

# 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

## -GREETINGS FROM OUR PRESIDENT-

I WOULD LIKE TO INTRODUCE MYSELF since this letter will be going out to new sheep producers in the State of North Dakota. My name is Brent Stroh; Im President of North Dakota lamb and Wool Producers. Our operation consists of 600 ewes along with a cow calf operation. We finish our lambs and market them with the Tele Auction.

When asked to write this article, I decided to talk about NDLWPA and what we're up to. The board of NDLWPA has currently taken over the Hettinger Ram Sale. Over the last couple of months we have been working on the details of the sale. Tim Faller managed the sale previously but has retired from his position at the Hettinger Extension and Research Center. Dr. Justin Luther will help us run the sale. Details of the sale will be shared with you at a later time. The sale takes place on September 20, 2006.

NDLWPA is your voice for the sheep industry in North Dakota. By this I mean it is our organization who works with State and Federal Vets on issues pertaining to our industry, from Animal ID to scrapies. APHIS, our animal damage control, has used our organization for letters of support. NDLWPA and APHIS has enjoyed a strong relationship over the years.

This fall NDLWPA, along with Harry Kerr of Bowman Livestock, will have their annual replacement ewe sale. This will be our third annual sale. It started out with 1600 head and last



Brent Stroh

year had over 2100 head. This sale was started to give area people a chance to purchase quality breeding stock. This sale has been a success. The annual convention takes place the first weekend of December at Seven Seas, Mandan. We bring in speakers that give updates and useful information. It is also a great time to visit with other producers. At the convention, Make It Yourself With Wool (MIYWW) puts on their style show. NDLWPA is a strong supporter of MIYWW.

NDLWPA likes to take some credit for getting the sheep research and extension position filled. The board met with representatives of NDSU and wrote letters to express concerns about the position being filled. NDLWPA are pleased at this time to have Dr. Justin Luther as our new sheep research/extension specialist. NDLWPA, along with all sheep producers, would like to welcome Justin and his family to North Dakota.

As president of NDLWPA, I would encourage your membership. Your membership will make all of our voices stronger.

*Brent Stroh  
NDLWPA President*

## -COMMENTS FROM THE EDITOR-

IT IS A PLEASURE to be working as your Sheep Extension Specialist. During the past two months I have visited a variety of North Dakota sheep operations and met with numerous agricultural specialists and county agents. Your enthusiasm for the sheep industry is appreciated!



Justin S. Luther

According to the 2006 *Sheep and Goats* report, released by the National Agricultural Statistics Service, the U.S. sheep industry experienced the first year-to-year inventory growth since 1987 and 1988. This national increase occurred despite the decline in North Dakota sheep numbers from 2004 to 2005. I urge you to follow the rest of our nation and expand your existing operation. Let's work together to share our knowledge with new sheep producers in North Dakota. Together, we are responsible for the future of our State's Sheep Industry.

As stated by our President "NDLWPA is your voice for the sheep industry in North Dakota." If you would like to become a new member of NDLWPA, or you simply require membership renewal, please send the included application form and your dues to our Treasurer, Matt Benz.

*Note: If you have internet access please send me your email address. We would like to save money on postage by sending future newsletters via email (Justin.Luther@ndsu.edu).*

*Justin S. Luther, Ph.D.  
North Dakota Sheep Industry Newsletter Editor*

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# Field Pea in Sheep Diets

By Greg Lardy, Ph.D.

NDSU Beef Extension Specialist

Field pea production in North Dakota is increasing as growers realize the agronomic benefits of field peas as a leguminous crop in rotation systems. Field peas are grown primarily for the human food market, but surplus grain or grain which does not make human food grades can and is used in livestock rations. Field pea grain contains moderate levels of crude protein (CP). The protein is high in rumen degradability. The grain contains approximately 54% starch and the book value for net energy for gain (NE<sub>g</sub>) is 0.67 Mcal/lb.

Previous research has focused on using field pea as a protein source in diets for nonruminants and dairy cattle. Field pea grain is an effective replacement for soybean meal (SBM) and SBM and canola meal combinations in diets for lactating dairy cows. Energy values for field pea fed in a growing ration to beef cattle suggest that field pea has a NE<sub>g</sub> of 0.71 Mcal/lb.

Studies conducted at North Dakota State University using field pea in sheep diets have focused on the use of field peas in diets for growing and finishing lambs. Based on these studies, peas have a net energy value at equal to corn or slightly greater than corn. Field pea grain is a suitable replacement for corn in lamb finishing diets.

Peas are an excellent source of energy, protein, and other nutrients. Use in sheep diets is likely dictated by cost of nutrients in other available feedstuffs. To my knowledge no research has investigated the use of field peas in diets for gestating or lactating ewes. However, based on research in growing and finishing lambs, and data generated in other species, no problems would be anticipated with their use in ewe diets.

