

In This Issue

From the Editor – Vet Med Extension is honored	1
What we've been up to...Vet Med Extension and FDIU	1
Current Research – Salmonella in people from cattle contact	2
Hormone Use in Estrus Synchronization Programs–FDA	3
Small Ruminant Parasite Control	4
What's New at WADDL?	5
Know Your Pathologist	
NEW Avian Health Lab Facebook Page	
Keeping Swine Feeling Fine at the Fair	6
WSDA Corner	9
Continuing Education Opportunities	10

YOU CAN VIEW PAST ISSUES OF *ag animal health*:
<http://extension.wsu.edu/vetextension/Pages/Newsletters.aspx>

From the Editor – THANK YOU! Thanks go to you: my collaborators, colleagues, supervisors, extension coordinators and constituents for nominating me and writing letters for the College of Agricultural, Human, and Natural Resource Science 2013 *Faculty Excellence in Extension Award*. **We won!** There would be no Veterinary Medicine Extension without the interest in and support from everyone, so thank you for all your support. **Another note**, Dr. Leonard Eldridge is retiring as State Veterinarian, WSDA. In my almost 6 years here at WSU, Dr. Eldridge has been a colleague to and client of Vet Med Extension. Our collaborations cover the MCF outbreak from the state fair, online TB and Trich testing courses for veterinarians, and tag-teaming presentations at cattlemen's meetings. Have a great extended vacation, Dr. E!

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

Drs. Davis, Moore, and Sischo visited with dairy farmers and veterinarians in Sunnyside, Lynden, and Moses Lake May 7-9, to discuss some research updates on the calf housing projects and the dairy communications interview project. If you couldn't make one of our meetings, visit our website and hear our research updates <http://extension.wsu.edu/vetextension/MART/Pages/Outreach.aspx>



Current Research

Our own Drs. Margaret Davis and Tom Besser teamed up with investigators from New York and Texas to evaluate the influence of animal contact on human cases of Salmonellosis.

Cummings KJ, Warnick LD, Davis MA, Eckmann K, Gröhn YT, Hoelzer K, MacDonald K, Root TP, Siler JD, McGuire SM, Wiedmann M, Wright EM, Zansky SM, Besser TE. Farm animal contact as risk factor for transmission of bovine-associated Salmonella subtypes. *Emerg Infect Dis.* 2012;18(12):1929-36



Salmonellosis is usually associated with foodborne transmission. To identify risk from animal contact, we compared animal exposures of case-patients infected with bovine-associated Salmonella subtypes with those of control-patients infected with non-bovine-associated subtypes. We used data collected in New York and Washington, USA, from March 1, 2008, through March 1, 2010. Contact with farm animals during the 5 days before illness onset was significantly associated with being a case-patient (odds ratio 3.2, $p = 0.0008$), after consumption of undercooked ground beef and unpasteurized milk were controlled for. Contact with cattle specifically was also significantly associated with being a case-patient (odds ratio 7.4, $p = 0.0002$), after food exposures were controlled for. More cases of bovine-associated salmonellosis in humans might result from direct contact with cattle, as opposed to ingestion of foods of bovine origin, than previously recognized. Efforts to control salmonellosis should include a focus on transmission routes other than foodborne.

More detail from the study (DM notes) – This case-control study evaluated information from 562 patients in Washington and 835 patients in New York that had non-typhoidal Salmonella infections and compared potential risk factors for those with bovine-type Salmonella cases (127 case-patients, mostly *S. typhimurium*) and non-bovine type Salmonella cases (considered controls, $N=784$, mostly *S. enteritidis*). The following summary from a logistic regression model provided the strength of association (odds ratio) and the statistical significance (P value – the smaller the p value, say less than 0.05, the less likely the association between the risk factor and the disease is due to chance).

