

## **Opportunities and Challenges for Developing Small Ruminant Systems**

Fidelis Okpebholo<sup>1</sup> and Tyrell Kahan<sup>2</sup>,  
Cooperative Extension Program, College of Engineering Sciences, Technology and  
Agriculture, Florida A&M University, Tallahassee, Florida

Small ruminant production, specifically meat goat production, is one of the fastest growing agricultural production systems in the United States today. This growth has created opportunities for producers, especially the small-scale farmer looking for a profitable alternative enterprise to integrate into their existing production system. There are challenges, however, that must be addressed when considering the development of a successful small ruminant system. First, the numerous opportunities to develop a small ruminant system will be discussed. Then, the challenges facing the development of the small ruminant industry, with emphasis on meat goat production, will be discussed in the context of sustainability for the small-scale farmer.

### **Opportunities**

There are several opportunities for small-scale farmers to supplement their incomes by integrating small ruminants into their farm enterprises. Such opportunities are created by several factors such as the rising demand for goat meat, the low start-up cost, the minimal labor requirements, the ability to use the animals for brush control and multi-species grazing, in addition to the prolific nature of goats.

### **Rising Demand for Goat Meat**

Currently, the demand for goat meat outpaces the supply in the United States. Producers simply cannot keep up as demand is currently double the domestic production (Coffey, 2006). This is thought to be triggered by the influx of new immigrants into the United States in recent years. These ethnic groups include Hispanics, Muslims, Asians, Africans, and Caribbean Islanders, who prefer goat meat in their diets, and usually buy the meat whenever they can find it. Members of these ethnic groups also use goat meat for religious festivals, weddings, and birthday celebrations. In the future, the ethnic demand for goat meat is expected to increase as ethnic populations increase, and their purchasing power improves. Another potential group of consumers of goat products is the health conscious group of the mainstream population. This group is looking for alternative meats for health reasons. As a low-fat red meat alternative, goat meat has better nutritional qualities than other red meats and compares favorably to other meats such as chicken (Table 1). The current and expected increase in demand for goat meat and the lack of sufficient supply have created opportunities for limited-resource farmers to fill the void and enhance their business prospects by integrating meat goat production into their farm enterprises (Luginbuhl, 2000).

**Table 1. Comparison of Goat Meat to Other Meats (3oz. roasted)**

<b>Animal species</b>	<b>Calories</b>	<b>Total fat (grams)</b>	<b>Saturated fat (grams)</b>	<b>Protein (grams)</b>
<b>Goat</b>	122	2.58	0.79	23
<b>Beef</b>	245	16.00	6.80	23
<b>Pork</b>	310	24.00	8.70	21
<b>Lamb</b>	235	16.00	7.30	22
<b>Chicken</b>	120	3.50	1.10	21

Source: Luginbuhl, J. (2000). Meat Goat Production in North Carolina. Retrieved May 1, 2007, from [www.cals.ncsu.edu/an\\_sci/extension/animal/meatgoat/mgproduction.html](http://www.cals.ncsu.edu/an_sci/extension/animal/meatgoat/mgproduction.html)

### **Low Start-up Cost**

Low start-up cost is another factor that creates an opportunity for the development of a small ruminant production system by a small-scale farmer with limited resources. Start-up cost for a meat goat producer is considerably lower than that of cattle producers. First, five does can normally be acquired for the price of one cow. Second, goats require less land than cattle, as six goats can be sustained by the same amount of area needed to sustain one cow. Third, goats can do well on low quality forage diets and thrive on harsh terrain, which means they do not need expensive structures like barns to thrive. However, the animals do need some sort of shelter, which can be constructed from inexpensive materials. No special or unique equipment is needed for small ruminants as existing equipment for young calves could be converted for goat use.

### **Less Labor Intensive**

Small ruminant production is less labor intensive when compared to the production of larger animals. Due to the size of goats, women and children in the family can easily handle the animals. Most goats are good tempered and the chances of children and women getting injured are limited. Therefore, investing in a small ruminant production system can create employment opportunities for members of the entire family.

