total goat slaughter was 666 thousand head. Growth has been steady since 1983, and New Jersey and Texas completely dominate the federally inspected slaughter

capacity. New Jersey accounts for more than 30 percent of federally inspected goat slaughter and Texas accounts for more than 18 percent of the goat slaughter. Table 8 shows the federally inspected goat slaughter across the U.S.

Figure 5: Total Federally Inspected Goat Slaughter Fiscal Years 1983-2004



Source: Food Safety and Inspection Service, Federally Inspected Livestock Slaughter

Table 8: Fiscal Year 2004 Federally Inspected Goat Slaughter by State (head)

State	2004	State	2004
NJ	231,171	VT	1,017
TX	119,280	IA	849
PA	59,708	RI	805
NY	35,651	OK	528
TN	33,073	AZ	489
CA	25,589	VI	186
IL	25,372	AR	175
MD	24,814	ME	156
IN	24,716	MN	154
FL	15,093	PR	136
NC	11,531	AL	91
VA	10,190	UT	74
KY	9,358	NV	68
MA	5,799	WA	66
CO	4,913	NE	51
MS	4,657	OH	44
MO	4,154	ID	25
MI	3,961	SD	25
KS	3,207	AK	22
CT	2,631	WI	20
GA	1,738	WV	20
SC	1,707	MT	9
OR	1,637	DE	2
NH	1,240	ND	1
U.S. Total		666,203	

Source: Food Safety and Inspection Service

Total Goat Slaughter

Evidence from industry experts and extension specialists indicates that the goat industry has a large market for live or fresh-killed goats that falls outside of federally inspected slaughter plants. Whether goats are purchased directly from the owner for home kill, butchered by the producers and sold fresh to the buyer, or slaughtered in small custom operations, much of the slaughter of goats for meat is not included in the federal slaughter statistics.

Federal slaughter statistics may represent between 50 and 60 percent of actual goat slaughter within the U.S. The statistics are only estimated for the national total since it is not known if the informal slaughter is distributed in the same manner as it is in the federal slaughter statistics. It is likely that Texas, where the largest population of goats occurs, would have the largest unrecorded slaughter but this is not known for sure.

Table 9: Estimated Total Slaughter Based on Federal Slaughter Statistics

Federally Inspected Goat Slaughter – U.S. 2004	Estimated Total Goat Slaughter – U.S. 2004 (FI = 50% of Total)	Estimated Total Goat Slaughter – U.S. 2004 (FI = 60% of Total)
666,203	999,305	932,684

Slaughter: FSIS slaughter data

Total goat sales, according to the adjusted numbers calculated previously from the 2002 Agricultural Census, indicate that meat and other goat sales should have been about 1.5 million in 2004. While a portion of those animals may be retained for breeding or showing, and it is unknown how many goats qualify for the other type, this still seems to indicate that significantly more animals were sold from farms than

were accounted for in the federally inspected slaughter. Total federally inspected goat slaughter, on a fiscal year basis, has grown by 12 percent between 1999 and 2003. Assuming fiscal year federally inspected slaughter grew an additional 12 percent between 2003 and 2004, then the estimate for total goat slaughter in 2004 would be between 1.04 million and 1.12 million head.

Federally inspected goat slaughter represents a concentration point of goats of all ages, breeds and types. Because there is a market for the meat of all types of goats, the large federally inspected slaughter houses appear to slaughter goats of all ages. Market prices for older animals are discounted, but because of the extensive unmet demand for goat meat, even animals of poor quality are in demand. Texas and New Jersey slaughter more than 50 percent of the federally inspected goats. Assuming federal slaughter represents about 50 percent of total slaughter, then 25 percent of all goats slaughtered in the U.S. can be expected to move through the federally inspected slaughter plants in Texas and New Jersey. Expert opinion seems to agree that the best access to a broad array of U.S. goats, especially those of older ages, can be found by sampling the major federally inspected slaughter plants.

