



3-1-2015

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### **Recommended Citation**

Onyango, Benjamin, Kelsey Cole, Elizabeth Walker, Catherine Hoegeman, Charlotte Clifford-Rathert, Mohammed Ibrahim, and Whitney Witworth. "Exploiting Economic Potential for Goat Production: A Case for Missouri and Arkansas." *Journal of Food Distribution Research* 46, no. 1 (2015): 50-53.

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## **Exploiting Economic Potential for Goat Production: A Case for Missouri and Arkansas**

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### **Abstract**

Goat production, is one of the fastest growing agricultural production systems in the U.S. This growth has created opportunities for producers, especially the small-scale farmers looking for a profitable alternative enterprise to integrate into their existing production systems, particularly in Missouri and Arkansas. Although the U.S. is not one of the primary producers of goat meat or goat products, it still stands to gain from exploring opportunities of this growing industry.

**Keywords:** Enterprise choice, production potential, meat goats, milk goats, enterprise choice

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## **Background**

Unlike other livestock enterprises (dairy and beef cattle) with well-functioning production and marketing support, such functional structures are largely nonexistent for the goat industry. In the U.S., goat production ranges from a high to low input system. While a low input system in the dry, Southern and Western states, goat production can be a high input system in the Midwest, Southeast, and Northern states due to differences in weather, forages, and established fencing. Yet still, goat production has great potential to contribute to farmer income diversification as well as expand local food choices. Some attributes making goat production a viable start-up option for producers are relatively inexpensive animals when compared to cattle. In general, goats require less land than cattle, as six goats can be sustained by the same amount of area needed to sustain one cow. Goats can also be raised on land not suitable to cattle in that they can do well on browse and forbs that are generally not consumed by cattle. In the dry western areas of the country, they do not need expensive structures like barns to thrive (Okpebholo and Kahan 2007, Solaiman 2010).

With limited acreage, goats could be raised to produce a host of products including fiber, milk, or meat products (Stanton 2004). Goats are also valued for religious ceremonies, for companionship, and for use in controlling brush and other unwanted vegetation (Singh-Knights *et al.* 2005).

Goat production opportunity is boosted by the ever expanding market for goat meat, particularly among new immigrants, religious groups, and the rapidly expanding Hispanic population, who consume goat meat as a regular part of their diet. Additionally, American consumers are increasing their consumption of goat meat as a result of their exposure to ethnic foods and the low-fat health aspects of goat meat. Interestingly goat milk offers unique nutritional and biochemical properties that allow it to be consumed by those with cow milk allergies and gastrointestinal disorders (USDA, APHIS 2012). Goats do offer a variety of products; goat meat can be processed and sold, goat milk can be marketed, and milk by-products such as cheeses, lotions, and soaps can be also sold.

## **Study Objectives**

There is a dearth of studies and data relating to goat production and marketing nationwide as well as at state levels including Missouri and Arkansas. The first and maybe the only comprehensive study of the U.S. goat industry was conducted by the USDA's National Animal Health Monitoring System in 2009. Study findings show that the majority of U.S. operations with 10 or more goats are raised goats for meat production with lower percentages raising goats for milk or fiber (USDA 2009). NASS data shows that the most recent inventory for 2013 and 2014 to be 82.36 (total=2,811,000 & meat goats=2,315,000) and 82.40 (2,761,000 & 2,275,000), respectively. A recent study by Qushim, Gillespie, and McMillin (2014) using a nationwide mail survey of U.S. meat goat producers basically focusing on cost and returns of goat farms. The study examined productivity and efficiency of U.S. meat goat farms. Our study objective is to examine factors driving Missouri and Arkansas goat enterprise choices in an attempt to broaden the economic rationale for goat production premised on profit motivation. The study uses survey data from Missouri and Arkansas States collected in 2013.

## Results

Study results show differential impacts of independent variables on the three enterprises (dairy, goat and mixed). For example, along state lines, it is more likely to find famers in Arkansas selecting dairy goat enterprise than those in Missouri. Dairy goat producers are likely to be young (under 40 years) and those in mid-age (40 to 50 age bracket). However, those more likely to prefer meat goat or mixed goat enterprises are predominantly in mid-age (40-50 years). For reasons not clear, the results also suggest that meat goat famers paid higher prices for stocking compared to dairy or mixed goat enterprises. Raising goats driven primarily for home consumption was a more relevant factor for dairy goat than meat goat producers. In contrast, the results suggest that meat goats are largely raised for market.

The results show that a successful dairy goat operation may require a herd size larger than 20 goats, whereas meat goat farming requires a smaller herd size. Experience was more important in dairy goat production than it was for meat or mixed goat enterprises. One needs to have more than five years of experience to do well with dairy goats. The results additionally suggest that meat goat farmers are more constrained by marketing and time. Preferably, meat goat farmers opt for natural breeding compared to other approaches.

## Future Research Directions

Given the scope of the survey data used, not all economic aspects about goat production and competing enterprises are included in this study. Future studies should incorporate profitability indicators across enterprises, including major crops and other livestock to allow more powerful analysis.

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