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

From the Editor - You'll notice in this issue that there are a lot of research abstracts for projects involving *ag animal health* published by WSU faculty in the last quarter. What is the purpose of research? At a basic level research can be 'pure' research or it can be considered 'applied'. *Pure research* helps us explain the world around us. It does not have to have direct benefits, but often leads to them much further down the road. Our search for understanding of our world (or universe) is fundamental to being human. *Applied research* takes a theory or a practice and tests it for some beneficial outcome or to solve a practical problem. In the next Academy of Dairy Veterinary Consultants' meeting, veterinarians will be learning how to conduct an on-farm clinical trial, a form of applied research. This can benefit producers by knowing if a product or practice might work in their operation. How cool is that? Research in your own backyard...

What are we up to?

In the last quarter, *Veterinary Medicine Extension* has been working on the Bovine Respiratory Disease Risk Reduction Project and conducted two additional Extension meetings to cow-calf producers in Washington. A total of 132 producers have attended meetings about BRD and 23 have committed to an on-ranch assessment of BRD risks. For more information about the project, see our Beef BRD Team website: <http://extension.wsu.edu/vetextension/brd/Pages/default.aspx>. The *Field Disease Investigation Unit* conducted a number of investigations with students and assisted producers and veterinarians with phone and email requests for information. Investigations and information requests included: assessment of new milking liners at a dairy, evaluation of milk quality, assessment of dairy cow body condition, beef calf scours, dairy calf scours, dairy cow abortions, horse mortality, dairy goat breeding and goat milk quality.

WSU Ag Animal Health Research Abstracts

(1) Hoffman AC, Moore DA, Vanegas J, Wenz JR. Association of abnormal hindlimb postures and back arch with gait abnormality in dairy cattle. *Journal of Dairy Science*. 2014;97(4):2178-2185.

Detection of lameness in individual cows is important for the prompt treatment of this painful and production-limiting disease. Current methods for lameness detection involve watching cows walk for several strides. If clinical signs predictive of lameness could be observed more conveniently, as cows are undergoing regularly scheduled examinations while standing, detection levels could increase. The objective of this study was to assess the association between postures observed while cows are standing in stanchions and clinical lameness evaluated by locomotion scoring, and to evaluate the observation of these postures as a test for lameness. The study included 1,243 cows from 4 farms. Cows were observed while standing in stanchions for regularly scheduled management procedures and the presence of arched back and cow-hocked, wide-stance, and favored-limb postures were recorded. The same cows were locomotion-scored as they exited the milking parlor. The proportion of cows observed with arched back and cow-hocked and favored-limb postures increased with increasing severity of lameness (higher locomotion score) but did not increase for the wide-stance posture. For the presence of these postures as a test for lameness (locomotion score ≥ 3), sensitivity and specificity were 0.63 and 0.64 for back arch, 0.54 and 0.57 for cow hocks, and 0.05 and 0.98 for favored limb. **Back-arched, cow-hocked, and favored limb postures were associated with lameness but were not highly sensitive or specific as diagnostic tests. However, observation of back arch may be useful to identify cows needing further examination.**

(2) Gutierrez K, Kasimanickam R, Tibary A, Gay JM, Kastelic JP, Hall JB, Whittier WD. Effect of reproductive tract scoring on reproductive efficiency in beef heifers bred by timed insemination and natural service versus only natural service. *Theriogenology*. 2014;81(7):918-924.

