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Meat Goat Production in Georgia

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Goats are the most widely-dispersed meat animals and have been raised for centuries to provide meat, milk, fiber (mohair and cashmere) and leather. Due to their small size, adaptability to harsh environments and availability, they have been more popular in nations lacking refrigeration, animal management skills and modern transportation.

Since goats have not been of great economic importance in the United States (except in Texas), there has been little research concerning goat nutrition, reproduction or genetics. However, as we become more conscious of production efficiency, the goat is being viewed in a more favorable light. When measuring production of lean meat on forages alone, goats are without equal. In addition, no creature fills in more blanks in alternative agriculture, resource conservation and non-traditional animal production than the goat.

The United States' goat population consists of approximately 750,000 Angora goats, close to 1 million dairy goats and more than 1 million meat goats. This publication deals solely with meat-type goats in Georgia and covers their history, selection, and management – from predator and disease control to reproduction and marketing.

Origin and Evolution of Most Frequently Used Breeds

The Spanish meat goat – also called the brush or briar goat – is of uncertain origin. The population probably consists of goats brought into Colonial America that migrated west with their owners and bred with goats from Spain and Mexico. Later, dairy breeds and Angoras intermingled throughout the population.

Spanish goats come in a variety of colors and patterns; most are horned. (Polledness in goats is genetically associated with an undesirable reproductive condition.) Their size is variable depending on location. Mature brush goats in Georgia are smaller than their Texas counterparts. Spanish bucks in Georgia

weigh 80 to 120 pounds with does (nannies) weighing 60 to 80 pounds. Bucks (billies) from Texas can weigh up to 200 pounds and does up to 130 pounds. This is probably a reflection of nutritional value of forage.

Georgia brush goats have been selected over the years for survival of the fittest, with some selection pressure placed on color, horns and size. Selection for survival has led to small, light-milking, adaptable goats mainly because a small animal can meet its nutritional needs more easily than a large one.

There has been some infusion of dairy breeds into Georgia meat goats with varying degrees of success. Using dairy bucks on native does increases the size and milk production of the resulting female offspring. However, on a low plane of nutrition, these dairy crosses may lack vigor and adaptability. Udder and teat problems may also develop when dairy blood is incorporated.

The introduction of the South African Boer Goat and the Kiko from New Zealand in the early to mid-1990s provided producers a new source of germ plasm. This heavily muscled, well-tempered goat has become quite popular since its importation in 1993. Research indicates that using partial or full-blood Boer billies increases the size, muscle and growth rate of the kid crop. The effect of the Boer on the resulting females should be to increase the size, muscle and milk production; however, research to document the Boer female's reproductive efficiency has not been conducted.



Figure 1. An excellent group of Spanish nannies.

The importation of the Kiko, a New Zealand breed selected for survival and growth rate is also likely to improve meat goat production. The Kiko is a large-framed, early-maturing

goat with high feed conversion rates. They may be more tolerant of internal parasite loads. Crossing Kiko or Boer with other breeds should result in increased heterosis or hybrid vigor. Very few Angora goats are used for meat in Georgia.

Selection

While production depends a great deal on feeding and management, genetic selection for performance and visual characteristics is also important. In order to make important selection decisions, one must have an effective method of keeping records. All nannies should be identified by ear notches or ear tags. Record birth date, sale date, weaning weight and/or sale weight of each kid and simply select those nannies that return the most total pounds of kid per year. Use the sons of the most productive nannies to sire the next kid crop, and keep the best female kids as replacements. Bucks should be changed every two years to prevent inbreeding and loss of vigor in the herd.

Limited performance testing and selection have been carried out with meat goats; few growth rates have been reported. The Georgia Meat Goat Buck Performance test program at Fort Valley State University is one of few in the country based on a forage base. Many Georgia producers wean goats weighing 30 to 35 pounds at four months and 40 to 50 pounds at six months. When using growth rate for selection, remember that it depends not only on genetics, but also on feeding and management.



