

The North Dakota Sheep Industry

No. 53

Newsletter

www.ndlwpa.com

April/May 2008

A joint publication brought to you by the North Dakota Lamb and Wool Producers Association and the NDSU Extension Service

Editor's Note



Justin Luther

Challenging economic times resulting from drought conditions, high feed prices, and increased fuel costs may present some opportunities that haven't been utilized by our industry in the recent past. Articles in the current newsletter discuss different options that will be useful when attempting to improve the production efficiency of your flock under current conditions.

As feed resources remain limited, producers will need to perform a more in depth analysis of ewe production records and adopt stricter culling practices. If current record keeping systems are inadequate, the additional time invested into a thorough and accurate system will pay-off as costs of production remain high. Retaining unproductive or under-productive ewes is simply inefficient.

Rams, in particular, can no longer be viewed as 'ewe fresheners' in our industry. We have wasted far too much time and money selecting rams solely on visual appraisal. I know many producers in our state that raise cattle and sheep together. These individuals will go to a bull sale on one weekend and place selection pressure on EPD's. The next weekend these same individuals will attend a ram sale and select sires solely on phenotype or 'look'. Old selection practices must become a way of the past, especially when tools are in place to make well educated, economically secure decisions.

I encourage all North Dakota sheep producers to explore a variety of under utilized techniques that can greatly improve the efficiency of sheep production. Whether it is better utilization of flock record keeping systems, using tools to enhance lamb feedlot performance, or identification of terminal sires with superior growth and carcass traits in central ram test stations, implementing any or all of these tools will allow for better adaption to our current conditions.

Justin Luther, Ph.D.
NDSU Extension Sheep Specialist

President's Message



Lyle Warner

The calendar says SPRING is here and I would imagine that many of you are close to done lambing, but the grass is slow to start. Freezing nearly every evening, dry and windy doesn't seem to help. I hope all of you had a great lamb crop and that spring rains will soon develop in areas that need the rain.

We are gearing up for the spring ram test. The test will run from May 19 – September 8 and the Hettinger Ram Sale will be held on September 17. I would like to encourage producers to consider entering rams in the ram test, information and entry forms can be found on the NDLWPA website under SPRING RAM TEST. This year we will be entering pens of three, it is possible to enter less, with the top 2/3 selling as Certified Rams at the sale on September 17. These rams will sell first in the sale.

From a producer's stand point we are attempting to generate some data, much like beef EPDs, to help us improve the productivity of our lambs. We know that Average Daily Gain and carcass traits such as loin eye are highly heritable traits so they will be the primary emphasis of the test. We are in no way indicating that these rams are superior to non tested rams, we are just offering them with some data to aid in the selection process.

I have heard that this is not important because we get the same price for lambs regardless of their carcass traits. This is true, but lets look at how superior rams may be of economic value to you. In the following example, I will look at ADG only. Assume that you purchase a ram that will add .05#ADG to his offspring (.7# to .75# per day), the ram breeds 40 ewes and they have 50 live lambs that make it to market. At 180 days of age, one lamb will weigh 126 # and the other 135# , that extra 9#

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times 50 lambs equates to an additional 450# of lamb to sale. If these lambs are selling for \$1.00 per pound, that ram would add an ADDITIONAL \$450 to.

When the beef industry started developing EPDs there were many nay sayers, but now they live and die by them. I do not believe that the sheep industry will ever get to the point of the beef industry because of the diversity of the industry; meat, wool, ethnic, showing etc.

However, if we are in the business of producing meat, I think we are better served if we can make purchases based on some data even if it is not all inclusive. Thank goodness we have very diverse markets as it allows us to produce many very different types of animals, otherwise we would be forced to phenotypically alter our animals so that they would be much more similar in body type and structure like beef, poultry and swine have done. I for one appreciate the fact that we can raise animals that meet our personal goals and provide a myriad of products for consumers.

I hope all of you have a great spring and summer and I look forward to seeing you at some of the sheep events.

Lyle Warner, NDLWPA President



North Dakota Lamb and Wool Producers Association Tuesday, April 8th, 2008

Brent Kuss, NDLWPA Secretary

President Warner called the meeting to order.

Brent Kuss read the minutes from the Feb. 25th board meeting. Brent Stroh made a motion to accept the minutes. Paula Swenson seconded the motion. Motion carries.

Mark Sheppard read the treasurer's report and it was approved as read.

