PRELIMINARY ANALYSIS OF THE MARKET FOR SHEEP MEAT IN THE WESTERN UNITED STATES FY 2008

U.S. mutton producers have faced a series of challenges that have led to low prices and a 60-year decline in the inventory of sheep and lambs. A recent development that compounded the problem is that the Mexican border was closed to U.S. sheep exports for most of 2007. Currently, the domestic market for mutton is primarily supplied with imports from Australia and New Zealand. This project was undertaken to determine if a profitable local market for sheep meat exists, given the growing number of immigrants from countries that regularly consume sheep meat. Almost 140 meat retailers in a 5-state region of the Intermountain West were surveyed to gain insight into the type of sheep and lamb meat products currently in the market and to determine the demographics of the customers who purchased these products. Results indicated that the demand for sheep meat is minimal and that the market for mutton would have to be built from the ground up, perhaps with a processed product rather than fresh meat. The challenge would be to accomplish this in a way that made it profitable to producers. Researchers concluded that efforts to maintain an open border with Mexico and exporting the meat or animals may be a better alternative at this time.

Final Report

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A Preliminary Analysis of the Market for Sheep Meat in the Western United States

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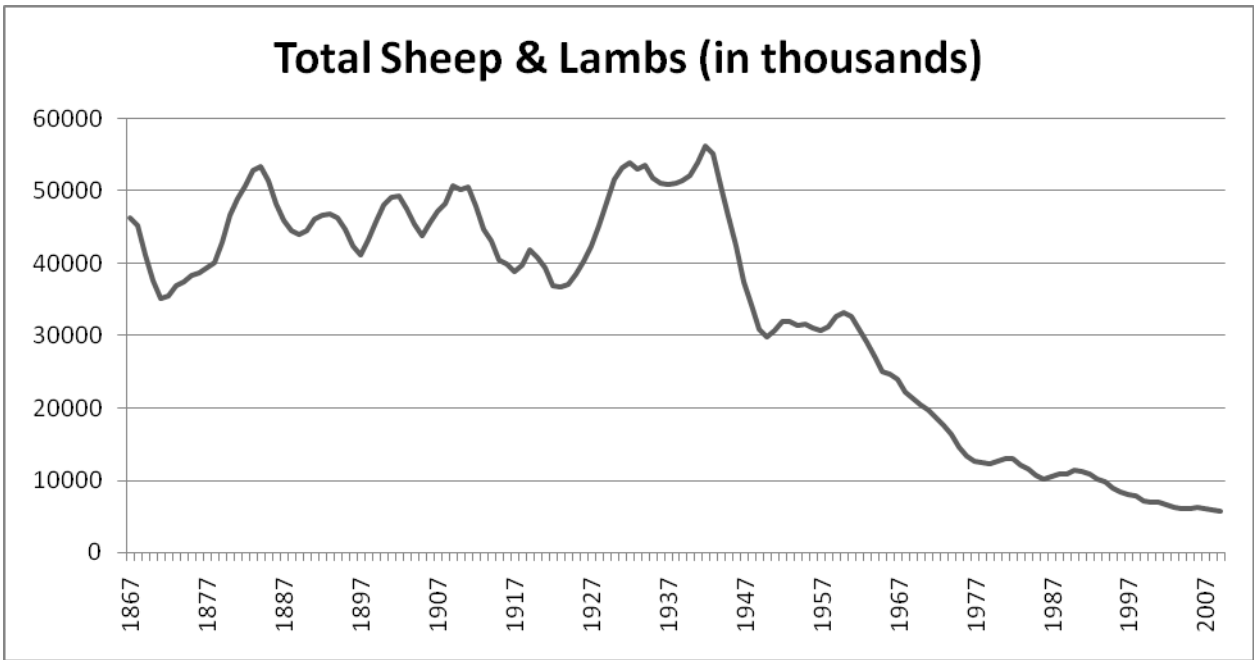
A Preliminary Analysis of the Market for Sheep Meat in the Western United States

Background

The mutton industry is an industry that has been experiencing some decline in the past years. It has faced several obstacles, including an increase in imports from Australia and New Zealand, and a decrease in the price paid for sheep slaughter, which has fallen by 50%. There are numerous other problems being faced by the sheep industry (predators, labor issues, competing meats, etc.).

