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The Relationship of Consuming Populations to Meat-Goat Production in the United States

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The goat (*Capra hircus*) industry in the United States is still in its infancy, but with a promising trend for growth (Gelaye and Amoah 1991). The consumption of goat meat, known as *chevon* or *cabrito*, in the United States has grown sharply in recent years (Getz 1998; Gipson 1999). The increase is driven by the popularity of chevon with the diverse ethnic groups that immigrate yearly to the United States. In the past, the scarcity of chevon and the pressure to integrate into society in the United States discouraged immigrants from holding onto culinary traditions. In recent years, there has been a switch in philosophy to one that encourages people to celebrate their diverse cultural backgrounds. This has led to the rediscovery of traditional foods involving chevon, creating the need for increased supply. The demand for chevon has drawn producers to the fledgling industry. Currently, a major part of demand is met by imports, mainly from Australia and New Zealand (Stanton 2003).

This paper determines the relationship between the increase in immigrant population and the increase in meat-goat production in the United States between 1987 and 1997. Data from the U.S. Census of Agriculture (2002) and the U.S. Census Bureau (1997) were used for this analysis. The main concern was the relatively thin body of published literature regarding chevon demand, the level of production of meat goats, and prices received by producers. The data available for meat goats produced in the United States are too limited to allow extensive analysis. The following sections are devoted to a discussion of the product (meat goat), supply, producers, chevon demand, the consumer, and consumer demographics.

The Product

With the exception of the South African Boer and New Zealand Kiko, there is no consensus on

a meat-goat breed in the United States. Several other breeds, such as the Spanish, Myotonic, and the Nubian have been used for meat production in the United States (Luginbuhl 1998). These breeds are raised under intensive or extensive production systems. Extensive production, common in arid and semi-arid regions with brush and grasses as the main source of nutrients, consists of ranging generally larger herds of goats over vast areas. Intensive production usually involves smaller herds and much smaller geographical areas. This system takes advantage of improved pastures and feed concentrates (Pinkerton 1995; Shelton 1992).

Chevon is the most popular meat product in the world and is often served in specialty dishes centered on festival or holiday events. Consumption in the United States, however, is not widespread, although chevon offers consumers tasty, lower-fat meat than beef or pork (Getz 1998). Chevon has 10 and 19% more carcass leanness than beef and lamb, respectively. The fat content is lower by 47 and 54% than beef and mutton, respectively (Gelaye and Amoah 1991). Addrizo (1999) found that roast chevon had lower calories, fat, and saturated fat, but higher protein and iron than roast beef, pork, and lamb. It was, however, nearly comparable to chicken. In general, chevon is unique in flavor, palatability, and, in comparison to other red meats, is a better health product.

Supply

Chevon supply in the United States comes from two main sources. A primary source is from imports (mainly from Australia and New Zealand). The second, and rapidly growing, source is domestic production (Lillywhite 1999).

The supply of slaughter goats is seasonal, which leads to high and low domestic supply relative to demand throughout the year (Johnson 2002). To date, timing of production phases (suckling, stocker, and feedlot finishing) has not been practiced appreciably by the goat industry and, as a result, imported chevon is used to fill demand more uniformly over

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the course of a season and from year to year (Nutti, Pinkerton, and McMillan 2000).

Foreign Production

Most of the chevon imported into the United States over the last 10 years has been from Australia, with limited amounts from New Zealand. Most of the meat-goat production in these countries has been classified as extensive (range production with little or no supplemental feeding or management). The United States imports more chevon than any other country and shifted from a net exporter to a net importer in 1991 (Machen 2003). Since 1991, net imports of chevon have experienced substantial growth (Gipson 1999).

Imported chevon prices set the floor for the domestic market. However, as long as the various ethnic groups in the United States prefer fresh meat and are willing to pay a premium, domestic producers will have a market for their product (Johnson 2002).

Domestic Production

The total goat market in the United States is thought to be growing at a rate of more than 10 to 15% annually. Still, there are not enough goats produced in the United States to meet domestic demand (Johnson 2002). Goats were initially produced for fiber and milk with chevon as a by-product. With the decline in the importance of fiber, most producers diverted attention to raising meat goats. More producers have come into the industry as well. The increase has stemmed mainly from the rise in niche-market populations with cultural preferences for chevon. Meat-goat production is also growing because goats are efficient converters of low-quality forages into quality meat, milk, and hide products suitable for many specialty markets (Nye and Moore 2002). The meat goat is also popular in situations where resources are limited. Goats are particularly attractive to small-scale producers because the small animals do not require large tracts of land and are easier to handle than larger livestock (Tadesse 2004).