Old Business: Fargo Ram sale: Wyman Sheetz gave an update on some topics that the committee

discussed. The board discussed the topics and made the final draft. The sale date will be Saturday, Aug. 2nd, 2008.

Ram Test: The committee gave the board an overview of the changes to the ram test. Producers should have received an application and the rules for this year's test.

Fiber Fest: The dates for Fiber Fest are July 25-26th, 2008 at Bonanzaville.

NDLWPA Perpetual Flock: Lyle Warner gave the board an overview of what the committee had put together so far. The board had some discussion on some concerns and asked the committee to make some changes and report back at the next board meeting.

New Business:

ND Animal Health: ND is hosting a Midwest state veterinarian conference and asked if the NDLWPA would help to sponsor the event. Matt Benz moved to give \$250.00 to the event. Don Osborne seconded the motion. Motion carried

Also there will be limited funding for genotyping ram lambs again this year but the amount available isn't known yet.

Scrapie Outreach: Brent Stroh made a motion to use the \$900.00 from the scrapie outreach to promote the Fargo Ram Sale as a RR ram sale.

Jr. Points Show: Paula Swenson made a motion to give \$300.00 for the breeding class. Lee Gessner seconded the motion. Motion carried.

Promotional Trailer: Wyman Scheetz discussed what he found out about a promotional trailer. It was decided to table the idea for now.

Ag Day: Mark Sheppard and Paula Swenson reported that the Ag Day event in Lisbon went very well and they had 195 students and 20 staff attend the event.

President Warner adjourned the meeting.

The next meeting will be Tuesday June 3rd, 2008 at the Wyman Scheetz farm.

Board members in attendance: Dr. Justin Luther, Nathan Robbins, Mark Sheppard, Lee Gessner, Wyman Scheetz, Matt Benz, Don Osborne, Paula and Dean Swenson, Lyle Warner, Brent Kuss, Brent Stroh and guest, David Buskohl.

Culling Strategies for the Sheep Flock

Barry Potter - Livestock Specialist/OMAFRA/ANADA
September 10, 2003

Culling unproductive ewes every year reduces carrying costs for the flock. Regardless of market conditions, unproductive ewes should be removed from the flock to save valuable feed for higher producing ewes. You can generally afford to carry a ewe that produces. When lamb prices are depressed, the need to keep only the productive ewes is even more apparent.

Traditional Culling

Make sure that you use a management system that identifies unproductive ewes: those that did not lamb, had difficulty lambing, raised weak or small lambs, or have health issues. As well, use your Sheep Flock Improvement Program (SFIP) records to help you rank ewes and lambs for genetic potential. You may identify some ewes as unproductive through this process.

Keeping unproductive ewes will cost you time and money. Each ewe on a maintenance ration consumes about \$20 of feed during the winter, assuming 1.4 kg (3 lb.) of hay per day at \$60 per ton (\$55 per ton). To feed a ewe (forage only) takes about 10 seconds per day. Based on a labor rate of \$15 per hour, this would be another \$8.25 per ewe for the winter feeding period. So, it makes economic sense to cull unproductive ewes.

Marketing Cull Ewes

Currently there is a relatively strong market for sheep culled for production issues. If the price of cull ewes decreases significantly, then you should compare the cost of marketing a ewe against the cost of euthanizing and burying or composting it. Marketing costs (trucking, checkoff, and commission) vary depending on where you live in the province. The cost to market generally ranges from \$10 to \$11. Current cull ewe prices average \$45 to \$50 per ewe¹. As long as sheep prices remain above marketing costs, it makes sense to sell these ewes. If the price drops below marketing costs, then burying or composting may be a preferred option. Check the OMAF factsheets "On-

farm Composting of Livestock and Poultry Mortalities" and "Proper Burial Techniques for Small Animals and Poultry Mortalities under 25 kg" for details about on-farm disposal options.

¹Ontario Sheep Marketing Agency posted average for the week of September 10, 2003.




Extraordinary Culling

What about the productive females in the flock? Should you cull any of them as well? At present, cull ewe prices are strong relative to ewe lamb prices, so this may be a good time to cull a little harder and keep more replacement ewe lambs. Chart 1 can help you decide whether or not to cull productive ewes and keep ewe lambs.

