

# 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

It was nice visiting with everyone at the NDLWPA Convention. A special congratulations to the award winners: Harry Kerr – Master Sheep Producer, David Pearson – Distinguished Service Award, and the Make It With Wool winners in each category (below). It is always great to see people who are doing such an outstanding job, be honored and recognized for their contributions, talents and skills. You are all tremendous role models and ambassadors for our organization.



Lyle Warner

appreciate all the work you put into making them.

We had quite a few new people to the convention this year, **WELCOME**, we hope you had a good experience and plan on coming back for many years in the future. If you have any questions or suggestions on how we can make things better, please contact someone in the association.

As we close out another year and start a new one, may we all take time to reflect on the many blessings our freedom allows us. Hope you all have a great lambing season. Stay warm and safe.

Lyle Warner  
NDLWPA President

## Editor's Note

Another year is coming to an end. I would like to take this opportunity to say "Thank You" to all of the sheep producers throughout the state that have made my year enjoyable. I truly take pleasure in serving as your Extension Sheep Specialist.

As you begin to prepare for the upcoming lambing season please remember these management tips:

- ✓ Make sure your ewes are in good condition (BCS of 3.0 to 4.0). During late gestation most ewes will need to be consuming 4.5 lbs. of a ration that is 13% protein and 66% energy.
- ✓ Have all necessary supplies on-hand 140 days from when you turned your rams in.
- ✓ Be sure your facilities are sanitary and you have enough lambing pens for 10% of your ewe flock (i.e. 200 ewes = 20 pens).

Justin Luther, Ph.D.  
NDSU Extension Sheep Specialist

**2007-2008 ND Make it With Wool Winners:**  
Preteen Ambassador, *MacKenzie Ness of Devils Lake*  
Junior Ambassador, *Therese Weber of Wahpeton*  
Senior Ambassador, *Beth Horner of Fargo*  
Adult Ambassador, *Kathy Sougstad of Mandan*

Dr. Kasey Carlin, Dr. Rob Maddock and Anne Osborne gave presentations on handling, preparation, and cooking lamb. There is a national movement sponsored by the (American Sheep Industry Women) ASIW, to organize a "**Lamb Cook-Off**". Each state would organize their own cook-off, with the winners going to the ASI Convention for the final contest. We plan on having a cook-off (taste test) at the state convention next year, regardless of what the National proposes. We will keep you informed, there seems to be considerable interest. Thanks to Burton, Burdell, Wes, Justin and Chris for your presentations. They were very informative and help us understand the current state of the industry much better. Brent and Cody Kuss were responsible for the Brats, I thought they were fantastic, we

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# **Secretary Minutes from the North Dakota Lamb and Wool Producers Association Meeting**

**NDLWPA Convention, Mandan  
December 1<sup>st</sup>, 2007**

## **Brent Kuss, NDLWPA Secretary**

The meeting was called to order by President Lyle Warner.

Brent Kuss read the minutes from the 2006 convention. Burton Pfliger moved to accept the secretary's report as read. Paula Swenson seconded the motion. Motion carried.

Mark Sheppard presented the treasurer's report. Wes Limesand moved to accept the treasurer's report. Dean Swenson seconded the motion. Motion carried.

President Warner called for old business:

Fargo Ram Sale- President Warner gave a brief overview of the sale and stated he felt it was very well received and that it had a very positive outcome.

President Warner called for new business:

Ann Osborne addressed the members on selecting delegates for a state cook-off and that the winner could advance to the national cook-off contest. Discussion followed. Don Osborne made a motion to have the Board of Directors' select a committee once the national cook-off gets up and running. Ann Osborne would chair the committee. Mark Sheppard seconded the motion. Motion carried.

Jim Ostlie- President of Valley Wool Growers- addressed the members on Lamb in the Classroom. Mr. Ostlie stated that Lamb in the Classroom worked with 24 schools last year, where an estimated 1000 students had an experience cooking with lamb. Jim Ostlie made a motion to give \$500.00 to Lamb in the Classroom for 2008. Scott Brehdahl seconded the motion. Motion carried.

Jane Horner addressed the convention with an update on Make It With Wool. Jane stated that she has seen a reduction in fabric stores in North Dakota. The entries for the contest were down and the wool fabric is getting harder to obtain. Jane also explained the cost for plane tickets would be around \$450.00 per contestant with three contestants going. Matt Benz moved to give the contestants \$1,000.00. Olie Erickson seconded the motion. Motion carried.

President Warner then distributed the following resolution presented by Burdell Johnson.

