

Economics and Marketing of Lamb and Wool: The Case of Missouri

Emmanuel I.S. Ajuzie

Helen Swartz

Lincoln University Cooperative Extension

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Introduction

Prior to the 1940s, the lamb and wool industry was booming and producers were profitable at raising sheep for both wool and meat. Since the 1940s, we have witnessed a steady decline in the industry. In 1945, large farm machinery was being manufactured and purchased by farmers who returned from World War II. Farm acreage got larger and eventually led to reduced sheep and increased cattle operation. The switch also resulted from the fact that labor was less intensive in cattle operation, making it a more profitable venture. This phenomenon intensified in the mid-1970s by declining revenue, shrinking inventories, and fewer business operations. Of these, the primary reason that led to reduction in production was declining revenue from the industry.

Although wool accounted for a small percentage of the revenue, we can trace the reduction in revenue back to the cheaper importation of wool from abroad. In the U.S., it was wool that led the growth in the sheep industry. Mutton and lamb were regarded as the by-products of wool. As cheaper wool started coming into the country from abroad, producers in the U.S. could not compete on favorable terms and decided to either reduce operation or quit completely as losses mounted.

Presently, sheep is being produced for its mutton and lamb. Additionally, leather, as a by-product, has gained the attention of producers and seems to help in driving growth in the industry. Right now, we have the three drivers of industry progress as mutton, lamb, and leather.

Economics of Raising Sheep

Different reasons have been given for raising sheep. They narrowly mimic the economic reasons for raising goats and include the following: 1) Improvement in farm income and profitability, 2) Adding value to property and Favorable tax treatment, 3) Land depreciation, and 4) Land appreciation.

- **Improvement in Farm Income and Profitability**

Farmers have raised and are still raising sheep as a means of diversifying farm operations and enhancing the potential for profits. It goes with the saying that you “do not put all your eggs in one basket.” Some have co-grazed and are still co-grazing sheep and goat on the same pasture. Others have combined them with other farm operations, such as row crops. The fact that these have different harvesting periods means that farmers can spread sales receipts or revenue throughout the year for better financial flow and economic planning and management. It is one way of avoiding some risks in the industry, such as those that are associated with financial, marketing, and weather. In order to maximize profits in the sheep industry, efforts must be made to lower or minimize operating cost.

In many enterprises labor is the most expensive input in production. In order to control cost, we work to control expenditure on labor. The introduction of technology into the production function has been used to offset labor usage and reduce cost. In the sheep industry, feed is the most expensive input, accounting for approximately 70 percent of the total cost of raising sheep, and any effort to reduce it will help to minimize cost and improve profitability. There are different ways to lower feed cost. It could be done by maximizing the use of pasture and browse, producing their own harvested feeds, mixing their own rations, shopping around for feed ingredients, buying and storing feed in bulk, minimizing feed wastage by weighing all feed inputs to avoid excessive feeding (Schoenian, 2009). Since technological progress helps to reduce labor cost, efforts are being made to introduce enhanced technological input in sheep production.

Another source of cost that could affect sheep production is **veterinary care**. It is recommended that producers make use of well qualified veterinarians. At the same time, there are ways they can minimize costs. Minimization is possible if they are able to learn how to perform most of their own veterinary tasks, such as docking, castrations, disbudding, vaccinations, deworming, injections, and etc. The use of expensive medication for the treatment of internal parasites could be minimized by employing the use of pasture management techniques for the reduction of worm burdens. In short, producers should attend management workshops to learn the various ways they can do things themselves to reduce cost and increase the overall profitability of their farms. Rotational co-grazing of sheep, goat, and chicken along

with large ruminants have been known to further reduce costs. As the chickens look for grubs, they spread the droppings from both large and small ruminants to provide enrichment for the pasture, thus reducing the need for more expensive fertilizer.

It is usually quite easy to incorporate sheep into a farm operation. Apart from them being small, they are relatively inexpensive to maintain and tend to integrate well with other livestock. They do not share internal parasite with other livestock, except goats (Swartz, 2004). In most cases, they prefer vegetation different from what cattle, goats, and horses eat. Sheep are different because ewes can wean two or more offspring that weigh as much as or more than the ewe (Launchbaugh, 2006).