Sheep and lamb inventories in the United States have been declining since the mid-1940s (see graph 1). The record high occurred in 1942, with an inventory of over 56 million. In January 2009, the inventory is only about one-tenth of that amount, coming in at 5.7 million.



Graph 1. Total sheep and lambs in thousand head from 1867 to 2009. Data source: USDA-NASS QuickStats.

The inventory for market sheep alone has only been recorded since 1995. The last 15 years have been volatile, but show the same general pattern as the total sheep and lamb inventory for the same time period (see graph 2).

The market sheep dropped 16% in the 15-year span between 1995 and 2009, while the total sheep and lamb inventory dropped 36%. Each year, the inventories changed by almost the same magnitude, implying that the percentage of market sheep to the total sheep and lambs each year stays constant.

Graph 2. Total market sheep in thousand head from 1995 to 2009. Data Source: USDA-NASS QuickStats.

Exports of all sheep and goats, including live animals and all fresh, chilled, or frozen meat, is displayed for the last 10 years in Table 1. This data includes all trade partners for sheep and goats, whose total exports for the last ten years made up at least one percent of the total. Table 2 illustrates this information for the import side.

Exports of sheep and goats have held relatively steady over the last ten years, with a slow increase over the last four years, excluding 2007. For much of 2007, the Mexican government closed the border to U.S. slaughter sheep, but it was reopened by 2008. The proportion of exports has changed significantly over the last few years, reflecting exports more evenly to Mexico, Canada and Bermuda.

Table 1. Exports of Sheep and Goats (in thousands) for various years.

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Mexico	23,868	23,025	24,032	24,152	15,881	15,845	23,109	18,995	9,018	9,769
Canada	1,726	858	1,066	1,141	620	824	1,887	5,835	5,493	8,058
Bermuda	124	163	-	598	-	23	882	4,154	2,614	10,837
Bahamas	548	110	343	576	782	727	1,094	1,202	438	654
World Total	28,447	26,373	27,863	28,195	19,748	19,078	30,674	34,535	21,560	35,850

Data Source: TradeStats Express- National Trade Data (tse.export.gov)

Table 2. Imports of Sheep and Goats (in thousands) for various years.

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Australia	102,719	134,473	151,740	165,538	219,606	264,201	313,072	322,951	355,922	321,975
New Zealand	79,784	83,589	90,779	110,913	132,893	163,148	184,653	142,244	134,449	154,987
Canada	5,618	5,914	8,624	13,189	7,638	207	240	583	213	193
World Total	189,073	225,643	252,629	290,039	360,920	428,480	499,005	466,687	491,140	478,058

Data Source: TradeStats Express- National Trade Data (tse.export.gov)

Total imports of sheep and goats have held steady over the last five years, but the import proportion has changed as well, with a much higher amount coming from Australia and New Zealand, and significantly less coming from Canada. Exports from Canada are only 3.5% of what they were ten years ago, and Australia is importing more than three times what they were ten years ago.

With the number of imports coming from Australia and New Zealand, it would seem that there is a relatively large market for sheep in the United States. Could this demand be served by local industry? That is the question being asked by sheep producers in the Inter-Mountain West.

Current Market

The current market can be examined in terms of both the marketing channels which show how the products flow through from producers to the consumers and the different types of products. Each of these are discussed below.

Marketing Channels

The current marketing channels are very limited. When the average producer culls out 10% of his lambs in the fall, he will then call a broker. In the Intermountain West, there are only nine brokers. They all have connections with outlets for the cull animals. These connections are held very firmly, and most brokers are reluctant to share information about second-step sources.

The only option other than using one of these brokers is to send the animals to local auctions. This can be very risky, however, and many of the animals still end up in the hands of the same brokers. At one time, many producers sent their animals to the San Angelo auction in Texas, and it remains one of the largest auctions in the country. There are few direct sales from the Intermountain West because many producers were discouraged by the "sort" on the other end and the lack of consistency in the prices received.

