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<http://extension.wsu.edu/vetextension/Pages/Newsletters.aspx>

**From the Editor** – It's Winter. The reason I can tell is that the thermometer reads 28 and there's white stuff on the ground. With winter come new challenges to ag animal health. For cattlemen: Are beef cows getting a supplement in the last few months before spring calving? Can all animals get to water? For beef cattle, sheep, goats, and dairy: Are we taking care of mud control? Do we have wind breaks in the pasture? We can tackle these challenges to improve animal health.



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## Featured Faculty: Dr. Dubra Diaz-Campos



We have a new microbiology faculty member at the Diagnostic Laboratory! Dr. Diaz-Campos completed her PhD in May of this year at Auburn University in Biomedical Sciences and her residency in Microbiology in 2011. She hails from Venezuela where she completed her veterinary degree. She has received much specialized training in diagnostic techniques so is a great fit for WSU-WADDL. Welcome, Dr. Diaz-Campos!

## The Students of Ag Animal at AABP



Many WSU veterinary students were able to attend the AABP meeting in September. Some had leadership roles in representing our College (Katrina Hartman and Tracy Quirk) and some presented research findings (Travis Allen, Matt Asay and Alea Hoffman – 2<sup>nd</sup> place winner). Three WSU students were awarded scholarships (Tracy Quirk, Tim Gibbs, and Travis Allen). Congrats, All! (Top Row L to R: Travis Allen, Tim Gibbs, Katrina Hartman, Matt Asay, Alea Hoffman; Bottom: Tracy Quirk)

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## What we (VetMedExtension & FDIU) have been up to:

FDIU recently investigated copper deficiency in dairy cows and in beef cows, calves that were persistently infected with BVD virus, and a dairy herd with more stillbirths than normal, and a chicken flock with feather-picking. VetMedExtension participated in the American Dairy Goat Association annual convention in Boise in October and the Washington Cattlemen's Association and the Washington State Dairy Federation Annual meetings in November. For more information on FDIU, contact Dr. Wenz [jrwenz@vetmed.wsu.edu](mailto:jrwenz@vetmed.wsu.edu), or for more information about VME, contact [VetExtension@vetmed.wsu.edu](mailto:VetExtension@vetmed.wsu.edu).

Dr. Mushtaq Memon just won the 2012 VEGA Alliance Service Award for his work through a Farmer to Farmer program by assisting Lebanon University in improving its veterinary curriculum and providing guidance on future veterinary program development. *Congratulations!*

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## Abomasal Emptying Defect in Small Ruminants

By Melissa Ackerman, DVM, MS



Abomasal emptying defect (AED) is a disease of unknown cause that occurs predominantly in both sexes of Suffolk sheep. It is also reported to occur in Hampshire, Dorset, and Texel sheep, as well as Toggenburg goats. This condition most often affects animals between 2 and 6 years of age. An owner or herd manager will often notice a chronic (weeks to months) history of progressive and unexplained weight loss in one animal, though several animals in a herd may be affected at the same time. The animal typically does not respond to deworming treatments or nutritional supplementation. As the disease progresses, the affected animal may have a chronic bloated appearance on both sides. A progressively poor appetite and attitude along with low manure output with pellets that may be small and firm, or scant, loose feces are also present in later stages of disease.

The clinical signs described above are due to abnormal motility (muscular contractions that help move feed properly) of the abomasum. Over time, the stagnant feed and fluid back-up and the abomasum becomes enlarged. The rumen also distends as the feed is unable to move normally through the gastrointestinal tract. Rumen contractions may be increased, but also can be decreased to absent, or even normal. The prognosis of AED is grave; there is no cure and the disease is fatal.

At this time, there is no lesion that is consistently identifiable in all animals that demonstrate this disease. There is no known cause, but some studies suggest that degeneration and/or dysfunction of neurons that control normal abomasal motility (contraction of the abomasum that allows feed to move through) may play a role. Attempts at finding genetic links have been unsuccessful. Studies also show that use of prokinetic drugs (drugs that enhance motility) have been shown to have temporary success in some animals. Surgical abomasotomy (opening and emptying of abomasal contents) often results in re-impaction.

Diagnosis of AED is based on history, physical exam, lab analysis, and diagnostic imaging. Transabdominal ultrasound may demonstrate an abomasum engorged with feed material. A rumen fluid sample may be obtained for laboratory analysis by passing a tube orally into the rumen. A high rumen chloride level (normal is 8 to 15mEq/L) is consistent with the refluxing of hydrochloric acid (normally produced in the abomasum) from the abomasum into the rumen. This elevation occurs with an obstruction or failure of normal flow of abomasal contents into the small intestine. In sheep and goats, it is uncommon to have a simultaneous hypochloremic, hypokalemic metabolic alkalosis, as is found in cattle with abomasal impactions. If a diagnosis of AED is made, humane euthanasia should be considered.

