

Lambs & Naked Oats - 1998 Sheep Day Report

THE UTILIZATION OF NAKED OATS (HULLESS OATS) IN GROWING RATIONS OF EARLY WEANED LAMBS

Roger Haugen and Wes Limesand NDSU Experiment Station, Fargo, 1998

INTRODUCTION

Alternative crops are on the rise in the region and one of those crops is naked oats (hulless oats). Naked oats has some very desirable characteristics including high digestibility, high protein and low fiber. Because of these, the possibilities of feeding naked oats to livestock has sparked interest in research trials. One such feeding possibility is in lamb growing diets.

PROCEDURE

Thirty fall born lambs (Sept-Oct of 1996) were divided into 3 pens (10 lambs /pen) on December 9, 1996 at an average weight of 61 pounds. Included in the study were purebred Hampshire, Suffolk, Columbias plus crossbred lambs. Each pen had 4 males and 6 females.

One pen received a diet with 0% naked oats, the second pen received a diet containing 20% naked oats on a dry matter basis, and the third pen received a diet containing 40% naked oats on a dry matter basis. Other ingredients in the three diets were corn, soybean meal, alfalfameal, and minerals. Table 1 lists the three diet compositions on an as fed basis. Diets were tested for protein and averaged 17.3% on a dry matter basis. All diets were pelleted and self-fed.

Data collected included weights at each weigh period (every three weeks) plus feed utilization. The lambs remained on test for 63 days. Evaluations included average daily gain, feed consumption, and feed conversion.

The experiment was repeated with 1997 spring born lambs. Sixty spring born lambs (January - March) were divided into 6 pens. Each treatment (0%, 20% and 40% naked oats) describe above was applied to two pens. Lambs were put on the experiment May 5, 1997 at an average weight of 57.4 pounds. Included were purebred Hampshire, Suffolk, Columbias plus crossbred lambs. Each pen had 4 males and 6 females.

Both the fall and spring lambs were weaned at approximately 60 days of age.

Table 1. Diet Compositions - As Fed Basis

Ingredients	0% Naked Oats	20% Naked Oats	40% Naked Oats
Corn	67.0	53.0	39.0
Soybean Oil Meal	14.0	10.5	7.0
Naked Oats	17.5	35.0	
Alfalfa Meal	13.0	13.0	13.0
Molasses	4.5	4.5	4.5
Limestone	1.0	1.0	1.0
Supplement ^a	0.5	0.5	0.5

^a Trace mineral, vitamin mix

RESULTS AND DISCUSSION

The results of the fall born study are presented in Tables 2 thru 4. No significant differences were found in average daily gain, daily feed intake or feed efficiency among the three diets. The 30 lambs gained almost a pound a day (0.93) with a daily feed intake over the 63 days at 3.58 pounds per day. Feed efficiency for the 30 lambs was 3.84 pounds of feed per pound of gain for the 63 days.

Table 2. 1996 Fall Born Lambs - Average Daily Gain

Item	0% Naked Oats	20% Naked Oats	40% Naked Oats
1st 3 weeks	1.05	0.90	0.95
2nd 3 weeks	0.94	0.90	0.95
3rd 3 weeks	0.92	0.92	0.85
Total - 63 days	0.97	0.91	0.92

Table 3. 1996 Fall Born Lambs - Daily Feed Intake

Item	0% Naked Oats	20% Naked Oats	40% Naked Oats
1st 3 weeks	3.40	3.19	2.97
2nd 3 weeks	3.70	3.50	3.65
3rd 3 weeks	3.84	3.98	3.98
Total - 63 days	3.64	3.56	3.54

Table 4. 1996 Fall Born Lambs - Feed Efficiency

Item	0% Naked Oats	20% Naked Oats	40% Naked Oats
1st 3 weeks	3.25	3.54	3.12
2nd 3 weeks	3.93	3.91	3.84
3rd 3 weeks	4.15	4.31	4.67
Total - 63 days	3.75	3.92	3.85

The spring born results are presented in Tables 5 thru 7. As in the fall study, no significant differences were found among the three diets. The 60 lambs gained 0.76 pound a day and ate 2.97 pounds of feed per day. Feed efficiency for the 60 lambs was 3.89 pounds of feed per pound of gain for the 63 days. There was a trend in feed efficiency which favored the 0% naked oats (3.68) over the 20% naked oats (3.98) and the 40% naked oats (4.04).

Table 5. 1997 Spring Born Lambs - Average Daily Gain

Item	0% Naked Oats	20% Naked Oats	40% Naked Oats
1st 3 weeks	0.77	0.79	0.73
2nd 3 weeks	0.74	0.71	0.71
3rd 3 weeks	0.85	0.78	0.79
Total - 63 days	0.79	0.76	0.74

Table 6. 1997 Spring Born Lambs - Daily Feed Intake

Item	0% Naked Oats	20% Naked Oats	40% Naked Oats
1st 3 weeks	2.53	2.68	2.68
2nd 3 weeks	2.93	3.05	2.88
3rd 3 weeks	3.23	3.28	3.43
Total - 63 days	2.90	3.01	3.00

Table 7. 1997 Spring Born Lambs - Feed Efficiency

Item	0% Naked Oats	20% Naked Oats	40% Naked Oats
1st 3 weeks	3.27	3.41	3.66
2nd 3 weeks	3.61	3.83	3.85
3rd 3 Weeks	3.80	4.23	4.37
Total - 63 Days	3.138	3.98	4.04

The results of these two trials indicate that naked oats can be utilized in growing rations for early

weaned lambs without any significant loss of performance. The determining factor for incorporating naked oats into lamb diets should be cost of the grains being considered. In addition, the diets used in these two trials were pelleted which will add additional cost to the diets.