U.S. Ethnic Diversity and Producer Demographic Characteristics

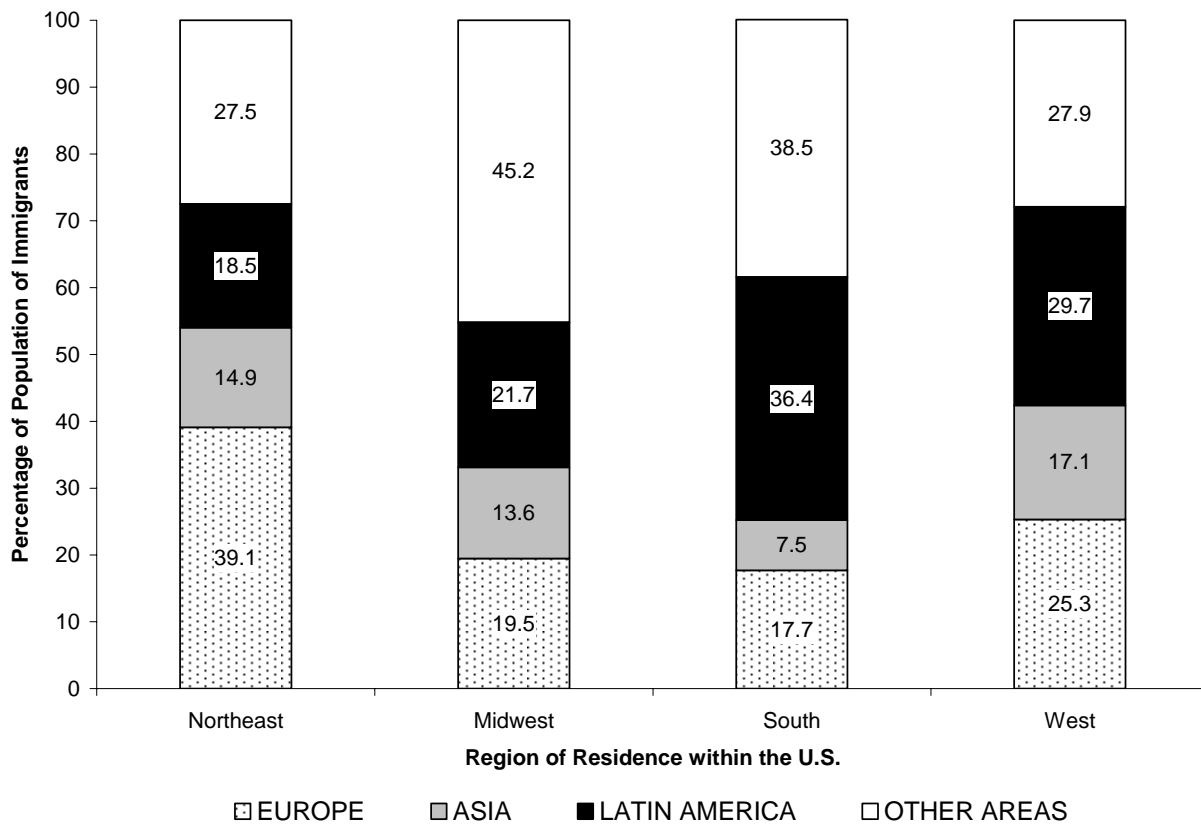
Some of the factors that have combined to result in an increasing goat industry include increasing ethnic populations, increasing numbers of farmers raising goats, the multi-functionality of the goat, and the growing “lifestyle” advantages of raising small ruminants.

U.S. Ethnic Diversity

Experts have suggested that demand for goat meat is related to cultural preferences. Immigrants from Asia and Africa consume more goat meat than immigrants from Europe, especially developed Europe. Therefore, demand for goat meat should show strong long term growth in areas with large or growing Asian and African populations. Demand for goat meat may spike around religious holidays, but there is also consensus that the demand for goat meat remains throughout the year and the type of goat demanded can include small, young goats as well as older, culled animals. Latin Americans also consume goat meat, with a preference for small, high quality goat carcasses that result in tender cooked meat. Consumers of Caribbean descent may purchase older animals that are spiced and cooked for long periods of time.