Figure 2. Use big, stout billies to sire your kid crop.

In addition to optimum growth, multiple births and kidding three times in two years, other traits to consider when selecting goats are large body size, muscling and sound feet and legs. Establish your criteria and cull does that are poor milk-

ers, have poor udders, are unsound on their legs, or have a poor reproductive efficiency.



Figure 3. Money-Makers: Yearling with a big set of twins.

An effective method for herd improvement involves dividing does into breeding groups by visual and performance traits, then selecting bucks to complement the characteristics of the group.

Facilities

The nature of goats must be considered when designing facilities and working with them. Goats exhibit “flocking” behavior and will follow each other. They also are very active and like to climb, so take care to keep fence lines clear of rocks, stumps and timber. Generally, goats move away from buildings, alleys and other dark areas. This must be considered when constructing working chutes and pens. The value of working pens cannot be underestimated when it comes to handling these small, agile, unpredictable animals for procedures such as deworming, identification and foot trimming.

Pens should be sturdy, preferably solid-sided and at least 4 feet tall. The working chute should extend from a crowding pen on one side of the main pen. Ideally, the working chute should be curved. It also needs to be solid-sided, about 10 feet long, 4 feet high, and 12 inches wide with sliding gates dividing it into sections. Using a tapered chute for horned goats may assist in their control; the top being nearly twice as wide as the bottom. Canvas flaps suspended along the chute may keep the goats’ heads down and prevent riding.

Goats do require some shelter from inclement weather, especially during kidding as young goats are vulnerable to respiratory infection and hypothermia. A sturdy shed that is dry and opens to the south usually provides adequate protection. The structure should provide a minimum of 5 square feet

of floor space per goat, be closed on two or three sides, and be roofed low to the ground to trap body heat. Rear eave heights of 4 feet to 6 feet and front eave heights of 6 feet to 8 feet are adequate. Hinged sides that can be raised during the summer will allow the shelter to provide shade and air movement. Goats will run to the shelter when it rains but they do not need to be inside. The rain will not harm them unless it is cold, too.

Effective goat fences are ones that keep the goats in and aid in keeping predators out. Topography, economics and predation pressure determine what type of fencing is most suitable. Currently, one of the most common and conventional fences used is woven wire combined with barbed wire. Be aware that the traditional “hog wire” should NOT be used with horned goats. Woven wire with smaller and larger openings is available and should be used instead. Manufacturers now sell a special “goat net” containing vertical stays 12 inches apart or 4” x 4” or “3 x 6.” These wider rectangles allow horned goats to back out more easily, eliminating entrapment. This wire mesh is usually 38 to 47 inches in height. It is generally topped by one or two strands of barbed wire and has one strand just above ground level to discourage digging by predators. Using a single strand of smooth electric wire about 24 inches above the ground will discourage climbing. Barbed wire can also be used to confine goats, but is not recommended.

Electric fencing also shows promise. If properly constructed, these can be effective and relatively inexpensive. For perimeter fences, five or more wires alternating hot and ground can be constructed for approximately one-third the cost of woven wire. A non-electrified woven fence is recommended for the perimeter in most cases even though the electric can work. Electric fencing is more commonly used to cross-fence or temporarily divide pastures. The addition of wooden staves or twisted wire stays between permanent posts helps tighten the wire and make it more goat-proof.

Besides keeping the goats in, fences are important for keeping out predators such as bobcats, coyotes and dogs. Woven wire is the most effective, especially if an electric trip-wire is run 8 inches high and 6 to 10 inches outside the fence. Other methods of predator control include night penning, kidding in protected pastures and the use of guard animals. Trapping, hunting and other lethal methods of predator control can also be used with care. Donkeys and llamas are used as guard animals, but the most common animals used are dogs. Many breeds have been used as guard dogs, ranging from mixed breeds to traditional guard breeds such as Great Pyrennes, Komondor, and Anatolian Shepherd. Three traits are essential for a good guard animal: it must bond with the animals it is protecting, it must be courageous in the face of a predator, and it must accept the responsibility of its job. To bond with the goats, the dogs should be introduced to them as puppies when they are 8 to 12 weeks old.