The objective was to determine the effects of **reproductive tract score (RTS)** on reproductive performance in beef heifers bred by **timed artificial insemination followed by natural service (AI-NS)** or by **natural service only (NSO)**. Angus cross beef heifers (n = 2660) in the AI-NS group were artificially inseminated at a fixed time (5- or 7-day CO-Synch + controlled internal drug release protocol) once, then exposed to bulls 2 weeks later (bull-to-heifer ratio = 1:40-1:50) for the remainder of the 85-day breeding season. Angus cross beef heifers (n = 1381) in NSO group were submitted to bulls (bull-to-heifer ratio = 1:20-1:25) for the entire 85-day breeding season. Heifers were reproductive tract scored from 1 (prepubertal) to 5 (cyclic) 4 weeks before, and were body condition scored (BCS) from 1 (emaciated) to 9 (obese) at the beginning of breeding season. Pregnancy diagnosis was performed 70 days after AI for AI-NS group and 2 months after the end of breeding season for both groups. Heifers in both groups were well managed and of similar age (14.9 ± 0.4 [AI-NS] and 14.7 ± 0.8 [NSO] months). Pregnancy rates (PRs) and number of days to become pregnant were calculated using PROC GLIMMIX and PROC LIFETEST procedures of SAS. Adjusting for BCS (P = 0.07), expressed estrus (P < 0.05), year (P < 0.05), and BCS by year interaction (P < 0.05), the AI-PR was greater for heifers in AI-NS group with higher RTS (P < 0.0001; 40.7%, 48.3%, 57.6%, and 64.6% for RTS of 2 or less, 3, 4, and 5, respectively). Controlling for BCS (P < 0.05), year (P < 0.05) and the breeding season pregnancy rates (BS-

PRs) were greater for heifers in the AI-NS group with higher RTS ($P < 0.01$; 81.2%, 86.5%, 90.4%, and 95.2% for RTS of 2 or less, 3, 4, and 5, respectively). Similarly, adjusting for BCS, year ($P < 0.05$), the BS-PR was greater for heifers in NSO group with higher RTS ($P < 0.01$; 79.7%, 84.3%, 88.4%, and 90.2% for RTS of 2 or less, 3, 4, and 5, respectively). **Heifers with higher RTS in both groups became pregnant earlier in the breeding season compared with heifers with lower RTS (log-rank statistics: $P < 0.0001$).** Heifers in the AI-NS group become pregnant at a faster rate compared with those in the NSO group ($P < 0.01$). The BS-PR for heifers with RTS 5 was different between AI-NS and NSO groups ($P < 0.0001$). **In conclusion, the RTS influenced both the number of beef heifers that became pregnant during the breeding season and the time at which they become pregnant. Furthermore, irrespective of RTS, heifers bred by NSO required more time to become pregnant than their counterparts in herds that used timed AI.** The application of RTS system is reliant on the use of synchronization protocol. The application of RTS for selection may plausibly remove precocious females with lower RTS. On the contrary, application of RTS would help select heifers that will become pregnant earlier in breeding season.

(3) Kasimanickam R, Firth P, Schuenemann GM, Whitlock BK, Gay JM, Moore DA, Hall JB, Whittier WD. Effect of the first GnRH and two doses of PGF2a in a 5-day progesterone-based Co-Synch protocol on heifer pregnancy. Theriogenology. 2014;91(6):797-804.