- **Adding Value to Property and Favorable Tax Treatment**

The purchase of land for agricultural uses has always been a good investment, especially if the enterprise is such that will add value to the land. Raising sheep is one of the enterprises that increase the value of agricultural land. Permitting sheep and other livestock to graze on ones property is a way to keep land open to preserve agricultural landscapes and enhancing their aesthetics (Schoenian, 2010). These landscapes attract visitors who drive through to enjoy the beautiful environment provided in our rural communities where majority of these farms are located. The beauty of some of these places has lured many nonagricultural land-use developers to want to buy them and led to the adoption of some provisions by some states to prevent sale of these agricultural lands for nonagricultural uses under programs, such as the purchase of development rights (PDR). This is a strategy where the State pays for the land and the farmer continues to farm it but gives up the right to sell or put it into nonagricultural uses.

Agricultural transfer tax applies to land when it is purchased. But the tax is waved if the purchaser signs a declaration that the land will remain in agriculture for at least five years from the date of purchase.

According to the internal revenue service (IRS), if you are engaged in a farming business, you may be able to average all or some of your farm income by allocating it to the 3 prior years (base years). This may give you a lower tax if your income from farming is high and your taxable income from one or more of the 3 prior years was low. An individual can use income averaging to figure taxes for any year in which one were engaged in a farming business as an individual, a partner in a partnership, or a shareholder in an S corporation. Land for use in sheep

production falls into this category and makes it an attractive agribusiness venture. For more information on this, refer to the Instructions for Schedule J (Form 1040) (IRS, 2010).

- **Land Depreciation and Appreciation**

Depreciation refers to the depletion of assets used in business and, as a result, is the cost of doing business. The depleted value of the farmers' assets, sheep, can be achieved using two depreciation methods; the straight line and the accelerated methods. Presently, in the straight line method, the farmer deducts 20% of the value of the animal per annum. In the accelerated method, the farmer is allowed a more rapid rate of return. Individuals are not allowed to depreciate breeding animals that they raised, because the costs associated with raising them are deducted as expense items, such as feed, medicine, etc.

Other assets on the farm that could be depreciated include equipment, building, fences, and machinery (Schoenian, 2009). The useful life of the asset determines the rate of depreciation, which varies from three (3) to forty (40) years. Section 179 of the tax code allows the farmer to deduct the cost of an asset in the year it was purchased rather than to depreciate it out over several years. The ceiling on the amount to be deducted varies from year to year and one should check to know the figure when depreciating farm assets for tax purposes.

Land appreciates in value even when it is not put into agricultural use. Factors, such as inflation and type of land-use contribute to the increase or decrease in the value of land. Therefore, purchasing land for purposes of raising sheep could be a good investment because of the potential increase in value. Putting up buildings and having the property fenced to contain sheep or other livestock could accelerate the rate at which value is added to the land.

Sheep and Lamb Production in Missouri and the U.S.

Sheep producers, like producers of others goods and services, react to both the price of meat and wool in the marketplace. They sell lamb and mutton when meat prices are high therefore reducing the size of their inventory and they withhold sales, where possible, as prices fall.

Missouri sheep production has fluctuated over time. It has, however, seen dramatic increases in recent years, especially 2008 and 2009. In Figure 1, we show total sheep and lambs produced in Missouri from 1980 through 2009. Missouri produced 123,000 head of sheep and lambs in

1980. In 1981 and 1982, it rose to 138,000 head. From that date, production fell steadily till 1990 when it rose again to approximately 138,000 head of sheep and lambs.

