



Evaluation of Feedlot Rations for Meat Goats

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BOTTOM LINE

Profitability of confinement fed meat goats is dependent upon cost of gain and movement of the slaughter market during the feeding period.

Summary

- Boer x Spanish wethers were confinement fed for 63 days to evaluate four rations and three feeding regimes.
- Average daily gain ranged from 0.31 to 0.37 lb/head.
- Feed efficiency (feed:gain) ranged from 6.6 to 7.8 and feed cost of gain from \$0.63 to 0.93.

Introduction

Confinement feeding is a relatively new practice for the meat goat industry. Consequently, very little academic information is available and knowledge within the meat goat industry is limited. Most feeding experiments to date have been limited to breed comparisons and have not included a simultaneous evaluation of different diets.

Experimental Approach

Boer x Spanish wethers (n=250) were used to evaluate five different feeding regimes. Feed groups are outlined in Table 1. Wethers in groups 1-4 were fed in 1 acre pens with ad libitum access to feed. Group 5 was self-fed near water in a 200 acre pasture containing live oak, juniper and short bunchgrasses; forage intake was not measured. All groups had ad libitum access to fresh water, salt and mineral blocks.

Goats were individually weighed after withholding feed and water overnight. Duration of the trial was 63 d, beginning early Sep and ending early Nov. Weather conditions during the feeding period were favorable for goat feeding - seasonably warm temperatures and dry.

Results

Results of the trial are presented in Table 2. There was no death loss during the 63 d feeding period.

Table 1. Description of Feed Rations by Group.

| | |
|---|--|
| 1 | alfalfa-based pellet; 14% crude protein |
| 2 | corn, cottonseed meal-based; textured, 16% crude protein |
| 3 | whole shelled corn (>80%) and premix pellet; 16% crude protein |
| 4 | self-limiting pellet, 16% crude protein and free choice hay |
| 5 | self-limiting pellet, 16% crude protein on pasture |

All groups were self-fed (ad libitum intake).

Observations

The most feed efficient program was group 3 with a feed:gain of 6.63:1. Feed efficiency data from several recent studies indicates a range from 6 to 8 is to be expected. Although crude protein content of the rations offered was similar, the energy content (>80% corn) of the ration offered group 3 was significantly higher than that of the other groups.

The ration for group 3 was originally designed as a mixture of approximately 80% whole shelled corn, 20% 3/16 inch pellet. However, after one wk on feed, it became apparent the goats were sorting the feed, consuming the corn

and wasting the pellet. Therefore, the corn and pellet were ground together to result in a more homogenous ration.

A similar problem was observed with the textured feed offered group 2. Therefore, if goats are to be self-fed, these authors strongly recommend pelleting the feed to be offered. If textured feed is to be used, producers might consider feeding twice daily as is done in commercial cattle feeding operations. The cost of labor and equipment must be weighed against the expense of wasted feed to determine the most cost effective approach.

The self-limiting pellet offered groups 4 and 5 was formulated according to experience with cattle and deer. In this trial, the limiting mechanism was not effective in holding goats to the same 1.5% BW observed in other species. Group 4 exhibited the highest cost of gain, primarily due to the additional cost of the hay.

The cost of gain data in Table 2 does not include consideration of labor, overhead expenses or interest on operating capital. It appears that successful goat feeding operations must include a feed cost of gain no higher than 50-55¢ per/lb of gain, which translates into a ration cost of less than \$130 per ton.

The marketing of fed goats should be thoroughly investigated before beginning a feeding program, especially if the out weight of the fed goats will exceed 80 lbs (36 kg).

Table 2. Wether performance after 63 d on feed.

| Feed Group | Initial Wt., lb | Final Wt., lb | ADG, lb/d | Feed Intake, lb/hd/d | Feed Intake, % BW | Feed: Gain | Cost of Gain, \$/lb |
|------------|-----------------|---------------|-----------|----------------------|-------------------|-------------------|---------------------|
| 1 | 46.3 | 69.3 | .36 | 2.8 | 4.89 | 7.74 | 0.68 |
| 2 | 46.2 | 67.8 | .34 | 2.7 | 4.66 | 7.23 | 0.63 |
| 3 | 47.2 | 67.0 | .31 | 2.1 | 3.62 | 6.63 | 0.63 |
| 4 | 46.4 | 67.6 | .34 | 2.0 ^a | 4.33 ^b | 7.49 | 0.93 ^b |
| 5 | 46.1 | 67.1 | .33 | 1.8 ^c | 3.21 | 5.52 ^c | 0.69 ^c |

^aFeed only. Hay intake = 0.51 lb/hd/day.

^bIncludes feed and hay.

^cFeed only. Forage intake not measured.