This disease is well documented in sheep (Suffolk especially), but goat owners and producers should be aware of the clinical signs. In fact, the Washington State University Veterinary Teaching Hospital diagnoses several cases of AED in goats each year. A case report example follows:  
*A six-year old Alpine/Saanen cross wether presented in September, 2011 with a complaint of a several week history of lethargy and intermittent inappetance. The owner noted that he had lost some weight and had been chewing cud less than normal. He had been with this owner his entire life, and was used on hiking trips as a pack goat. On the most recent hiking trip several days earlier, he went off feed and became lethargic and weak. He was treated by a referring veterinarian with anti-inflammatory drugs and mineral oil given orally, with little relief.*

*On physical exam, he was slightly thin with a body condition score of 2/5. He was dull but responsive and mildly dehydrated. His rumen contractions varied from normal to increased at 2-4 per minute. His abdomen appeared distended ventrally (the lower part) on both sides. Deep palpation of the rumen to assess the feed contents indicated a lack of normal layering; it felt uniformly firm rather than having a normal, doughy fiber mat above with softer fluid below. Deep palpation on the right side of the abdomen was abnormal; there was a large, firm, heavy mass felt on the right lower side in the area of the abomasum. Normally this side of the abdomen would feel unremarkable and relatively soft. Scant, dry feces were detected on rectal exam. Passage of a tube from the mouth to the rumen several times resulted in collection of a thick, viscous rumen material that was inappropriate for rumen chloride analysis. Complete blood count (CBC) was unremarkable, and chemistry panel showed several non-specific, minor abnormalities such as mildly elevated liver and muscle enzymes and lymphopenia. A diagnosis of abomasal emptying defect was made based on history and physical exam findings. After several treatments of magnesium hydroxide (a laxative), and transfaunation (rumen fluid from a donor cow) with no improvement, the goat was humanely euthanized. On post-mortem exam, the rumen was mildly distended with coarse feed material. The abomasum was severely distended with long-fiber, impacted feed material, confirming the diagnosis.*

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## Risk-based Assessment of Sheep and Goat Parasite Control

As part of a multi-institutional grant, Ohio State University Extension has been working on a "decision making support tool" to assist people in sorting through the large amount of information available on internal parasite control and developing farm-specific strategies for their sheep or goat operation. It is limited to gastrointestinal nematode infections and is "risk-based" in that it addresses grazing animals by class and by type of pasturage. The program is not prescriptive because the authors believe parasite control programs should be developed at the farm level.

This "tool" is available in two versions. One is of a flow-chart design and can be printed and used for study or teaching independent of a computer. The other is computer-based and has an expanded glossary and pictures. It also has more external links to other resources that provide more detail on specific topics like the DrenchRite Assay, FAMACHA, or sericea lespedeza and our Veterinary Extension fact sheet series <http://ohioline.osu.edu/vme-fact/index.html> . Both versions can be found at <http://vet.osu.edu/extension/decision-tree>.

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## Dairy Lameness in Winter By Dale A. Moore, DVM PhD

Winter – in some places it brings more rain, in some places – snow. Wherever you keep your cows, winter changes how you do things.

In rainy areas, mud becomes the problem. We either tackle it by keeping cows indoors more or work on the corrals to improve drainage. Mud itself has notable qualities when it comes to specific causes of lameness. The moisture alone, when on cows' feet for periods of time, weakens the skin allowing invasion by footwart (digital dermatitis) or footrot bacteria. Mud reduces dry matter intake by about 2.5% for every inch of mud, and muddy corrals and feeding areas can affect feeding behavior, likely resulting in slug feeding which could lead to rumen acidosis.



If the cows have to stay indoors, we can have another contributor to lameness – standing on concrete. Standing on wet concrete can have the same results as mud. Standing and walking on concrete too long can also result in concussive forces on the hoof and result in damage to the growing region of the hoof – *the corium* – and subsequent signs of laminitis.

*How do we tackle hoof problems in winter?*

*Corrals* – Handling mud in drylot pens requires grading corrals and maintaining cow mounds. Adding more bedding under the shades in the corrals will provide a clean, dry resting place for cows, so long as the covered area (about 50 sq feet per cow) is adequate. Evaluate drainage in low-lying areas and try to divert water, particularly from high traffic areas. A lot that is sloped 2 to 4 percent will provide for good drainage with little erosion. Amendments can be used to firm up high traffic areas between the concrete pads and dirt corrals. Geotextile fabrics have been used in heavy traffic areas in beef feedlots. These fabrics allow moisture to pass through the material while holding rock in place insuring solid footing.

