

# The North Dakota Sheep Industry

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

## President's Message



Lyle Warner

Hope you have all survived the winter with minimal hardship. The ASI Convention, held in Las Vegas in late January, was a great experience. We are very fortunate to have two representatives from ND: Burdell Johnson, President and Burton Pfliger, Executive Board (Region 4). Attendees from ND included: Burdell and his wife Theo, Burton and Patti Pfliger, Dean and Paula Swenson, Justin Luther, Chris Schauer and Lyle and Pat Warner. Dean represents ND on the Goat Committee and board of directors, Paula on the Public Education and Research Council (farm flock/goat rep) board, Justin on the Public Education and Research Council, and Lyle is on the Genetic Stakeholders Committee. It is very invigorating to be in a group of people who are so enthused about the future of the sheep industry. If you ever get the chance to attend, it will be well worth your while.

We had a lot of things to discuss during our most recent board of directors meeting on February 25 in Mandan. We hope to take on a few projects that will showcase the ND sheep industry and help the people who are involved in sheep production. Please check the minutes of the meeting to see what we are proposing. We hope we are serving your needs.

I would like to thank Justin for all the work he has put into presenting at the various sheep activities this winter. Thanks to Brent Stroh and family for hosting the "lambing event", approximately 50 people attended. Carrington had an informational day, approximately 40 attended. I think this is a good sign for the growth of the industry. Please consider joining the NDLWPA and ASI to help promote our industry.

Good luck lambing, hope to see you at some of the NDLWPA sponsored sheep events during the next year.

Lyle Warner, NDLWPA President

## Editor's Note

I would like to thank all of the individuals (i.e. attendees, organizers, and presenters) that have been involved in the recent sheep extension programs. Your combined support has helped to fill the North Dakota sheep industry with knowledge and enthusiasm. Attendance at these events has ranged from 40 to 50 individuals, including a variety of producers and state employees. On a scale from 1 (poor) to 5 (excellent), attendees ranked these programs between 4.3 and 5.0.

Together, we believe that educational programs should start from and affirm the experience, insights and knowledge of North Dakota sheep producers. This philosophy allows us to draw on your experience as time goes on, and build on that experience through the acquisition of new insights, knowledge and skills.

As we continue to look into the future, please do not hesitate in making us aware of your current needs and concerns. We (NDSU, NDLWPA and ASI) are in place to serve your needs and help you in many ways.

This issue of The North Dakota Sheep Industry provides you with timely articles in the areas of lamb survival, ewe lactation, and cooking with lamb. You will also find a variety of announcements and recent minutes from the NDLWPA Board of Directors meeting in February.



Tim Petry presenting the new LRP-Lamb insurance program at the 2<sup>nd</sup> Annual Carrington Sheep Seminar in February.

Justin Luther, Ph.D.  
NDSU Extension Sheep Specialist

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## **Secretary Minutes from the North Dakota Lamb and Wool Producers Association Meeting February 25, 2008**

The meeting was called to order by President Lyle Warner.

Brent Kuss read the minutes from the annual convention meeting. Brent Stroh made a motion to except the minutes as read. Dean Swenson seconded the motion. Motion carried.

Mark Sheppard gave the Treasurers report. Paula Swenson moved to accept the treasurer's report as read. Lee Gessner seconded the motion. Motion carried. Mark also addressed the board on membership dues. He saw a good response the last time he sent out reminder letters. Mark Sheppard made a motion to send out a dues notice. Nathan Robbins seconded the motion. Motion carried. Mark also presented a budget for 2008 that was approved by the board.

President Warner called for old business.

Ram Test- Wyman Scheetz addressed the board on the changes proposed for the spring ram test. The board discussed the proposed changes, addressed concerns, and asked that the committee address the concerns and finish the rule changes for the ram sales by the next board meeting. Curt Stanley made a motion to use up to \$1,000.00 for awards for the ram test. Brent Stroh seconded the motion. Motion carries.

### ASI Convention briefs:

Dean Swenson addressed the board on some of the sessions he partook in at the convention. Dean stated that the western states are still having problems getting their sheep allotments from the Forest Service. ASI is trying to help Wildlife Services keep their use of M-44's and 1080's for predator control. He also learned that the ethnic market now consumes an estimated 600,000-700,000 lamb's a year, and that Mountain States is working to try to help get herders into the United States.

