

O·P·P

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— Economic Benefits of OPP Control —

Project Report: 4,000-Ewe Range Sheep Operation

(Read more about this project online in the OPP Society's 2005 newsletter.)

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The National Animal Health Monitoring System (NAHMS) conducted a survey in 2001 that included 22 States and 3210 sheep operations. Overall 36.4% of the operations had one or more animals test positive for ovine progressive pneumonia (OPP) and 24.2% of the total animals tested were positive. OPP is a slow developing virus and clinical signs may not appear for 2-3 years. Common problems observed in OPP flocks include health problems around lambing – pregnancy toxemia; hard bag; and increased incidence of mastitis. The ewes also display increases in other symptomatic disease signs throughout the year (pneumonia, arthritis, foot problems, etc.). OPP can be compared to a parasite; it may not be the absolute cause of death but a contributor toward it. In this report, we share management experiences from two mountain west range flocks where OPP control programs have been undertaken and translate those experiences into possible economic benefits associated with eliminating OPP.

We began testing two western range flocks for OPP in the fall of 2004 prior to the breeding season. After the OPP test results were determined, positive animals were sorted off and either sold as cull ewes or kept isolated in a “positive band” away from the rest of the flock. Over time, the positive bands were eliminated as all output from them was sold for slaughter. During the testing period positive test results from the flock dwindled from 67% to 0.2% over the course of four years.

The economic effect of eliminating OPP is dependent on several factors including the prevalence of the disease within the flock, flock size, demographics, and productivity. Initially, we tested several bands across the two flocks with each band consisting of 600-900 head of ewes. OPP positive test results ranged from 12% to 78% in any one individual band. Only 5% of the initial positive test results came from ewes younger than 4 years of age and 73% came from 4-7 year old ewes. This result was not surprising given the long incubation period for the disease and the negative effect it has on the average productive life of a ewe.

“ . . . without my inquiring, the ranch manager offered an encouraging statement about how many fewer ewes they lose every year, and they no longer have the problem with starving lambs. He was overjoyed by the results.

Dr. Cleon Kimberling, March 2011

Therefore, an important initial observation is that sorting and culling OPP positive ewes from a highly prevalent flock will change the age demographics and likely result in lower lambing rates for

. . . Economic Benefits, continued on page 2

Do dams transmit OPP to their lambs?

(Article prepared for the OPP Concerned Sheep Breeders Society at the Board's request)

Lynn M. Herrmann-Hoesing
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Ovine progressive pneumonia virus (OPPV) is a lentivirus that causes life-long persistent viral infection. It results in mastitis, respiratory distress, swollen joints, and/or thin-ewe syndrome in mostly older infected sheep. OPPV is sometimes referred to as maedi visna virus (MVV) although there are some genetic differences between the two viruses. Since there are no treatments or efficacious vaccines for OPPV (or MVV), highly sensitive and specific diagnostic tests (i.e. cELISA) have helped reduce OPPV from U.S. flocks.

Transmission of OPPV is poorly understood. Sources of cell associated and cell-free OPPV/MVV include lung fluid, colostrum/milk, blood, and semen [1]. In addition, fecal material from MVV infected sheep is infectious if naïve sheep are orally given feces contaminated water [2]. In the past,

. . . Do dams transmit OPP?, continued on page 5

Schultz Flock Sold

By Bob Leder, DVM

Jim and Ruth Ann Schultz sold their flock of commercial ewes this spring. Their flock was the sentential flock for the OPP Society. The recent decline in Jim's health prompted this difficult decision.

Jim was frustrated with ewe longevity in his flock in the 1980's. He decided to investigate the possibility of OPP as a root cause in his flock. After discovering a significant rate of infection he decided to cull and repopulate with OPP test-negative sheep. At the time there was no organized means to find OPP negative sheep. There were only a few breeders that were offering OPP test-negative sheep.

Necessity is the mother of invention, and in this case the lack of a "clearing house" about OPP was the impetus to form an organization to educate shepherds about OPP and to create a network of producers that offered OPP test-negative sheep. The idea was not original, as the National Mastitis Council served a similar role as a clearing house for mastitis researchers and education for dairy farmers. In this case it would be a grass roots effort by shepherds centered on OPP. The fact that this organization is still going strong twenty years later is a testament to utility and service that the OPP Society provides to the sheep industry.