The objectives were (1) to determine the effects of gonadorelin hydrochloride (GnRH) injection at controlled internal drug release (CIDR) insertion on Day 0 and the number of PGF2 α doses at CIDR removal on Day 5 in a 5-day CO-Synch + CIDR program on pregnancy rate (PR) to artificial insemination (AI) in heifers; (2) to examine how the effect of systemic concentration of progesterone and size of follicles influenced treatment outcome. Angus cross beef heifers ($n = 1018$) at eight locations and Holstein dairy heifers ($n = 1137$) at 15 locations were included in this study. On Day 0, heifers were body condition scored (BCS), and received a CIDR. Within farms, heifers were randomly divided into two groups: at the time of CIDR insertion, the GnRH group received 100 μ g of GnRH and No-GnRH group received none. On Day 5, all heifers received 25 mg of PGF2 α at the time of CIDR insert removal. The GnRH and No-GnRH groups were further divided into 1PGF and 2PGF groups. The heifers in 2PGF group received a second dose of PGF2 α 6 hours after the administration of the first dose. Beef heifers underwent AI at 56 hours and dairy heifers at 72 hours after CIDR removal and received 100 μ g of GnRH at the time of AI. Pregnancy was determined approximately at 35 and/or 70 days after AI. Controlling for herd effect ($P < 0.06$), the treatments had significant effect on AI pregnancy in beef heifers ($P = 0.03$). The AI-PRs were 50.3%, 50.2%, 59.7%, and 58.3% for No-GnRH + PGF + GnRH, No-GnRH + 2PGF + GnRH, GnRH + PGF + GnRH, and GnRH + 2PGF + GnRH groups, respectively. The AI-PRs were ranged from 50% to 62.4% between herds. Controlling for herd effects ($P < 0.01$) and for BCS ($P < 0.05$), the AI pregnancy was not different among the treatment groups in dairy heifers ($P > 0.05$). The AI-PRs were 51.2%, 51.9%, 53.9%, and 54.5% for No-GnRH + PGF + GnRH, No-GnRH + 2PGF + GnRH, GnRH + PGF + GnRH, and GnRH + 2PGF + GnRH groups, respectively. The AI-PR varied among locations from 48.3% to 75.0%. The AI-PR was 43.5%, 50.4%, and 64.2% for 2.5 or less, 2.75 to 3.5, and greater than 3.5 BCS categories. Numerically higher AI-PRs were observed in beef and dairy heifers that exhibited high progesterone concentrations at the time of CIDR insertion (>1 ng/mL, with a CL). In addition, numerically higher AI-PRs were also observed in heifers receiving CIDR + GnRH

with both high and low progesterone concentration (<1 ng/mL) initially compared with heifers receiving a CIDR only with low progesterone. In dairy heifers, there were no differences in the pregnancy loss between 35 and 70 days post-AI among the treatment groups ($P > 0.1$). In conclusion, **GnRH administration at the time of CIDR insertion is advantageous in beef heifers, but not in dairy heifers, to improve AI-PR in the 5-day CIDR + CO-Synch protocol.** In addition, in this study, both dairy heifers that received either one or two PGF2 α doses at CIDR removal resulted in similar AI-PR in this study regardless of whether they received GnRH at CIDR insertion.

(4) Park KT, Allen AJ, Davis WC. Development of a novel DNA extraction method for identification and quantification of *Mycobacterium avium subsp. paratuberculosis* from tissue samples by real-time PCR. Journal of Microbiological Methods. 2014;99:58-65.

Mycobacterium avium subsp. paratuberculosis (Map) is the causative agent of Johne's disease in ruminants and possibly associated with human Crohn's disease. One impediment in furthering our understanding of this potential association has been the lack of an accurate method for detection of Map in affected tissues. Real time polymerase chain reaction (RT-PCR) methods have been reported to have different sensitivities in detection of Map. This is in part attributable to the difficulties of extracting Map DNA and removing PCR inhibitors from the clinical specimens. The maximum efficiency of RT-PCR can only be achieved by using high quality DNA samples. In this study, we present a novel pre-treatment method which significantly increases Map DNA recovery and decreases PCR inhibitors ($p < 0.05$). When the pre-treatment method was combined with the DNeasy Blood and Tissue kit (Qiagen), PCR inhibition was not detected in any of three different RT-PCR methods tested in this study. The results obtained with the IS900 probe showed an excellent Kappa value (0.849) and a high correlation coefficient r (0.940) compared to the results of culture method. When used to examine unknown field samples ($n = 15$), more positive tissues were identified with DNA extracts prepared with pre-treatment method than without (5 vs 3). This improved Map DNA extraction method from tissue samples will make RT-PCR a more powerful tool for a wide range of applications for Map identification and quantification. **[Editor's Note: Testing for the agent of Johne's Disease is labor and time-intensive. This work will lead to better or additional ways to test for the agent of Johnes' disease in animal tissues.]**

(5) Sondgeroth K, Davis MA, Schlee SL, Allen AJ, Evermann JF, McElwain TF, and Baszler T. Seroprevalence of *Coxiella burnetii* in Washington State Domestic Goat Herds. Vector-Borne and Zoonotic Diseases. November 2013, 13(11): 779-783.