Paula Swenson addressed the board on some of the sessions she attended. Paula attended a session by Dr. O' Rourke Ph.D. on a scrapies update and the latest in testing procedures. She attended a session by Travis Hoffman on sheep measles. The biggest concern is the way

inspectors inspect carcasses for sheep measles. When the inspectors are done the carcasses have no value to the processor. She also attended a session on the status of Blue Tongue in the northern plains.

Lyle Warner attended the Genetic Stake Breeders session. Lyle stated there was a push for producers to utilize the National Sheep Improvement Program.

Lyle Warner and Dr. Luther attended the States Presidents meeting. The attending presidents give a brief description on topics of concern for their respective states and the activities their state associations carry out through out the year.

President Warner called for new business. President Warner stated the 2008 Convention has been planned for Nov. 21-22, 2008 at the Seven Seas in Mandan.

Lamb cook off: The board discussed a lamb cook off. There is some uncertainty on a national competition but the Association may still hold a state cook off.

Coyote hunt: The board discussed sponsoring a coyote hunt in conjunction with the ND Fur Takers. Brent Kuss is to coordinate with the ND Fur Takers and bring a proposal to the board on what will be necessary to hold this event.

Promotional Trailer: Dr. Luther suggested that the NDLWPA look into a promotional trailer that would be used for educational and promotional purposes at many of the statewide events. After some discussion Wyman Scheetz will look into some options and report back to the board.

Fiber Fest: To be held at Bonanzaville. They would like to have some representation from the wool industry. It will be held in June. Someone will contact Jane Horner to see if she may be willing to help Paula and Dean Swenson attend this event.

Perpetual Flock: There was much discussion on starting a perpetual flock in ND. A committee was formed. Committee members are Curt Stanley, Lyle Warner, and Nathan Robbins. The committee will report back to the board.

Ewe Sale at the North Star Classic: There is some interest in starting a ewe sale at the North Star Classic to give the youth a place to purchase breeding ewes. There was discussion by the board and the idea was tabled for now.

Paid members on the web site: The old web page had a list of paid members on the web site. There was discussion that members could have the option to have their names and addresses listed and a short explanation of their operation if they wish.

ASI Nomination Committee: Brent Stroh made a motion to pay the registration fee for both the ASI Director (Paula or Dean) and President Warner. Lee Gessner seconded the motion. Motion carried.

Sydell Agreement: Sydell Inc contacted the NDLWPA. NDLWPA members would receive a 10% discount on equipment purchases of \$100-\$999 and 15% discount from \$1,000+. In return the NDLWPA would receive an additional 3% of all purchases made by members.

The board discussed the past sheep seminars. The attendance was very good and there were many new faces. Paula Swenson made a motion to pay \$200 to Brent Stroh for the costs accrued at the sheep school that was held at his farm. Lee Gessner seconded the motion. Motion carried.

President Warner informed the board that the print donated by the NDLWPA at the ASI Auction sold for \$1050.00. A big thank-you to Jack Kline for the print, and to Wyman Scheetz for the work and time to frame the print.

The next board meeting was set for Tuesday, April 8<sup>th</sup> at 3 o'clock at Paula and Dean Swenson's home. Board members in attendance: Lyle Warner, Wyman Scheetz, Curt Stanley, Bob Hewston, Dr. Chris Schauer, Brent Kuss, Lee Gessner, Mark Sheppard, Brent Stroh, Paula Swenson, Dean Swenson, Dr. Luther, and Nathan Robbins.

## The US Sheep Industry in 5 Years

Stan Potraz

(Premeir)



When I develop predictions, I list all changes in the core fundamentals. Then I prioritize these according to their probable impact. This system of analysis suggests *if* something will happen. It does not indicate *when*. Cultural forces (such as the resistance we all have to accept the need to change) are very strong.