### **Brush Control and Multi-species Grazing**

An added-value to goat production is that the animals can be used for grazing and vegetation management. Goats are very suitable as vegetation management tools because of their ability to consume many types of forages and their apparent resistance to many plant toxins. Goats can be used effectively to control kudzu, poison ivy, and many other plants that are not utilized by grazing cattle. Additionally, goats seem to be a good choice in multi-species grazing systems as they tend to integrate well with other farm animals. In fact, one or two goats per cow could be grazed together in a herd without adversely affecting the well-being of neither the cattle nor the goats. By suppressing or eliminating the brushes and weeds, goats reduce the need for herbicides and reduce competition for scarce soil nutrients, which could ultimately result in an increase in pasture yield. Apart from being environmentally-friendly, using goats to control brushes and weeds will save money for the farmer by decreasing the amount of money spent on

purchasing herbicides and other weed control devices.

### **Prolific Nature of Goats**

Although goats are seasonal breeders, a doe (mature female goat) can be bred and successfully give birth (or kid) three times every two years. Moreover, goats have more reproductive cycles than cattle within the same period of time. In a period of two years, it is possible for a doe to give birth to six kids because of its high twinning rate, whereas a cow is most likely to produce two calves for the same period. This quick turn over rate is an advantage to the producer in terms of cash flow and the building up of his or her herd size.

### **Challenges**

Although there are many opportunities for limited-resource farmers who decide to enter into the small ruminant industry, the challenges that influence their success are real and must be addressed. The main challenges that have created the largest obstacles to the development of a viable small ruminant industry in the United States are lack of an effective means to control internal parasites, lack of effective marketing strategies for products derived from goat meat, inadequate expertise information, and limited access for limited-resource farmers to financial support.

### **The Control of Internal Parasites**

The control of infestations of small ruminants by internal parasites (especially nematodes) is the most serious problem that challenges the small ruminant industry today. Infestations of these parasites can cause major economic losses to producers because of the cost of treatment, production loss, and death of heavily infested animals.

Proper and effective management of internal parasites is extremely important for the survivability of the small ruminant industry. The ability to detect the clinical signs of a major worm infestation, to properly treat the infected animals, and to effectively reduce the herd's exposure to these parasites are all very important for effective internal parasite management. Worms that infect small ruminants have developed resistance against most of the available and widely used anthelmintics (dewormers). This is mainly attributed to the fact that many of these drugs are not approved for use in goats, are frequently used, and the animals are commonly under-dosed. Since there are few anthelmintics approved for use in goats, the dosage used for goats are normally "extra-label" or the producer uses the same dosage rates that are recommended for cattle or sheep. Goats are known to metabolize anthelmintics faster than cattle and sheep, which points to the fact that they require a higher dosage. Even though there is a need for drugs that have approved dosage rates for goats, it is unlikely there will be any new types or classes of anthelmintics for goats in the near future because the limited markets for these drugs do not validate the high discovery and developmental cost needed to create the drugs. Although preventive measures such as low stocking rate, pasture rotation, and proper nutrition could reduce the level and the effects of infestation by these parasites, prevention strategies that effectively reduce the need for anthelmintics and decrease parasitic infestations are needed. Effective prevention of parasitic infestations would bring a huge boost to the

development of the small ruminant industry.

### **Marketing Goat Meat**

Despite the increasing demand, marketing goat meat is still a major challenge to the development of the meat goat industry. The current market situation is erratic and not organized. There are no established standards for marketing goat meat. Also, there are not enough government-approved processing plants for goats, and these plants are mostly located in large cities and are far from farmsteads. Consequently, the producer's ability to market his products is limited because of the difficulty and expense required to transport the animals to these slaughter facilities. Additionally, the link between the farmers and the ethnic consumers needs to be strengthened because these ethnic groups prefer fresh meat slaughtered on the farm, and buying directly from the producers increases the producers' profit margin as compared to marketing through stock yard auctions.