Most of the animals usually end up for trade on the Mexican border, but the ethnic market in the East has also become a key player in the last few years. The Midwestern and Eastern ethnic markets are also held in very tight control. Most of the commercial slaughter houses, located between New York and Atlanta, are controlled by one Muslim family. This market is currently utilizing virtually all of the animals in the eastern half of the country and a growing number of western ewes. The Indian reservations in the Southwest consume between 30,000-40,000 head per year. This demand is met primarily by commercial packers in Utah and New Mexico.

There seems to be potential for the growing market for "on farm" sales, especially as the ethnic population continues to grow in the West.

There are few existing processors in the Intermountain West. Blue Mountain Meats in Monticello, Utah is the largest. There are three smaller plants in Utah- Tooele, Springville, and Lewiston; and there are three smaller plants in New Mexico- Farmington, Moriarte, and Gallup. On the West coast, Stagnos Brothers in Northern California is probably the largest, and most other operations are either small or do not kill many, if any, old ewes.

Market Products

All cuts of mutton meat are available for sale (whole, 6-way, leg, shoulder, ribs, etc.). There are no widely available further-processed mutton products on the market.

Market Survey

Because little information is available on the market for sheep meat, a survey was conducted to gain information about the potential size of the market and barriers to selling sheep meat to consumers. The methodology and results of this survey is discussed below. A copy of the survey instrument is attached in Appendix A.

Methodology

A 12-question survey of meat retailers in five western states (Arizona, Idaho, Nevada, Utah, and Wyoming) was conducted. The purpose of the survey was to determine what lamb and sheep meat products are being sold, what groups are buying these products, and any seasonality associated with sheep meat. (For full survey, see Appendix A.)

The survey was conducted by Bratt Marketing out of Idaho. Surveying was conducted with a mix of telephone and in-person interviews, as well as mail-back surveys. Stores in target areas were identified through use of the Yellow Pages, and shop owners/meat department personnel were chosen to receive the survey.

There were a total of 138 respondents, broken down by state as follows:

Arizona, 7
Idaho, 43
Nevada, 30
Utah, 54
Wyoming, 4

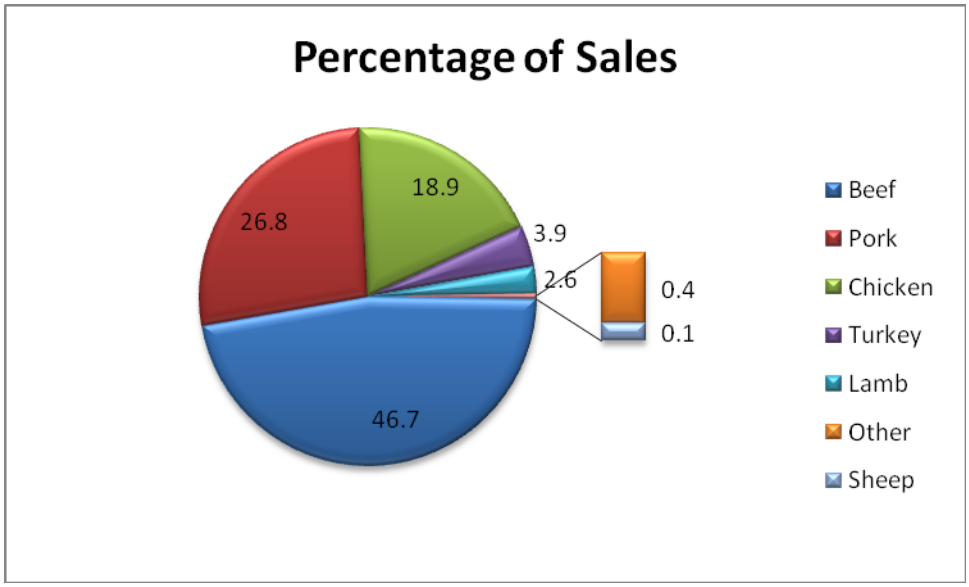
As a result of the small number of responses from Arizona and Wyoming, state-level data from those two states is fairly thin. Additionally, many of the respondents did not complete the survey in full. Several of the questions only had a small number of responses. This is discussed in the *Findings* section below.