### An example...

At the annual January meeting of sheep associations in Las Vegas, Tom Watson of the National Lamb Feeders noted these fundamentals:

- The demand for irrigated alfalfa fields to produce more high-priced hay is sharply reducing their availability for fattening lambs.
- Gasoline and diesel prices are much higher. They will stay up so transporting livestock now costs twice as much.
- Grain and hay prices are much higher. They will stay high so the cost/lb for a feedlot to add 50 lbs to an 80-100 lb lamb is up 75%.
- The price/lb of finished lamb has not changed. The weak US dollar vis-a-vis the Australian and New Zealand dollar will keep it "up".
- The US economic downturn will keep lamb prices from rising beyond current levels.

Long-term predictions (from Tom Watson, with my additions) based on these fundamentals:

1. The number of lambs fed annually by lamb feeders will decline. A higher % of lambs, if they have enough muscling and finish, will go directly to the packers.
2. Range lambs that are purchased by commercial lamb feeders will be only those that are 85 lb or less and will be lacking either enough fat cover or enough muscling to be killed at weaning.
3. The sum of points 1 and 2 (above) means fewer lambs than normal will be available in the December-May period, and more lambs will be available in September-October (when lambs from Western range flocks are weaned directly off their ewes). That means higher prices for "out-of-season" lambs and lower prices for spring-born farm flock and range lambs.
4. More lambs will be killed at a lighter weight and young age.
5. There will be an increased demand for US lambs with more muscling per lb of finished weight. Until now it was possible to add muscle size to a large-framed, late-

maturing lamb of ordinary genetics by simply keeping it longer in the feedlot and killing it at a heavier weight. That's now too expensive. A better way is to use rams that will provide lambs with more muscle in the key areas at an earlier age and lower weight without losing palatability.

Broken down by industry sectors:

- Commercial lamb feeding will decrease. An exception might be those near an ethanol plant with access to low-cost byproducts.
- The Western range flocks may decrease slowly. Range-ram genetics with more muscle per day of age will be more valuable.
- The club lamb portion of the show sheep industry will decrease. Particularly affected will be large regional shows. Causes: high fuel costs and national economic stress.
- The seedstock show world will remain as is.
- The small fiber flocks may increase during the economic downturn.
- Fall-lambing ewe flocks will increase. Why? The high prices for out-of-season lamb. Genetics (Polypay, some hair breeds) that allow this will prosper.
- A new seedstock sector may arise that offers genetics with higher stomach capacity per 100 lbs (to allow more utilization of roughage), high muscling per day of age and out-of-season breeding.

This article originally appeared in the February/March 2008 Premeir Newsletter.

## 49th Annual Sheep Research Report

The report is a compilation of research conducted throughout NDSU, including the Department of Animal Sciences, Department of Agribusiness and Applied Economics, Veterinary Diagnostic Laboratory and Hettinger Research Extension Center.

"This report is an excellent example of the high-quality sheep research taking place at NDSU," says Christopher Schauer, Director of NDSU-HREC. According to Justin Luther, NDSU Extension Service sheep specialist and an assistant professor in the Animal Sciences

Dept. "It gives sheep producers, educators and industry representatives the opportunity to gain cutting-edge knowledge in sheep production."

The report contains:

- \* Research showing that feeding 60 percent dried distillers grains in lamb finishing rations results in acceptable performance and carcass quality.
- \* Responses from North Dakota Lamb and Wool Producers Association members to the National Animal Identification System strategic plan.
- \* A look at how the NDSU Veterinary Diagnostic Laboratory investigates ovine abortion.
- \* Results of a preliminary study on the creation of parthenogenetic sheep embryos.
- \* Information on lamb livestock risk protection insurance.
- \* Research on the effects of maternal undernutrition and ewes' selenium intake on lambs.
- \* Information on laparoscopic artificial insemination techniques.

The report is available online at:

<http://www.ag.ndsu.nodak.edu/hettinger/livestock/Jan2008sheepreport/index.htm>

It's also available from the Hettinger Research Extension Center by e-mailing Chris Schauer, Center Director at:

[christopher.schauer@ndsu.edu](mailto:christopher.schauer@ndsu.edu)  
NDSU Agriculture Communication

## ANNOUNCEMENTS

The annual **Sheep Research Report** is available at your request. Please contact the NDSU - Hettinger Research Extension Center to receive your copy (701-567-4323) or online

(<http://www.ag.ndsu.nodak.edu/hettinger/livestock/Jan2008sheepreport/index.htm>).



