



Influence of Breed and Supplementation on Consumer Ratings of Pasture-raised Ground Lamb

Theresa Nartea, Assistant Professor, Extension Specialist/Marketing & Agribusiness, Virginia State University

Stephan Wildeus, Research Professor, Virginia State University

Dahlia O'Brien, Associate Professor, Extension Specialist/Small Ruminants, Virginia State University

Introduction

In order to increase the consumption of lamb meat in the United States, the negative perceptions of consumers towards lamb flavor have to be addressed and methods must be examined to reduce the intensity of lamb flavor or target markets interested in intense lamb flavor. Meat flavor is influenced by genetics (species and breed) and the environment (such as feed source). For example, mutton flavor intensity increases as wool fineness increase (among breeds) and lamb from hair sheep has been described as having a more desirable flavor. In addition, lambs finished on pasture have been described as having increased off-flavors. It has also been shown that grain feeding alone, or supplemental feeding while on pasture alleviates the extreme off-flavors associated with pasture-raised lambs. Therefore, at Virginia State University, consumer acceptance of pasture-raised hair sheep lamb, with or without supplementation (soy hull supplementation), was investigated.

Study Methods

Food hub participants from Richmond, Virginia (n = 284) were recruited to receive ground lamb and provide product quality ratings before and after product preparation. Ground meat packages were labelled according to breed and production as follows:

Package A = purebred lamb x pasture only (PB * PAS only)

Package B = crossbred lamb x pasture only (CB * PAS only)

Package C = purebred lamb x supplemented (CB * SUP)

Package D = crossbred lamb x supplemented (PB * SUP)

Along with the ground lamb product, we provided a recipe, and asked participants to complete a survey. We asked them to rate the product for selected qualitative characteristics (1 = extremely undesirable/dislike extremely/extremely bland, 9 = extremely desirable/like extremely/extremely intense), including ease of preparation, flavor, and overall quality. We also asked all participants to quantify the price range they would be willing to pay for the product and to estimate how often they would purchase the product. They were then asked to rate the importance of a series of marketing components, such as USDA certification, organic production etc.

Project Highlights

- Participant demographics (Table 1)
- Animal management pertaining to breed and supplementation had little effect on consumer ratings (Table 2 and Figure 1)
- Over 96% of survey respondents specified they would purchase local ground lamb if available; 35% would purchase at least once a month (Figure 2)
- 43% indicated that they would pay a premium
- The top three production practices influencing consumer purchasing decisions were: no use of antibiotics, no use of hormones, and humane treatment of animals (Figure 3)

Table 1. Demographics of 210 respondents of a ground lamb quality and acceptance survey

Variable	N	%
Eaten lamb previously		
Yes	198	94.3
No	12	5.7
No response	0	0
Sex		
Female	170	81.0
Male	24	11.4
No response	16	7.6
Age		
20-24	4	1.9
25-34	57	27.1
35-44	60	28.6
45-54	45	21.4
55-64	26	12.4
65-74+	9	4.3
No response	9	4.3
Annual Income		
< \$20,000	1	0.5
\$20,000-\$39,999	7	3.3
\$40,000-\$59,999	19	9.0
\$60,000-\$79,999	29	13.8
\$80,000-\$99,999	23	11.0
≥ \$100,000	113	53.8
No response	18	8.6
Cultural heritage		
Caucasian (White)	165	78.6
Other	34	16.2
No response	11	5.2

Table 2. Consumer ratings ^a of selected quality characteristics of cooked ground lamb meat

Package label ^b	Ease of preparation	Aroma	Texture	Flavor	Juiciness
A	7.9	6.2	7.4	7.6	6.8
B	8.1	6.7	7.7	7.7	7.3
C	7.9	6.2	7.6	7.6	7.7
D	7.9	6.5	7.7	7.7	7.3

^a (1 = extremely undesirable/dislike extremely/extremely bland, 9 = extremely desirable/like extremely/extremely intense),

^bA = purebred lamb * pasture only; B = crossbred lamb * pasture only; C = purebred lamb * supplemented; D = crossbred lamb * supplemented

Figure 1. Consumer ratings of selected quality characteristics of cooked ground lamb