Variable	Odds ratio (95% CI)	p value
Farm animal contact	3.2 (1.6–6.4)	0.0008
Undercooked ground beef	1.5 (0.7–3.1)	0.3
Unpasteurized milk	0.5 (0.1–4.2)	0.5
International travel	0.2 (0.1–0.6)	0.002

Case-patients were three times more likely to have reported farm animal contact compared to non-case patients. After distilling this down further, a specific history of cattle contact during the 5 days before illness was also significantly associated with being a case-patient (OR, 7.4, 95% CI 2.6–20.9, $p = 0.0002$), after controlling for other potential risk factors.

What does this mean? The authors wrote: "These results have important implications for dairy farm workers and their families, veterinarians and veterinary staff, and those who interact with dairy cattle in public settings." The study brings some evidence for veterinarians to remind cattle clients and farm employees about the risks for disease and personal hygiene measures, such as hand-washing, boot disinfection, and keeping farm-soiled clothing out of the home. D. Moore

Hormone Use in Estrus Synchronization Programs

New Approval by FDA – By Dr. D.A. Moore

On May 22, FDA released information about approval of a GnRH hormone product for synchronization programs in cattle. The FDA approved GONABreed®, an injectable gonadorelin (gonadotropin-releasing hormone, or GnRH) for use in conjunction with cloprostenol (a prostaglandin product) for synchronizing estrous cycles in cattle. In their announcement, they said *“FDA also wants to remind you of the benefits of using FDA-approved drugs.”* From the press release, FDA noted that a company must prove to them that:

- The drug is safe and effective for a specific use in a specific animal species.
- The manufacturing process is adequate to preserve the drug’s identity, strength, quality, and purity.
- The drug’s labeling is truthful and non-misleading.
- For a drug to be used in food-producing animals, food products, such as milk and beef, from treated animals are safe for people to eat.

Five other GnRH products are FDA-approved to treat cystic ovaries in dairy cows but are not labeled for synchronizing estrous cycles in lactating dairy and beef cattle. Using one of these GnRH products for estrous synchrony in combination with another drug is considered an illegal extra-label use. So, what does this mean? We have been using many reproduction products extra-label for a number of years. There has been little concern about these practices because the products do not pose residue risks such as antibiotics. What are the products that we use in cattle and what do their labels say?

Product	Approved Label Use	Approved Label Dose
GnRH		
Cystorelin®	Cystic ovaries; by or on order of licensed veterinarian	100 mcg (2 mL) IM or IV
Factrel®	Ovarian follicular cysts; by or on order of licensed veterinarian	100 mcg (2 mL) IM
Fertagyl®	Ovarian follicular cysts; by or on order of licensed veterinarian	100 mcg (2 mL) IM or IV
GONABreed®	For use with cloprostenol sodium to synchronize estrous cycles to allow for fixed time artificial insemination; Ovarian follicular cysts	100 mcg (1 mL) IM
Ovacyst®	Ovarian follicular cysts; (by or on order of licensed veterinarian)	100 mcg (2 mL) IM or IV
Prostaglandins		
Estrumate®	Induce luteolysis	2 mL IM
IN-SYNC®	Estrus synchronization, Silent Estrus and Pyometra	5 mL IM
Lutalyse®	Estrus synchronization (ES); Pyometra; Silent heat; Abortion in non-lactating cattle	5mL IM 1-2 times 10-12 d intervals (ES). 1 dose for pyometra or abortion
Progestins		
CIDR®	Estrus synchronization; Synchronization of return to estrus (SRE); Advancement of first pubertal estrus	Vaginal insert and removal in 7 days (ES); Insert 14 d after insemination and remove in 7 d for SRE; approved for concurrent use with Lutalyse-given on day of removal for ES but not for SRE
MGA®	Suppressing estrus in feedlot heifers.	0.5 mg/head/day, oral

The use of reproductive hormones extra-labelly is technically prohibited under [AMDUCA](#) (because the health of the animal is not at stake) but perhaps not truly illegal until a violative residue is found. We will likely hear some debate about this in the near future. For questions about the new label for estrous synchronization, contact FDA's Center for Veterinary Medicine (CVM) 240-276-9300 or AskCVM@fda.hhs.gov.