- ✓ Matt Litwiller of northern Indiana is interested in a **long-term lease agreement for sheep** in North Dakota. For more information he can be reached via phone (574-831-6963) or email (mattlitwiller@yahoo.com).
- ✓ Dates for the **Tri-State Meat Goat Conference** have been set. This year's event will take place in Alexandria, MN on September 26, 27 and 28. Speakers from around the nation will discuss meat goat showing, herd selection, parasites and other health issues, marketing, reproduction, and nutrition. Stay tuned for more details!
- ✓ Have you ever explored the benefits of using teaser rams in your operation? Teaser rams are an excellent tool for increasing ewe fertility during the early breeding season or even during spring for fall lambing. To learn more about using teaser rams plan to attend the **Teaser Ram Workshop** this May in Fargo.
- ✓ The **2008 Spring Ram Test** is scheduled to begin on May 19th. Rams can arrive during the previous week and the entire test will be 85 days in length. This year, the 2008 Spring Ram Test Certified Rams will be showcased separately and the first to sell at the Hettinger Ram Sale. Further details will be provided in a separate mailing.

## Baby Lamb Survival

J. L. Goelz, D.V.M.



### Pipestone Veterinary Clinic

Without a doubt the first three weeks are the most critical in a lamb's life. If the lamb consumes enough colostrum and is off to a good start his performance will be good. On the other hand we have all witnessed lambs that were chilled when born or had severe scours and just didn't start life on the right foot. These lambs can

be picked out of a group months later. They fail to thrive and simply don't grow or perform as well. As shepherds we have more opportunity to influence the number of lambs sold /ewe and the overall profitability of the sheep flock during the first three weeks than any other time in the lamb's life.

Maximizing lamb survival requires a plan. First we need to have the ewe in the correct body condition score and on a correct nutrition and mineral program. Additionally, we need to have an effective abortion control program in place. If we have accomplished these goals we will have a healthy ewe that is in position to lamb with minimal help and lactate well. This is sound prevention for lambing time problems. Secondly, we need to be prepared for lambing. The shepherd should have supplies purchased, lambing pens arranged and ewes shorn before the first lamb hits the ground.

If we want to minimize baby lamb mortality let us look first at the causes of baby lamb mortality. A study at the U.S. Sheep Experiment Station showed that 46% of lamb mortality was caused by scours, 20% by starvation and 8% by pneumonia. Individual variation occurs between farms but our experience suggests that these three categories are most important to control.

There are many inherent factors that predispose lambs to mortality. A lamb is born from a sterile environment in the uterus that is 101 degrees into an environment that is cold and often loaded with bacteria. The lambs internal thermoregulatory mechanism isn't fully functional until it is three days old. It has limited body energy reserves (brown fat). Also the lamb is born antibody deficient and has a compromised immune system until it suckles colostrum. Taking these inherent factors into consideration the third step to our plan is to provide an environment that is warm and dry. Good sanitation practices will decrease the bacteria load in the environment.

After the lamb is born we need to ensure adequate colostrum intake. In addition to providing the lamb with antibodies that will protect it from disease, colostrum has high energy density that provides the lamb the energy to get up and nurse. Lambs require 90cc (3oz) per pound of body weight. This should be consumed in the first 18-24 hours of life. From a practical standpoint we need to identify lambs

that haven't suckled colostrum and feed them colostrum by a stomach tube (6 oz/feeding). If we catch these lambs early they will be up and suckling the rest of their colostrum requirement on their own.

Next we need to identify starvation/hypothermia lambs. These are lambs that are not consuming enough milk and therefore do not have enough energy to suckle and do not have enough energy to keep warm. Starvation/hypothermia lambs may be unable to rise, have a gaunt, bony appearance and will be weak. These lambs need to be fed with a stomach tube until they are strong enough to suckle on their own. If the lamb is in a cold environment placing it in a warming box will speed recovery.