A caprine herd seroprevalence of *Coxiella burnetii* infection was determined by passive surveillance of domestic goat herds in Washington State. Serum samples ($n=1794$) from 105 herds in 31 counties were analyzed for *C. burnetii* antibodies using a commercially available Q fever antibody enzyme-linked immunosorbent assay (ELISA) test kit. The sera were submitted to the Washington Animal Disease Diagnostic Laboratory for routine serologic screening over an approximate 1-year period from November, 2010, through November, 2011. To avoid bias introduced by testing samples from ill animals, only accessions for routine screening of nonclinical animals were included in the study. A standard cluster sampling approach to investigate seroprevalence at the herd level was used to determine optimal study sample size. The results identified *C. burnetii* antibodies in 8.0% of samples tested (144/1794), 8.6% of goat herds tested (9/105), and 25.8% of

counties tested (8/31). Within-herd seroprevalence in positive counties ranged from 2.9% to 75.8%. Counties with seropositive goats were represented in the western, eastern, southeastern, and Columbia basin agricultural districts of the state. To our knowledge this is the first county-specific, statewide study of *C. burnetii* seroprevalence in Washington State goat herds. The findings provide baseline information for future epidemiologic, herd management and public health investigations of Q fever. [Editor's note: *Coxiella burnetii* is the cause of abortions in sheep and goats and can be shed in milk (but is killed by pasteurization) and other secretions (fluids during kidding or lambing). It is an endemic disease in the state (and the US) and can cause disease in people (flu-like illness, usually, but also endocarditis). Knowing that it is prevalent should inform sheep and goat owners to be cautious during lambing and kidding - wear gloves, remove fluids, placentae, and aborted fetuses from the animal environment. It is resistant to many disinfectants and can survive in the environment for a very long time. A 10% bleach solution has been recommended for disinfection. For more information, see the WSDA: <http://agr.wa.gov/FoodAnimal/AnimalHealth/Diseases/QFeverManagementPractices.pdf>]

What's New at WADDL?

New Form of Poultry Disease Found in Washington



For the first time, a very virulent Infectious Bursal Disease virus (vvIBDV) was reported from one poultry flock in Washington State. This disease can result in high death losses in affected flocks, affecting young birds, or can result in immune suppression with secondary disease. Other forms of the virus are present throughout the United States but this version has been reported only from California, and now, Washington State. The disease is not a regulated, reportable one, and is usually managed by poultry veterinarians and flock owners through biosecurity and disinfection.

Wild birds, such as healthy ducks, guinea fowl, quail and pheasants, have been found to be naturally infected with IBDV but they do not appear to be significant in the spread of disease to poultry. There is no evidence that IBDV can infect other animals or people. Because diagnosis of this disease based on clinical signs (death loss, depression and ruffling of feathers, poor appetite, huddling, unsteady gate, reluctance to rise, and diarrhea) could be confused with other diseases of poultry, identification through a post-mortem and virus testing is warranted.

The WSU Avian Health and Food Safety Laboratory in Puyallup and the Washington Animal Disease Diagnostic Laboratory (WADDL) in Pullman can provide assistance and testing for chicken and turkey owners of recently deceased birds. For more disease information, go to: http://extension.wsu.edu/vetextension/Poultry/Documents/2014_InfectiousBursalDisease.pdf or the WADDL website: http://www.vetmed.wsu.edu/depts_waddl/dx/bursalDz.aspx



Go Local? When to Use Intranasal Vaccines in Cattle

By Drs. D.A. Moore and A.J. Allen

In just the last couple of months while providing Bovine Respiratory Disease information to cattlemen, I was asked questions about use of intranasal vaccines. Because there are several types of these vaccines, and because of producer interest, I'll try to address the most appropriate uses of these vaccines to prevent disease in cattle herds.