Jim's understanding of biology, attention to detail and keen observations are the foundation of his husbandry and shepherding skills. His sheep enterprise slowly morphed from a shed lambing system to a pasture lambing system that utilized management intensive grazing. He created an ecosystem for his sheep to thrive in, utilizing the natural resources of his farm to support the flock and generate a profit.

A firm believer in heterosis, Jim employed crossbreeding as the foundation of his breeding program. Careful selection of and experimentation with complementary breeds yielded a ewe flock that was adapted to his system and very productive. Breeds included in his ewe flock were Dorset, East Friesian, Ile de France, and South African Meat Merino. Hampshire and Shropshire rams were used as terminal sires. He weaned a 194% lamb crop from ewes exposed last year, including yearlings lambed.

Jim recently said, "I wouldn't have stayed in business if I hadn't eliminated OPP." I am thankful for his insight and persistence regarding OPP. A staunch believer of the ill effects of OPP and a highly effective spokesman about shepherding and OPP, many shepherds have benefited from his experiences.

We wish Jim and Ruth Ann the best in the next chapter of life.

2011 Member List Coming Soon

ARE YOUR DUES CURRENT?

— You can check at www.OPPsociety.org —

The date in parentheses following your name on the member list (or mailing label) indicates the year through which dues have been paid. Thank you!

Economic Benefits, continued from cover . . .

about 4 years while the age demographics return to normal. This provides an economic argument for maintaining the most productive OPP positive ewes in an isolated band, if possible, for a few years. From our observations, a flock with an OPP prevalence of 60-65% will experience a 20% one time drop in lambing percentage if all of the OPP positive ewes are suddenly culled. On the other hand, that lambing percentage will recover over time with the re-growth of the 4-7 year old ewe population. In our study, we observed a 92% recovery of the original lambing percentage by the negative bands in years 2 through 4 after the initial culling.

Because of differences in age demographics, varied lambing and weaning dates, and the lack of detailed weight data, it was not possible with this study to make a thorough economic comparison. However, from our observations, changes in ewe death loss and medication expenses when OPP is eliminated appear to provide a significant economic benefit. Since only 9% of the OPP negative ewes entering into the 2008 production year were seven years of age or older compared to 22% prior to testing in 2004, these observations should not be interpreted as scientific proof. However, ewe death loss back in 2004 was around 12% overall compared with being consistently around 1.3% in the 2008 OPP negative bands. Likewise, when comparing the mixed flock prior to testing to the OPP negative bands of 2008, management records indicate a 94% decrease in the use of LA200 medication. We estimate LA 200 savings alone to represent a \$1.88 lower medical expense per exposed ewe in these two flocks.

A decrease in ewe death loss can provide more live cull ewes to sell each year and/or lower replacement rates. Of course, lower replacement rates would lead to more ewe lambs to sell each year. It is likely that a combination of these would be used over the long-term to maximize the economic benefit given the flock characteristics and production environment.

For example, assume you have a 1500 head flock with a ewe replacement rate of 20% and a ewe death loss rate of 12% like what we observed in 2004. Cutting the ewe death loss rate to 4% (more than twice what we observed in 2008) would result in 120 more live cull ewes to sell each year. At \$130 per head, this represents a \$10.40 increase in revenue on an annual basis per exposed ewe. On the other hand, lowering the replacement rate to 12% and selling 120 more weaned ewe lambs each year at \$130 per head would generate the same impact. However, the lower replacement rate would result in a higher average age for the ewes in the flock which may affect the overall ewe death loss rate. Producers should take this into account along with the relative market prices when deciding how they can best take advantage of the fact that their ewes are going to live longer if they rid a heavily infected flock of the OPP virus.

In summary, it appears that eliminating OPP can lead to around a \$12 benefit per exposed ewe as a result of a decrease in ewe death losses and a decrease in medication expenses. Benefits from decreased labor requirements would add to this value. These long term benefits need to be weighed against the short term expenses of testing and culling to arrive at a defined pay-back period or a net benefit to the producer over a defined planning period.

The following excerpted from:

Figuring Out Puzzling Animal Diseases: Using Genetics To Diagnose and Predict Disease

By [Sharon Durham](#), USDA-ARS Information Staff (First published in the April 2010 issue of "Agricultural Research" magazine.)

Animal disease research sometimes follows a predictable path of discovery, identification, test availability, and finally, prevention or cure. But other times, the path becomes a long and winding road. ARS scientists at the Animal Diseases Research Unit (ADRU) in Pullman, Washington, are working to put together the pieces of some tough-to-solve animal disease puzzles.