By now we should have the lambs off to a good start. For the remainder of the next three weeks we must minimize death loss to scours and pneumonia. This means early detection and effective treatment. Scouring lambs will be gaunt, depressed and have wet rear legs. These lambs should be treated with oral antibiotics such as spectinomycin orally and electrolytes if they are dehydrated. Dehydration can be determined by pulling on a pinch of skin. Sheep that have normal hydration will have elastic skin that quickly returns to normal. Dehydrated sheep lose their skin elasticity and the skin will stay "tented" for two or more seconds. If the lambs are dehydrated oral electrolytes should be given by stomach tube.

Lambs with pneumonia will be depressed with drooped ears and often will be in a corner by themselves. Their breathing will be shallow and quick and often they will appear painful. These lambs will have an elevated rectal temperature (above 103). Treatment with LA-200, Naxcel/Excenel, Micotil or Nuflor is very effective. Checking young lambs at least twice daily is recommended so the shepherd can treat sick lambs early in the course of disease.

This article first appeared in the International Sheep Letter. Vol. 21, No. 2, March 2001



Postcard of Sheep Range near Dickinson, ND

## Lactation Problems in Sheep: Causes, Control and Prevention

Justin S. Luther, Ph.D.

Extension Sheep Specialist

Department of Animal Sciences, NDSU

Proper milk production is important for ensuring lamb survival and optimal weaning weights in the sheep enterprise. Poor milk production as a result of improper udder development or disease is the primary reason for culling sheep. One survey found that nearly 50% of all ewes in the U.S. were culled because of udder problems. Economic losses to the sheep enterprise include loss of production females, replacement female costs, mortality and morbidity of offspring, veterinary costs, orphan feed costs, and labor costs. This article will discuss common nutritional and disease factors that influence normal lactation in sheep.

### *Normal Lactation*

Milk production in the ewe peaks at about 4 weeks after parturition and then slowly declines thereafter. Increases in milk production are driven by the increasing appetite of growing lambs. Milk production in ewes bred first as lambs (7 to 9 months of age) will be considerably lower, and peak lactation is achieved earlier (3 weeks after parturition). Producers must manage their flock properly to maximize the milk production potential of all ewes.

### *Nutritional Management*

To support normal milk production a 155 pound ewe with twins will need to consume about 3.5 pounds of energy (TDN) and 0.75 pounds of protein (CP). Nutrient requirements of the lactating ewe can usually be met with 5 pounds of high quality forage and 2 pounds of corn; however larger ewes and/or those with triplets may need additional feed.

If these requirements are either not met or exceeded during pregnancy, milk production and subsequent lamb performance will be impaired. A recent study at North Dakota State University has shown that pregnant ewes consuming 60 or 140% of their recommended intake during pregnancy will yield 30 to 40% less colostrum at parturition when compared to ewes consuming 100% of their requirements. Therefore, it is important for producers to remain conscious of

the nutrient needs of their pregnant ewes. The body condition scoring technique should be used to determine if ewes are either too thin (<BCS 3) or too fat (>BCS 4) during pregnancy.

It has also been suggested that the level of feed offered to ewe lambs during early life may have long term impacts on their milk production. Initial mammary gland development takes place between 1.5 and 5 months of age in sheep. Ewe lambs offered ad libitum intakes (full feed) from weaning to 5 months of age had altered mammary gland development and a higher percentage of mammary fat. As a result, lifetime milk production and pounds of lamb weaned may be reduced if ewe lambs are provided too much feed. In order to maximize milk production in replacement ewe lambs, 65 to 75% of maximum intakes should be provided.

### *Common Diseases*

Mastitis, in particular, is the most common reason that ewes are culled from the flock. Mastitis is an inflammation of the udder that is caused by tissue damage from bacteria or trauma. Excessive biting or head butting of lambs can lead to teat ends and udders that are swollen and sore. The latter will predispose the udder to bacterial infection.

Mastitis in sheep can be classified as sub-clinical or clinical. Ewes with sub-clinical mastitis can often go undetected because they appear completely normal. Although early sub-clinical mastitis can only be detected with special screening tests, milk production will be reduced. For this reason, ewes are often identified as "poor milkers", but not diagnosed with mastitis. Eventually, however, lumps of scar tissue will develop in the udder.