Immunizing calves begins with the passive transfer of antibodies through the cow's colostrum. If the cow has been successfully vaccinated, she will provide disease-specific antibodies to the calf in her colostrum, based on the vaccines used (Cortese, 2009). These antibodies are taken up in the intestine of the calf to circulate in the blood but can also be resecreted at the local, mucosal level. One example is the secretion of maternally-derived IgG antibodies into the gut lumen (Besser et al., 1988). Another, recent example is the secretion of maternally-derived IgA antibodies into the respiratory tract of calves (Hill et al., 2012).

There are two basic "kinds" of immunity that can be triggered by a disease agent or a vaccine - *cell-mediated* and *humoral* immunity. Humoral immunity includes those circulating antibodies in the blood. When we give a vaccine under the skin, the reaction is to mobilize immune cells and get them to make antibodies that can circulate in the blood and go to wherever they are needed. Cell-mediated immunity does not involve antibodies but instead, involves a series of cells, the chemicals they release and their ability to activate other cells to 'eat' or destroy the pathogen (Janeway et al., 2001). The mucosal immune response (think mucous membrane) involves both antibodies (IgA) and the cells involved in cell-mediated immunity. Mucosal immunity is an important defense against respiratory disease agents because most of these agents enter the calf through this route.

Intranasal vaccination mimics natural infection through the respiratory route. Many of these vaccines contain a modified live (modified to not cause disease, however stimulates immunity) agent (like IBR) that interacts with the cells lining the respiratory tract and replicates there. The immune cells local to the area are stimulated by the modified agents and provide the immune response at that local level. Antibodies get secreted onto the

surface of the cells. When a pathogen enters, the antibodies and primed cells can attach, attack and prevent replication of the pathogen. The immune response is “quicker”, meaning the calf has protection within a short period of time after vaccination, sometimes within a couple of days. In addition, a non-specific immune chemical - Interferon - is produced locally and can help with the immune response.

Intranasal vaccines have been developed and studied for quite some time. The first ones were for IBR virus (Red Nose or Bovine Herpes Virus-1) and the virus, PI3. Newer ones have included BRSV (Bovine Respiratory Syncytial Virus) and BVD Virus. A very new intranasal vaccine contains modified bacteria for the two major bacterial agents of pneumonia (*Mannheimia* and *Pasteurella*).

So, if we want this quick response, why don't we use intranasal vaccines all the time? What are the indications for their use? First, not all intranasal vaccines are the same. The first difference is in what diseases they protect against. The following table shows the different brands of cattle intranasal vaccines and what diseases they are labeled for. Before using any of these intranasal vaccines, the herd owner and their veterinarian need to identify the most likely disease risks on the farm or ranch and choose the vaccines right for the job.

Intranasal vaccines available for cattle and diseases listed on the label.

Brand Name	BRSV	IBR	PI3	Mannheimia	Pasteurella
INFORCE™3	Yes	Yes	Yes	No	No
Naslagen®IP	No	Yes	Yes	No	No
TSV-2™	No	Yes	Yes	No	No
Once PMH® IN	No	No	No	Yes	Yes

Because of the demonstrated problem of maternal antibody (from colostrum) interference with development of a vaccine-induced active calf immune system for IBR, BRSV, and *Mannheimia* or *Pasteurella*, we know that the timing of injectable vaccines is important. But, because intranasal vaccines confer mucosal immunity at the local level, they are considered to be one strategy to get around the maternal antibody interference problem when vaccinating very young calves. Although the intranasal vaccines may confer immunity for several months, the calves will still need to be in the regular herd injectable vaccination program because those vaccines confer a longer duration of immunity.

Use of intranasal vaccines in the cow-calf herd might include young calf immunization to ‘prime’ the immune system for subsequent vaccinations. They might be used at branding, preconditioning, at weaning or before shipment. They also might be used on arrival to a stocker operation or feedlot if the vaccination history is unknown, or for other animals considered to be at high risk. For dairy cattle, these vaccines might be used on arrival to a heifer rearing facility, at weaning or before moving to group pens.