Figure 6 shows the regional residence distributions of U.S. residents by their birth country. The largest proportion of foreign-born residents of the U.S. is found in the West. Of those immigrants living in the West, most are from Latin America. The second largest category of birth origin in the West is Other, which includes immigrants of African origin. The South follows the West in immigrant residents, with the largest proportion of immigrant residents born in the Other region. Ethnic populations may also cluster around metropolitan areas or university towns, and many experts have pointed out that demand for goat meat is pulled from rural production areas to urban areas with large ethnic populations.

Figure 6: Foreign Born Region of Birth and Current U.S. Region of Residence



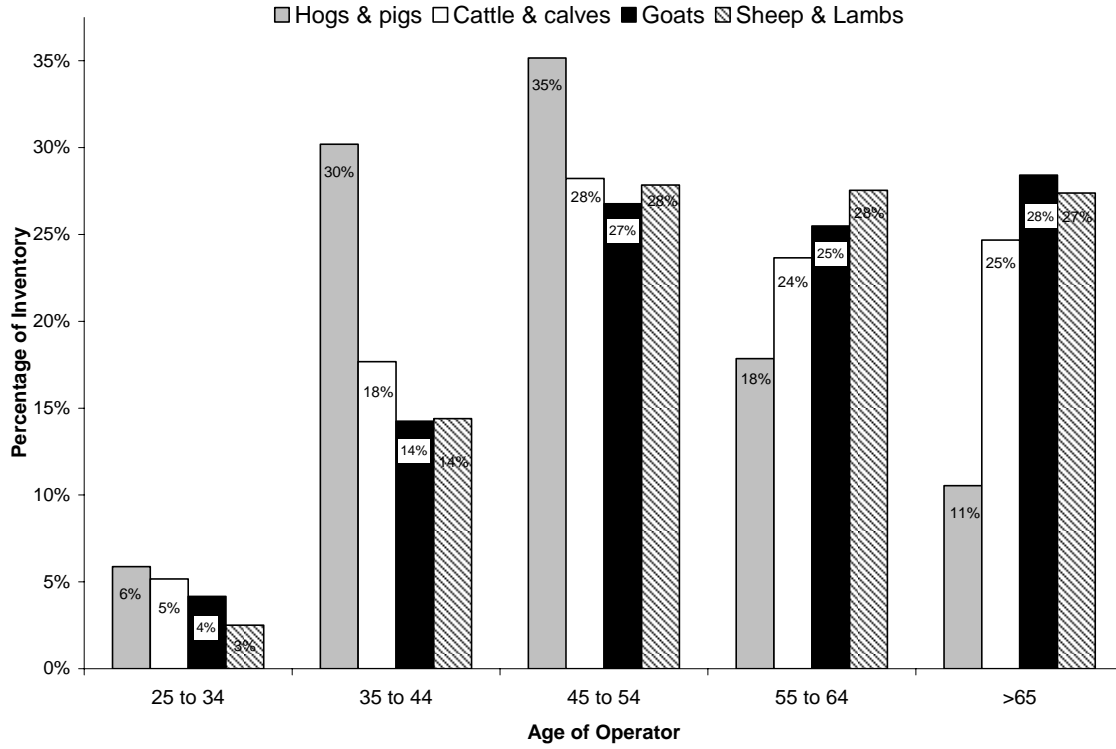
Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 2004

Demographic Characteristics of Goat Producers

Since aging farmers seem more willing to produce goats, there seems to be the potential for goat production to continue to grow as the age of farmers increases. Goat production, especially since the animals are relatively small, seems to be a reasonable alternative for livestock producers who are unwilling to leave farming but are no longer capable of handling larger livestock. The 2002 Agricultural Census showed that the inventory of goats increased when the operator was