1. Whereas North Dakota State University is highly recognized in the sheep industry on a state, national and international level for its research, extension, outreach and production efforts
2. Whereas sheep are a very integral part of the research effort used as the mode in both animal industries research and in human medicine funded research at North Dakota State University
3. Whereas the aging existing facilities have had very little upgrading

Be it resolved that the North Dakota Lamb and Wool Producers go on record supporting that no facilities be lost and that existing facilities be renovated or replaced to adhere to the Universities high standards.

Dean Swenson moved to support the resolution. Olie Erickson seconded. Motion carried.

President Warner called for the election of officers. Brent Stroh chaired the nomination committee.

The nomination committee nominated Lyle Warner for President. The floor was then opened for other nominations for President. Seeing none Matt Benz moved to cast the unanimous ballot for Lyle Warner for President. Seconded by Burdell Johnson. Motion carried.

The nomination committee then nominated Wyman Scheetz for Vice President. The floor was then opened up for other nominations for Vice President. Seeing none Burton Pfliger moved to cast the unanimous ballot for Wyman Scheetz for Vice President. Seconded by Don Osborne. Motion carried.

The nomination committee then nominated Mark Sheppard for Treasurer. The floor was then opened up for other nominations for Treasurer. Seeing none Wyman Scheetz moved to cast the unanimous ballot for Mark Sheppard for Treasurer. Seconded by Bob Houston. Motion carried.

The nomination committee then nominated Brent Kuss for Secretary. The floor was then opened up for other nominations for Secretary. Seeing none Matt Benz moved to cast the unanimous ballot for Brent Kuss for Secretary. Paula seconded the motion. Motion carried.

The four districts split up into their groups for the election of directors. The voted in directors for 2008 will be:

- SE-Nathan Robbins
- SW-Bob Houston
- NE-Lee Gessner
- NW-Matt Benz

Nathan Robbins moved to adjourn the meeting. Seconded by James Snabel. Motion carried.

## Caseous Lymphadenitis: Is it a problem in your flock?

**Justin Luther, Ph.D.**  
**NDSU Extension Sheep Specialist**

**Charlie Stoltenow, D.V.M.**  
**NDSU Extension Veterinarian**

During the past few months I have received numerous reports of Caseous Lymphadenitis from ND sheep producers. This disease has an enormous economic impact on our sheep industry. It damages

pelts via abscess scars, decreases meat yield through carcass condemnation, hinders reproductive efficiency in the ewe flock, and may lead to death for severely infected animals.

### Infection

Caseous Lymphadenitis is a chronic, recurring disease. It is caused by gram-positive bacterium *Corynebacterium pseudotuberculosis*, which can survive in the environment for several months to years. Infection usually occurs through skin abrasions or wounds caused by shearing, barbwire fencing or exposed nails, but can result from aerosol infection of the lungs.

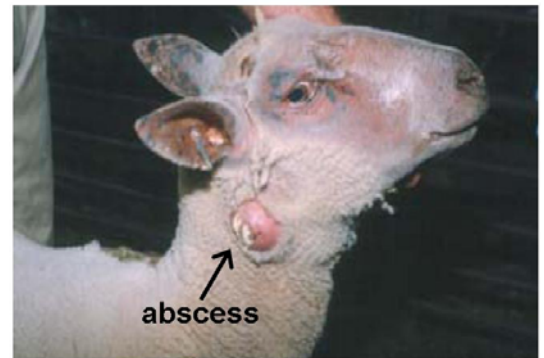


Figure 1. External abscessation in sheep caused by *Corynebacterium pseudotuberculosis* infection. Source: University of Warwick, UK

One to three months after infection, localized abscesses will develop at the point of entry into the skin or in the regional lymph node (external form, Figure 1). Abscesses will gradually grow in size and number, and eventually rupture and discharge infectious pus. The disease may also spread through the blood or lymphatic system and cause abscessation of internal lymph nodes or organs (internal form, Figure 2).