Although intranasal vaccines do not require injection, they still require adequate restraint. Their use needs to coincide with when calves are processed and they need to fit in with the rest of herd management. The herd owner/operator and their veterinarian need to decide if these vaccines fit into the operation and whether they are needed based on disease risks.

Before using any animal health product **READ ALL LABELS CAREFULLY!** On the vaccine labels are the storage requirements, when to use safely before slaughter (withdrawal time), directions for use, dosage, as well as the indications for use (**at what age and what for**). Spending money wisely on your vaccination program is important but also not wasting the vaccines purchased should receive full consideration. For a reminder on why vaccines might not work, see:

http://extension.wsu.edu/vetextension/Documents/Spotlights/Top11ReasonsVaccinesFail_Jan2010.pdf

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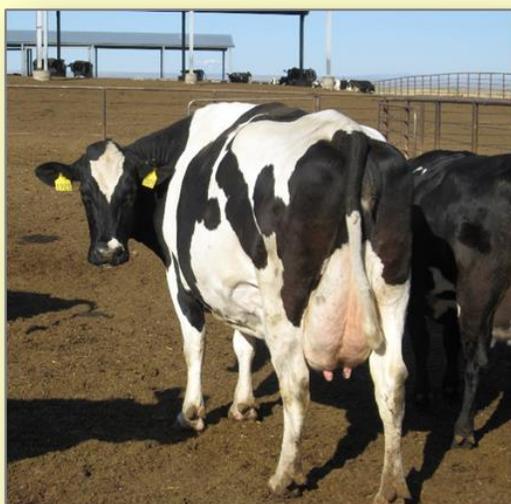
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For more information on Bovine Respiratory Disease in the Cow-Calf Herd, visit the WSU Extension website: <http://extension.wsu.edu/vetextension/brd/Pages/default.aspx>

For more information on Bovine Respiratory Disease in the Dairy Herd, visit the BRD Complex website: <http://www.brdcomplex.org/riskassessment.html>



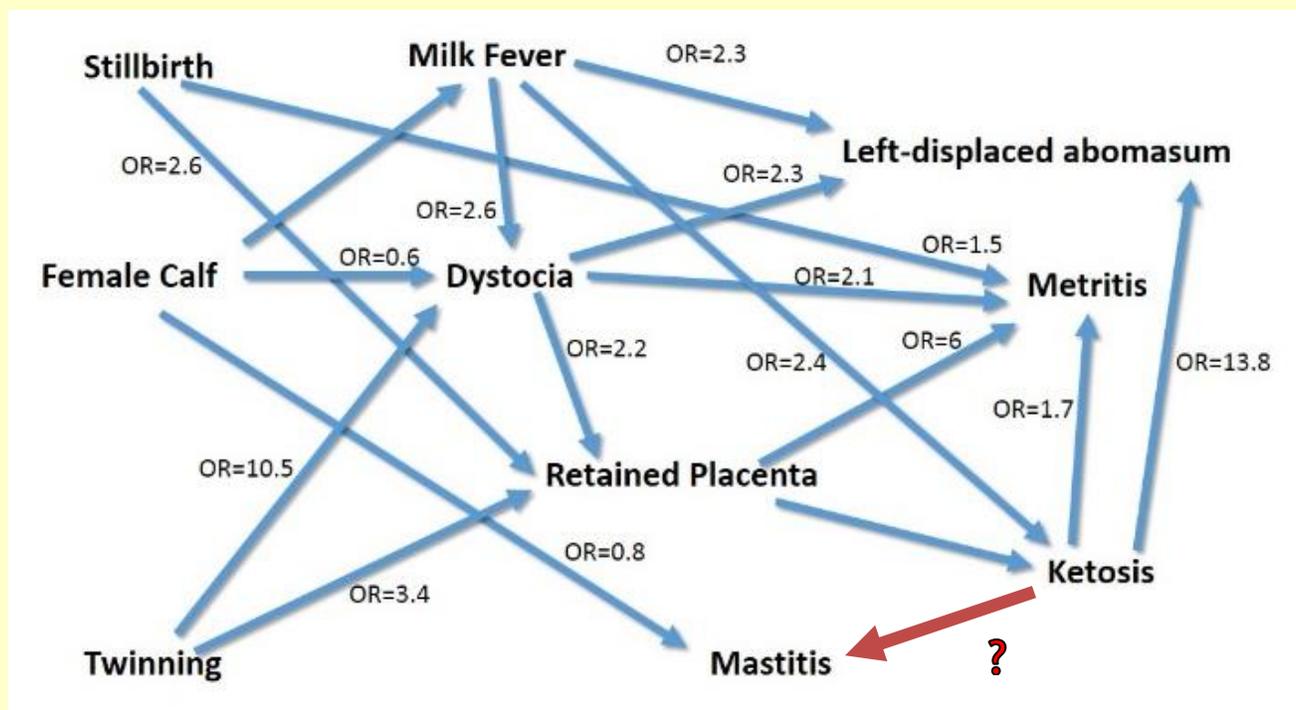
Ketosis and Its Relationship to Mastitis