Findings

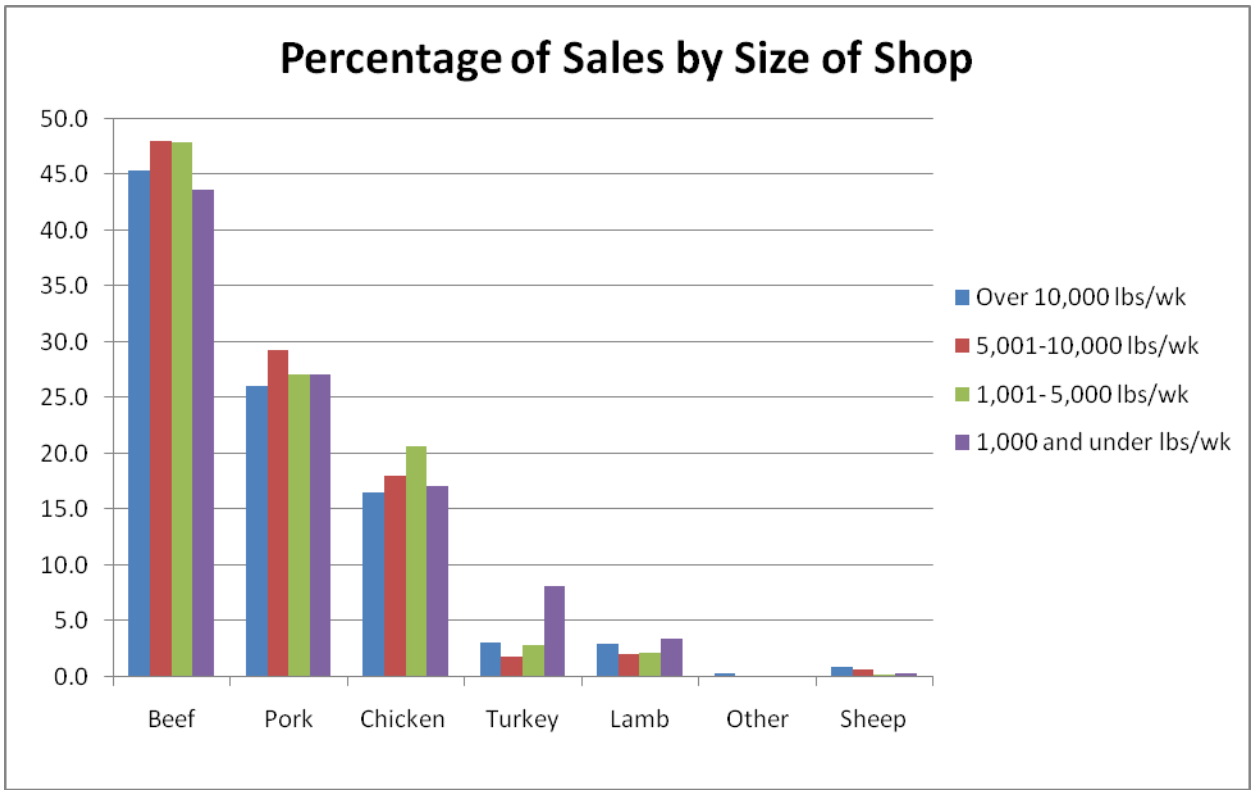
The first interesting finding is that, while 88% of the shops surveyed stated that they carried lamb and sheep products, sheep only accounted for an average of 0.1% of sales (see graph 3 below).

The percentage of sales held fairly close across states, with sales of sheep in Utah amount to 0.22% and in Nevada to 0.1%. Percentage of sales attributed to sheep in Idaho, Nevada, and Wyoming were all reported at 0. While most shops seem to be carrying lamb and/or sheep meat, very little sheep meat is getting sold.