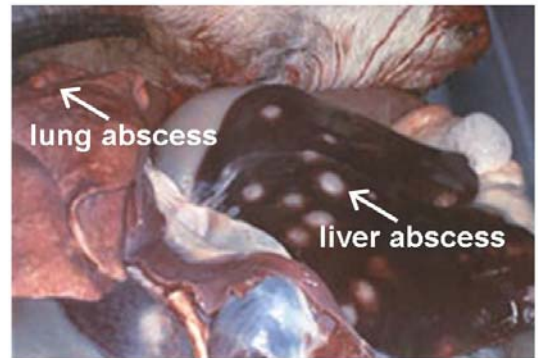


Figure 2. Internal abscessation in sheep caused by *Corynebacterium pseudotuberculosis* infection. Source: Alabama Extension Service

## Clinical Signs

The most obvious sign of Caseous Lymphadenitis in sheep is external abscessation. In sheep managed under range conditions abscesses will generally be limited to the shoulders and neck. Sheep managed under farm flock conditions will initially develop abscesses around the head and neck following infection from contaminated feed, feeders and paneling. However, if the disease is left untreated, abscesses will develop over the entire body of the animal, including the back, legs and udder. Secondary signs may include breathing difficulties, arthritis, mastitis, and ram infertility following scrotal abscessation. Severe internal abscessation can lead to extreme weight loss, abortion, paralysis and death.

## Diagnosis

Diagnosis of Caseous Lymphadenitis can usually be based on flock history and the clinical signs mentioned above. A bacteriologic examination can be performed for definitive diagnosis. An intact abscess can be aspirated using a syringe and needle, and the collected pus should be submitted to the NDSU diagnostic lab (701-231-8307). UC-Davis has developed a SHI (synergistic hemolysis inhibition) test for diagnosing Caseous Lymphadenitis. The test has 95% sensitivity and 98% specificity based on testing in 100 positive goats. Of course chronic cases characterized with walled-off abscesses will result in false negatives, and the vaccine will induce false positives. However, titers greater than 1:256 have a 95% correlation with internal abscesses and a peak titer of 1:64 is commonly seen with vaccine titers. Therefore, the test does provide some indication as to whether or not the animal is a vaccine positive or has hidden internal abscesses. More reliable results can be gathered based on the SHI serology if multiple samples are collected and analyzed over one or two months. However, all

these data have been collected using goats and hence, it is not known if similar results can be gathered for sheep using this test.

## Control

Eradication of Caseous Lymphadenitis is very difficult. Although penicillin can kill the bacteria, injection of the infected animal with antibiotics is not successful because the formed abscess cannot be penetrated effectively. Emaciated animals and those with recurring abscesses should be culled. When an infected sheep is too valuable to cull, external abscesses can be lanced, drained and cleaned with iodine. Abscesses should not be injected with formalin since this practice is painful to the animal and may leave a residue of a carcinogenic compound. Young animals should be raised separately from older animals that are more likely to be infected. Since the disease is primarily spread through shearing, younger sheep should always be shorn first. If an animal is diagnosed during shearing, equipment should be disinfected before continuing with the next animal. Furthermore, shearing equipment should always be cleaned and disinfected between flocks.

## Prevention

Do not purchase rams and replacement ewes from flocks infected with Caseous Lymphadenitis. All purchased sheep should be isolated for at least one month, regardless of the seller's flock status. A commercially available vaccine from

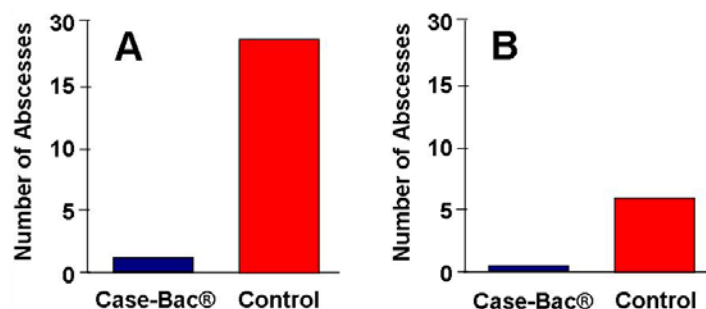


Figure 3. External (A) and internal (B) abscesses after vaccination with Case-Bac® and then exposure to *Corynebacterium pseudotuberculosis*. Source: Journal of The American Veterinary Medical Association, June 1, 1998, pp. 1765-1768.

Colorado Serum Co., called Case-Bac®, provides protection against *Corynebacterium pseudotuberculosis*. A study published in Journal of The American Veterinary Medical Association (June 1, 1998) demonstrated that vaccination at four-week intervals significantly reduces the incidence of external and internal abscesses resulting from *Corynebacterium pseudotuberculosis* infection (Figure 3). Sheep were also challenged at 8 months post vaccination in this study. The vaccinated group showed 90% protection against the internal form of CLA and 58% protection against the external form of CLA. The non-vaccinated controls showed 100% infection with both forms of CLA. Repeating vaccination at least annually will help to reduce disease prevalence. It may be most beneficial to vaccinate sheep with high exposure (i.e. infected farm flocks) every 4 to 6 months. Vaccination against Caseous Lymphadenitis is clearly beneficial, yet only 3.1% of U.S. sheep flocks gave the vaccine in 2000 (Source: USDA APHIS, April 2003 Info Sheet).