Figure 4. Livestock guarding dogs decrease predation.

Nutrition

Meat goats are minimal care animals that are browsers by nature. Goats spread their grazing pressure more evenly over all vegetation classes than sheep or cattle. This allows them to utilize forage and browse (brush) that is otherwise wasted, while also providing biological control for unwanted vegetation in cattle pastures and forests. In Georgia, some of the weeds preferred by goats include blackberries, pig weed, thistles, honeysuckle, privet and kudzu. This brush control and pasture improvement provides real benefits often equaling \$40 to \$70 per breeding female per year. For unimproved pasture, goats are without equal. It is a common myth that goats are able to make use of poor quality and trash feeds; actually, goats appear to require more quality in their rations than larger ruminants. They are able to thrive under adverse conditions because they are more selective in feeding and better able to conserve critical nutrients. Thus, the ideal option is adequate year-round grazing with only mineral supplementation.

Remember that goats are active foragers that will cover a wide area in search of scarce plant materials. They are well suited to this form of grazing since their prehensile lips are able to choose only the most nutritious parts of available plants. While goats generally prefer- and select-browse, they do consume some other forages to compensate for the quality of their diet. These traits make goats a valuable asset in multi-species grazing pastures. Pasturing goats with sheep, cattle or other species maximizes productivity of the land. As a general rule, six mature goats equal one cow on improved pastures and 10 goats equal one cow on browse or brushy areas.

Meat goat nutrient requirements include energy, protein, minerals, vitamins and water. Utilization of all nutrients depends on an adequate supply of energy. Supplied by both carbohydrates and fat, energy is usually the most limiting nutrient. Energy deficiencies, which may result from inadequate feed intake or low quality feed, are noted by retarded kid growth, delayed puberty, reduced fertility, depressed milk production and a lowered resistance to disease and parasites. Age, body size, growth, pregnancy, lactation, weather, physical activity and stress influence energy requirements.

Proteins are essential in any diet, because proteins are the building blocks of all cells. Proteins consist of amino acids, which are required by cells of the body and by secretions such as enzymes, hormones and milk. Deficiencies of protein can lead to reduced rumen efficiency, retarded growth and fetal development, depressed milk production and, in extreme cases, serious or fatal ailments. Although goats are ruminant animals, they are less able to use non-protein nitrogen (e.g., urea) to synthesize protein because they recycle relatively high levels of urea in their saliva. Protein requirements depend on a variety of factors such as maintenance, growth, reproduction and lactation, but research suggests that a 14 percent crude protein diet is adequate for most classes of goats.

In general, mineral requirements for goats are similar to those of other ruminants. Seven major and nine minor (trace) minerals are essential for livestock. The major (macro) minerals that must be provided in large quantities include calcium, phosphorus, sodium, chlorine, magnesium, potassium and sulfur. Phosphorus is often deficient in pastured goats. The 1½ - 2 calcium to 1 phosphorus ratio is important to maintain in mineral supplements to aid in the prevention of urinary calculi. Calcium levels are usually sufficient in grazing conditions for meat goats, but dairy goats may need supplementation. Phosphorus will be high in grain-based diets. Sodium and chlorine are commonly provided as free choice salt. Goats not receiving enough of either may consume soil or debris. Placing salt in less frequently grazed areas can encourage them to move to these areas. Note that trace mineralized salt should not be used in this manner as trace elements could be oversupplied. The next macro mineral, magnesium, is required for nervous and enzyme system function, and is related to calcium and phosphorus metabolism. Magnesium deficiency is often associated with grass tetany, which is treated with intravenous calcium and magnesium administration. Potassium deficiencies are uncommon except in high concentrate diets in which supplements should be fed to correct this problem. The final major mineral, sulfur, is usually adequate in common feedstuffs.