It is also interesting to see the breakdown of sales by size of shop. The responses were broken down by pounds of meat sold each week. The mix of various types of meat sold held fairly constant across different sizes of shops. The results of this analysis are displayed in graph 5 below. Many of the completed surveys could not be classified, due to lack of response on the question pertaining to amount of meat sold weekly. They were excluded from this analysis and only the remaining 83 were used to make the graphs below. This lack of response could have been due to the low levels of sheep meat sold.



Graph 4. Type of meat as a percentage of meat sales.

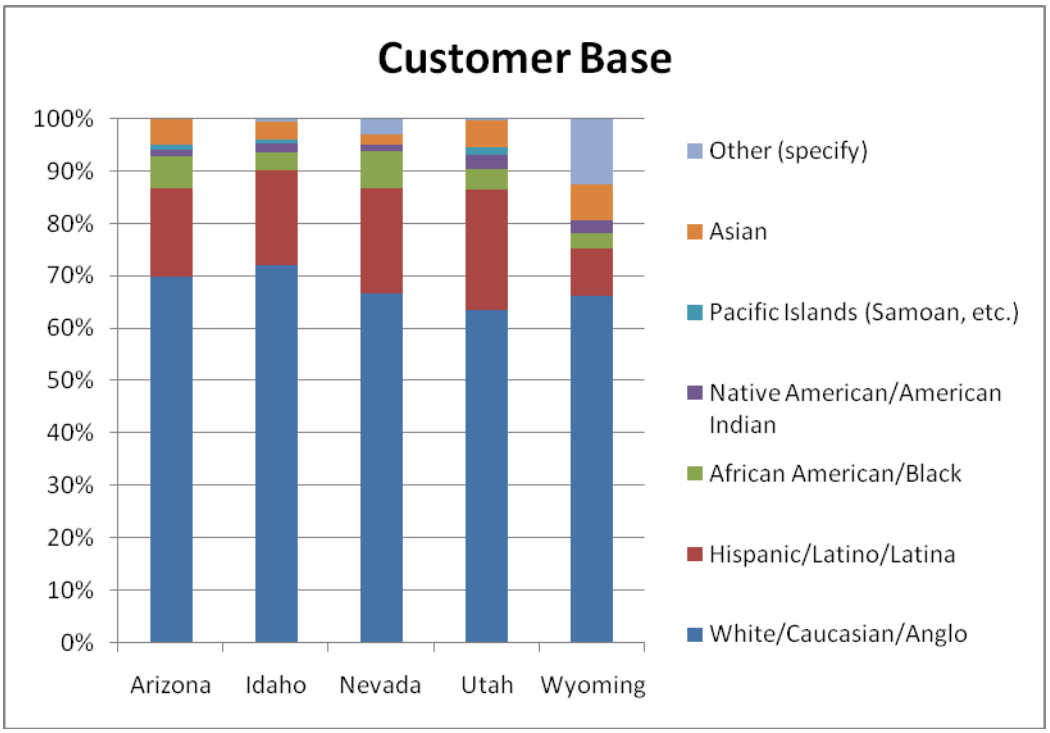


Graph 5. Percentage of meat sales by classification of shop.

As seen in the graph above, it appears that larger shops (shops that sell more than 10,000 pounds of meat per week) sell a higher percentage of sheep meat. Of all their meat sales, sheep accounts for 0.9% in these larger shops. This is still fairly low.