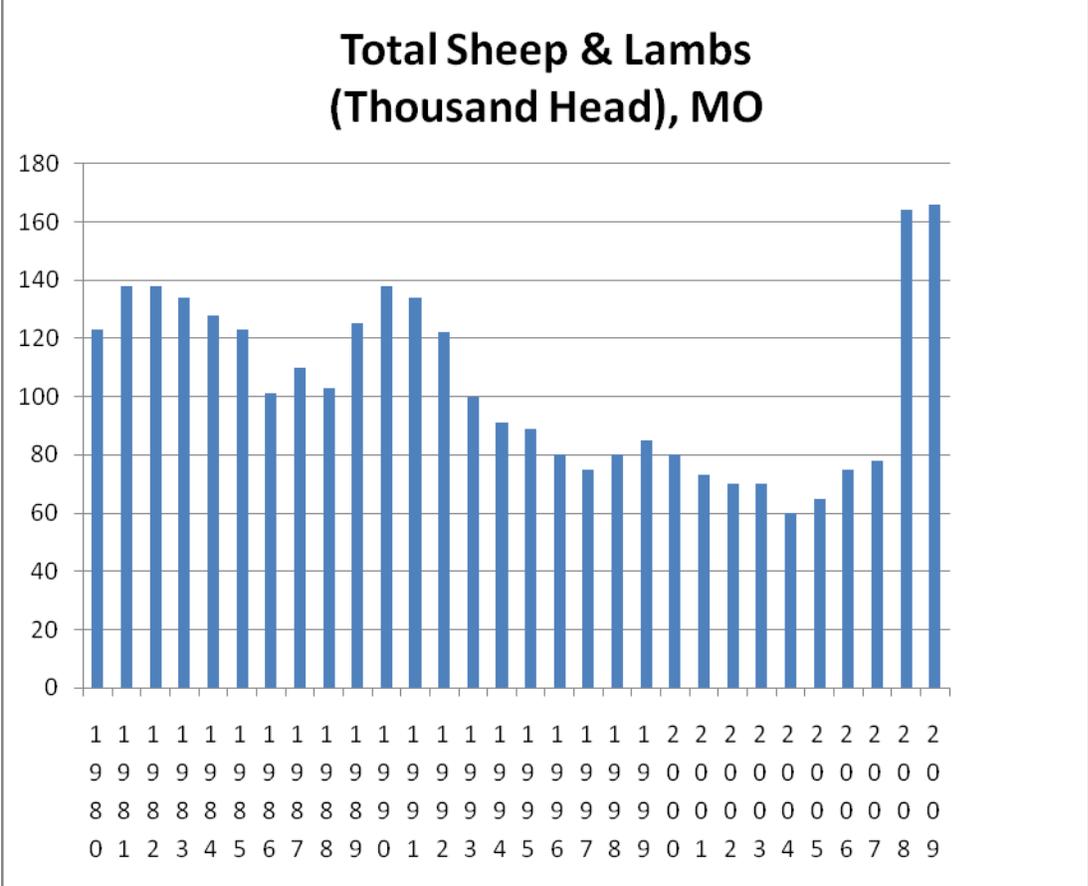
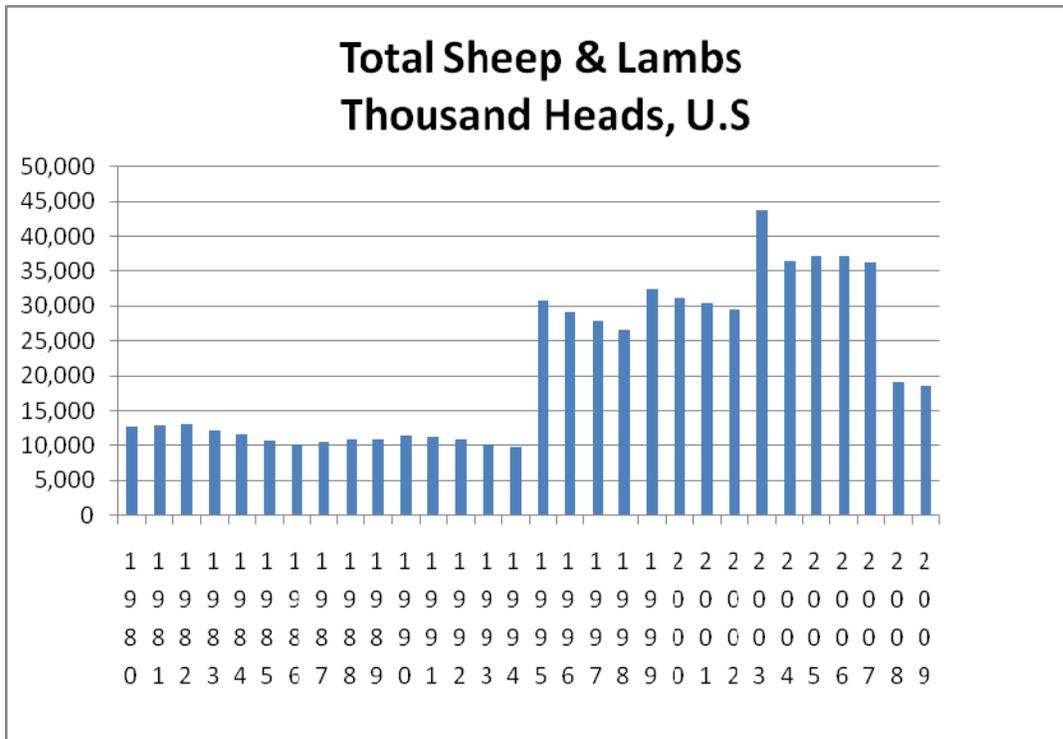


Figure 1: Total Sheep and Lamb Production in Missouri

Production declined from 1990, with insignificant fluctuations, until 2008 when production rose to 164,000 head of sheep and lamb. In nearly 30 years of sheep and lamb production in Missouri, 2009 saw the largest increase in production, 166,000 head.