Chart 1: Relative Market Value of Ewes vs. Replacement Lambs

Market Price (\$/cwt.)		65	55	45	35
Cull Ewe (140 lb) Value		\$91	\$77	\$63	\$49
Market Price (\$/cwt.)	Ewe Lamb (90 lb) Value				
70	\$63	[Green diagonal stripes]			[Yellow]
80	\$72				
90	\$81	[Red]		[Yellow]	
100	\$90				

Chart by Anita O'Brien, OMAF

-  Ewe has higher market value than replacement lamb
-  Ewe has marginally lower market value than replacement lamb
-  Ewe has lower market value than replacement lamb

If a ewe has a higher market value than the replacement ewe lamb, then keeping the lamb may make more economical sense, provided genetic parameters are considered. If the ewe lambs are from a maternal line, the lambs could be kept as replacements. However, if the lambs are from a terminal line, keeping the ewe lambs would probably result in lower reproductive efficiency. There is no proven way to predict future markets to know whether selling cull ewes now would make more financial sense than selling later. If you think the market for cull ewes will decline, you may want to explore alternative marketing options for productive ewes. For example, small producers may be looking for good quality breeding stock.

Cost and Return for Your Ewe... Is She Worth Keeping?

The 2002 Ontario Farm Management Analysis Project (OFMAP) average annual costs for keeping

a ewe equals \$212.95. This includes all fixed costs proportioned to the ewe flock, including the cost assigned to the lambs. In order to determine whether to keep a productive ewe this year or not, you should know the cost of keeping that ewe on your farm, and her expected productivity.

Case 1: If productivity is 1.5 lambs per year, then in order to produce \$212.95 in revenue to cover costs, you would have to get \$141 per lamb. If you have accelerated lambing, producing on average 2.5 lambs per year, then gross revenue returned would only have to be \$85 per lamb.

Case 2: Costs in a once-a-year lambing situation should be much less than in an accelerated program. For example, winter feed costs of \$20 per ewe, with pasture costs of around another \$20 would put annual feed costs at \$40 per ewe. Therefore, gross revenue if one lamb per ewe is raised on average could be as low as \$40 to cover costs. If 1.5 lambs are raised, then costs could dip to \$26. Case 2 would be a short-term situation with little overhead costs covered, and no consideration for the percent of cull ewes sold annually.

[Chart 2](#) shows the relationship between the cost per year for the ewe flock and the lambing rate. As lambing rate increases, the required return per lamb decreases. As cost per ewe increases, the required return increases.

Ewe and Lamb Costs to Sale Date/Year	Lambing Rate and Breakeven Sale Price				
	1.3	1.6	1.9	2.2	2.5
60	46.00	37.50	31.60	27.27	24.00
80	61.53	50.00	42.10	36.36	32.00
100	76.92	62.50	52.63	45.45	40.00
120	92.30	75.00	63.15	54.55	48.00
140	107.70	87.50	73.68	63.63	56.00
160	123.07	100.00	84.21	72.72	64.00
180	138.46	112.50	94.70	81.80	72.00
200	153.85	125.00	105.26	90.90	80.00
220	169.23	137.50	115.79	100.00	88.00

Based on this chart, if it costs you \$100 per year to maintain a ewe in your flock (including costs for raising its lambs to selling date), and if your lambing rate is 1.6, then you would need a return of \$62.50 per lamb to cover your costs. This is assuming average lamb prices for all weights. If you expect the lamb prices to be above \$62.50 and if your cost is \$100 or less, then it would pay to keep your ewe. Where your operation would fit on the price grid depends on your costs and the weight of lambs you might sell. Prudent managers would review all ewes in their flocks in light of the current market conditions, and make decisions accordingly.

Protecting U.S. Troops with Fireproof Wool

ARS News Service
 Agricultural Research Service, USDA
 Laura McGinnis, (301) 504-1654,
 laura.mcginis@ars.usda.gov May 1, 2008
 View this report online, plus photos and related stories, at
www.ars.usda.gov/is/pr

Wool is less susceptible to burning than synthetic fibers. This makes it an ideal fabric for uniforms worn by U.S. troops, firefighters and others whose occupations expose them to fire.

Agricultural Research Service (ARS) chemist Jeanette M. Cardamone has discovered and patented a heat-resistant material that can be incorporated into wool and other fabrics to match the flame resistance of commercial firefighters' uniforms.

The material was developed at the request of the U.S. military--one of the largest markets for domestic wool--to offer U.S. troops protection against fire-related injuries. Burning wool produces a soft ash that won't lodge in open wounds, unlike synthetic materials, which can bead and drip into a wound.