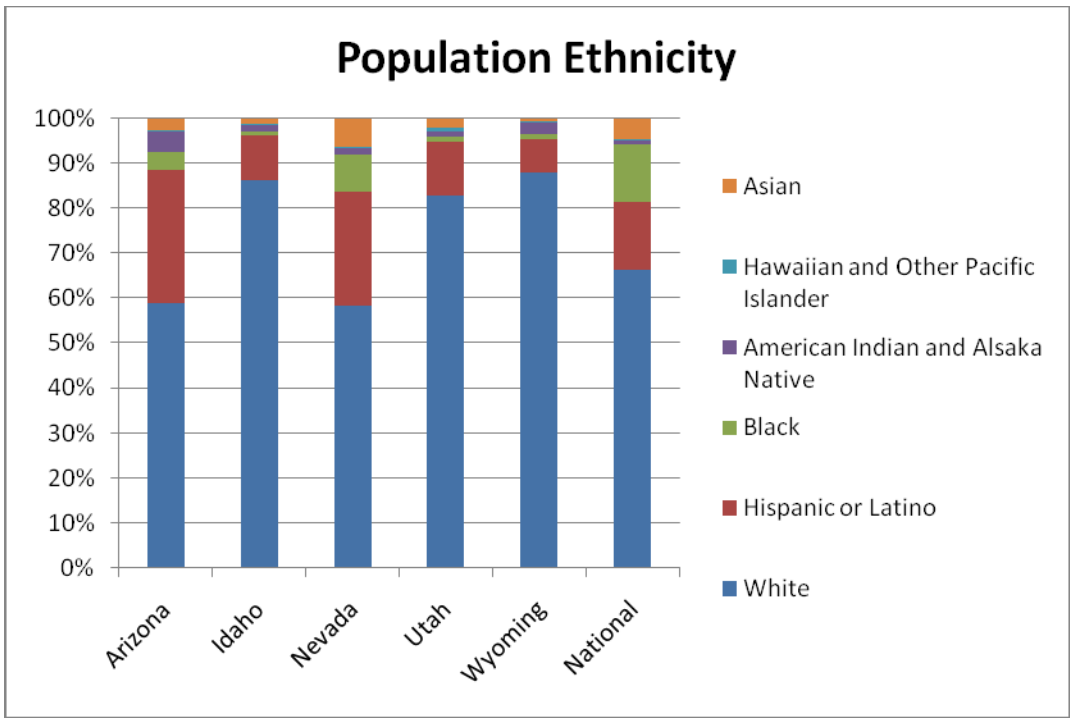
Unfortunately, only 51% of all respondents were familiar with sheep products, and only a few sell sheep products. Of those who sell sheep, most indicated that shoulder and leg sell best.

It has been believed that there is a large opportunity in selling sheep to ethnic groups, so the survey asked shop owners to indicate the percentage of customers belonging to different races. Most shops indicated the majority of their patrons to be White/Caucasian. Hispanic was the second largest category and no other category made up more than 10% of the customer base. This was consistent from state to state (see Graph 4 below).



Graph 5. Customer ethnicity as a percentage of all customers.

This information generally agrees with the U.S. Census Bureau population estimates from 2007 (see Graph 6). There are not large ethnic markets in these five western states, though based on qualitative data, these markets do seem to be getting larger in the West.



Graph 6. Population ethnicity estimates for the five western states and nationally.
Source: U.S. Census Bureau State and County QuickFacts.

Shop owners also indicated that most customers who purchase mutton are older- generally over 50-60 years of age.

The survey results indicated that there is a large seasonality associated with sheep meat sales. The winter holidays (Thanksgiving, Christmas, New Year, and Greek holidays) and Easter/Spring were named as periods where sheep meat was in more high demand. The winter holidays were named 60% of the time, and Spring/Easter were named 35% of the time. The other five percent was devoted to summer (in high-tourist areas), Cinco de Mayo, and when the meat is on sale.

Respondents were asked what products they would carry if they were more available. Many (86%) indicated that they would not change what they carry due to availability, but some of the other answers included lamb stew, organ meat if organic, riblets, stew meat, and domestic lamb at a reasonable retail price. In a separate question, respondents answered that they might try to carry sheep meat if it was in the form of ready-made products like soups, stews, etc. In that same question, only 22% of the respondents who were not currently carrying sheep meat indicated that they would be interested in trying to sell sheep meat.

Respondents were asked to indicate which cuts of lamb and sheep they carried. Less than 3% of all respondents indicated that they carried any cuts of sheep. Again part of the reason for this response may be the low levels of product sales of sheep and lamb both.

The survey also asked shop owners to give their opinion on what the biggest problems facing sheep meat producers seem to be. Table 3 shows the responses and their frequency.

Table 3. Shop owners' perception of problems facing mutton producers.