The 2008 and 2009 numbers are quite significant. As we will see in the Figure 2, while total production fell throughout the U.S., production in Missouri rose. For example, in the U.S. production fell from 33.7 million head in 2007 to 19.3 million and 18.5 million head in 2008 and 2009, respectively. On the other hand, production in Missouri rose from 78,000 head in 2007 to 164,000 and 166,000 head in 2008 and 2009, respectively. Overall, it is remarkable that sheep and lamb inventory fell steeply from a record high of 56 million head in 1942 to where we are today. Many factors have been blamed for the decline and they include: 1) globalization, 2)

growing competition from other meat and fiber industries in the United States and abroad, and 3) the prosperity of the industry is not entirely dependent on external forces.



Inputs and Costs Involved in Sheep and Lamb Production

In the production of sheep and lamb, different inputs and costs have to be considered. These include: 1) predator losses- These are losses associated with the animals that prey on farmer’s livestock, reducing the earnings and profits of farmers, 2) Hired labor cost- As has been mentioned elsewhere, this forms the largest share in the production cost of these lambs and sheep, and indeed in all other production enterprises. Following the pattern in other industries, the introduction of technology in the operation, where it is feasible, would be a way to reduce labor cost and improve farm profitability.

Transition in the Industry

As the industry continues to experience turbulent times, certain signs point to an industry in transition, making efforts to maintain market share. The factors in this transition include: the introduction of hair sheep, the emergence of the dairy sheep industry, and the growth in direct marketing. These changes are transforming the industry toward a more efficient and productive

future. They have contributed to the recent slowing of the long-term decline in inventories in many range sheep states and the modest growth in many farm flock states, such as Missouri, Colorado, Montana, South Dakota, Utah , and Wyoming.

Marketing Sheep and Lamb

There are various forms of marketing sheep and lamb that are available to the farmer. They include direct marketing, sale barn, commodity marketing, custom slaughter, Pooled sales, Packers, wholesalers, dealers and retailers. Let us examine some of these briefly.

- **Direct Marketing**

This is a niche marketing strategy, which small producers use to avoid the middleman because they market directly to the consumer. The main advantage of the direct marketing option is that producers can determine their prices to a greater extent. This leads to increases in potential profits. However, it comes at a high cost also. It is labor intensive and involves advertisement and travel, depending on how wide-spread the customers are.

Opportunity Cost: What some producers do not always consider in this form of marketing is the opportunity cost of their efforts. They do not consider what they could be doing alternatively when they are involved in the distribution of the meat if they choose to take that route and how much they could be earning in that alternative enterprise. This reasoning is used when we want to determine the economic cost and profit of doing business. It is an economically profitable business when opportunity costs are covered. If the farmer operates in such a way that buyers come to his farm to purchase or pick up their products, the opportunity cost is greatly reduced and farm profitability is enhanced.

Other forms of direct marketing include the following: freezer lambs,

- Selling lambs at farmers' markets,
- Selling meat via the internet,
- Including lamb in a (community-supported agriculture) subscription,
- On-farm sales of live animals or meat, and
- Selling wholesale or retail cuts to restaurants or retail outlets

Direct marketing is also referred to as niche or value-added marketing.

One of the disadvantages of marketing directly to the consumer is limited quantity of the product sold. Because of the need to have personal contact with the buyer in many cases, the farmer's area of coverage is not sufficiently large. This cuts into his/her profit potential even though prices may tend to be higher under this strategy.

Commodity Marketing

In terms of reach, this type of marketing strategy for lamb has an advantage over direct marketing. There are some options for farmers who prefer to use the commodity marketing strategy. They include the following ways of selling lamb:

- At a public livestock auction,
- To an order buyer, broker, or dealer,
- At a buying station,
- To a feed lot, and
- Through a co-op or marketing pool, or to an abattoir.

In the commodity market, you are selling a bulk, generic product. Diversification in marketing is encouraged if the farmer has a large size herd. In other words, a farmer can combine direct marketing with commodity marketing. Both will enhance chances of increases in the profits of the farmer.

Custom Slaughter

Custom slaughter could be done in slaughter houses that are USDA certified. USDA regulations allow the on-farm slaughter of poultry for resale, but not livestock. The farmer can be certified and permitted to slaughter on-farm or take his animals to slaughter houses for processing for resale to the public.