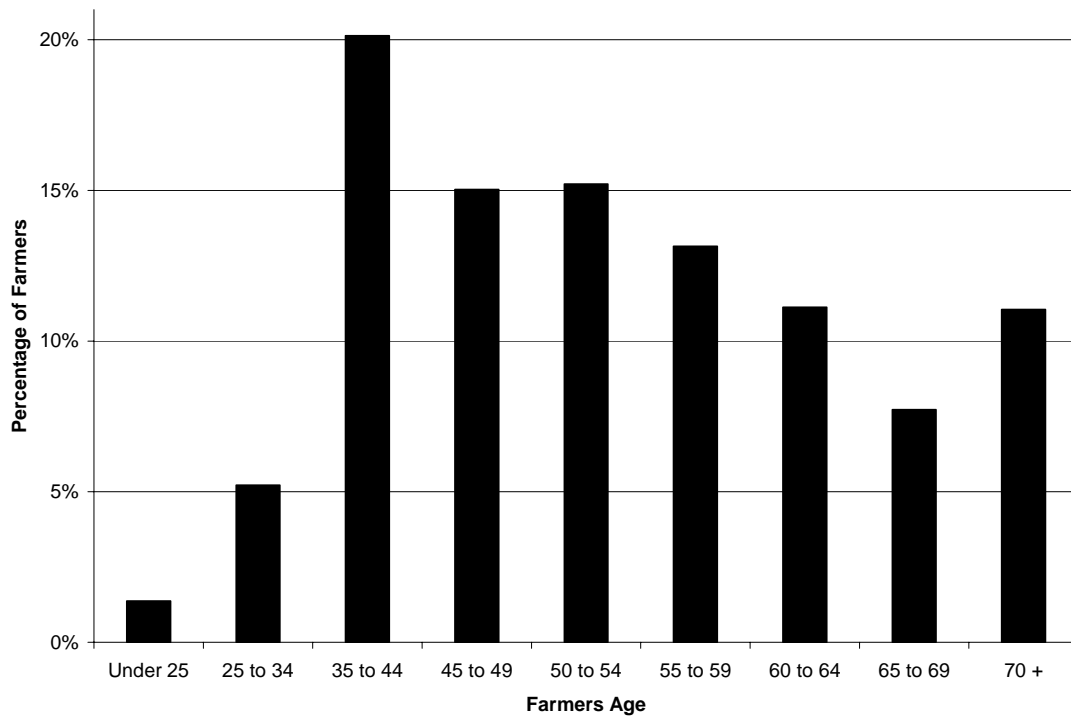
over 65 years of age and 43 percent of all goat farm operators are older than 55 years of age (Figure 8). The average age of goat producers may also indicate the “lifestyle” phenomenon, whereby producers are returning to rural areas after retirement and participating in farming as a hobby. Further evidence of the “lifestyle” influence is that only about one thousand of the 96 thousand goat operations have returns of more than \$50,000 in 2001 (2002 Agricultural Census).

