



This project explores alternate feed supplements for hair sheep raised on a forage-based diet. The research shows that supplementing with an agro-byproduct such as soy hull can increase feed intake and growth rate in lambs, thus offering a less expensive feed option for hair sheep producers.

Using agro-byproducts to improve growth of forage-fed hair sheep

Who cares and why?

A comprehensive 2008 review by the National Research Council of the sheep industry in the United States identified forage-finished lamb meat, along with the direct marketing of high quality, lighter weight lambs to expanding ethnic markets, as key opportunities to improve efficiency and competitiveness of the sheep industry. The report also recognized the role that hair sheep play in addressing these structural changes in the industry. A report commissioned by the American Sheep Industry Association in 2010, “Nontraditional Lamb Market in the United States: Characteristics and Marketing Strategies,” echoed a similar sentiment, indicating that the greatest potential for sheep industry expansion lies primarily in the area of non-traditional markets, and that alternative breeds, such as hair sheep, are well-suited to serve these markets.

Hair sheep can be raised with limited management inputs such as de-wormers, and they lamb readily on pasture, making them the prototype of the ‘easy care’ sheep. Hair sheep lambs should be targeted at consumers and markets that will pay a premium for this type of product (grass-fed, organic or naturally raised). However, mature size and growth rates in hair sheep are generally lower than they are in traditional wool sheep, and management tools that improve growth performance will benefit this industry.

What has the project done so far?

This project evaluated soy hull and corn gluten feed as supplements for hair sheep lambs fed forage-based diets. These agro-byproducts are sources of highly digestible fiber and may be better suited for hair sheep than the more expensive traditional grain supplements. Two pen-feeding trials using high-quality orchard grass hay as a forage source showed that the total feed intake and the growth rate of hair sheep lambs increased linearly as supplement feeding increased from 0 to 3% of body weight. Growth rates were higher and adaptation to the diet was faster in the lambs supplemented with soy hull than in those supplemented with corn gluten feed. When trials were moved to pasture, hair sheep lambs rotationally grazing fescue pasture had higher growth rates when supplemented with soy hull than with cracked corn at 2% of body weight. Supplementation with soy hull improved growth rate in lambs by 80% compared to lambs grazing pasture only.



Impact Statements

- Quantified improvements in growth rates derived from supplementing forage-based diets with agro-byproducts
- Identified soy hull as supplement with considerable potential for integration into hair sheep management systems

Strategic Priority: This project addresses the NIFA research priority area of Food Security and the program priority areas of Sustainable Agriculture and Rural Communities for 21st Century (expanded opportunities for small farms).

What research is needed?

Additional research is needed on the most cost effective level of supplementation of soy hull, as well as on the effect that supplementation has on the quality and composition of the lamb carcass. There is also a need to test market lamb products from these rearing systems in direct marketing channels to determine consumer acceptance.

Want to know more?

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