One ruminant disease being investigated by scientists at ADRU is ovine progressive pneumonia virus (OPPV), which causes mastitis, respiratory distress, swelling of the knees (arthritis), and wasting in infected sheep. One in two U.S. sheep of open-range flocks are infected with OPPV, and it is believed to be mainly transmitted between adult sheep through respiratory secretions. OPPV slowly erodes producers' profits over the years by lowering average weaning weights of lambs and the average number of lambs produced.

The current method to control OPPV is to test sheep blood for either antibodies to the virus or OPPV concentration and then separate infected sheep from uninfected sheep. The problem is that many infected sheep never develop clinical disease symptoms. Says microbiologist Lynn Herrmann-Hoesing, "An OPPV test that predicts or determines which infected sheep will then go on to display clinical disease is highly sought."



Animal care manager Emma Karel (left) and microbiologist Lynn Herrmann-Hoesing collect a sample. Photo by Peggy Greb

reduces the number of other tests necessary for determining infection and possibly lower the transmission potential in a flock. Therefore, these new tests offer significant long-term economic advantages for the producer over conventional serological diagnostic tests." (Diagnostic testing of sheep can be expensive since current recommendations are to test annually or biannually for at least 5 years to ensure OPPV-negative flock status.)

Animal diseases are a fact of life for livestock producers, but with improved diagnostic and therapeutic tools being investigated by ARS scientists, the well-being of food animals can be better managed, and economic risks for producers limited.

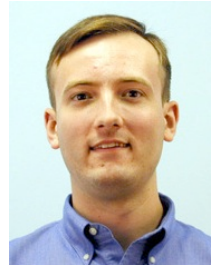
Genetics: A Quick Fix for OPP?

By Judy Lewman

There's been lots of buzz lately about the ongoing OPP genetic studies (note ARS article on this page). As many will recall, a related piece by microbiologist Dr. Lynn Herrmann-Hoesing was featured in our 2008 OPP Society newsletter. And early in 2010 Dr. Stephen White, a geneticist and Lynn's colleague, reported on their progress for the American Sheep Industry Association (Stephen's slide presentation from ASI's 2010 annual meeting can be found at www.OPPsociety.org/Library).

While this exciting work promises to be a valuable tool in the battle against OPPV, a commercial test is not yet available and likely won't be for several more years. As an update to his 2010 slide show, Dr. White recently wrote:

"The ASI presentation made the point that there are many genes involved with OPPV. This is different than scrapie in that there is not one "magic bullet" gene. However, several genes working together may be useful to improve flocks for OPPV."



Dr. Stephen White

"Our genome scan (ASI results) identified several critical regions that seem to be involved with OPPV. From our data, it looks like most of these critical regions in sheep will be 2-5 genes in length, which is encouraging. In other species, critical regions can include 10-20 genes, or more. This should accelerate research since fewer genes will need to be examined to find the important variants."

The initial finding that Rambouillets may be better at controlling the effects of OPPV than are other breeds cracked the door of an extremely complex issue, but more studies need to be completed across and within breeds, and among various management systems, before genetic testing for OPP becomes a reality for producers wishing to control the disease. A prime example of just one of these variables is illustrated by "One Farmers View . . .", written by a Rambouillet producer from the Midwest and available at www.OPPsociety.org/Library

One caveat: The researchers involved in this work are very careful to avoid using the word "resistance," stating instead that animals of a certain genotype may be more effective at *controlling* OPP, i.e. "living with it" at a level that may be economically acceptable for some flocks. The fact that viruses mutate, and are therefore difficult to "pin down," adds a challenge not found in scrapie genotyping, wherein an animal with "R" at codon 171 is known to carry some resistance. (And even if there were an OPPV resistant gene—a "magic bullet"—some argue that significant exposure over time can override genetic resistance.) In short, genetic study of OPPV is very tricky work.

So is a genetic test for OPPV, when one becomes available, the best option for your flock? As in much of life, "it all depends." If you're running large numbers of commercial ewes and wish to keep OPP in check, then a genetic test that needs to be done only once in an animal's life may be attractive vs. testing every ram and ewe over a period of several years. On the flip side, if you are one of the more than 90% of all U.S. producers who have fewer than 100 ewes—and especially if you're selling breeding stock—then eradication via annual or semiannual test and cull may be your preference. It all depends . . .

