

**Ohio State University Eastern Agriculture Research Station
Belle Valley, Ohio
Male vs Female Confinement Lamb Finishing**

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Introduction

When wether and ewe lambs are fed free choice concentrates during the finishing phase and supplemented in the barn, how will growth rates compare? Will wether lambs grow faster than ewes and how will the use of an ionophore impact growth?

In September of 2008 we decided to evaluate these questions on finishing lambs at the Eastern Agriculture Research Station (EARS) in Belle Valley, Ohio. Males and females were randomly assigned to feed groups but separated M & F. There are four different rations: Green Valley feeds (medicated and non-medicated) and Gerber pellet feeds, (medicated and non-medicated). Feeds were given two replicates each per sex (two replicates of each utilized on the males and two replicates of each utilized on females = total four replicates of each feed).

Comparisons were made between male and female growth rates and feed efficiency utilizing the following commercially available feeds.

Feeds

Green Valley Medicated Feed	Land o Lakes, Lamb Grower/Finisher B30
Green Valley Non Medicated Feed	Land o Lakes, Lamb Finisher Complete
Gerber Non Medicated Feed	14% Lamb Grower Pellet unmedicated
Gerber Medicated Feed	14% Lamb Grower Pellet with Bovatec

Methods

Lambs were randomly assigned to feed groups and separated by sex. Four ad-lib concentrate rations were evaluated. Lambs were fed in a total of sixteen pens of five individuals each. All lambs were born in May 2008, weaned in August, vaccinated for C,D and T, and de-wormed prior to the start of the trial. Distribution by weight ranges were made across groups and pen assignments were randomized. Start weights were not significantly different. Lambs finished in the barn were on a manure pack with approximately 38 square feet per lamb, open-fronted barn, and provided free choice hay and concentrate, via a gravity flow feeder. All lambs were provided with free choice water, and minerals.

Lambs were started on test September 23rd and taken off test December 12th, 2008. Both start and end weights were recorded.

Results

For this project a statistical analysis using a completely randomized design was utilized.

Hypothesis: (1)

1. Hypothesis:

There is no significant difference in rate of gain and feed efficiency between males and females.

Null Hypothesis:

There is a significant difference in rate of gain and feed efficiency between males and females.

We accept our original hypothesis that males and females have no significant difference in rate of gain and feed efficiency when fed the same type of feed. Conclusion using a level of significance = 0.05

Discussion

Animal performance at this location and for these lambs was not significantly different when comparing males and females on the same ration (Table 3), conclusion using a level of significance = 0.05. Ionophores did not significantly increase feed efficiency in both males and females and performance was not consistent when comparing the two brands of medicated feeds (Table 1). Gerber medicated feed did out perform the Gerber nonmedicated feed when comparing (feed per pound of gain) in wethers, conclusion using a level of significance = 0.05. Feed cost calculations are based on the amount of concentrate fed and does not account for pasture, hay, or death loss (Table 4). One wether lamb died of urinary calculi.

Table 1 - Average Feed Consumption per lb. of gain

	Males	Females
Gerber medicated	5.84	6.64
Gerber non-medicated	7.06	6.64
Green Valley medicated	6.78	6.96
Green Valley non-medicated	6.02	6.00

Table 2 - Average rate of gain per day

	Males	Females
	.45	.43
	lb/day	lb/day

Table 3 - Average rate of gain per feed type

	Males	Females
Green Valley medicated	0.42	0.41
Gerber medicated	0.48	0.42
Green Valley non-medicated	0.48	0.46
Gerber non-medicated	0.42	0.43

Table 4 - Average cost per lb. of gain

	Males	Females
Green Valley non-medicated	\$1.15	\$1.15
Green Valley medicated	\$1.28	\$1.31
Gerber non-medicated	\$0.76	\$0.73
Gerber medicated	\$0.63	\$0.72