Trace or micro minerals include iron, iodine, copper, molybdenum, zinc, manganese, cobalt, selenium and fluorine. Deficiencies of these minor minerals are rare if a trace mineral supplement is offered free choice.

Vitamins are essential for normal body processes. Typical pastures should contain adequate levels of vitamins. Vitamin A

is the only one likely to be deficient, and then only during extended droughts when green forages are not available. Goats have an advantage over other ruminants in their ability to pick the most palatable green parts of forage. This allows them to consume the most vitamin-rich portions. Take care to supplement the diet of goats forced to consume low-quality diets and old, weathered hays.

Water is the most critical of all nutrients. Meat goats should be provided all the fresh, clear water they will consume. Generally they require 1 quart to 1½ gallons per head per day. Water intake depends on temperature, water content of forage, amount of dew, exercise level and the salt and mineral content of the diet. While goats are highly sensitive to water quality, they also are extremely efficient in water use. Goats approach the camel in the low rate of turnover per unit weight. In providing water, use common sense. Due to the playful nature and climbing of kid goats, they may fall in large troughs. Using smaller troughs is recommended to ensure adequate amounts of water for small animals and in keeping water fresh.

Health

Herd health and management practices are major factors in determining the profitability and success of producing goats. A normal goat has a temperature of 104 degrees F and a heart rate of 70 to 80 beats per minute. The respiration rate is 12 to 15 breaths per minute. Heart and respiration rates are faster in kids. Rumen sounds or movement should occur one to two times per minute. Parasites, especially internal, prove the greatest challenge to goat health. Common diseases ranging from viral and bacterial infections to digestive maladies are important to remember in planning management and budgeting costs.

Because of the mild temperature and high annual rainfall in the Southeast, internal parasites are significant threats. Parasite problems are intensified in conditions of overcrowded and non-rotated pastures.

Roundworms, stomach worms and coccidia are the most prevalent internal parasites. Symptoms of parasite infestation include rough hair coat, weakness, bottle jaw, weight loss, diarrhea and anemia. Heavily-infested goats will often have pale mucous membranes due to blood loss or anemia. A fecal sample examined by your veterinarian can provide a definitive diagnosis on the type and degree of infestation, as well as the recommended treatment.

A regular program of monitoring for worms using the Smart Drenching approach to deworming (every six to eight weeks) coupled with pasture rotation is essential for controlling the various internal parasites. The most prevalent internal parasite in Georgia is *Haemonchus contortus* (Barberpole worm), which is a blood sucker that resides in the abomasum (one compart-

ment of the compound stomach). When deworming, sorting the animals by size and then dosing all for the heaviest of the group is more effective than treating according to an average body weight. Very few products are FDA approved for use in goats. Other products have become less than fully effective in goats. Your Extension agent should be able to provide some guidance in what products are available, but a veterinarian should be consulted for any off-label use of such products.

Coccidiosis is a management-related contagious disease, especially of young goats, and shows symptoms similar to other internal parasites. While generally a disease of young kids, most adults are mildly infected and will continuously shed oocysts that infect kids. Anywhere there is manure contamination, coccidia can spread. Regular deworming programs are ineffective against coccidia. Diagnosis of coccidia based on clinical signs of diarrhea and bloody stools or by fecal examination can call for consultation with your veterinarian. Because they are athletic, goats tend to spread manure on feeding equipment and space.

External parasites such as lice, flies, mosquitoes and ticks can also affect goats. These pests, most prevalent during spring, summer and fall, can be treated with livestock sprays.

Goats are susceptible to a number of other common diseases. If a problem occurs in your herd, consult your veterinarian. Shipping in new goats, especially from crowded conditions at sales, provides the perfect opportunity for the spread of infectious diseases. New breeding animals should be purchased directly off the farm if possible to minimize exposure to disease agents. Newly-purchased animals should be quarantined for 30 to 60 days and checked carefully.