Texas, Tennessee, Georgia, and Alabama lead in the production of meat goats. Newly emerging meat-goat production states are Arkansas, Florida, North Carolina, Oklahoma, South Carolina, Mississippi, and Louisiana (Pinkerton et al. 1994; Pinkerton 1995; Pinkerton, Pinkerton, and

Scarfe 1991). Texas is by far the leading state in meat-goat production. Statistics on the number of farms producing meat goats, meat goats produced, and numbers sold are limited, since data are not reported for many states. Data from the Census of Agriculture show marked increases in meat-goat numbers, sales, and farms producing meat goats. These statistics, together with increases in imports, are an indication of substantial increased chevon demand. The current trend in upward growth is expected to continue (Hansen 2003).

Even though the U.S. meat-goat industry is growing rapidly, most price and supply data are unreported, hence estimates of supply are poorly documented. While it has not been empirically documented, researchers believe that the supply of meat goats is elastic (Harwell and Pinkerton 1999; Lillywhite 1999). This suggests that sustained improvements in chevon and meat-goat prices will result in substantial increases in the number of meat goats over time (Lillywhite 1999; Harwell and Pinkerton 1999).

Demand

Demand for chevon can be divided into three sub-categories: ethnic demand, health-food demand, and gourmet-restaurant demand. The major demand for chevon comes primarily from the various ethnic groups that consume chevon on a regular basis (Pinkerton 1995). In addition, some demand is now evident in other parts of the U.S. population—those concerned about health issues and the Yuppie community, which fancies gourmet fare. While these niche markets represent only a small portion of total demand for chevon, they appear prime for development (Pinkerton 1995; Miller 1999). Demand for chevon has continued to increase dramatically over the last two decades, as indicated by increased imports and a rising U.S. goat inventory.

Ethnic Demand

Ethnic demand constitutes the major demand component for chevon in the United States. It has been argued that for many ethnic and religious groups in the United States, maintaining cultural and religious identities is of primary importance (Harwell and Pinkerton 1999). Both food preference and religious affiliation show evidence of this determination (Solomon 1992). For many, the consumption

of chevon is interwoven into the fabric of tradition and religious observation. The demand for chevon, therefore, tends to be seasonal, centered on cultural and religious holidays (Gipson 1999).

Since the major demand for chevon is ethnic-based and the desire for immigrants to maintain their identity is so strong, some researchers have theorized that the price elasticity of demand is relatively inelastic (Harwell and Pinkerton 1999; Lillywhite 1999). Indeed, some reports from individuals familiar with the New York market suggest that consumers are willing to pay anywhere from \$2.28 to more than \$7.00 per pound on a carcass basis depending on the time of the year. Other reports have suggested that the New York and New Jersey markets have retail price ceilings near \$5.00 per pound. Other consumers purchasing chevon cut and wrapped reportedly may see prices ranging from \$3.00 to \$8.00 per pound. This is a clear indication that ethnic groups are willing to purchase chevon seemingly irrespective of price (Lillywhite 1999).

While this hypothesis is yet to be tested due to the lack of price and quantity data, it appears to be in accordance with empirically tested price elasticities of demand for other red meats (Lillywhite 1999). For example, the estimated price elasticities for retail beef and pork are -0.617 and -0.730 , respectively (Lillywhite 1999). Thus the quantity of chevon consumed should fluctuate little as price varies. Furthermore, as the ethnic population grows, and its purchasing power increases, the demand for chevon will rise accordingly. However, chevon is not without substitutes within the ethnic market. Lamb and mutton may become more important depending on relative prices (Lillywhite 1999).

Ethnic Population

The majority of the ethnic groups that consume chevon are from the Mediterranean, Caribbean, Middle East, Southern Europe, India, Far East, Africa, Southern Asia, Mexico, South America, and Central America (Solomon 1992). The United States is experiencing the largest sustained wave of immigration in its history, with 1.2 million legal and illegal aliens arriving each year (Emling 1998). The estimated foreign-born population of the United States in March 2000 was 28.4 million (U.S. Census Bureau 1997).

The foreign-born population expanded from 9.6 million in 1970 to 14.1 million in 1980 and to 19.8

million in 1990. In March 2000, an estimated 10.4% of the U.S. population was foreign-born, up from 7.9 % in 1990, and 6.2 % in 1980. Income growth has paralleled the foreign-born population growth. According to the U.S. Census Bureau, the average household income increased by 18.8% during the last census decade, with Asian household income increasing 51.3% after inflation. Increased disposable income for ethnic households should result in an increase in the consumption of preferred foods such as chevon.