Mounds created in the corral can be used to reduce mud problems. Mounds provide a comfortable resting place and during muddy conditions, cattle will lie or stand on mounds that are properly designed. Mounds that are too steep, too narrow, or too small will not be used effectively and in some cases will do more harm than good by blocking drainage. An example of a feedlot mound with given design criteria is illustrated. For a more detailed discussion of feedlot mounds, see:

<http://gpvec.unl.edu/mud/Enviro-FeedlotMud-SDSUExt1020.pdf> and <http://gpvec.unl.edu/mud/>

The corral scraping and maintenance schedule is likely pen or farm-dependent but a regular schedule during high rainfall times will ensure the work gets done to keep the cows from the mud.

*Freestall Barns* -- Reduce moisture in housing areas by flushing, scraping, something to move manure out of the housing area. Recognize that in some areas, alleys may NEVER dry out in winter... However, keeping manure levels low (lower than the pastern joint) will be helpful.

Improve lying time – Evaluate your freestall usage and dimensions – do they fit your cows? In addition, evaluate stocking density. For example, is there at least 30 inches of bunk space for fresh cows? A stall for every cow? Check cow lying times by evaluating the dairy time budget by using Miner Institute's time budget calculator: <http://www.whminer.com/dairy.html>. Research suggests cows need 12 to 14 hours of rest.

Winter requires that we change the way we do things if we want to prevent cases of lameness in the dairy herd. **Drainage, Dry** and (Lying) **Down – the three D's of winter management**. For more information on lameness investigation and control, go to:

<http://extension.wsu.edu/vetextension/Lameness/Pages/default.aspx>

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## Farm Animal Welfare Symposium Highlights

VetMedExtension helped coordinate the first Washington Farm Animal Welfare Symposium, September 15, 2012, sponsored by the Center for the Study of Animal Well-being, the Washington State Dairy Federation, Washington Cattlemens Association, and a number of other important sponsors. Six excellent speakers from around the country provided the latest on the politics of animal welfare, building trust with consumers, defining animal welfare, animal emotions, animal whispering and the rise of animal welfare assessment and audit programs. (To view videos of the speakers, see: <http://extension.wsu.edu/vetextension/archives/Pages/AnimalWelfareSymposium2012.aspx>)

Over 100 people registered for this live event – students, faculty, producers and veterinarians as well as industry and state government representatives. From our audience-response system questions, most (62.5%) came to the symposium because they knew something about the issue but wanted to stay on top of it. More than 81% strongly supported the idea of continued conversation about farm animal welfare in the state and 75% indicated that they would be very likely to attend another livestock welfare meeting within the next two years. As a result of the symposium, over 90% of attendees better understood the issues facing agricultural animal producers with regards to welfare and would be likely to attend another symposium.

## E coli Conference in Washington DC area

In October, VetMedExtension in conjunction with Extension at University of Nebraska developed and delivered a program on pre-harvest controls of STECs (shiga-toxin producing E coli's, like O157:H7) in cattle in Greensbelt, MD, for an audience of veterinarians, federal government employees, and industry representatives. The most current information on the epidemiology, interventions to reduce E coli shedding, and government policies were provided. (To view the videos of the speakers, go to: [http://extension.wsu.edu/vetextension/ec/Pages/EcoliConf\\_2012.aspx](http://extension.wsu.edu/vetextension/ec/Pages/EcoliConf_2012.aspx)) This conference was put on as a sequel to the popular webinar held November, 2011.



### WSDA Corner

By Dr. Leonard Eldridge, State Veterinarian

#### The need for Animal Disease Traceability

We are headed back to the drawing board. WSDA rules to support animal disease traceability were not adopted after our rulemaking hearings because there is still disagreement among some sectors of the cattle industry in Washington. Because animal disease traceability (ADT) is essential in protecting the livestock industry from animal diseases, we need to keep working until we get it right; which means we're taking another look (with an open mind) at how we achieve our goals.

So I think it's time to look at why Washington needs an ADT system, and share the road map that WSDA has developed since the "3033" committee's direction on where we are going and what is needed. The focus, up to this time, has been on cattle and poultry (two of the high risk species). However, the system in the end will serve all animals with the focus on food producing animals, animal diseases with zoonotic potential, and animal diseases that would have devastating economic results to the livestock industry and the state's economy such as a foreign animal disease.

So why do we need an ADT system? My office has a system that is better than what WSDA had in 2004 when we could not trace all cows that ate the same feed in Canada as the BSE cow did. The result was a devastating negative economic impact to the cattle industry, especially to the export markets. Today, my office still is unable to trace all cases of a devastating disease such as trichomonosis in cattle. We need to improve the system we have today by eliminating the exemptions in cattle movement inspections, secure an electronic system, and finish the system by establishing a stable source of funding to support it.