EDITOR'S NOTE: As you'll read on page 6, Ag Secretary Vilsack recently announced members of his new Advisory Committee on Animal Health, including our own Dr. Cindy Wolf. We thought you'd enjoy the following article, which opens the door to a side of Cindy we don't often get to see—wife, mother, shepherd.

Farmers' Market Faces (O'Neill/Wolf)

Article | 10.04.10 | By Kate Carlson



The O'Neill family, back row: Haley, Kelley; front row: Cindy Wolf, Hanna, Harper; raise sheep and cows on their farm in Rushford, Minnesota. They began selling at the Winona Farmers' Market three years ago. Photo by Kate Carlson/Winona360

Alice approaches new visitors on the O'Neill Family Farm in Rushford, Minnesota, like a member of the family. Her small bell rings as each tiny step marks the gravel driveway, nipping at the heels of youngest O'Neill daughter Harper, 10, like a trained puppy. Only this young animal doesn't fit in with the handful of guard dog Mastiffs or the seven Border Collie working dogs on the farm: Alice is a 3-month old lamb.

Despite owning 500-acres of land and several barns on the property that Kelley O'Neill and wife Cindy Wolf purchased in 1993, the family of five lives in a renovated historic home in the city of Rushford and travels nearly every day to their farm to tend to the 1400 ewes, hundreds of cattle and a dozen dogs. The couple's three daughters—Haley, 14; Hanna, 12; and Harper, 10—have grown up on the farm and seem right at home feeding the animals and driving four-wheelers like trained professionals.

"When these guys were young, before they were in school, they were here all the time," remembers Kelley. "They would take naps in a wood tool box on top of a sheep skin on the back of the four-wheeler. Now that they have such social calendars they don't really have much time."

The family took to the field Sunday afternoon, playfully "racing" to check in on the flock. When a ewe with a broken leg was spotted, the O'Neills immediately took to their specialized roles to herd the sheep and catch the injured animal to take back to the barn for treatment. Even during the chase, talk of Haley's first high school dance rang out sporadically as the girls joked

with one another—their dad focusing intensely on roping the sheep, yet allowing a smile to creep up every so often.

"It's tough—we're loath to cram more farming down their throats," Kelley said. "We don't want to make it even more unpalatable to them."

Despite inching ever closer to their teenage years, the comfort and ease in which the girls conduct themselves on the family farm is hard to ignore. Snuggling with the most recent litter of guard dog puppies, or hand-feeding the "leader" sheep Charlotte, the O'Neill daughters take after their parents when it comes to a passion for the animals.

Kelley O'Neill grew up on a farm just south of the Twin Cities and cultivated an interest in the sheep business through multiple jobs during his adolescence.

"Sheep are less formidable to a 12-year-old than anything else," Kelley said with a smile.

Kelley attended college briefly following his high school graduation, but realized the training he received on site with local farmers was far more beneficial than any classroom setting.

"Those three employers were my schooling more than an institution," Kelley said. "There's a lot to be said for a master-apprentice training program."

Cindy Wolf began an internship at the University of Minnesota in the early '80s, and has continued her employment there part time as a trainer in the veterinary school. Juggling work and family has always been a tug of war, but certain things about the family business make the hard times worthwhile.

"Lambing is my favorite time of the year," said Cindy. "There's something about being in a green field and looking at the beauty of these sheep doing what they're supposed to be doing. I travel to many farms with the vet students and I see the good and the bad. It's a nice reflection to know you had a hand in managing something that makes nature be able to do what it's supposed to do."

"There's a lot of promise in spring," Kelley said. "These lambs are born pretty close to perfect. The hard part is keeping that potential."

The sun dipped lower in the sky as longer shadows began creeping across the lush green landscape of the O'Neill Family Farm late Sunday. The injured ewe was safely in the back of one of the four-wheelers as the family drove over a small creek and back toward the barns, laughter filling each of the two vehicles.

"An unexpected benefit of what we do has been watching the impact the farm has had on our girls," Cindy said. "We receive a lot of compliments about how they are self-sufficient and great problem solvers, and when they are here, that's what they need to do. We just say to ourselves how lucky we are."

The author, Kate Carlson, is the Content Development Editor for Winona360 (winona360.org), a community news and information Website for the Upper Mississippi River Valley region, produced by the Mass Communication Department at Winona State University.