Land o Lakes	
Lamb Finisher Complete – \$384/Ton	
Crude Protein	14%
Crude Fat	2%
Crude Fiber	12%
Calcium	1-1.5%
Phosphorus	0.35%
Salt	.5-1%
Selenium	.3 ppm
Vitamin A	4,000 IU/#
Vitamin D3	1,000 IU/#
Vitamin E	10 IU/#
Ingredients	
Processed Grain By-Products, Grain Products, Roughage Products, Forage Products, Calcium Carbonate, Salt, Ammonium Chloride, Calcium Lignin Sulfonate, Urea, Molasses Products, Vegetable Fat Product (Feed Grade), Lecithin, Sulfuric Acid, Artificial Flavoring, Propionic Acid (a Preservative), Acetic Acid (a Preservative), Benzoic Acid (a Preservative), Ferrous Sulfate, Magnesium Sulfate, Magnesium Oxide, Zinc Sulfate, Zinc Oxide Plant Protein Products, Vitamin A Supplement, Vitamin D ₃ Supplement, Mineral Oil, Vitamin E Supplement, Sodium Selenite.	

Land o Lakes	
Lamb Grower-Finisher B30 – \$376/Ton	
Crude Protein	16%
Crude Fat	2%
Crude Fiber	12%
Calcium	1-1.5%
Phosphorus	0.40%
Salt	.3-.8%
Potassium	0.60%
Zinc	100 ppm
Selenium	.3 ppm
Vitamin A	4,500 IU/#
Vitamin D3	450 IU/#
Vitamin E	10 IU/#
Ingredients	
Processed Grain By-Products, Roughage Products, Forage Products, Molasses Products, Plant Protein Products, Calcium Carbonate, Grain Products, Salt, Ammonium Chloride, Vitamin E Supplement, Ferrous Sulfate, Potassium Iodide, Manganous Oxide, Vitamin D ₃ Supplement, Cobalt Carbonate, Sodium Molybdate, Manganese Sulfate, Vitamin A Supplement, Zinc Oxide, Sodium Selenite.	

Gerber Pellet	
14% Lamb Grower Pit w/Bovatec – \$218/T	
Active Drug - Lasalocid	27.3 g/ton
Crude Protein	14.10%
Crude Fat	3.90%
Crude Fiber	12.50%
Calcium	.40-.90%
Phosphorous	0.48%
Salt	.40-.90%
Selenium	.8 ppm
Vitamin A	6,000 IU/#
Ingredients	
Processed Grain By-Products, Fine Ground Shelled Corn bulk, Roughage Products, Forage Products, Molasses Products, Plant Protein Products, Non-Ruminant Animal Protein Products, Calcium Carbonate, Lignin Sulfonate, Blended Poultry & Vegetable Fat Preserved with BHA, Salkt, Ammonium Chloride, Brewers Grains Yeast, Zinc Sulfate, Manganous Oxide, Ferrous Sulfate, Vitamin A Supplement, Vitamin D ₃ Supplement, Vitamin E Supplement, Vitamin B ₁₂ Supplement, Menadione Sodium Bisulfite Complex, Riboflavin Supplement, d-Calcium Pantothenate, Niacin Supplement, Sodium Selenite, Mineral Oil, Ethylenediamine Dihydroiodide, Cobalt Carbonate, Propionic Acid, Ammonium Hydroxide, Sorbic Acid, Benzoic Acid, Phosphoric Acid, Propylparaben, Methylparaben, Butylated hydroxyanisole.	

Gerber Pellet	
14% Lamb Grower unmedicated – \$220/T	
Unmedicated	
Crude Protein	14%
Crude Fat	3.70%
Crude Fiber	12%
Calcium	.45-.95%
Phosphorous	0.52%
Salt	.45-.95%
Selenium	.7 ppm
Vitamin A	5,000 IU/#
Ingredients	
Processed Grain By-Products, Fine Ground Sh Corn bulk, Roughage Products, Molasses Products, Plant Protein Products, Forage Products, Calcium Carbonate, Salt, Ammonium Chloride, Blended Poultry & Vegetable Fat Preserved with BHA, Lignin Sulphate, Zinc Sulfate, Manganous Oxide, Ferrous Sulfate, Vitamin A Supplement, Vitamin D ₃ Supplement, Vitamin E Supplement, Vitamin B ₁₂ Supplement, Menadione Sodium Bisulfite Complex, Riboflavin Supplement, d-Calcium Pantothenate, Niacin Supplement, Sodium Selenite, Mineral Oil, Ethylenediamine Dihydroiodide, Cobalt Carbonate, Propionic Acid, Ammonium Hydroxide, Sorbic Acid, Benzoic Acid, Phosphoric Acid, Propylparaben, Methylparaben, Butylated hydroxyanisole.	