As shown in the figure, the vaccine does not prevent all new infections. Furthermore, the vaccine does not cure animals already infected with the bacteria. Colorado Serum Co. does not recommend vaccinating lambs under 8 weeks of age and pregnant ewes. Even though the vaccine is a killed bacterin and hence, reversion does not occur, it will cause a large percentage of ewes to develop a secondary lameness since it is administered in the axillary space (front flank) of the animal. Furthermore, a large number of ewes will develop a transient fever and become lethargic for one to two days after vaccination. Stress resulting from the latter conditions may have adverse reactions on the developing fetus, which may lead to pre-mature labor or abortion. Although no studies have been completed to determine the incidence of abortion after vaccinating pregnant ewes, a high incidence of abortion has been observed in pregnant goats.

Although the vaccine is not labeled for use in goats, positive results have been reported by goat producers. Goats do tend to be more susceptible to the adverse reactions discussed above.

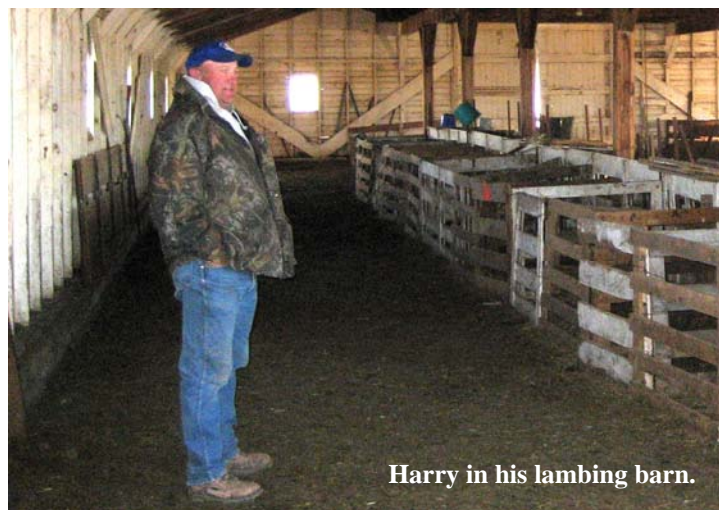
### *Conclusion*

Knowing the clinical signs of Caseous Lymphadenitis will help the sheep producer to implement an effective control program. Furthermore, the sheep producer should remain conscious of the necessary preventative measures for this disease.

## **2007 North Dakota Master Sheep Producer Award Winner**

**Harry Kerr  
Bowman, ND**

Harry Kerr was awarded the honor of North Dakota Master Sheep Producer on December 1st, 2007 at the North Dakota Lamb and Wool Producers Convention in Mandan. The North Dakota Master Sheep Producer program has been in place for nearly 30 years. In 2007, 60 applications were submitted and four producers were selected for an interview. The following information has been selected from Harry's application.



Harry in his lambing barn.

## GENERAL

1. *How many years have you been in the sheep business (please explain)?*

I have been involved with sheep all my life. My folks ran sheep. There were about 5 years I didn't own any sheep but was on a shearing crew for 31 years so I saw plenty of sheep. We now lamb 500 ewes each year – give or take a few.

2. *What civic activities are you involved in (agricultural, community, church, etc.)?*

Just about any activity someone needs help with. 4-H activities at fair time. Very involved with ND state high school rodeo as well as our fair rodeo. Cenex board of directors for 9 years. Eight of those as chairman of the board. I also am the owner of Bowman Auction Market where we sell sheep every Monday in season.

3. *What unique practice(s) do you employ in your sheep operation that has increased efficiency or profits and could be a benefit to other North Dakota sheep producers (breeding, production, feeding, housing, health, marketing, etc.)?*



Harry's lambing barn and feeding

I don't say we do anything unique. We just strive to keep our wool in the mid 62-64 micron range. X Breed to mostly Hampshire rams, as well as Targhee for our replacements. We did lamb in March, but

have gone to May lambing and then background our lambs until January or February when more lambs are needed on the market.

4. *Please provide general comments as to why you should be selected as the 2007 Master Sheep Producer.*

I'm not sure I have an answer to this question. We have many good producers in our area that would qualify. We just strive to do as good a job with our flock as we can and have had some success with them. We strive for at least a 150% lamb crop with a semi-range lambing operation and try to market a good product, wool as well as lambs.