Small Ruminant Parasite Control: What's Old is New Again

By Dr. Susan Kerr

Signs of Parasitism

Animals affected by internal parasites can display any or all of these signs:

- Distended belly
- Rough coat
- Diarrhea
- Bottle jaw
- Weakness
- Coughing
- Lack of stamina
- Thin body condition
- Poor production or performance
- Pale mucous membranes
- Death

Small ruminant producers interested in the long-term health of their flocks, herds and wallets should think twice about using chemical dewormers as their first line of defense against internal parasites. Lessons learned from catastrophic parasite resistance in some areas of the U.S. should motivate producers to reach for the drenching gun as a last resort for parasite control. The days of herd-wide deworming based on the calendar, tradition, positive fecal examinations or ease of combining with other management practices must cease if our goal is sustainability of healthy small ruminant industries.

When it comes to non-chemical means of parasite control, selecting for genetically-based parasite resistance provides the most long-term benefit for sustainable production. Gulf Coast sheep and Spanish goats remind us that breeds that developed without

human intervention resolved issues such as hoof problems, kidding/lambing difficulty and susceptibility to parasites on their own— animals with these problems died and their inferior genetics were taken out of circulation. Culling is a very effective management tool, one that removes animals that don't meet whatever production or performance standards have been established for a herd. Resistance to parasites is moderately heritable. As Dr. Gareth Bath of South Africa stated recently, "With a heritability of around 0.25, producers should see a definite difference in three years, and a big difference in five years."¹ Identifying, selecting and using breeding animals—especially males—with low fecal egg counts and documented resistance to parasites is a very effective and practical way to make rapid genetic progress in a herd.²

Before chemical dewormers were invented, livestock producers had to rely on animal selection and pasture management techniques to control parasite infestations in herds and flocks. After the advent of dewormers, we all got a bit lazy; parasite control became equated with deworming. We neglected all the other good management practices we should have been doing all these years and dewormed all animals indiscriminately. As a result, in some areas of the country we have overwhelming resistance to all classes of dewormers. Those who raise sheep and goats where most dewormers still are effective must learn the lessons generated elsewhere or suffer the same consequences.

Sustainable Approaches to Small Ruminant Parasite Control

1. Consider dewormers as rare and valuable inputs to be used only when indicated as *targeted selective treatment for individual animals*. Use health assessments and body condition, FAMACHA and fecal egg count scores to determine which individual animals to treat. Cease whole-herd dewormings. The benefits of targeted selective treatment are threefold: fewer

- animals are treated so expenses are reduced; there is less selection pressure on parasites to develop resistance; and more parasites in the environment remain susceptible to dewormers.
2. Administer dewormers properly—use accurate weights and administer drenches to the back of an animal's mouth to ensure complete and proper dosing. Work with your veterinarian to determine dosages because the most effective dose may be at a higher rate or via a different route than written on the label; your veterinarian needs to make this recommendation for you to use such a dewormer legally.
 3. Divide pastures into multiple grazing cells. Move animals to a new cell after four or five days of grazing or when forage has been grazed down to three inches; try not to return to a cell for at least six weeks; six months is even better. If pasture is lacking, dry lotting and feeding hay will help stop parasite reinfestation if good sanitation is maintained.
 4. Fence off wet areas to help reduce exposure to parasites, especially flukes.
 5. Keep performance and treatment records and use them to select animals to retain for breeding; cull the rest.
 6. Remember that herd additions bring their bacteria, viruses and parasites with them to your herd. Deworm them with an effective dewormer and keep them in isolation until their fecal egg counts are zero.

In addition to targeted treatment and selective genetics, other non-chemical means of control that hold some promise of parasite control are being investigated. These include copper oxide wire particles, nematophagous fungi, condensed tannins and vaccination. Check for updates on the progress of this research on the web site of the American Consortium of Small Ruminant Parasite Control at www.acsrpc.org.

Hosts and their parasites can co-exist nicely if all factors are in balance. Unusually wet or mild weather, poor host immunity, dewormer resistance, host malnutrition, overstocking and concomitant diseases are just some factors that can tip the balance in favor of parasites. Other than the weather, good managers can have a great deal of influence on the factors involved in this balance. If you are interested in staying in the sheep or goat industry for the long run, re-evaluate your approach to parasite control now to help ensure you'll still be in business in the future.