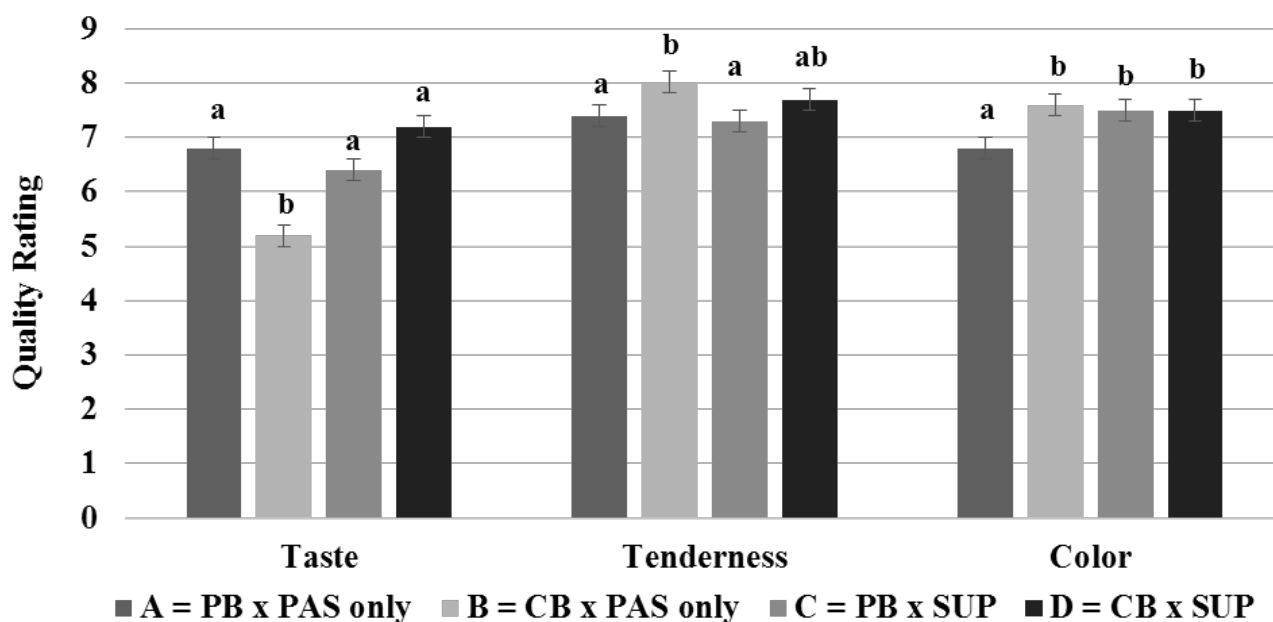


Figure 2. Consumers' reported frequencies of willingness to purchase lamb meat, if available