Do dams transmit OPP?, continued from cover . . .

colostrum/milk was viewed as the main source of OPPV/MVV transmission due to the primary observation that when lambs are removed from their OPPV infected dams immediately after birth, artificially reared, and kept apart from other infected sheep, a very low number of lambs become infected [3]. This low number of infected lambs was suggested to be the result of *in utero* OPPV transmission, and in fact, one study showed that OPPV could be isolated from fetal lung tissue in 5% of infected and pregnant ewes [4].

Artificial rearing of lambs is extremely labor intensive. Another problem with artificial rearing is that lambs when removed from their dams immediately after birth and prior to colostrum intake are often weak and less robust than lambs that are allowed to naturally suckle colostrum/milk. Prior to our studies, it was unclear whether natural suckling and contact between infected dams and lambs in the absence of exposure to other infected sheep after weaning contributes to OPPV transmission. Therefore, a natural suckling/contact experiment was conducted where OPPV was tracked from ten 6 year-old infected dams to their resulting 22 lambs. Results of this study showed that only 1 out of 22 lambs became infected over 6 years after natural suckling/contact with their 10 dams for 8 months followed by weaning and no direct exposure (within the same pen) to other infected sheep for 6 years [5]. In this same study, a sentinel OPPV negative ewe was placed in the same pen as the OPPV infected dams and became infected two years later. To investigate this further, viral genetics were evaluated in the infected sentinel sheep, lamb, and ten dams. The one infected lamb and its dam shared identical viruses. In addition, the sentinel ewe's virus was most similar to one OPPV infected dam's virus.

In the same study, we also examined 35-40 dam-daughter pairs from an Idaho flock and asked the question, does the virus in the dam match the virus in the daughter? Our results were surprising. OPPV matched in 10-14% of the dam-daughter pairs whereas OPPV did not match in the remaining 86-90% of the dam-daughter pairs [6]. If *in utero* transmission contributes 5% to maternal transmission, then dam-lamb suckling/contact transmission accounts for only 5-7% of maternal transmission. The natural suckling/contact study suggests transmission amongst infected ewes and naïve lambs during normal suckling/contact conditions is minimal (1 infected out of 22 lambs); however, contact between infected adult ewes and a naïve adult sentinel ewe resulted in transmission (1 infected out of 1 adult ewe). The larger viral tracking study suggests that the majority of OPPV transmission is non-maternal. After the re-use of needles for vaccination was stopped, the largest increase in seroprevalence in the Idaho flock occurred between 1 and 2 years old. These data together suggest that horizontal transmission is occurring from infected adult sheep to younger, naïve adult sheep. At this time, we do not know the main source or route of horizontal transmission. However, possible sources and routes include colostrum/milk from infected adult ewes to younger, naïve adult ewes, respiratory secretions from infected adult sheep to naïve adult sheep, and semen from infected rams to ewes could all contribute to OPPV transmission. Separation of infected pregnant ewes from uninfected pregnant ewes, separation of lambs born from infected ewes, yearly serological monitoring of rams, ewes, and lambs starting at age 1, and serological monitoring of new arrivals to the flock will help minimize the spread of OPPV.

. . . References at right

Our Newest Members

We welcome the following new and returning members. For more information, see directory at www.OPPsociety.org

Bob Adams, Adams Texels, US Sheep Company

Texel, Katahdin—Indiana
317-861-6432 bobadams@mcclink.com

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Jacob, Leicester Longwool—Illinois
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Mary J Bakko, Misty River Livestock

Katahdin—Washington
509-760-9596 sheepkeeper@scml.us

Clark and Lyn BreDahl, Mormon Trail Farms

Finnsheep, Finn/Dorset—Iowa
641-745-2323 bredahl.mtfarms@gmail.com

Joe Malsom

Katahdin—South Dakota
605-229-1662 joemalsom@abe.midco.net

Jerry and Elizabeth Wigglesworth, Nordeen Farm

Border Leicester—Kansas
785-482-3462 anguswigg@gmail.com

Having Trouble Bleeding Sheep?

Wisconsin member and registered nurse, Carol Ray, reports success collecting samples from the foreleg rather than jugular vein. A family member holds the animal in shearing position while Carol clips the hair above the knee, after which the vein is very easy to see. While this method involves the added labor of having to tip the sheep, it can be helpful—especially for someone trying to learn on a dark colored animal in full fleece.