References and More Information

¹. www.attra.org/attra-pub/PDF/parasitesheep.pdf

². American Consortium of Small Ruminant Parasite Control 10th Anniversary Conference, Fort Valley, GA, May 20-22, 2013

www.sheep101.info/201/parasite.html

<https://attra.ncat.org/attra-pub/download.php?id=415>

www.aces.edu/pubs/docs/U/UNP-0006/



Dr. James Stanton

What's New at WADDL? Know Your Pathologist

When you send samples to the diagnostic laboratory, do you know who you are talking to at the end of the phone? Who does the necropsy? Looks at the histopathology slides? They're the Pathologists of WADDL and they are responsible for helping make a diagnosis or determine a cause of death. They and the staff and faculty of the WADDL make up the team that does all the testing and examination that helps producers and veterinarians uncover the cause of a problem. **Do you know Dr. James**

Stanton? A DVM graduate of University of Georgia, he did his pathology residency and PhD at WSU. His research is on prion diseases, like scrapie in sheep, but he does pathology on all the various species that come into the lab.

Avian Health Lab on Facebook

The Avian Health Laboratory and Food Safety Laboratory (AHFSL) has launched a new Facebook page. The AHFSL Facebook page is part of the lab's continued efforts to reach out and communicate with the community and increase awareness about avian/poultry management and health. Individuals visiting the Facebook page can also learn more about other services offered at the AHFSL, including rabbits and food safety testing.



The Facebook page will feature announcements, book and article reviews, management advice, sample submission tips, photos, videos, and other relevant information. Also, we will use the page as a way to enhance communications by encouraging owners, farmers, producers, and members of the community to post questions, share experiences and ideas with others and stay connected to our events and initiatives.

So please visit the new AHFSL Facebook page soon and please be sure to LIKE us!!!

Rocio Crespo, DVM, MS, DVSc, Dip ACPV
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Keeping Swine Feeling Fine at the Fair

By Dr. Susan Kerr



The National Assembly of State Animal Health Officials (NASAHO) and National Association of State Public Health Veterinarians (NASPHV) created a Swine Exhibitions Zoonotic Influenza Working Group in part to develop recommendations to reduce the transmission of influenza virus at swine exhibitions. Their recommendations consider transmission between animals as well as transmission to and from swine and humans.

The primary mission of animal exhibitions and fairs has always been education. With less than two percent of the U.S. population directly involved with feeding the nation, fewer and fewer members of the public have any direct contact with or knowledge of how food gets to our tables. Animal exhibitions can help bridge this knowledge gap and improve connections between producers and consumers. However, in the last several years, we have witnessed noteworthy zoonotic disease incidents

at fairs and other public venues. For example, three different Influenza A strains have been associated with swine shows in recent years; in 2012 alone, 309 human cases of Influenza A strain H3N2v were reported in 12 states and most were traced back to contact with swine.

NASAHO AND NASPHV co-authored a document called “Measures to Minimize Influenza Transmission at Swine Exhibitions”. It is divided into recommendations for swine and humans before, during and after exhibitions. The document is summarized in this article; the complete document is available at <http://tinyurl.com/mqbs5qa>. It is an excellent resource for livestock producers, exhibition managers, veterinarians, public health officials and anyone else interested in reducing the risk of disease transmission at animal exhibitions.

Before an Exhibition

Have a veterinarian perform health checks on animals before they are admitted to the event. Limit the time pigs are congregated at an exhibition to less than three days and release them from the grounds ASAP after their classes or exhibition. Separate and schedule terminal shows after breeding shows and disinfect between. Similarly reduce risk by locating longer-term displays (e.g. birthing exhibits) away from swine in competition. Learn signs of Influenza A and other illnesses; consult a veterinarian and remove sick swine immediately. Keep accurate records on exhibited animals and farms or origin, which will facilitate traceback and communication if a disease outbreak needs to be investigated. Work with a veterinarian to develop effective biosecurity protocols on the farm and at shows, including vaccinating for relevant diseases, disinfecting premises and equipment and isolating show animals for at least a week after return from an exhibition.