Pinkeye is an infective eye condition caused by both viruses and bacteria that thrive under the above conditions. The eye first has a watery discharge that progresses to pus. The eye will swell and the cornea turns white. Infected goats should be isolated and treated with an ointment or eye powder, as well as antibiotics if necessary. Once acquired, there is little treatment and the disease will run its course.

A disease common in recently-shipped goats is pneumonia. Symptoms include high fever, labored breathing, coughing and nasal discharge. These symptoms may become chronic and difficult to treat if a veterinarian is not consulted. Goats tend to be very prone to pneumonia and related diseases.

Soremouth, or Orf, is a highly contagious viral disease that causes weeping sores and scabs on the lips and mouths of goats. Humans can contract this virus, so be careful when handling infected goats. Few medicines help in the treatment of soremouth. A live virus vaccine is available, but is risky and not recommended unless your herd has soremouth.

Another less common viral disease is caprine arthritis encephalitis, or CAE. It is more widespread in dairy goats than

meat goats, but since many goats in Georgia have some dairy influence, CAE is a concern. The virus is transmitted through the milk and colostrum of infected mothers to nursing kids, as well as by contact. Infected kids from two to six months are characterized by rear leg paralysis. The more common manifestation is as arthritis in adult goats. Does also develop chronic inflammation of the mammary gland with decreased milk production. There is no treatment for this disease, so testing of animals is essential.

The kids of infected does should not be allowed to nurse, but rather should receive pasteurized colostrum and milk replacer.

Tetanus, resulting from a wound infection, can also affect goats. The toxin produced by the anaerobic bacteria in the wound causes the muscles to become rigid. Stiffness, slowness to eat and chew, and awkward swallowing are early symptoms. The third eyelid will also be visible. Loud noises and movement will cause the goat to have violent spasms. Goats are nonresponsive in most cases, but an anti-toxin may be helpful if administered early. Prevention by proper wound care and vaccinating with tetanus toxoid after dehorning or castration is the best policy to follow.

Foot rot is not common in goats unless they have wounds on their feet or stand for long periods in wet, unsanitary areas. Lameness and swelling above the hoof are early symptoms. Liberal trimming of the hoof and treating with copper or zinc sulfate or formalin are the routine treatments.

Several digestive diseases can cause problems in goats. Enterotoxemia (overeating disease) seldom exhibits symptoms other than sudden death. The disease is caused by a clostridium organism, of which there are two types, C and D. These clostridia are normally present in the digestive tract. An abrupt change in feeding schedule or consumption of a large amount of grain can cause the clostridia to grow rapidly, producing a toxin that causes death within a few hours. Vaccinations should eliminate this problem. Kids require two shots at about six-week intervals and the breed herd should be vaccinated annually. Most vaccines available also include protection against tetanus (CD&T).

Mastitis is seen in many goats and may be a problem. It occurs more frequently when crossbreeding native does with milk goats, which have large udders and are more susceptible to this condition. Large teats are more vulnerable to injury too. They will also drop and enlarge more at kidding, making it impossible for the newborn to nurse. If help is not available immediately, the kid will starve or have an inadequate colostrum supply. Culling is the best way to deal with does that have contracted mastitis.

Very few drugs are approved for use on goats. For this reason it is important to have a client-patient relationship with a veterinarian who can prescribe other medications. Goats that are kept in adequate pasture and browse and are not overcrowded have fewer disease problems. Internal parasites can be con-

trolled by pasture rotation, fecal checks and appropriate deworming. Careful buying of new breeding stock and isolation can help prevent new diseases. Check with your veterinarian about parasite and disease control. Remember that most goats are sold for meat, so food safety is important. Withdrawal times before slaughter must be observed. Injections should be made in the neck muscle.