Frequency	Response
29	Price
17	Just not a large demand for sheep
15	Lack of knowledge or experience with mutton
14	Marketing, Advertising
9	Customers don't know how to cook mutton
8	Customer acceptance, product image
5	Problems with the meat (taste, smell, too strong, too fatty, etc.)
5	Young people don't like lamb as much as older shoppers
2	Upper management
1	Mutton not available

Some of the survey respondents also left other miscellaneous suggestions. These include: the need to have demos, cut-to-order instead of pre-packaged, "how to cook" labels on the packaging, and labels that indicate the meat is "Fresh American Lamb".

Most of the surveys had questions, or whole sections, left blank. This is an interesting find in itself. There were more responses left blank on surveys from smaller shops, which sell less sheep meat. These shops may not have enough knowledge about sheep meat to answer survey questions about it.

All of this is fairly consistent. Looking at the suggestions and the responses in table 3 above other than price, most of the responses reflected that sheep meat is not an established product that customers know of, know how to prepare, and are used to buying. This shows that there would need to be a large marketing effort to get consumers used to buying sheep meat. There would need to be a lot of education for consumers to teach them about the meat and how to prepare it. It is also troubling that price was indicated as the most frequent reason that the product is not selling as much.

Market Viability

In order for the sheep industry to thrive, producers must be able to sell sheep meat at a reasonable retail price. The price must also conform to the prices of comparable, or substitute products. Table 4 shows the average retail price for other meats in December of 2008.

Table 4. Average meat prices nationally and in the Western Region.

Average Meat Prices (as of December 2008)		
	Nationally	**Western Region**
Beef		
All uncooked ground beef	3.193	3.447
All uncooked beef roast	4.007	3.745
All uncooked beef steaks	5.377	5.029
All uncooked other beef	3.188	2.989
Pork		
Bacon	3.67	4.415
Chops, boneless	3.803	4.199
Chops, bone-in	3.538	3.54
All ham	2.432	2.792
Poultry		
Chicken, whole	1.305	1.495
Chicken breast, boneless	3.284	3.451
Chicken legs	1.497	1.403
Turkey, whole, frozen	1.332	NA

Data Source: United State Department of Labor Bureau of Labor Statistics (www.bls.gov/cpi)

As can be seen from Table 4, in order to be competitive, sheep meat must be sold retail for $3-4 per pound. At $4 per pound retail price, assuming a $2 per pound markup from farm to retail, we can determine the upper bound on what sheep could sell for and the potential viability of the sale of mutton.

The American Sheep Industry (ASI) Association estimated the average market lamb to weigh 134 pounds. The average cull sheep has an average dressing percent of 45-50. This would put the carcass weight at an average of 60-66 pounds. This figure agrees with the estimates from the Montana State Sheep Institute, who figure the average carcass weight at 62-66 pounds. If we assume a carcass cutting yield of around 65%, the producer will end up with around 40 pounds of meat.

However, the average live weight for mutton (or sheep meat) is about 165 pounds. Carcass weight is about 44% of that or 73 pounds. The meat would be about 68% of that and yield 50 pounds of meat. At local meat plants in Utah, to slaughter and cut and wrap the meat for ready cuts the cost would be $50-60 (Goring).

At $2 per pound, the animal would produce $100 in meat sales. Taking off the $50-$60 in processing fees the sheep would need to sell for less than $50 to break even. This would

equate to around $0.30 per pound of live weight. Of course, these numbers are estimates, and based on the "average". Different breeds will have different break-even points, and the age, size, and fatness of the animal will also affect the break-even sales price.

The above breakeven price does not factor in some cost for delivering the animals to the packing facility and marketing costs. So in reality the price would need to be lower to account for those costs. Given the responses to survey questions by meat purveyors, in addition extensive marketing efforts would need to be undertaken to teach consumers about preparing sheep meat. This would add to the marketing costs and lower the prices that could be paid for the sheep from sheep producers. Additionally the largest category of consumers of sheep meat was white males over 65. This shows that over time the already small market for the product will decline unless new customers are developed. This leaves relatively small margins for the product and a big marketing effort that would need to be undertaken to establish a much bigger market for sheep meat. A compounding factor was that price was given as one of the most frequent responses for reasons for consumers not buying sheep meat. This means that the retail price may need to be lower than the $4 per pound used to figure the breakeven price above.