In an earlier project, Cardamone worked with colleagues at the ARS Eastern Regional Research Center in Wyndmoor, Pa., to develop "biopolished" wool that is both machine-washable and itch-free.

Nine companies have expressed an interest in obtaining a license on the biopolished wool technology, and the ARS Office of Technology Transfer has issued one license for it. The biopolished wool already has many desirable

properties, so it's a natural choice for developing a fabric with improved flame retardancy.

Working with visiting scientist Anand Kanchagar, Cardamone improved the flame retardancy of the biopolished wool by treating it with a heat-resistant polymer that is stable, easy to process and highly tolerant of extreme temperatures. Early tests have shown that the burning behavior of the polymer-treated ARS wool compares to a 50/50 blend of wool with Nomex (TM), the fabric currently used in protective firefighting gear.

The scientists are experimenting with different methods to further enhance the wool's heat-resistant and flame-retardant properties. Cardamone and her colleagues are seeking an industrial collaborator to work with on applying the treatment to fabrics for laundering durability.

Read more about this research in the May/June 2008 issue of Agricultural Research magazine, available at:

<http://www.ars.usda.gov/is/AR/archive/may08/wool0508.htm>

The Economic Value of Using Performance Tested Rams

Justin S. Luther, Ph.D.
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It is rational for producers to question the true economic value of a Certified Performance Tested Ram.

Basic biology and the laws of probability dictate that if a producer purchased 4 rams simply on visual appearance (which happens 99% of the time), the average genetic growth of the resulting offspring would simply be average. Two of these rams may produce lambs that grow faster than average, but the remaining two would produce lambs that grow slower than average. Therefore, the progeny from all four rams would only achieve average gains.

The 2008 Performance Ram Test is simply a method for identifying which rams will probably produce faster gaining lambs with better carcass characteristics based upon their own performance. Once we identify these superior individuals, what is their value to a sheep operation?

Example: Purchasing a ram from the 2008 Performance Ram Test that is 20% above the average for average daily gain (ADG).

It can be anticipated, based on last year's test, that the average gain across all rams on test (and remember that they were all tested under the same environment) will be 0.9 lb per day. Therefore the individual used in this example would have an ADG of 1.08 lb per day (20% greater than 0.9 lb per day) and thus, will have a 0.18 lb per day selection differential. The selection differential is the deviation from the average of the tested rams. Since we know that ADG is 40% heritable (the predicted response to selective breeding), an expected progeny difference can be calculated to determine the genetic value of this ram as follows:

1. ADG Heritability (40%) X Selection Differential (0.18 lb per day) = Estimated Breeding Value (0.072)
2. Estimated Breeding Value (0.072) X 0.5 = Expected Progeny Difference for average daily gain = 0.036 lb per day

Over a 90 day feeding period, it can be estimated that the progeny of this ram will have a 3.24 lb increase in weight relative to rams selected solely on visual appearance (0.036 lb per day EPD X 90 days = 3.24 lb increase in weight).

If this ram bred 50 ewes that would yield a 160% lamb crop weaned, the 80 lambs he sired would gain an average of 3.24 lbs more than the average lamb during a 90 day feeding period. This results in an annual increase in lbs of lamb sold of 259.2 lbs. At \$105/cwt, this is additional income of \$272.16 per year. Since most rams have a useful lifetime of 4 years, this ram is worth \$1,088.64 more than the average ram to the commercial producer.

Although this is a simplified example, it does reveal that rams identified with superior growth are a commodity to the sheep production enterprise.



MYTHS AND REALITIES OF MAKING GENETIC IMPROVEMENT IN SHEEP IN THE U.S.

Dave Thomas
Dept. of Meat and Animal Science
University of Wisconsin-Madison

BUYING GENETIC VALUE? DON'T BE FOOLED. PRODUCING GENETIC VALUE? DON'T FOOL YOURSELF.

GENETIC PRINCIPLES

1. Performance differences between animals are caused primarily by non-genetic factors (age, health, feed, etc.)
2. Only 10 to 30% of the performance differences between animals are due to differences in their genetic make-up.
3. Genetic change is a slow process - maximum change is 1 to 2% improvement per year with total selection on 1 trait.
4. However, genetic improvement in an animal is permanent and cumulative over generations.
5. 70 to 80% of genetic improvement is attributed to ram selection due to fewer rams than ewes needed for replacements.
6. If you purchase your rams, the genetic improvement in your flock is largely dependent upon the genetic improvement in the flock from which your rams are purchased.