A further tip we noticed in a recent post on the *Sheep Production Forum* from OPP Society member Mark Lelli, DVM: Prior to collecting samples, Mark very carefully bends the needle at a slight angle, making it much easier to line the needle up with the vein. Whatever works . . .

References:

- [1] Herrmann-Hoesing 2010. Review article: Diagnostic assays used to control small ruminant lentiviruses. *J. Vet. Diagn. Invest.* 22:843-855.
- [2] Sigurdsson et al., 1953. Transmission experiments with maedi. *J. Infect. Dis.* 93:166-175.
- [3] Houwers et al., 1983. Maedi-visna control in sheep. I. Artificial rearing of colostrum-deprived lambs. *Vet. Microbiol.* 8:179-185.
- [4] Cutlip et al., 1981. Intrauterine transmission of ovine progressive pneumonia virus. *Am J. Vet. Res.* 42:1795-1797.
- [5] Herrmann-Hoesing et al., 2007. Evidence of proviral clearance following postpartum transmission of an ovine lentivirus. *Virology.* 362:226-234.
- [6] Broughton-Neiswanger et al., 2010. Non-maternal transmission is the major mode of ovine lentivirus transmission in a ewe flock: a molecular epidemiology study. *Infect. Genet. Evol.* 10:998-1007.

Worth Repeating

EDITOR'S NOTE: The following will be "old news" for those who frequent www.OPPsociety.org. Since the website is updated often and newsletters are few and far between, we include past news items here for any who may have missed them.

BRIAN MAGEE RETIRES FROM CORNELL:

Renowned animal scientist, former OPP Society Director and now an Honorary Lifetime Member, Brian Magee retired in 2009 after having managed the Cornell University Sheep Farm for several decades. In addition to his work with OPP, Brian's many original and significant contributions to the sheep industry include development of the STAR system of accelerated management as well as an effective method to eliminate foot rot (now available at www.OPPsociety.org/Links).

While serving as president of the Finnsheep breed association in the mid-'80s, when Cornell's Finns and his own flock were found to be infected with the OPP virus, Brian's writings made their way into the popular press, generating a great deal of respect for one of the first breeds to openly tackle OPP.

DR. HOLLY J. NEATON RECOGNIZED:

Our own Holly Neaton was named the 2009 "DR. DON E. BAILEY SMALL RUMINANT PRACTITIONER OF THE YEAR" by the American Association of Small Ruminant Practitioners. This award is given in recognition of an AASRP member who has set a high standard as a small ruminant practitioner while demonstrating exemplary service in organized veterinary medicine, particularly in small ruminant practice.

A 1979 graduate of the University of Minnesota, Dr. Neaton was a partner in a mixed animal practice until 1997 and is currently an attending veterinarian for Beckman Coulter Immunodiagnostics. Holly is also a past president of the Minnesota Veterinary Medical Association and co-chairs the Minnesota State Fair Miracle of Birth Center for which she supplies bred ewes from her flock of Polypays.

DR. CINDY WOLF APPOINTMENT:

On December 9, 2010 Agriculture Secretary Tom Vilsack announced the members of the Secretary's Advisory on Animal Health, including our own Dr. Cindy Wolf. An assistant professor at the University of Minnesota's College of Veterinary Medicine and a founding director of the OPP Society, Cindy is nationally known as a small ruminant specialist. Over the last 25 years she has worked with many diverse groups on animal health and is a co-author/creator of many scrapie educational materials.

The Committee advises the Secretary on means to prevent, conduct surveillance, monitor, control or eradicate animal diseases of national importance while considering public health, conservation of natural resources, and the stability of livestock economies.

Are you an OPP Society member?

If not, and if you find this newsletter or our website of value, we hope that you'll consider supporting our educational efforts. We are an all volunteer organization—operating on a shoestring budget—funded solely by members' dues. Application form on back cover; directory listing is optional.

TEXEL BREEDERS MAKE HISTORY!

NEGATIVE OPP TESTS NOW REQUIRED FOR NATIONAL SHOW/SALE: Over the years, several have wished that breed associations would take a more active role in promoting high health status among member flocks. And now the Texel Sheep Breeders Society has done just that.

in 2009 at Sedalia—for the first time ever for *any* breed—Texels were not allowed off the truck until documentation of OPP test-negative status had been confirmed. Truly a landmark event. The ruling followed 6 years of mandatory OPP testing during which time results could be either positive or negative, thereby giving breeders time to clean up their flocks. (*To read more, see 2004 newsletter.*)

MINNESOTA EXTENDS OPP/CAE PILOT PROGRAM:

Early in 2010, following a four-year trial period, the Minnesota Board of Animal Health voted to continue offering a Voluntary OPP/CAE Test & Control Pilot Program as an optional add-on for producers concurrently enrolled in the voluntary Scrapie Flock Certification Program. Program flocks may attain OPP/CAE Test-Negative status following required testing.