Other serious marketing challenges facing the goat production industry are how to convince the mainstream sector of the population to consume goat meat, and how to establish a viable marketing outlet for this group. Large and established grocery companies are skeptical about the inclusion of goat meat in their stock because of the uncertainty of reliable and constant supplies, the uniformity of cuts, and the lack of a wide range of products from goat meat that will appeal to these emerging, mainstream groups. Predictable and consistent products like pre-cooked and pre-packaged products from goat meat should enhance the consumption by the mainstream. Also, a boost in the consumption of goat meat may come when the mainstream population becomes better informed about the health benefits they can receive from the consumption of goat meat. These are vital issues in the development and long-term sustainability of the meat goat industry.

### **Limited Expertise and Information**

Available expertise and information for meat goat production are very limited when compared to what are available for the production of traditional meat animals such as cattle and swine. For example, there are no accurate statistics on the number of goats produced or sold, appropriate feeding regimes for goats are not yet determined, and standard goat herd health programs are not very developed. However, researchers are working in these areas and hope to develop a standard of production and a marketing strategy for goat meat in the near future.

### **Limited Access to Financial Support**

Meat goat production is a relatively new industry in the United States. Lenders are skeptical of this enterprise because there is little or no available information for them to determine its profitability. This makes it difficult for owners of small farms to secure loans for meat goat enterprises.

## Conclusion

With the existing market from ethnic groups and the potential market from the mainstream consumers, the demand for goat meat will continue to increase. The rising demand, coupled with other factors such as low start-up cost, minimal labor requirements, ability to use goats for brush control and multi-species grazing, and the prolific nature of goats has made meat goat production systems a viable alternative and profitable enterprise to revive or upgrade small-scale farms. Although there is a wealth of opportunities, there are also challenges plaguing the industry. While the most serious of these challenges is the control of internal parasite, other challenges such as marketing goat-derived products, limited expertise and information, and limited financial support all pose problems for the development of this small ruminant industry. These challenges must be addressed in order for the meat goat industry to arrive to the potential level that it can attain.

For more information, please contact the FAMU Cooperative Extension Program by phone at (850) 599-3546. Also, visit the Herd Health Program website at <http://www.famu.edu/herds> and the Statewide Goat Program website at <http://www.famu.edu/goats>.

## References

- Coffey, L (2006). *Meat Goats: Sustainable Production*. ATTRA. Retrieved February 5, 2007, from <http://www.attra.org/attra-pub/meatgoat.html>
- Geary, T. G., N. C. Sangster, et al. (1999). *Frontiers in anthelmintic pharmacology*. *Veterinary Parasitology* 84(3-4): 275-295
- Luginbuhl, J. (2000). *Meat Goat Production in North Carolina*. Retrieved May 1, 2007, from [www.cals.ncsu.edu/an\\_sci/extension/animal/meatgoat/mgproduction.html](http://www.cals.ncsu.edu/an_sci/extension/animal/meatgoat/mgproduction.html)

## Footnotes

- <sup>1</sup> Fidelis Okpebholo, Extension and Farm Management Specialist, Florida A&M University  
<sup>2</sup> Tyrell Kahan, Animal Care Specialist, Florida A&M University

All correspondence should be addressed to:  
Dr. Ray Mobley, Extension Veterinarian  
Cooperative Extension Program  
College of Engineering Sciences, Technology and Agriculture  
215 Perry-Paige Building South  
Florida A&M University  
Tallahassee, Florida 32307  
Telephone: 850-412-5252  
Fax: 850-561-2151.  
E-mail: [ray.mobley@famu.edu](mailto:ray.mobley@famu.edu).

*Published in the July 2007 official newsletter of the Florida Meat Goat Association, the Caprine Chronicle, Volume 22, Issue 4.*