GENETIC IMPROVEMENT REALITIES

1. Most commercial flocks purchase purebred rams from breeders of registered sheep.
2. With very few exceptions, selection in registered flocks has been on "show ring" standards, i.e. type, conformation, length, height, structural soundness, with no attempt at obtaining estimates of genetic value for important traits.
3. Most registered (and commercial) flocks which do keep performance records are not

able to obtain an accurate estimate of genetic value.

4. Most registered (and commercial) flocks which support performance recording through their actions still buy stud rams from "show" flocks that are playing games.
5. The National Sheep Improvement Program (NSIP) gives the most accurate estimates of genetic value available.
6. Present impact of NSIP is limited due to low participation and within flock estimates of genetic value.
7. Limited use of A.I. and embryo transfer in sheep does not allow the rapid spread of superior genetics once they are identified.
8. Ram test stations in the Midwest are not effective in ranking rams for genetic value for growth rate.
9. No U.S. breed association ranks genetic value as a high priority.

WHAT TO DO? IS THE SITUATION HOPELESS? NO. (WELL, MAYBE NOT YET)

GENETIC IMPROVEMENT IN COMMERCIAL FLOCKS

1. Use breeds which will get you to your production goals the fastest. Breeds can be ranked accurately for most performance traits.
2. Use a crossbreeding system in which all lambs and ewes are crossbreds, all ewes are sired by "ewe" breeds and the majority of the market lambs are sired by "ram" breeds.
3. Maintain a simple set of production records (no. of lambs born, age adjusted lamb weaning weights, lamb survival, ewe health, total weight of lamb weaned per ewe).
4. Select ewe lamb replacements based upon dam's no. of lambs born and total weight of lamb weaned, and cull ewes for low performance for the same traits.
5. Purchase rams from flocks that:
 - a. are enrolled in NSIP,

- b. select sheep in their flock for traits that are important to you,
- c. do not show, or if they do show, it is a sideline to their performance breeding program rather than the goal of their breeding program.

WHAT IF FLOCKS LIKE THIS DO NOT EXIST? LOWER YOUR STANDARDS A LITTLE?

HOW TO OBTAIN RAMS OF HIGH GENETIC VALUE

1. Encourage registered breeders to get serious about estimating genetic value:
 - a. ask for NSIP records when inquiring about ram,
 - b. be willing to pay for genetic value,
 - c. lobby breed associations to issue "performance pedigrees,"
 - d. lobby state and national sheep organizations to require estimates of genetic value for sheep in sales and ram tests,
 - e. work for across-flock genetic evaluations.
2. Purchase rams from ram test stations because breeders consign their "best" rams.
3. Select replacements from your own ram lambs if you have a larger flock (100+ ewes), well-defined selection goals, and high performing sheep. Introduce a "good" outside ram every few years to check your progress and to reduce inbreeding.
4. Combine efforts with other producers that have similar breeding stock needs (cooperative breeding scheme.)

A. Open Nucleus Group Breeding Scheme

- a. initial screening to identify top 10% of ewes in each flock,
- b. screened ewes moved to a nucleus flock,

- c. initial rams used in the nucleus from cooperators or from outside the scheme,
- d. all subsequent rams used are from the nucleus best rams used in the nucleus and next best rams used by cooperators or best rams used by cooperators or best rams used via A.I. in both nucleus and by cooperators,
- e. most ewe replacements for cooperators produced within their own flock but some may come from the nucleus,
- f. ½ of ewe replacements in nucleus come from nucleus and other ½ come from the cooperators (open nucleus concept.)

B. No-Nucleus Group Breeding Scheme

- a. early Years: share top rams or sons of top rams across flocks for 2 to 3 years to genetically tie flocks together,
- b. subsequent Years: ½ rams needed by all cooperators should be top rams with progeny in cooperator flocks and other ½ should be top young rams from cooperator flocks,
- c. rams will be selected on the basis of records,
- d. selected rams will be brought to a central,
- e. cooperators select their rams from the pool of proven and young rams.

What is needed to make scheme work?