Reproduction

Goats are seasonally polyestrous with estrous cycles every 20 to 21 days from July through January. Few does cycle in March and April. February, May, June and July are considered transitional months. Tropical breeds of goats may cycle year-round. Goats reach sexual maturity at five to nine months, but it is not recommended to breed them until they have reached 60 percent of their adult weight, or one year of age.

The presence of a buck causes does to come into estrus. Estrus (standing heat) lasts 24 to 36 hours and is recognized by tail-shaking, flagging, nervousness, frequent urination, bleating, swollen vulva and discharge.

With proper nutrition and management, three kid crops every two years are possible. An ideal management scheme would be to breed in February, then again in September. A buck may breed 50 to 200 does in a single breeding season, but it is recommended that three or four bucks be put with 100 does. Bucks should be changed often to prevent inbreeding in the flock (at least every two years).

Nutritional requirements for reproduction will vary according to the state of production. Bucks should be placed on an increased plane of nutrition six weeks before breeding so that they can stand the rigors of covering many does. The nutritional requirements of does vary greatly, depending on the stage of production and gestation.

Between weaning and breeding, the doe is in a dry period with nutrient requirements at their lowest. A maintenance diet is sufficient as long as weight lost during lactation is recovered before breeding.

Flushing two weeks before the breeding season can increase the kidding percent. Flushing is increasing the nutrition of the animal prior to breeding, which can increase the ovulation and conception rates. This can be done by turning goats on fresh, lush pasture or by feeding grain for the two or three weeks before the breeding season. This is effective with thin does, but does that are in good condition benefit less.

During early gestation (100 days after breeding), nutritional requirements are not critical and maintenance level will suffice. In late gestation (last 50 days), nutrition is critical since 70 percent of fetal growth occurs during this time. Protein

and energy requirements increase drastically, often warranting supplemental feeding programs in the third trimester. Do not get does too fat in early gestation as it can lead to pregnancy toxemia later on.

The first eight weeks of lactation have the greatest nutritional demand of any time in the production cycle. This period generally coincides with spring growth, but in accelerated kidding programs, the nutritional requirements must be met with supplemental feeds.

The gestation period varies from 147 to 155 days, the average about 150 days. Does generally deliver two kids averaging 4 to 6 pounds each. Labor begins with one to ten hours of uterine contractions followed by rupture of the water bag. Within an hour of the water breaking, the first kid should be delivered, and all of the kids should be delivered within three hours. A shelter should be available to pregnant does in case of bad weather, but does often select an area away from the shelter and herd to kid. Dystocia is rare in goats. Most difficulties occur from mal-presentations in which assistance should be provided. The producer should ensure that each kid receives colostrum within two to four hours postpartum.

Horned kids can be easily disbudded at four to ten days. Males to be kept but not for breeding can be castrated at this time or at weaning. Some meat markets favor uncastrated males, so learn the customer preference. At one to two weeks the kids should be given a clostridium-tetanus vaccine if the doe was not vaccinated prior to kidding. Kids can be vaccinated between one and two months and receive a booster four to six weeks later. Most kids are marketed at four to nine months and at live weights of 40 to 80 pounds and therefore are not generally castrated.

Producers often replace 20 percent to 25 percent of their breeding does each year. These doelings, selected at weaning, should be chosen with emphasis placed on multiple births, early-born kids, and kids from does that kid more than once per year. Selection of bucks should emphasize growth rate and muscling, while does should emphasize reproductive traits more. Replacement does should weigh at least 50 to 60 pounds before they are bred. If does are run year-round with the bucks, they will often breed at seven to nine months. If these female kids are bred, they should be fed a supplement for proper growth. Does that do not kid by two years of age should be culled.

Marketing and Economics

The economic value of meat goats cannot be denied. They are able to use marginal land and complement grazing of other species to efficiently produce a marketable product. One great need of the meat goat industry, however, is a production target on which to focus. Individual production goals need to be set.