An overview of the Program's beginning can be found in our December 2006 newsletter. The 16-page Program Booklet, including testing and management guidelines, is available for download at www.OPPsociety.org/Library.

OPP/CAE PROGRAM COMING TO OHIO:

On October 21, 2010 the Ohio Department of Agriculture's Small Ruminant Advisory Committee voted to initiate an OPP/CAE certification program based on Minnesota's voluntary OPP/CAE Test and Control Pilot Program.

At this time, Ohio does not plan to tie their OPP/CAE program to the voluntary Scrapie Flock Certification Program. Dr. Paul Hunter reports that they hope to have a pilot flock enrolled by late spring.

Expanded Advertising

You'll be seeing more of us soon. Our new ads are already running in *The Shepherd* and *Sheep Industry News* (ASI), and will soon appear in *sheep!*. While the website is our primary presence and information resource, we still need exposure in the popular sheep press in order to steer producers to the website.

Like long-term smoking —
Less production & shorter life.
Have you tested for the virus?

www.OPPsociety.org
952-955-2596

Got any good ideas? The ads are being rotated monthly and we're always on the lookout for alternative text. The wording in the ad that appears above was contributed by Bob Leder.

New Educational Slide Show

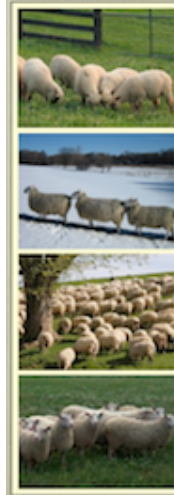
Shown below are the first 6 slides of a presentation initially delivered by Dr. Holly Neaton at the 2004 Annual Conference of the Wisconsin Sheep Breeders Cooperative. It's been updated, including new information and many photos, and can be downloaded at www.OPPsociety.org/Library (also available on disk).

The text in the 5 slides preceding the title page was taken from an actual letter received by Holly, the only edit being omission of the breed name. The presentation contains 44 slides in all.

OUR THANKS FOR USE OF PHOTOS: Marcia Barinaga (East Friesian), Bill and Lynne Duffield (Suffolk), Paul Hunter (Finnsheep), Karen Kenagy (Katahdin), Bob and Penny Leder (Commercial X-bred), Brenda Lelli (Bluefaced Leicester), Mark Lelli (Clun Mules), Judy and John Lewman (Border Leicester), Holly Neaton (Polypay), North American Clun Forest Association, Kent Ozkum and Will Morrow (Katahdin), Oogie and Ken McGuire (Black Welsh Mountain), Jean Walsh (Suffolk), Barbara Webb (Icelandic), Gene Schriefer (Commercial X-bred), Cindy Wolf ("Converter" Ewes).



"We bought our 50 purebred sheep at a livestock auction in 2007. When we got them home we noticed some of them coughing but, being ignorant about sheep, we thought they just had a cold or were bothered by the dust . . .



"Like the hard udders – we called them 'tennis ball udders' because they would just get a lump but it wasn't mastitis. Or the way some of them would start to go around in circles, or come up limping, before they began to lose weight . . .



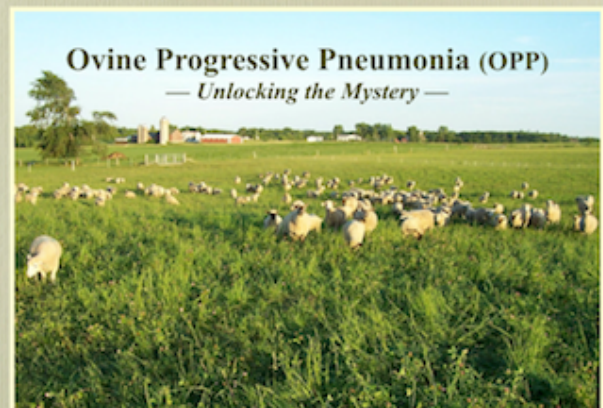
"The veterinarian said the older ones were probably getting pneumonia so we gave them all LA200 and it did NOTHING! Then we started to notice that some of the younger ewes in the prime of their lives would get this cough, start to lose weight and then die about a year later . . .