1. Cooperators must be able to cooperate.
2. Have the same or similar type of sheep.
3. Be producing under similar environmental and management conditions.
4. Have the primary goal of developing a more productive sheep for the group's use, as contrasted to competing with fellow producers in selling breeding stock to the public;
6. have similar selection goals which are production-oriented as contrasted to visual or showing standards;
7. have a record-keeping and genetic evaluation program which provides accurate estimates of genetic value for the traits under selection;

8. have written rules and procedures (legal document?) which all cooperators agree to follow including procedures by which a cooperator can leave or be expelled from the scheme;
9. and be willing to take a long-term view.

How to get started?

1. Start with a group of people who can cooperate.
2. Define the type of sheep to be produced in the scheme (the selection goal).
3. Select the traits that will be recorded by all cooperators in order to reach the goal.
4. Enroll in the National Sheep Improvement Program in order to obtain the most accurate estimates of genetic value available. Whether in a scheme or not, this is a good idea.
5. Define the obligations of each cooperator.
6. Develop rules and procedures of operation including voluntary leaving of the scheme or expulsion from the scheme.
7. Write everything down and decide if a legal document is necessary.
8. Meet on a regular basis to review progress, fine-tune the scheme and resolve conflicts.

Cooking with Lamb

Anne Osborne
Wimbledon, ND

This recipe comes from "Better Homes and Gardens New Cook Book" page 375

Herbed Lamb Stew

- 1 lb lamb stew meat, cut into 3/4 inch cubes
- 2 Tablespoons cooking oil
- 2 Cups beef broth
- 1 cup dry red wine or beef broth
- 2 cloves garlic, minced
- 1 teaspoon dried marjoram, crushed
- 1 bay leaf
- 2 cups peeled potatoes cut into 1/2 inch cubes
- 1 1/2 cups sliced carrots
- 1 1/2 cups celery cut into 1/2 inch slices
- 1/2 cup chopped onion
- 1/2 cup dairy sour cream

3 Tablespoons all purpose flour

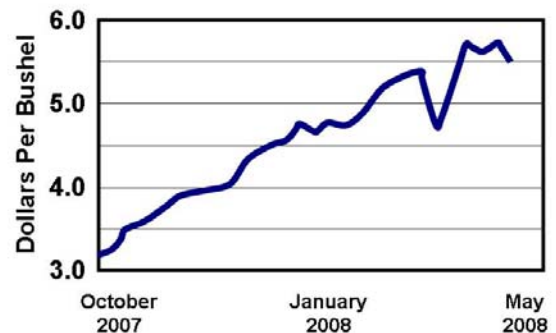
In large saucepan brown meat, half at a time, in hot oil. Drain fat. Return all meat to pan. Add broth, wine, garlic, bay leaf, 1/4 teaspoon salt, and 1/4 teaspoon pepper. Bring to boiling; reduce heat. Cover, simmer 20 minutes or till nearly tender. Stir in potatoes, carrots, celery and onion. Return to boiling; reduce heat. Discard bay leaf. Mix sour cream and flour. Stir 1/2 cup of the hot liquid into sour cream mixture. Return to pan. Cook and stir till bubbly. Cook and stir 1 minute. Makes 4 main dish servings.

Using Ralgro® (Zeranol) During High Feed Costs

Justin S. Luther, Ph.D.
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Although lamb slaughter prices are predicted to remain strong, the price of corn has nearly doubled since October of last year (Figure). Many producers throughout the state are concerned with the feasibility of finishing lambs to the acceptable slaughter weights (135 to 145 pounds) of most U.S. packing plants. As feed costs remain high, producers need to realize the economic advantages that can be gained from using approved products that enhance lamb performance and feed efficiency in the feedlot.

Figure. OMAHA CORN PRICES



Source: Livestock Marketing Information Center

Numerous steroidal growth promoters are utilized by the beef cattle industry, however Ralgro® (Zeranol) is the only product approved for use in sheep. Zeranol is an artificial hormone that mimics the actions of estradiol, a naturally occurring female sex

hormone. The implant is placed in the fleshy part of the ear using a special implant gun. Since the ear is discarded at slaughter the implant never enters the human food chain. The hormone is gradually released from the implant for 50 to 60 days to ensure a relatively constant and slightly elevated level in the blood.

Several studies have evaluated the effects of Ralgro® (12 mg Zeranol) on lamb feedlot performance. These studies left implants in place for 42 to 56 days. As shown in Table 1, implanted lambs have a higher average daily gain, slightly lower or higher feed intake (depending on the study), and a substantial decrease in the feed to gain ratio (i.e. increased feed efficiency).