By Dr. D.A. Moore

Every dairy farmer and veterinarian knows the importance of a smooth transition from close-up into early lactation. When the transition is not so smooth, consequences include post-calving problems we see (hypocalcemia, metritis, clinical ketosis, and fresh cow mastitis) all of which can result in lower milk production and poorer reproductive performance.

We had initial evidence for relationships of many of these problems with each other and with events at calving from two older papers from Cornell (Curtis et al., 1985; Correa et al., 1993). The research/epidemiology teams evaluated many lactation records to describe these relationships (see figure) and found that by using a 'path' analysis, where they could describe the direction and magnitude of the relationships. The magnitude is given by the Odds Ratio (OR). The farther it is from one, the stronger the relationship. If the OR is less than one then the relationship is a negative one (or protective).

Path Analysis for Relationships of Periparturient Events (After Correa et al., 1993)



Although we have seen the relationship between ketosis and metritis and DAs before, what possible relationship could the condition of ketosis have with mastitis? In 2009, investigators in Canada (Duffield et al., 2009) found no association between clinical mastitis and elevated serum BHBA. However, in a recent paper in the *Journal of Dairy Science*, investigators from Switzerland (Zarrin et al., 2014) reported that when cows had high blood beta-hydroxybutyrate (BHBA) levels (after IV infusion) and then challenged the udders with LPS (endotoxin from coliform bacteria), there was an upregulation of acute phase proteins (*compounds that increase in response to inflammation*) in the mammary gland and a smaller influx of white blood cells (SCC) from the blood into the milk.

Acute phase proteins increase with inflammation and infection. The lower SCC after endotoxin challenge in cows that had high BHBA was related to a negative effect of high ketones on recruitment of white cells into the mammary gland. Taken all together, the researchers concluded that high ketone levels could play a role in mastitis susceptibility in early lactation. Other studies have documented negative effects of BHBA on the ability of some white blood cells to kill bacteria, providing additional evidence for a role of ketosis in udder infections (Esposito et al., 2014). Another recent paper found that cows with

subclinical ketosis were almost 2 times more likely to have fresh cow mastitis compared to those that did not (Berge and Ventenen, 2014).

Subclinical ketosis (as measured by serum BHBA levels) is relatively common among dairy herds in Europe (Berge and Vertenen, 2014) and North America (McArt et al., 2012), with levels of 30 to 50% in the first 3 weeks of lactation. A way to screen for problem herds is to pick 12 to 15 cows between 4 to 14 days in milk and use a ketone test. A cutoff of 100 $\mu\text{mol/L}$ for milk or 1000 $\mu\text{mol/L}$ for serum have been suggested and if more than 15% of the cows are above the cutoff, a “herd problem” is indicated.