USDA's final rule on ADT has not been published, but is expected any day. The basic requirement of cattle movement across state lines and change of ownership within the state remains constant. USDA's performance standards of 95% traceability within 24 hours will be required of WSDA.

Because the old standard of a state's free-disease status has been eliminated, states will now be required to focus on proving a state can trace diseased and exposed cattle and be able to quarantine and stop movement to prevent the spread of an animal disease.

This ability will provide the confidence that other states can accept cattle from our state that are free of disease. A robust ADT system is necessary to be able to do this. If a lower traceability standard is published in the Federal Register for a state, movement restrictions and additional traceability requirements could be imposed by USDA and other states. The most recent version of the rules has changed so USDA APHIS's focus is on tracing interstate animal movements. USDA is currently collecting traceability data from each state to establish traceability performance standards. These activities would measure a state's ability to trace the movement of animals backwards or forwards as necessary. Animal movements from states that fail to meet performance standards may be associated with a greater risk of spreading disease than animal movement from compliant states. If states that do not perform within a defined acceptable range for species, APHIS would notify the state that additional traceability requirements would apply to the interstate movement of the applicable species creating additional requirements and cost. If this happens, a state can be reevaluated at the request of the State Veterinarian. So that the public and other states would be informed, APHIS would announce the imposition or removal of any additional traceability requirements through documents published in the Federal Register if compliant standards are demonstrated.

Traceability regulations would preempt state regulations that are in conflict with them, but would allow states to develop the traceability systems that work best for them and would allow the state the latitude to impose additional requirements for the movement of animals into their jurisdictions as long as those additional requirements are consistent with USDA's traceability goals and do not interfere with the right of another state to determine what kind of traceability system to employ. Specifically, livestock moving into a state's jurisdiction would be officially identified; however USDA preempted specific information that a state could not specify as an official identification device, such as a method like an RFID tag, or **electronic transmission of the data**.

WSDA's road map has been consistent in the process of development since the "3033" committee was established in 2006. That committee provided the direction to keep ADT information in a data base that was secure in the state of Washington, base traceability information on the existing information we have today, and find a stable source of revenue that would withstand the cyclical economic environment of harsh economies such as we are experiencing at present.

WSDA is well on the way to following the "3033" committee's direction and has developed a data base that houses over 600,000 official individual animal identifications from over 42,000 transportation and test documents and information on well over one million official ID tags dispensed by WSDA. For this year alone, we have over 4600 entry permits that document 520,000 animals entering our state and 118 electronic entry permits documenting over 28,000 cattle destined to category 2 restricted holding facilities. This system can be searched several different ways to provide traceability. Securing this information from public disclosure has been assured by the 2012 legislative session passing House Bill 2456; exemptions are now in RCW 42.56.380(9). Although the back bone of an ADT system is official individual animal identification, we are meeting with the cattle industry representatives and are hopeful funding will be identified to move forward with two pilot projects that explore the possibility of collection, storage, and exchange of brand information electronically. The system will also collect and pair all animal identification, including RFID, with the brand information. This will assist the brand program, however; if we are to depend on such a system for ADT we must find a way of collecting all change of ownership transactions of cattle within the state that is verified by a third party. The attractive part of the system is that all of our neighboring states are now exploring this system. If all states used the same system, the exchange of information on cattle movements would be very valuable in protecting the cattle herds from disease by identifying shipments that don't meet Washington's entry requirements.

The other issue is a stable source of funding. The last four years have demonstrated that federal funding and state general fund is not stable, so the road map must include another source of funding that is dependable year after year. My office will continue to search for an acceptable source of funding so an ADT system in Washington will remain a robust system during harsh economic times.

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## Continuing Education

### Veterinarians

**Academy of Dairy Veterinary Consultants** Spring 2013 Meeting. April 26-27, 2012, Portland OR. Hotel TBA.  
<http://www.vetmed.wsu.edu/orgADVC/>

### Producers

**Low-Stress Cattle Handling Seminar** January 14 & 15, 2013 in Moses Lake, WA .  
<http://www.animalag.wsu.edu/> for registration information.

**Grazing Conference** Walla Walla, WA. January 24-25, 2013. [www.savoryinstitute.com/wallawalla](http://www.savoryinstitute.com/wallawalla)

**WSU Extension Lamb 200 course** Friday, January 25, 2013 at the Stanwood-Camino Fairgrounds, 6431 Pioneer Hwy, Stanwood, WA. <http://www.animalag.wsu.edu/> for registration information.

Send newsletter comments to the Editor:

*ag animal health*

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