Table. Reported changes in lamb intake, average daily gain (ADG), and feed efficiency when using a 12 mg Zeranol (Ralgro®) implant.

<u>Measurement</u>	<u>Average change from using Zeranol (Ralgro®)</u>
Average Daily Gain (lb)	+0.04 to +0.13
Feed Intake (lb/day)	-0.20 to +0.41
Feed/Gain (lb/lb)	-1.51 to -0.72

Source: Olivaries et al. (1990), Hutcheson et al. (1992), and Nold et al. (1992).

If the producer assumes a 50 day finishing period, lamb slaughter prices of \$110 cwt, and feed costs of \$0.15 per pound, the following economic advantages could be obtained from Ralgro.

1. Increased Average Daily Gain

Each lamb will be 2 to 6.5 lbs heavier at slaughter and thus, will have \$2.20 to \$7.15 more value when compared to non-implanted lambs after the same feeding period.

2. Increased Feed Efficiency –

It will cost \$0.11 to \$0.23 less for each pound of gain. Therefore, implanted lambs gaining 35 pounds during the finishing period will have feed costs that are \$3.85 to \$8.05 lower than non-implanted lambs gaining a similar amount of weight.

Before a producer decides to implant lambs with Ralgro® some precautions should be considered. The current cost of each implant is approximately

\$0.75, it requires 1 or 2 individuals to handle each lamb during implanting, and the entire process will take approximately 10 seconds per lamb. Although it would appear that the economic advantages discussed in the example above would overcome these costs, all inputs should be considered. Furthermore, Ralgro® (Zeranol) has a 40 day withdrawal period, and most implanted lambs cannot be marketed as 'natural'. Producers should contact their lamb buyers before implanting so that they are aware of any marketing restrictions. Although it has been suggested that Ralgro® implants result in a slightly higher incidence of rectal prolapse, no data is available to support this notion.

In summary, implanting lambs with Ralgro® will enhance lamb performance and feed efficiency. Although it would appear that these advantages in the feedlot overcome the initial costs of implanting, producers should perform their own economic analysis. In addition, producers should remain conscious of any potential marketing restrictions after using this product.

Early Weaning Lambs

Justin Luther, Ph.D.

Extension Sheep Specialist

Benefits of Early Weaning

Western range operations have traditionally allowed lambs to graze with ewes until late summer or early fall. In years when pasture is abundant and lamb growth is satisfactory there is little or no reason to wean lambs before they are ready to be finished. However, many regions of North Dakota are currently experiencing severe drought conditions and forage availability is limiting. If you have traditionally weaned later, you may find that early weaning can provide some very appealing benefits:

1. More pasture will be available for maintenance of the retained ewe flock if lambs and cull ewes are removed earlier in the year.
2. Nutrient requirements of the ewe are reduced after weaning, which will cause ewes on pasture to eat less.
3. Supplemental feed is more efficiently utilized by lambs for growth than it is for milk production by the ewe.
4. Placing lambs in a feedlot will reduce predator losses.

5. The level of worm infestation in the lamb crop is reduced when lambs are separated from the ewes on pasture.
6. Early weaning may prevent irritation and damage to lambs from needlegrass, speargrass and other similar plants. Awns from these plants can cause irritation in the gums, eyes, ears, tongue and skin of lambs.
7. In herded flocks, labor costs can be reduced; less time is usually spent herding ewes compared to herding ewes and lambs together.
8. Early weaning is a must if the ewes are part of an accelerated lambing system and need to be rebred as quickly as possible; or if the producer is planning to make a transition to fall lambing.

When Should I Early Wean?

Lambs can be weaned at 45 to 60 days of age or 45 pounds, whichever comes first. Lambs must be eating creep feed and forage well, and demonstrating signs of rumen development (i.e. chewing their cud and passing pebbled stool). Two weeks prior to weaning, the ewes and lambs should always be moved to a dry-lot area. This will allow for ewe removal at the time of weaning and lambs can remain in a familiar area with recognized feeding and watering facilities. Removing the lambs too early and placing them in an unfamiliar environment will cause unnecessary stress, making them more prone to coccidiosis, dehydration and death.

How Should I Manage My Lambs?