*This article was originally published in 2002 and can be found online at: <http://www.ext.nodak.edu/extpubs/ansci/livestoc/eb76-4.htm>.*

## Abortions in Sheep - Causes, Control and Prevention

By Justin S. Luther, Ph.D.

NDSU Sheep Extension Specialist

THE LAMBING SEASON can be the most exciting time of the year for a sheep producer. The long awaited opportunity to evaluate that new ram or great set of replacement ewes finally arises. So, when the first two ewes abort, the next ewe has a still born lamb and the fourth ewe has a set of twins that are weak at birth and soon die, it can be a very depressing and frustrating experience. These are all signs of an infectious abortion outbreak that should motivate you to: 1) identify the cause(s) of abortion in your flock and 2) develop a plan to control or prevent abortions from occurring in the future.

## Identifying the Causes of Abortion

Identifying the exact cause of abortion in your flock requires knowledge of the clinical signs, flock history and laboratory diagnostics. Delivery of the proper samples (fetus and placenta) to your local veterinarian or state diagnostic laboratory is recommended. Samples should always be placed on ice in a spill-proof insulated container. It is likely that your diagnostic laboratory will provide results for one of the four common types of infectious abortion. The clinical signs and mode of transmission for each of these four types will be described.

Type of Infection	Causative Agent
1) <b>Enzootic</b>	<b><i>Chlamydia psittici</i></b>
2) <b>Vibrio</b>	<b><i>Campylobacter sp.</i></b>
3) <b>Toxoplasma</b>	<b><i>Toxoplasma gondii</i></b>
4) <b>Salmonella</b>	<b><i>Salmonella organisms</i></b>

**1) Enzootic Abortion** is caused by *Chlamydia psittici*. This organism will spread through infected fetuses, placentas, vaginal discharges, feces and nasal secretions. The organism enters the blood stream but causes no signs of infection in the ewe unless she is, or becomes, pregnant. During pregnancy, the organism enters the uterus and causes inflammation of the placenta and death of the fetus. If infection occurs before conception the ewe will abort during mid-pregnancy. If infection occurs during early pregnancy, abortion will occur 60-90 days thereafter. If infection occurs during mid- or late-pregnancy, stillbirths and weak lambs at birth may be observed.

Ewes in their first pregnancy are most susceptible to infection. In the Western U.S., isolated range flocks are highly susceptible when the organism is introduced. Similarly, Western ewes introduced into infected Midwestern flocks are very susceptible. Approximately 25-60% of ewes will abort, depending on the time of the outbreak relative to initiation pregnancy. Older ewes will become immune to *Chlamydia psittici*, thereby minimizing the annual flock abortion rate to 1.0-5.0%. *Chlamydia psittic* infection can also occur in young lambs and may lead to pneumonia.

**2) Vibrio Abortion** is caused by *Campylobacter sp.* The organism is discharged with the membranes, uterine fluids and fetus at the time of abortion. Transmission will occur when ewes ingest infected membranes or fluids, or through consumption of *Campylobacter sp.* contaminated feeds. If infection occurs during early pregnancy, the ewe will likely reabsorb the fetus. If infection occurs during mid-pregnancy, abortion will occur 10-20 days later. A late pregnancy infection will result in stillbirths and weak lambs at birth.

In general, 20% of ewes in a flock will abort following introduction of *Campylobacter sp.*, however some outbreaks have led to 80 or 90% of ewes aborting. As with enzootic abortion, older ewes may become immune, but 5-10% of the infected flock will continue to abort each year.

**3) Toxoplasmosis Abortion** is caused by *Toxoplasma gondii*, a protozoa which causes coccidiosis in cats. Infection will occur following ingestion of feed or water that has been contaminated with oocyst-laden cat feces. If infection occurs during early pregnancy the embryo or fetus will generally be reabsorbed and rebreeding may occur. If infection occurs during mid-pregnancy, abortion will occur and the ewe may be susceptible to a secondary infection. During late-pregnancy, infection will lead to abortion, still births, mummified fetuses or weak lambs at birth.

Abortion can occur in 5 to 50% of the ewe flock, with typical losses averaging 15-20% of the lamb crop. In healthy, non-pregnant ewes toxoplasmosis will not cause clinical symptoms or detrimental effects.

**4) Salmonella Abortion** is a rare occurrence that is caused by various *Salmonella* organisms. Stress and the number of ingested Salmonella bacteria will determine whether or not the pregnant ewe aborts. If abortion does occur it is usually during the final month of pregnancy. Most of the ewes will exhibit diarrhea and some will die from metritis, peritonitis, and/or septicemia. Healthy, young lambs may also contract the disease and die.

### Controlling Abortion

When faced with an unexpected outbreak of abortions there are some general practices that can be utilized to minimize the risk of spreading the infectious organism.