Clinical mastitis is initially diagnosed by abnormalities in the milk such as flakes, clots, and a watery or bloody appearance. The udder of the ewe will eventually become swollen, warm and often painful. In severe cases, ewes will limp because of abrasion and pressure that occurs from the inner leg. Ewes will usually develop a fever (>104°F, normal is 102.5°F) and will not eat. Eventually, the udder will turn a bluish color (termed "blue bag") and it may be completely lost.

Studies have shown that mastitis is most often contracted around the time of lambing (last two

weeks of pregnancy and 2 to 3 days after lambing) or the first few weeks after weaning. The goal of the sheep producer is to prevent bacteria from getting on or into the teat during these periods of susceptibility. The following practices should be followed to provide ewes with a stress free environment that will minimize susceptibility:

1. Provide adequate space for each ewe. Ewe and lamb pairs housed indoors at night during the lambing season should be provided with a minimum of 12 to 16 square feet. Whereas ewe and lamb pairs housed in confinement lots all day and every day should be allotted 25 to 40 square feet.
2. Provide a clean and dry environment. Bacteria need food, moisture, and heat for growth. Minimizing these factors will reduce the risks of contracting mastitis. Provision of fresh bedding and removal of contaminated bedding (particularly in lambing pens) are important. Total building closure may be necessary during cold weather, but adequate ventilation must be provided to avoid excessive moisture build-up. Preventing moisture buildup will reduce populations of *Pasturella sp.*, which are the bacteria that cause pneumonia in suckling lambs and subsequently, mastitis in ewes.

The most common bacteria causing mastitis in sheep are *Pasturella sp.*, *Staphylococcus sp.*, *Streptococcus sp.*, and coliforms, such as *E. Coli*. Most of these bacteria are susceptible to penicillin and ampicillin (99%), as well as tetracycline (95%). Mastitis tube antibiotics can be infused through the teat canal after disinfecting the teat end with alcohol. Other treatments reported have involved injection of a combination of penicillin, dihydrostreptomycin, dexamethasone, and an antihistamine. The dexamethasone and antihistamine should help the tissue heal and reduce inflammation. Always contact your veterinarian before when attempting to treat mastitis in sheep.

Prior to each breeding season all ewes should be screened for past mastitis problems by palpating the udder. Ewes should be culled accordingly. Some evidence also suggests that genetic susceptibility to mastitis exists and therefore, the

producer may not want to select replacements from ewes that had mastitis.

Another disease hindering the lactation potential of sheep is ovine progressive pneumonia (OPP). It is a progressive viral disease that is typically not diagnosed until 2 years of age or older. It is yet another cause of the "thin ewe syndrome", as weight loss occurs despite a normal appetite. Animals will exhibit heavy breathing, tire easily, and may often be seen trailing behind the rest of the flock. Fever and coughing will also be apparent after a secondary infection.

OPP is also referred to as "hard bag" because the udder becomes firm, enlarged and milk flow is reduced. Initially, however, milk production by the ewe will only be slightly suppressed and unless the producer is aware of the disease, he or she may simply classify the ewe as a "poor milker".

If OPP is suspected, infected animals should be separated from the flock and serum antibody levels should be determined with the aid of a veterinarian. Strict culling practices are the best method for controlling OPP within an infected flock.

### *Summary*

Proper lactation in the ewe is critical for maximizing lamb growth and survival, but it can only be achieved with proper nutritional and disease management practices. The producer must remain knowledgeable of ewe nutrient requirements and disease clinical signs if the full economic potential of his or her flock is to be achieved.

## **Cooking with Lamb**

**Anne Osborne  
Wimbledon, ND**

How about Lamb for Easter Dinner?

The two most popular days for eating lamb in the United States are Easter and Mother's Day.

Here are some ideas if you decide to try some lamb for one of these occasions or any time!

I discovered brining lamb chops and have also tried it with roasts, it is a terrific way to tenderize the meat and tame down some of the strong "lamb" taste. We think the lamb taste is terrific so we will probably not brine our roasts anymore

but for the chops- it is the only way to go. It helps even up the cooking and does reduce the cooking time slightly.