## HEALTH PROGRAM

1. *What type of vaccination and worm control program do you employ?*

We only vaccinate the lambs at docking with seven-way and tetanus and then again at weaning time. We use medicated mineral on the ewes for Vibrio instead of shots. We de-worm 2 times a year. Usually mid-June and again at the end of October or first part of November.

2. *What is the major cause of death loss incurred in your operation?*

Cold rain at lambing time if we are pasture-lambing, and of course those wonderful coyotes.

3. *Is predation a problem for your operation and if so, what measures have you taken to control the problem?*

We do have predator problems. We run llamas with the sheep, hunt hard if killing is taking place and we are very fortunate to have a local pilot permitted to hunt for us on private land with permission from landowners experiencing coyote kills.

4. *Do you shear your lambs anytime during the feeding periods and if so, when?*

Usually not. We may start if we decide to finish our lambs but we are not there yet.



## MARKETING PROGRAM

1. *How do you market your lambs (as feeders, finished, breeding stock, etc.)?*

I would say as heavy feeders. We may start to finish our lambs in the not so far future.

2. *Where do you market your lambs (privately, auction, stockyards, etc.)?*

Auction market. Like I said, I own Bowman Auction Market, and believe in the auction way. Where else are markets established but at an auction.



3. *How do you market your sheep (private sales, association sales, national sales, production sales, etc.)?*

Sometimes we market a few yearling ewes and usually our five year old ewes. Usually the auction way. The North Dakota Lamb and Wool Producers sale in Bowman is always a good sale to sell or buy at.

4. *How do you promote your sheep (sales, showing, advertisements, etc.)?*

I guess I know enough people and have been in it so long, people talk and I get calls wondering when some may be available. Good sheep promote themselves. People just need to know you have them.

## Teaser Rams: Why Use Them and Where Can You Find Them?

Using vasectomized, or 'teaser' rams to bring ewes into estrous is widely accepted as a useful tool to improve flock conception rates and lambing percentages. When attempting to have ewes mated early in the breeding season (August or September) it is advised to put a teaser ram out one cycle (17 days and no more) before the regular breeding season. The second and third estrus or heat periods after turning in the teaser ram(s) will be associated with better fertility and higher ovulation rates.

When ewes are spontaneously introduced to a ram before the normal breeding season an immediate hormonal response will occur in a high percentage of ewes. This results in ovulation or the release of an egg into the reproductive tract within 50 hours. Since this will be the first ovulation of the breeding season it will not be accompanied by estrus or heat. After the egg is ovulated, a structure called the corpus luteum will develop on the ewe's ovary. This structure produces a hormone called progesterone, which needs to be in the ewes circulation before she can display

estrus or heat. In half of the ewes the corpus luteum will regress prematurely (within six days), and in the remaining half of the ewes it will regress as normal (approximately 16 days after ram introduction). Following corpus luteum regression the ewe will display estrus and ovulate once again, allowing the ewe to conceive earlier in the breeding season. This estrus or heat will generally be associated with a higher ovulation rate, leading to more lambs born per ewe.

Older rams are more effective at generating the 'ram effect' than younger rams (i.e. ram lambs and yearlings). Vasectomised rams also have uses post-mating, for example identifying open ewes after breeding rams are removed.

If you would like to learn more about using vasectomized rams, or you would like to order vasectomized rams from NDSU contact Justin Luther at (701) 231-7993.

*You are invited to attend the*

## **2nd Annual Shepherds Clinic**

**Wednesday, January 9, 2008**

**Brent and Barb Stroh Sheep Operation, Tappen  
I-94 to exit 214, then south 3 miles and east 2 miles  
(second farm on the south side)**

*Offered by: NDSU Extension & Hettinger Research Extension Center  
Sponsored by: North Dakota Lamb & Wool Producers*

### **SCHEDULE**

9:30 a.m. - Welcome & Registration  
10:00 a.m. - Nutritional Management of Feedlot Lambs  
10:45 a.m. - Refreshment Break  
11:00 a.m. - The New Livestock Risk Protection - Lamb  
11:30 p.m. - Lambing Management  
12:15 p.m. - Free Lamb Lunch  
1:00 p.m. - Tour of Stroh's Sheep Operation

*For more information contact Justin Luther, Sheep Specialist  
(701) 231-7993.*

#### **The North Dakota Sheep Industry**

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