"But the main symptoms were heavy breathing and coughing."



"That's when we started to get serious about this cough. I searched on the internet and ran across OPP. The listed symptoms explained some of the other things we noticed about these sheep . . .



Ovine Progressive Pneumonia (OPP) — Unlocking the Mystery —

Holly Neaton DVM
Watertown, Minnesota

Sheep Production Forum

There was an excellent discussion re the economics of OPP on Bill Fosher's *Sheep Production Forum* last month . . . more than 70 replies and 1,600 views to date. Worth a look if you missed it: <http://edgefieldsheep.com/bb/viewtopic.php?f=7&t=3482>

There's more good OPP info in the SPF archives, including the following posted in 2007 by Janet McNally and still relevant.

"Hi Wayne:

"I call OPP 'the silent thief.' You are probably unaware of the impact, because unlike other diseases there is nothing dramatic to see that you would recognize.

"Back in the late '80s I started testing for OPP because in all honesty, I thought I did not have it in my flock so I wanted to prove it. At that time I thought it was normal to occasionally have ewes that did not have enough milk for twins, or that developed seriously snotty noses, or that would be culled due to declining production after 3 or 4 years old. I was not overwhelmed with these things, just had always thought it was normal. I did not observe the 'thin' or wasting ewe problem that is sometimes associated with OPP.

"My first test revealed that 35% of my flock was infected. So I set about testing and eradicating for the next 5 years. Initially I would separate the positives from the negatives at lambing, so for the first time I was able to observe the difference.

"It rapidly became very clear that those ewes that inexplicably did not have enough milk, or that were slow to come into milk, or that were culled relatively young for failing to raise lambs

were all the OPP positive sheep. The OPP positives were also more likely to develop other health problems (like CL . . . which I was later to eradicate).

"Basically OPP was silently stealing production and I just thought it was 'normal.' OPP was also causing a fair amount of work, as I had to be more vigilant to make sure newborn lambs were getting enough milk. I think at one point I figured that the OPP positive group was weaning 9 pounds less lamb than the negative group.

"Now that we do not have OPP, there are things that just never happen. I never have a ewe that does not have her colostrum ready right away at birth, all ewes birthing twins have enough milk for two (and further selection brought us to the point where all ewes birthing 3 have enough for 3), the snotty nose thing disappeared, and my ewes now become more and more productive as they get older, so even 7, 8, 9 year old ewes have plenty of milk.

"Well, that is why OPP is important. But the other side of the coin is . . . so can you afford to go about testing and eradicating it? That is the hard question. In the long haul (like a decade) yes it will eventually pay you back, but in the short run it is going to be expensive.

"In general I think it is difficult for large commercial flocks to eradicate this problem just from a cash flow point of view, but anyone who is starting or building a flock has a prime opportunity to select only negative sheep and absolutely should do so."

Janet McNally, Minnesota
'Tamarack Prolific' and Ile de France crosses
(The OPP Society thanks Janet for permission to republish.)

ROOM FOR YOU!

The OPP CONCERNED SHEEP BREEDERS SOCIETY welcomes both commercial and purebred producers, veterinarians, researchers, educators and all others who share our interest in ovine health issues. See us on the Web at: www.OPPsociety.org

We are a volunteer organization—working on a shoestring budget—funded solely by members' dues. To join in supporting our educational efforts, please send the following information with your check for \$15 U.S. (2 years, \$25; 5 years, \$50).

NAME _____ FARM/RANCH NAME _____
STREET _____ CITY _____ STATE _____ ZIP _____
PHONE _____ EMAIL _____

OPTIONAL: INCLUDE OTHER INFORMATION YOU WOULD LIKE LISTED IN THE DIRECTORY (BREED/S, # EWES, TEST HISTORY IF ANY, WEBSITE, ETC.)

JEAN T WALSH, TREASURER
228 MAIN STREET
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BLOOD SAMPLING DVD: Recognizing that the cost of testing is one of many hurdles to overcome in a program to eliminate OPP, a DVD has been produced which demonstrates a simple technique for drawing blood samples from sheep. Used with veterinarian cooperation, the DVD can help producers lower the costs of blood sampling. To receive the DVD (or optional VHS tape), please include an additional \$5 with your dues (DVD alone: \$20 for non-members).