If you want to cook a lamb roast for Easter:

- Get good American lamb from a known supplier. No mutton!
- Think about how you would cook a beef prime rib roast, lower heat and more slowly than other cuts of meat.
- If you wish to brine the roast, here are my suggestions:
  - Dissolve 2/3 cup kosher salt, 2 T. sugar in one gallon of cold water.
  - Use a plastic or glass container (non-reactive container- do not use aluminum)
  - Brine (soak) lamb roast 4-8 hours, make sure brine solution completely covers roast.
  - Food safety tip: Keep the brine and the meat cold while brining, in the fridge, discard the brine when you take the meat out.
- When you take the roast out of the brine, pat dry with paper towels, trim fat off roast if needed, you can also trim it after cooking.
- Season with salt, pepper & other herbs as desired. (garlic & thyme)
- Cook normally as you would a prime rib of beef.
  - I brown my seasoned roasts on all sides in cast iron skillet.
  - Put lid on the cast iron. Keep roast covered while cooking.
  - Cook at 325°F until meat thermometer shows meat is 140°F (rare) -160°F (medium-rare). You will need to check the size of your roast and a cooking chart to see how long this will take. Our roasts are about 3-4 lbs and it usually takes about 2 hours.

Serve hot with gravy or mint jelly. Many side dishes go well with lamb- mashed potatoes are the favorite at our house.

- Get your recipe ready & you can enter the ND Lamb and Wool Producer's Lamb Cook off. We are developing this contest for 2008, it will be in late Nov. or early December in conjunction with our annual conference in Mandan, ND.

## Lamb Pneumonia

Nolan R. Hartwig, Extension Veterinarian.  
Iowa State University

Lamb pneumonia is an infectious disease of young lambs caused primarily by the bacterial organism *Pasteurella hemolytica* and characterized by fever, increased respiratory rate, failure to nurse, and death in untreated cases. It is a significant cause of mortality, especially in lambs born and reared in confinement.

### **Cause**

*Pasteurella hemolytica* is a bacterial organism carried in the respiratory and digestive tract of many normal lambs and ewes. Most newborn lambs are exposed, but do not develop the disease because of antibodies in colostrum that help control the infection. Viral agents such as parainfluenza-3 (PI-3) are common in sheep and can increase susceptibility to infection by causing inflammation of the respiratory tract, reducing the efficiency of normal mechanisms of destroying *Pasteurella hemolytica*. Other organisms, including a group called *Mycoplasma*, also may play a role. Lambs that recover are susceptible to relapse during the feeding period and are more likely to suffer from heat stress and chronic cough. Coughing, in turn, can lead to serious problems with rectal prolapse in in feeder lambs.

Although the specific cause of pneumonia is *P. hemolytica*, inappropriate environment is the precipitating cause. High humidity, dust, damp bedding, and irritating gases such as ammonia compromise disease resistance and natural defense mechanisms, allowing pneumonia to develop. Excessive heat, tight Pm 829-10 | Electronic Version | April 2000 buildings with inadequate ventilation, weakness from difficult birth, inadequate intake of colostrum, and other stresses all contribute to the incidence of pneumonia in nursing lambs.

### **Symptoms**

Young nursing lambs that develop pneumonia commonly lose weight, become gaunt and lethargic, fail to nurse, and usually have a moderate fever. Even in lambs with severe lung damage, labored breathing is not easily observed. If it remains undetected, serious lung damage will result and treatment will not be effective.

### **Diagnosis**

Because lethargy and fever in young lambs may have several causes, a careful physical examination is required. In many cases definitive diagnosis is made by post mortem examination. Laboratory pathologic examination and culturing should be done in serious cases in order to be sure of the infectious organism involved, and to identify antibiotic sensitivity patterns of those organisms.

### **Treatment**

Treatment must be based on early identification of affected individuals. The prognosis for infected individuals is guarded, even with intensive treatment. Antibiotics such as penicillin, tetracyclines, and others are those most commonly used. Fluid therapy, if practical, often helps the recovery rate. Shepherds should be sure that sick lambs are nursing, or that they are provided supplemental milk via stomach tube. In serious outbreaks, it is often advisable to treat all exposed lambs with a therapeutic dosage of antibiotics for several days.