Figure 7: Inventory by Age of Operator and Livestock Species



Source: NASS, 2002 Census of Agriculture

Figure 8: Goat Farmers Age Distribution

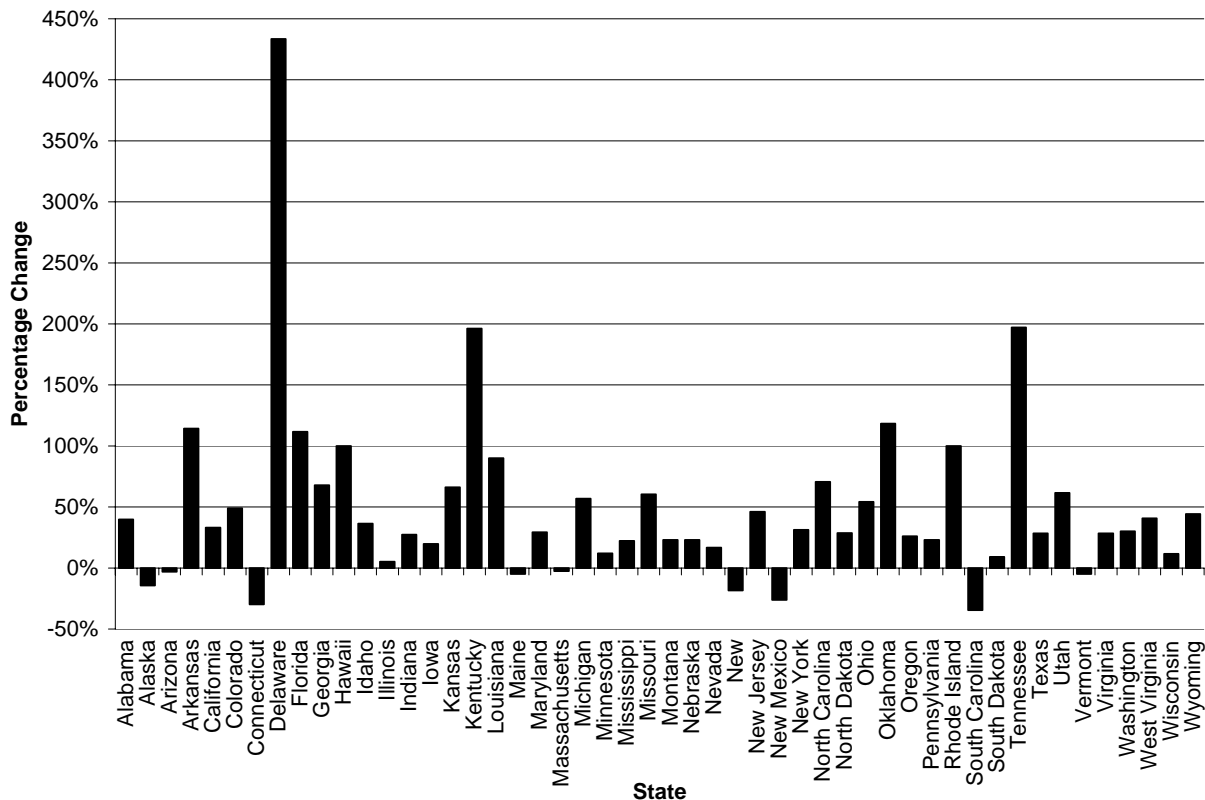


Source: NASS, 2002 Census of Agriculture and historical census data

Another indicator of the “lifestyle” phenomenon is the participation by women in livestock production. Female ownership of sheep and goat farms increased between 1997 and 2002 by 34 percent, according to the 2002 Agricultural Census. There were nearly 10,000 women-owned sheep and goat farms in the U.S. in 2002, and the total number of sheep and goat farms was 96 thousand farms. Delaware, Tennessee and Kentucky

showed the largest increases in female ownership between 1997 and 2002. It is expected that women’s increasing participation in sheep and goat farming will contribute to the continued increase in goat production. This is because smaller ruminants are relatively easier for female producers to handle, and because small-scale dairy and fiber production seems to be correlated with female ownership.

Figure 9: Percentage Change in the Number of Women-Owned Goat Operations by State, 1997 to 2002 Agricultural Census



Conclusion

Despite an overall expectation of growth, there are some potentially limiting factors to the goat industry. These include lack of slaughter capacity, the resistance by white Americans to goat meat, the difficulty in getting fresh goat products into retail stores, and the difficulty in meeting commercial dairy standards that were originally designed for cow dairies. These factors have until recently combined to keep goat production at a relatively low level. However, the increasing

willingness of ethnic consumers to seek out goat producers and goat meat has meant that slaughtering of goats is increasing, though not necessarily all through traditional meat processing facilities. As long as goat meat and milk producers are able to continue to develop innovative ways to overcome the distribution restrictions for their products, the goat industry should be able to continue growing.

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