The three largest chevon consuming ethnic groups in the United States are Hispanics, Muslims, and Africans. The various ethnic groups tend to have different preferences as to type and weight of the carcass purchased. Hispanics prefer young kids (*cabritos*) weighing 15–25 lbs. live weight and young goats about 50 lbs. live weight. Muslims demand goats that are about 70 lbs. live weight, male, and un-castrated in many instances. Haitians, Jamaicans, West Africans, others from the Caribbean, and African-Americans prefer mature goats. Koreans and Vietnamese also like mature goats, while Chinese prefer goats in the 60–80 lb. live-weight range. Chinese demand is strongest during the cooler months. Greeks and Italians prefer goats in the range of 30–40 lbs. and 18–24 lbs., respectively, during the Easter and Christmas seasons (Gipson 1999; Pinkerton et al. 1994). The seasonal demands for chevon among niche markets with varying requirements in terms of carcass size and age of the animal are major obstacles to the full development of the meat-goat and chevon markets.

Data

Data for this paper were obtained from the U.S. Census Bureau and the Census of Agriculture. Data on goat inventory are limited to only three reference years—1987, 1992, and 1997. U.S. immigrant population data include four reference years—1970, 1980, 1990, and 2000. This makes detailed analysis impossible and, therefore, conclusions must be viewed with caution. The two types of data were plotted on a graph to show the relationship.

Results and Discussion

The immigrant population and meat-goat inventory between 1970 and 2000 are depicted in Figure 1. The marked rise in both is evident. The immi-

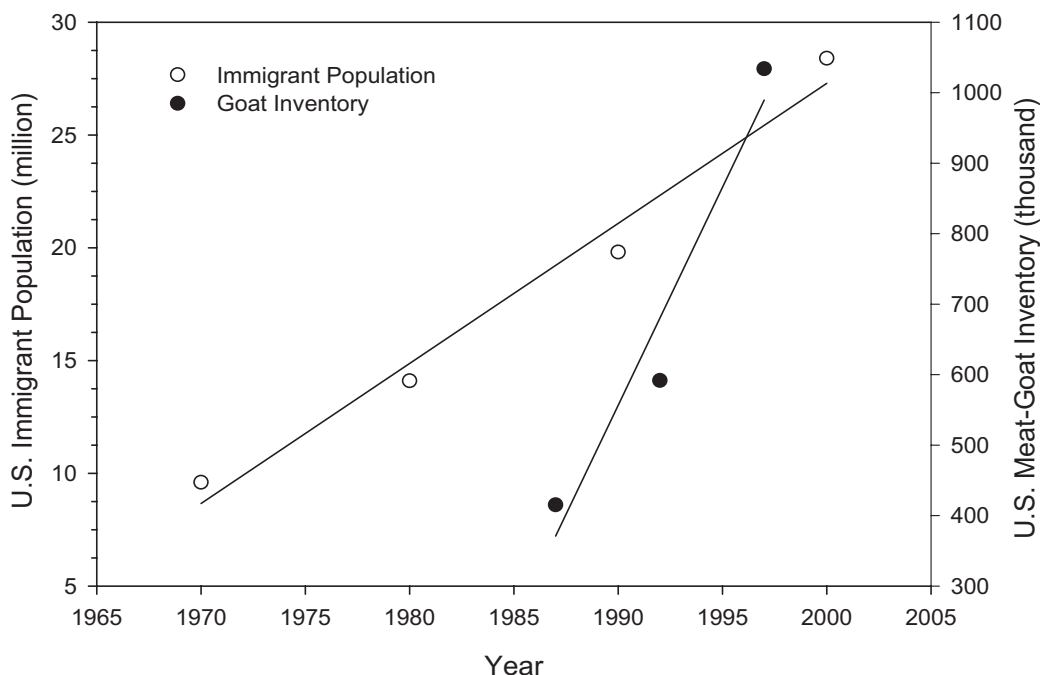


Figure 1. Relationship between Immigrant Population and Goat Inventory.

grant-population trend indicates on average that the U.S. immigrant population grows by 670,000 people annually. The goat-inventory trend on average indicates an annual rise in the U.S. meat-goat herd of 65,000. Over roughly the same amount of time (1987/1990 to 1997/2000) the annual rate of growth of the U.S. immigrant population was about 3.7% while the annual rate of growth for the U.S. meat-goat herd was approximately 9.6%, more than double the rate of growth of the immigrant population.

Conclusion

The meat-goat industry in the United States is still in its infancy. Due to the scarcity of goat-inventory data, the analysis herein is limited accordingly. The immigrant population has increased dramatically in recent years, and thus so has the demand for chevon. To take advantage of rising demand, U.S. meat-goat producers have increased production at an even faster pace. However, given the substantial increase in U.S. chevon imports in recent years, there appears to be continued room for growth in the U.S. meat-goat industry. As the data for the U.S.

goat industry improve, more definitive analysis, of course, will be possible in the future.

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