### **Prevention and Control**

Producers with lamb pneumonia have ventilation problems in the lambing and nursing quarters. Most commonly the quarters are too tightly closed, resulting in high humidity and noxious gases — such as ammonia. In such conditions, the concentration of infectious organisms also rises. Well-ventilated (but cold) housing is probably ideal. Newborn lambs should be dried off, and then provided adequate colostrum intake. Lambs should receive 4 per cent of body weight in colostrum the first two hours of life, and another 4 per cent within 8 hours. Weaker lambs that fail to nurse should be provided colostrum via stomach tube. Keep the bedding dry, or lambs will chill and develop pneumonia. Do not skimp on bedding during the early nursing period.

Newborn lambs should be provided supplemental heat only until they are dry and have nursed. Do not keep the lambing quarters tightly closed and warm. Other than exposure to heavy drafts, healthy lambs can tolerate cold very well. If electric fans are used, lambing quarters should have at least four air changes per hour. Avoid overcrowding the lambing facilities. Parainfluenza-3 virus is a mild but common infection of young lambs. Vaccination of young lambs (in problem flocks) with nasal IBR-PI-3 vaccine at two or three days of age has helped reduce problems in some cases. Treatment of the ewe flock with sulfonamides prior to lambing also has helped in problem flocks, although correction of housing and ventilation problems provides the most reliable control. Routine treatment of all lambs with a long-acting antibiotic (such as benzathine penicillin) when an outbreak occurs has been helpful in some cases. Where lamb pneumonia occurs, careful diagnostic efforts and intensive treatment regimes are needed, but the longer term solution must include attention to housing and the environment.

## **Animal Agrosecurity Conference June 4-6**

The North Dakota State University Extension Service is hosting an international animal agrosecurity conference June 4-6 in Fargo.

The "Beyond Borders: Regional Animal Agrosecurity" conference will focus on two questions:

- \* What would happen if an animal agrosecurity incident involved the U.S.-Canadian border?
- \* What role do those in the agricultural, food and health industries, as well as emergency services and law enforcement, have in animal agrosecurity?

"Emergencies and disasters are always local," says Charlie Stoltenow, NDSU Extension veterinarian. "They will require local action, resources and resolve to deal with an animal agrosecurity incident involving the U.S.-Canadian border. This conference is just the first step in bringing international, national, state and local individuals together to identify the resources on

both sides of the border that will be needed to prevent and, if needed, resolve an animal agrosecurity incident."

Other conference topics will include developing county-based animal agrosecurity plans. The conference also will consist of several programs to educate participants on animal agrosecurity issues.

The conference is designed for U.S. and Canadian teams that include producers, veterinarians, Extension/outreach staff, regulatory veterinary medicine personnel, animal health board members, agriculture department and homeland defense representatives, emergency managers, public health officials, state animal response team and veterinary reserve corps members, law enforcement officers, livestock association members, veterinary practitioners and commodity group members.

Speakers will include U.S. and Canadian veterinary officers, producers, commodity and industry representatives, technical experts, university and Extension faculty, and federal, state and provincial officials.

Participants are expected from North Dakota, South Dakota, Minnesota, Montana, Iowa, Alaska and Wisconsin, as well as the Canadian provinces of Ontario, Manitoba, Saskatchewan, Alberta and British Columbia.

The U.S. Department of Agriculture's Cooperative State Research, Education, and Extension Service is underwriting the conference through the Extension Disaster Education Network (EDEN).

For more information or to register, go to the EDEN Web site at [www.eden.lsu.edu/AASFargo/](http://www.eden.lsu.edu/AASFargo/). The registration fee is \$75. Electronic registration will be open from April 1 to May 15. The conference will be limited to 250 registrants.

Additional informational also is available from Stoltenow, who is conference chair, at (701) 231-7522 or [charles.stoltenow@ndsu.edu](mailto:charles.stoltenow@ndsu.edu) or Lisa Pederson, NDSU Extension beef quality assurance specialist and conference coordinator, at (701) 328-9718 or [lisa.pederson@ndsu.edu](mailto:lisa.pederson@ndsu.edu).

# 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](http://www.ndlwpa.com)

**The North Dakota Sheep Industry**

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