An annual influenza vaccination is recommended for people over six months old. As an additional precaution, those with elevated risk of influenza complications (elderly, young children, pregnant women and those with long-term health issues) should avoid direct contact with at-risk swine. If ill, do not attend public exhibitions and avoid contact with swine. Do not eat, drink, smoke, use pacifiers or push strollers in areas that house animals.

During an Exhibition

Monitor animals for signs of illness and consult with a veterinarian if animals appear ill. Communicate with exhibitors about all aspects of disease monitoring and reporting protocols. Ensure adequate and convenient hand washing stations. Post signs reminding people to wash hands after contacting animals, after using the bathroom and before eating. Post signs that prohibit eating, drinking, smoking, using pacifiers and pushing strollers in animal areas. Notify public health officials if people become ill at the exhibition; individuals feeling ill should refrain from visiting livestock areas and seek medical care.

After an Exhibition

Clean and disinfect exhibition areas, equipment, footwear, clothing and vehicles. Isolate and monitor animals taken home for signs of illness for at least one week; contact a veterinarian if animals show signs of illness. Contact a health professional if humans become ill after attending a swine or other livestock exhibition. If ill, avoid contact with other humans and livestock, especially swine.

Additional Considerations and Concerns

The above recommendations for brief and separate shows within an exhibition could be difficult for some fairs to enact; requiring breeding animals to show and go home before market animals are



<http://www.timesunion.com/news/article/Pigs-are-no-longer-fair-game-at-fairs-3777257.php#photo-3310071>

brought in could impart hardships on rural families with large distances to travel multiple times. A possible compromise would be to allow simultaneous shows, but increase the distance between where the two designations of animals are housed and implement strong biosecurity practices between them.

At some exhibition locations, veterinarians are not always available to examine animals during the check-in process; in such cases, it is essential that exhibition staff and volunteers are knowledgeable about the signs of contagious illness in livestock and know what to do if such signs are seen. Such animals should be sent home or at least isolated until they can be examined by a veterinarian. A veterinarian should be available for consultation throughout the exhibition to monitor animal health and make appropriate recommendations if sick animals are detected.

SIGNS OF INFLUENZA IN SWINE

- Poor appetite
- Coughing
- Nasal discharge
- Lethargy
- Fever

Foot traffic is a major source of cross-contamination of feed with manure-borne pathogens. The public should be prevented from accessing livestock feeding areas and exhibitors should receive training on minimizing cross-contamination via feet, manure-handling equipment and feeding equipment. Equipment should not be shared between exhibitors and should be cleaned and disinfected frequently.

Proper ventilation is another crucial aspect of keeping animals healthy during an exhibition. A veterinarian should be consulted regarding how to house animals and direct airflow to reduce the risk of disease transmission between individuals and among species.

Exhibitors of non-terminal animals should do more than just isolate animals brought home from a show for a week. For optimal biosecurity in this elevated-risk situation, producers who exhibit livestock should manage two separate herds—a show herd and a home herd; this is particularly important for swine. Separate housing, equipment, footwear and clothing should be used for each herd and detailed protocols must be established and followed by all caretakers to reduce the risk of disease transmission.

Conclusions

Animal exhibitions are very popular with the public and are an excellent opportunity to educate attendees about modern agricultural practices. Whenever people congregate, however, the risk of disease transmission is increased; additional diseases enter the picture when people and livestock interact. As is true with most situations, 100% of risk can never be eliminated, but careful planning and abiding by recommended disease control protocols should help ensure the only thing people take home from livestock exhibitions is happy memories.