FORAGE TESTING LABORATORY
 DAIRY ONE, INC.
 730 WARREN ROAD
 ITHACA, NEW YORK 14850
 607-257-1272 (fax 607-257-1350)

 |Sample Description |Farm|Code| Sample |
 |DAMP GRASS HAY | |803 |13275700|

 Analysis Results

|Sampled | Recvd |Printed |ST|CO|
 | |12/22/08|12/23/08| | |

SAMPLE #1 GRASS HAY
 OSU EXTENSION GUMBRINSY CTY
 CLIFF LITTLE
 PO BOX 300
 OLD WASHINGTON, OH 43768

Components	As Fed	DM
% Moisture	17.0	
% Dry Matter	83.0	
% Crude Protein	11.5	13.8
% Adjusted Crude Protein	11.5	13.8
% Acid Detergent Fiber	32.4	39.1
% Neutral Detergent Fiber	51.1	61.6
% NPC	16.6	20.0
% TDN	47	57
NEL, Mcal/Lb	.42	.51
NEM, Mcal/Lb	.42	.51
NBG, Mcal/Lb	.21	.26
Relative Feed Value		88
Horse DE, Mcal/Lb	.79	.95

 ENERGY TABLE - NRC 2001

	Mcal/Lb	Mcal/Kg
DE, 1X	1.17	2.57
ME, 1X	0.97	2.15
NEL, 3X	0.55	1.20
NEM, 3X	0.57	1.25
NBG, 3X	0.31	0.69
TDN1X, %	57	

COMMENTS:
 1. PLEASE CHECK OUR CURRENT PRICE
 LIST AND ENCLOSE \$2.00 WITH
 YOUR NEXT SAMPLE TO COVER
 UNPAID CHARGES ON THIS SAMPLE.

THE FORAGE LAB WILL BE CLOSED FOR
 CHRISTMAS ON 12/25 AND 12/26
 HAPPY HOLIDAYS



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 73D WARREN ROAD
 ITRACA, NEW YORK 14850
 607-257-1272 (fax 607-257-1350)

Sample Description	Farm Code	Sample
DAMP GRASS HAY	803	13275710

Sampled	Recvd	Printed	ST/CO
	12/22/08	12/23/08	

Analysis Results

SAMPLE #2 GRASS HAY
 OSU EXTENSION GUERNSEY CTY
 CLIFF LITTLE
 PO BOX 300
 OLD WASHINGTON, OH 43768

ENERGY TABLE - NRC 2001

	Mcal/Lb	Mcal/Kg
DE, 1X	1.11	2.44
ME, 1X	0.91	2.02
NEL, 3X	0.51	1.12
NEM, 3X	0.52	1.15
NRG, 3X	0.27	0.59
TDN1X, %	56	

Components	As Fed	DN
% Moisture	17.2	
% Dry Matter	82.8	
% Crude Protein	6.1	7.4
% Adjusted Crude Protein	6.1	7.4
% Acid Detergent Fiber	38.2	46.1
% Neutral Detergent Fiber	53.9	65.1
% NFC	17.6	21.3
% TDN	46	56
NEL, Mcal/Lb	.39	.48
NEM, Mcal/Lb	.40	.49
NRG, Mcal/Lb	.20	.24
Relative Feed Value		76
Horse DE, Mcal/Lb	.76	.92

THE FORAGE LAB WILL BE CLOSED FOR
 CHRISTMAS ON 12/25 AND 12/26
 HAPPY HOLIDAYS