- ◆ Check feed and water supplies for sheep and cat feces contamination
- ◆ Sanitize feeding and watering equipment
- ◆ Separate ewes showing signs of abortion and house them separately from the remainder of the flock
- ◆ Properly dispose of (burn or bury) the infected placenta and fetus
- ◆ Do not feed ewes on the ground

The following treatments can also be used to minimize the number of ewes aborting in an infected flock.

- ◆ Immediately vaccinate the remaining pregnant ewes for enzootic and/or vibrio abortion.
- ◆ Begin feeding 500 mg of chlortetracycline per head per day for 5 days and then reduce to 250 mg per head per day for the remainder of pregnancy.

- ◆ If the outbreak is severe, inject all ewes with long acting tetracycline (LA 200) at the rate of 10 mg/lb s.c.
- ◆ If Salmonella is the causative agent, inject ampicillin at the rate of 5 mg/lb. Spectinomycin may also be used at the rate of 5 mg/lb per day for three days.

### Preventing Abortion

After an outbreak of abortions the producer must develop a plan for preventing abortions from occurring in the future. The following guidelines should be considered.

- ◆ Vaccinate. Vaccines are currently available for Vibrio and Enzootic Abortion. *Campylobacter fetus* (cause of Vibrio Abortion) vaccine is given 30 days before breeding and repeated 60-90 days later. *Chlamydia psittaci* (cause of Enzootic Abortion) is given 60 days before breeding and repeated 30 days later. (Note: Supply of both vaccines has been unreliable in the past so it is recommended to place your order early in the year)
- ◆ Maintain sanitary feed and water supplies.
- ◆ Manage first lambing ewes in a separate flock.
- ◆ Do not purchase replacement ewes from an infected flock.

### Summary

There are four major causes of infectious abortions. Accurate determination of the infectious agent requires a diagnostics laboratory. Antibiotics, vaccines and sanitary facilities can all be used to minimize the risk of abortions and ultimately improve reproductive efficiency of the ewe flock.

## A NATIONAL INDUSTRY NOTE FROM OUR ASI VICE-PRESIDENT

I am sure all of you reading this get the weekly ASI e-mail newsletter so you are aware of what is happening in the sheep industry. The biggest thing in the industry right now is the price of slaughter lambs. In a matter of six months the price has dropped \$.50 a pound. One of the reasons for this



Burdell Johnson

is cheap corn, which leads to overweight out of condition lambs. When the price starts to drop producers decide not to sell till next week when the price has come back. This again leads to overweight out of condition lambs. This leads to a backlog of meat in frozen storage, which causes the price to drop more. I feel lack of mandatory price reporting has also had an effect on the market.

Since October all the price reporting has been on a voluntary basis, which means all the packers can report what they want to. Some just report that they pay for over weight poor quality lambs, which other buyers see so they lower their price also. ASI have been working with leaders in congress to get it reinstated. Right now it is being held up due to some changes the pork produces want. Another thing ASI has done to help the price is put in a request that USDA do a lamb roast purchase. This is a program that has been used in the past where the government purchases shoulders and legs and uses it in the food commodity distribution program. This will help the backlog of frozen product in storage.

I will be traveling to Washington DC the first week in May for our annual Spring Lamb BBQ. This is when we invite various Agriculture members of Congress along with staff and members of USDA to an evening meal of lamb. Most states are represented by producers who meet with their delegation during the three day event. We also meet with the leaders of the different departments of USDA. This usually includes the Secretary of Agriculture. We work on many issues. This year it will include mandatory price reporting, lamb roast purchase, ewe lamb retention payment, continuation of the Wool LDP program and many other issues that various states have. If anyone would be interested in attending contact me for more information.

*Burdell Johnson*  
*ASI Vice-President*

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## THE NORTH DAKOTA SHEEP INDUSTRY

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

## 2006 DAKOTA TERMINAL RAM TEST

Enter your elite ram lamb(s) in the 2006 Dakota Terminal Ram Test and take advantage of the opportunity to collect valuable performance data. At the end of the test, rams will be ranked according to performance and carcass desirability. Rams will also be eligible to sell in the 2006 Hettinger Ram Sale. The deadline for entry into the ram test is **May 8<sup>th</sup>** and rams must arrive at the Hettinger Research/Extension Center from **May 15<sup>th</sup> to May 20<sup>th</sup>**.

This year's ram test will also include a preliminary progeny testing project. Semen will be collected from selected rams on test and a consistent group of ewes will be artificially inseminated. Offspring from the selected rams will then be evaluated for performance and carcass desirability.

If you are currently a member of the NDLWPA the 2006 Dakota Terminal Ram Test entry forms and additional information will be mailed directly to you. If you are not a member of the NDLWPA these forms can be found online at: [www.ndlwpa.com](http://www.ndlwpa.com), or mailed to you upon request. For more information on the 2006 Dakota Terminal Ram Test contact:

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# 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  
2108 7<sup>th</sup> ST NE  
Beulah, ND  
58523

Form more information call: 701-873-4135 or visit: [www.ndlwpa.com](http://www.ndlwpa.com)