There has been some misunderstanding about on-farm animal slaughter by buyers. Producers and buyers are advised to check local and state laws pertaining to on-farm slaughter of livestock in each State to be sure that they are not in violation of USDA and State regulations. An example is the case in Missouri where regulation does not permit on-farm slaughter of animals.

Abattoir- (slaughterhouse or meat processor)

Many producers, large and small, market their lambs directly to a processor. The lambs may be purchased live or on a carcass basis. The price may be a spot cash price, a forward price, or a formula price. Any producer who wants to pursue this particular marketing strategy and does not quite understand it is encouraged to contact any University Extension office that deals with livestock issues.

Marketing alliances and cooperatives

Marketing alliances and cooperatives are organizational arrangements where groups of producers work together to either produce or sell. There are such organizational structures that perform both functions for producers, helping them to produce and sell.

In operational context, a co-operative contracts to slaughter and sell whole carcasses or cuts to grocery chains or other retail outlets. In this case, the cooperative establishes standards (weight, grade, etc) with the retail outlets, for the type of lambs they will purchase. Sellers are required to carry product liability insurance. Producers who wish to form cooperatives or other forms of marketing alliances should make sure that they agree with the buyers what they are required to do to meet regulations.

Ethnic Market

Those producers who would like to be involved in direct marketing and/ or custom slaughter should be encouraged to seek out ethnic markets. These are customers who come from foreign countries where these animals are regarded as staple meat for various reasons, including religion and custom. When they are here in the U.S, they seriously seek out where they can find the livestock to buy.

These customers prefer to perform their own slaughter in accordance with their cultural and religious beliefs. They are the ones who arrange to slaughter in the backyard of producers. Efforts should be made to accommodate these groups. Refusing them to slaughter on- farm knowing full well that they are doing it for religious or ethnic reasons may be perceived as a form of discrimination. Again, it is advisable to check every State and USDA regulations to make sure that no laws are being violated in carrying out this form of slaughter.

Producers who wish to produce for this market should be familiar with some of the influences on demand in order to profit from the venture. They include the following: species, weight, age, sex, condition (whether fat or lean), method of slaughter, and whether or not it has blemishes. To serve them profitably, a producer should identify the group, identify a target market and determine times of the year it is more lucrative to supply them with meat. The goal is to find out what they want, when they want it, and how they want it processed (Schoenian, 2009). Again, arrangements should be made for them to do the processing themselves if they desire and request it, making sure that USDA regulations are strictly followed. This might include the provision of sanitary facilities.

Conclusion

In this paper, we have noticed an industry that has fluctuated widely since the 1940s. We have traced the causes to economic, globalization, and competition from other meat and fiber industries at home and abroad. As the industry transitions, it is beginning to find other ways of adapting to the challenges it faces. This will undoubtedly continue to improve its relevance in the economy of the U.S.

The industry has the task of exploring various means of enhancing its productivity and profitability. Improvement in production techniques, cost reduction practices, cost effective regulatory burdens, and efficient marketing strategies will move the industry profitably far into the twenty-first century. Finding alternative uses for wool could lead to increases in the price and production of sheep here and abroad.

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Try This Recipe

Moroccan Lamb and Apricot Stew Makes 6 Servings (From Nov. 18, 2011 issue of All You.

- 4 Tbsp. olive oil
- 2 1/2 lb. boneless leg of lamb, trimmed, cut into 1 1/2-inch pieces
- Salt
- 1 1/2 onion, chopped
- 4 cloves garlic, finely chopped
- 1 1/2 cups low-sodium chicken broth
- 1 1/2 cups orange juice
- 1 Tbsp. grated orange zest
- 1 cinnamon stick
- 1 1/2 cups dried apricots, halved
- 3 1/2 Tbsp. chopped fresh mint

Warm oil in a large pot over medium-high heat. Sprinkle lamb with salt and add to pot. Cook; turn often, until brown on all sides, about 8 minutes total. Transfer to slow cooker.

Add onion and garlic to pot and cook, stirring often, until softened, about 3 minutes. Pour in broth and juice and bring to a boil, scraping up browned bits from bottom of pot. Pour into slow cooker; add orange zest and cinnamon stick. Cover and cook on low until lamb is fork-tender, 5 to 6 hours. Stir in apricots and mint. Season with additional salt, if desired. Remove and discard cinnamon stick before serving.