Resources:

www.cdc.gov/flu/swineflu

www.cdc.gov/flu/pdf/swineflu/fair_exhibitor_factsheet.pdf

www.pork.org/Resources/1389/influenza.aspx

<http://tinyurl.com/n5r5gd7> (A Champion's Guide to Youth Swine Exhibition)

www.aphis.usda.gov/animal_health/animal_dis_spec/swine/siv_surveillance.shtml



WSDA Corner

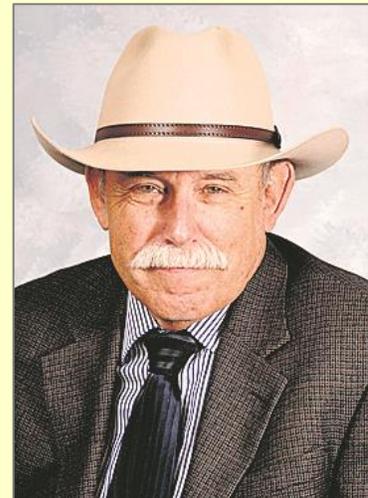
By Dr. Paul Kohrs, Acting State Veterinarian

Tuberculosis Investigation Update

As a follow-up to the last issue, WSDA has continued the investigation into the Moses Lake Tuberculosis (TB) herd. The first whole herd test conducted on Jan 25th yielded 11 CFT responders; the media proudly proclaimed as infected. No gross lesions were noted on necropsy and culture results were declared negative on April 8th. The second herd test was conducted on April 5th and yielded 1 CFT responder which was necropsied as well. That animal was also cleared as having no gross lesions and the herd was released from quarantine on April 15th; cultures were taken and have not been declared negative. The genomic sequencing displayed an isolate that had never been seen before in an animal outbreak. The only time it had been isolated was from contraband cheese confiscated at the San Diego border and isolated from 23 human cases; none in Washington. This was a good example of the challenges that are presented in a TB investigation and how important traceability is to the early containment of an outbreak. There were numerous "dead ends" in this investigation that would have seriously impeded our investigation if this herd had been considered "officially" infected. This was only considered a single infection and not an infected herd as *M. bovis* was not isolated from any further cows except the index cow.

Personnel Changes

The State Veterinarian, Dr. Leonard Eldridge, retired on May 31, 2013. "Dr. E" was the State Veterinarian since 2004 and had worked passionately for the animal industries of the state. He will be missed for his unique sense of humor, his outstanding work ethic, and his unwavering integrity. Dr. Paul Kohrs has been chosen as the Acting State Veterinarian/ Assistant Director until a final selection is chosen by Director of Agriculture, Donald "Bud" Hover.



Dr. Leonard Eldridge

Dr. Jerry Pospisil, field veterinarian for Southwest Washington retired April 30th after 6 + years with the Animal Services Division and 40 years in companion animal practice. He will be missed for his ready smile and great work ethic that was always leaning toward making the work place a fun place to be.

Dr. Jeff Howlett will retire July 31st after serving the state in the Northwest Region for 23 years. Jeff did a fine job managing the stakeholders he dealt with and served for that great amount of time. We wish him well.

Dr. Cynthia Faux will be surrendering her half time duties with the division on June 30th and teaching full time at the Washington State University Veterinary College in the fall. Cynthia was the Reserve Vet Corps coordinator since 2007 and did an amazing job with recruiting and training private practitioners and support personnel for an animal health event. We wish her well in her new challenge as an anatomy instructor. WSU's gain is WSDA's loss.

Continuing Education

Veterinarians

Academy of Dairy Veterinary Consultants Fall 2013 Meeting. SAVE THE DATE! October 11-12, 2013. Somewhere in southern California. *New models for food animal practice.*

<http://www.vetmed.wsu.edu/orgADVCL/>

Producers

Northwest Junior Sheep Exposition will be held in Moses Lake on Friday/Saturday, July 19-20, 2013.

Contact Sarah M. Smith, 509-754-2011, Ext. 413 or smithsm@wsu.edu.

<http://animalag.wsu.edu/NWjuniorsheepexpo/2013/NWJrSheepExpo2013.pdf>

Pork 300 Short-course will be held on the WSU Campus in Pullman on June 21 & 22, 2013.

Contact Sarah M. Smith, 509-754-2011, Ext. 413 or smithsm@wsu.edu.

Brochure: <http://animalag.wsu.edu/swine/2013/PORK300Brochure-2013-Final.pdf>

Send newsletter comments to the Editor:

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