Currently there is a high demand:supply ratio if a market can be found, but there are few consumer signals as to quality, fabrication, and packaging. Unlike other meats, most of the goat meat produced never enters a formal production chain (feeder, packer and retailer). Know your market demand and produce for it.

In this absence of consumer input, production schemes must be based on production efficiency and cost of production. Selection of the type of goats to raise is important. It is essential to choose breeds or combinations of breeds that can efficiently utilize your resources to meet the specific production goals you select. A list of important characteristics of five major meat goat breeds is shown in Table 1.

Table 1. Relative Production Characteristics of Five Major Types or Breeds of Meat Goats in Georgia

Characteristics	GA Native	Spanish	Kiko	Dairy	Boer
Longevity	+++	+++	+++	+	++
Thriftness	++++	++++	++++	+	+++
Frame Size	+	++	+++	++++	+++
Muscle	+	++	++	++	++++
Milk	+	+	+++	++++	+++
Udder conformation	+++	+++	+++	+	+++
Disposition	++	+	+++	++++	++++
Appetite	++	+	++++	+++	++++
Nutrient Requirements	+	+	+++	++++	+++

The major constraint in non-traditional production areas appears to be market outlets for live goats and efficient methods of slaughter, processing and transporting goat meat to consumer markets. It is difficult in many areas to find slaughterhouses that will process goats. The highest demand for goats is by ethnic populations around large cities and by rural residents; therefore, the facilities and market demand around these areas are better established.

There are five common outlets for marketing meat directly to the public or to specialty markets: freezer market, ethnic/religious market, gourmet market, retail grocery stores and restaurant market. An important marketing aspect of goat meat is that it is low in sodium and saturated fat (but not cholesterol). These are valuable aspects to advertise to today's health-conscious public. Become aware of special ethnic holidays and religious sacrifice dates. Gear you marketing toward them.

Of the several strategies for marketing goats, the most common avenues are to sell directly to final consumers or dealers at the farm or livestock market. While direct sales generally earn \$5 to \$10 more per head than at auction, the disadvantage comes in the inconvenience and limited number of people seeking a live animal for slaughter. Direct sales can be increased by running advertisements in newspapers and on the radio and having animals ready for slaughter at major holidays such as Easter, Ramadan, Fourth of July, Thanksgiving and Christmas. An arrangement with a custom slaughterhouse can expand your sales by making the product more convenient for the client.

One of the greatest challenges to the meat goat industry is reaching mainstream consumers rather than only ethnic groups. There are few places where goat is sold wholesale or retail. Because of a lack of familiarity, goat is difficult to sell through supermarkets because consumers would not know how to prepare it. A promising strategy to implement is to target the foodservice sector (restaurants). If this is to be done, it is imperative to ensure a constant, high quality supply at a stable price. Besides the initial market of the restaurant, this could encourage consumers to purchase goat for home preparation.

Although the introduction of the Boer-improved breeds of goat should improve rate of gain and dressing percentage of meat goats, currently the average yield is 48 to 50 percent. This means that a 40- to 50-pound goat (average weight of young goat) yields a 19- to 23-pound carcass. As in the cattle industry, secondary products are also valuable to the producer. Shearing goats for mohair, as well as selling the skins after slaughter, may also provide an income stream.

A set of grading standards is now available for meat goats. These standards are published as a USDA publication. The primary criteria for the different breeds is the amount of muscle a goat shows. The grades, Selection 1, Selection 2 and Selection 3, vary according to muscling. Unlike other livestock market grades, fat level is not considered. On the matter of food safety, the Wholesome Meat Act of 1967 does regulate the slaughter and inspection of all meat.

Most producers market their kids at four to five months of age or before weaning. There is some demand for milk-fed *cabrito* that is less than five weeks old. While there seems to be a growing demand for goat meat, marketing may be more of a challenge because of the numerous market demands of the diverse customer base.

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