This does not show a lot of promise for a ready market for sheep meat produced in the West to be marketed locally. However, further processed products, might have a higher price per pound and offer more potential. These products would already be prepared and require less knowledge on the part of consumers to prepare them. They would need to be marketed with in-store demonstrations. However, they might command higher prices and be able to cover the additional cost of processing them.

Recommendations and Suggestions

While it should be possible to make a profit on mutton, the ability to do so is almost entirely dependent on the market for it. Sheep meat is not in high demand due to the lack of consumer awareness and experience with mutton, changes in taste preference, and price. The market for sheep meat will need to be built from the ground up; there is not a huge market waiting to be tapped in to.

Producers should examine their costs and determine if it is even viable to sell sheep meat at a price that consumers will pay. If so, marketing should be undertaken to induce new customer sales. Many of the younger generation are unaware of cooking methods, recipes, and cuts of mutton. Research has determined that in-store cooking demonstrations and sampling cause a large increase in immediate sales of the product. This increase can be very large, up to 20-40%, however, it has not been fully determined the extent of long-term effect s of these marketing tools. In general, it seems that there is a "learning and forgetting" pattern that continues with consumers, which is why sampling of established brands/products constitutes 38% of all sampling funds (Heiman, et. al., 2001).

From the survey, it is recommended that pre-packaged products include cooking instructions and/or recipes to help consumers feel comfortable buying mutton. These products can also include a label indicating that the meat is locally-grown, or is “Fresh American Sheep”. There are also several national associations that have recipes and cooking tips on their websites. These websites can be included with the cooking instructions.

There was some interest of shop owners in being able to cut-to-order mutton for their customers. There was also interested in further-processed products, like pre-made stews, soups, etc., and pre-seasoned cuts of meat.

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Appendix A

Sheep Meat (mutton) Survey

1. Does your store currently sell any lamb or sheep products? _____ yes or no
    a. If no, have you sold lamb or sheep products in the past? _____ yes or no
    b. If you have never sold or sheep products or if you sold lamb or sheep products in the past but no longer do so, please indicate why.

    _____
    _____
    _____

2. How many pounds of all meat (beef, pork, poultry, mutton, etc.) are sold in your store during a "typical" week? _____ pounds

3. What percentage of the total pounds of meat sold in your store are of the following types:

Type of meat	**Estimated % of pounds sold**
Beef	
Pork	
Chicken	
Turkey	
Lamb	
Sheep	
Other (please specify)	
Total	100%

5. What percentage of the people that purchase meat and other foods from your store are of the following ethnic groups?

Ethnic group	**Percent of total**
White/Caucasian/Anglo	
Hispanic/Latino/Latina	
African American/Black	
Native American/American Indian	
Pacific Islands (Samoan, etc)	
Asian	
Other (specify):	
Other (specify):	
Total	100

6. Are you familiar with any “sheep meat” products (not lamb)? _____ Yes or No

7. If you sell any lamb or sheep products, please indicate what products you sell during the year (check all appropriate cells):

Product	**Lamb**	**Sheep**
Chops		
Leg		
Shoulder		
Rack		
Ground		
Other (specify)		
Other (specify)		

8. Which of the products noted in question 6 are the most popular (number of pounds sold)?
_____
_____

9. Are there seasons of the year when you do not carry any lamb or sheep products? _____Yes or No. If yes, please specify: _____

10. Are there seasons of the year when lamb or sheep products are particularly popular? ___ Yes or No. If yes, please specify:
_____

11. What lamb/sheep products (if any) would you like to carry/sell but are not able to so because you have a difficult time obtaining that product(s)?
_____
_____

12. Would you be interesting in trying to sell or carry “sheep meat” products in your store? _____Yes or No. If no, why?
_____
_____

13. What are the major obstacles that you believe the sheep industry faces in trying to sell additional “sheep meat” products?
_____
_____
_____
_____