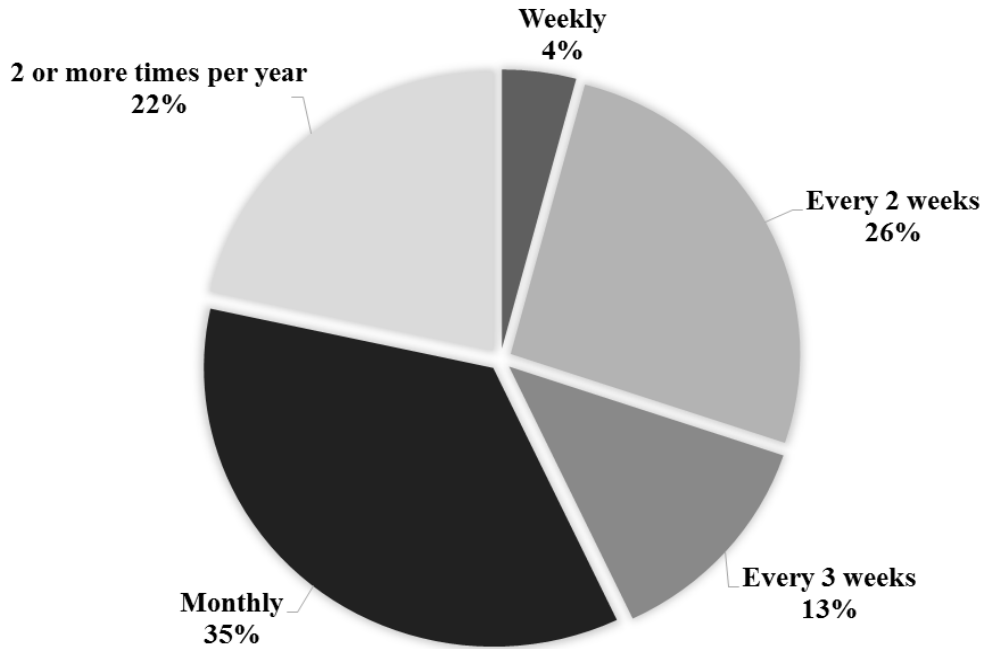
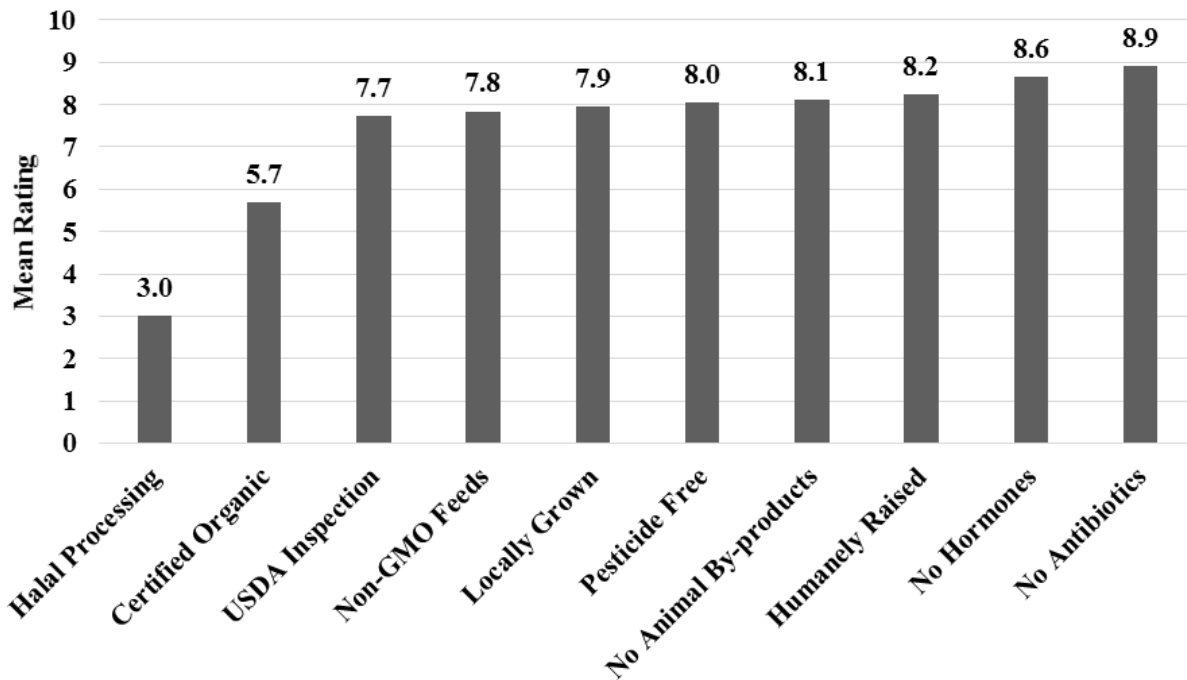


Figure 3. Factors influencing respondents' purchases of lamb meat



Conclusion and Implications

Consumer acceptability of ground lamb meat from hair sheep lambs appears to be favorable. Sheep producers might consider the use of hair type lambs in a pasture-based production system in order to gear market lamb production towards mainstream consumers in the U.S. In addition, hair sheep producers could benefit financially from cheaper input costs since pasture versus grain costs are often lower and hair sheep require no shearing. To promote lamb marketing, extension educators may assist sheep producers by providing lamb cooking demonstrations, lamb-based cooking classes, healthy, easy to prepare lamb recipes, and educational materials directed to consumers searching for meat from local, pasture-raised lambs.

For additional information, contact: Theresa Nartea at tnartea@vsu.edu, 804-524-5491; Stephan Wildeus at swildeus@vsu.edu, 804-524-6716; Dahlia O'Brien at dobrien@vsu.edu, 804-524-6963