Weaning can stress the lambs due to the sudden separation from the ewe and partial reduction in food supply. Reducing stress is important. Lambs should be consuming a creep ration that is highly palatable, contains at least 14% crude protein and 1.3 Mcal/lb., and has the correct balance of vitamins and minerals. In general, lambs should be consuming approximately one pound of creep feed per day and eating good quality grass or alfalfa hay that is at least 12% crude protein and has 55% total digestible nutrient (TDN). Rations should not be altered two weeks prior to or two weeks after weaning.

To avoid additional stress, vaccinations, castration, worming and tagging should be performed at least two weeks before weaning. In

particular, vaccination against overeating disease (type C and D) should be done well before weaning. Lambs will be expected to consume more of their current creep ration after the ewes are removed.

Lambs should also be monitored closely for health problems. Healthy lambs will stretch and shake after they stand. Feed intake is always a good indicator of lamb health, lambs which are healthy will have a good appetite while sick lambs will generally not eat well. The risks of pneumonia, scours, coccidia and urinary calculi are increased at the time of weaning. If a health problem is suspected take prompt action and don't hesitate to contact your veterinarian to find an effective treatment.

How Should I Manage My Ewes?

Milk production by the ewe will decline 45 days after lambing and lambs will naturally convert from high-milk, low-feed/forage to low-milk, high feed/forage intakes. Two weeks before the targeted weaning date, ewes and lambs should be sorted into a drylot and dietary crude protein and energy offered to the ewe should be reduced.

Water and feed should be removed for 24 to 48 hours before separating the ewes from the lambs. This will help reduce milk production by the ewe and aid in the prevention of mastitis and spoiled udders. However, in extremely dry and hot weather water should only be removed for 24 hours or less.

Ewes should be separated into a drylot for two weeks after weaning and continue to be fed a low-quality forage (e.g. straw or poor hay) until their udders have started to shrink and dry-up. Spring and early summer pastures are usually high in protein, energy, water and other nutrients important for milk production. Allowing ewes to graze too soon after weaning increases the likelihood of mastitis and other udder problems. Furthermore, if these problems do arise on pasture, they can often go unnoticed.

Ewes need to be closely monitored for mastitis after weaning. Watch for ewes walking with a slight limp or demonstrating signs of soreness between their rear legs. Ewes with mastitis will have hardened, dark pink udders, which feel hot. They will also secrete lumpy milk, which is sometimes bloody. If you suspect a ewe has mastitis prompt action is essential. In the past, veterinary recommendations have included:

(continued on last page)

NDLWPA Membership Form

This form is a membership application for the North Dakota Lamb and Wool Producers Association (NDLWPA) and American Sheep Industry (ASI) Association

Please Print Clearly

Name: _____

Street Address: _____

City: _____

State: _____

Zip: _____

Phone: _____

Fax: _____

Email: _____

No. of Sheep/Goats: _____

Please check all that apply: Commercial Purebred Club Lamb Dairy

Lamb Feeder Shearer Allied Industry Business

Please check membership type:

NDLWPA Annual Membership - \$20

NDLWPA Annual Junior Membership (under 18 years of age) - \$5

ASI Annual Membership - \$.04/head or \$25 minimum (whichever is greater)

Joint NDLWPA/ASI Annual Membership - \$40

Hardcopy of the ASI Weekly Newsletter - \$10

Note: ASI Annual Membership will automatically get you an email copy of the ASI Weekly Newsletter.

Total: _____

Please make checks payable to: NDLWPA

Send this application and your payment to: NDLWPA

9463 86th St SE

Fullerton, ND

58441

Form more information call: 701-375-6971 or visit: www.ndlwpa.com

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Hand milking until the udder is soft, pliable and completely empty.

1. Intramammary injection with cattle antibiotic mastitis tubes.
2. Intramuscular injection with penicillin.
3. Treatment with Banamine® to reduce fever and relieve pain.

Remember that you should always contact your local veterinarian before treating mastitis. Furthermore, there is no vaccine for mastitis, and it is best prevented by good management and sanitation.

Summary

If you feel that early weaning is a viable option, here are a few things you will want to remember:

- Begin to dry ewes off two weeks prior to weaning and continue the process for up to two weeks after weaning.
- Remove the ewes from the lambs. Minimizing stress to the lambs is important for future health and performance.
- Always take the time to monitor for health problems.
- If health problems do arise, take action as soon as possible.
- Maintaining lamb feed intake is critical. Weaning diets should be palatable and free of dusts and molds.

The North Dakota Sheep Industry Newsletter
Hultz Hall 100d
Fargo ND 58105

This publication will be made available in alternative formats upon request.