In the transition period we are concerned with body condition, keeping up feed intakes, and promoting best utilization of body calcium stores. During this critical period, producers need to look at stocking density for close-up and fresh cows, body condition, starch levels in the diet, palatability of the transition diets, and anything else that might impact dry matter intake such as heat stress, poorly ensiled feeds, and competition at the bunk. Not only can management reduce ketosis but can reduce the risks for many other conditions, including, now, mastitis.

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WSDA Corner

By Dr. Paul Kohrs, Acting State Veterinarian



Disease Investigations

In February, we received a call from a horse owner in Montesano that had received a horse with Strangles. This individual purchased two geldings and one 4yo mare from a horse rescue feedlot in Sunnyside. After about a week, the mare developed a mucoïd nasal discharge and a submandibular abscess. The mare was immediately isolated in a barn by herself. A veterinarian was consulted, but the horse was not treated with antibiotics due to the abscess formation. The two other geldings remained free of Strangles. In March Dr. Dobbs followed up on another Strangles case that passed through the same Sunnyside horse rescue lot on 2/20/14. This particular horse ended up in Oregon, and came down with

Strangles a few days later. This serves as a reminder in two critical areas when purchasing horses or other animals, do everything possible to determine their health history. And along with that history make some sound decisions on protecting the resident horse population especially against highly infectious diseases like Strangles. Work with your veterinarian to develop a sound disease prevention strategy.

We have been involved in numerous animal cruelty cases in the first three months of the year and with the high feed prices and lagging economic recovery, I would expect these unfortunate situations to continue to be brought to our attention. We are not the lead on these either by way of reminder. The request for our assistance must come from the local animal control authority.

In early March we were informed of a high mortality event in 6 week old commercial chickens which prompted discussions with the manager about the changes in the dead chicks suggestive of very virulent Infectious Bursal Disease (vvIBD) that had not been detected in Washington previously. These 6 week old chicks had been vaccinated for Infectious Bursal Disease but the vaccine for this strain has questionable efficacy. An alert was sent to commercial poultry producers to enhance biosecurity. The disease was confirmed and the flock was quarantined until the mortalities dropped to pre-event levels and appropriate disposal methods of the mortalities could be determined. We are in the final stages of the quarantine and trying to determine an appropriate disposal method. Normal composting protocols appear to be ineffective in inactivating the virus. Dr. Gilliom and Dr. Smith have been working on a Brucellosis outbreak in dogs near Inchelium. A quarantine was placed on 20 dogs after the report came to us that 10 of the dogs had tested positive for Brucellosis in February. Follow-up confirmatory testing at Cornell University lab dropped the number to 3. Those three were euthanized and follow-up testing was carried out. Follow-up testing in March revealed seven more dogs as positive and euthanized and the countdown has begun to have a four month negative test on the remaining dogs. The significance of the disease is that the disease is very easily spread through the urine of infected dogs especially in a kennel setting and there is strong evidence that a dog is infected for life.

Animal Services Veterinary Staff did extensive work on revisions requested on the Q-fever Herd Management plan. This plan is now used as teaching tool to help producers mitigate the risk of Q-fever primarily in a raw milk testing positive situation, but in other positive test results as well. The revisions were also edited by staff at WSU and are ready for release and use. We are also developing the document in Spanish.

Personnel Changes

Animal Services welcomed Dr. Minden Buswell on Feb 1st and she certainly has hit the ground running. We have an Avian exercise in early March that she played a key role. A couple weeks later the tragic mudslide that occurred in Oso and the deployment of the RVC, she has stepped up her activity even more. We welcome the energy and enthusiasm she brings to the division. She is indeed a welcome addition.

Ms. Lynn Briscoe was named the Animal Services Assistant Director on March 17th. Lynn has experience in Animal Services as the Livestock Inspection Program manager and Special Assistant to the State Veterinarian. More recently she had served in the Policy section of

the agency which is tasked with industry, stakeholder and agency liaison work. Welcome back Lynn!

Mr. Sean Hartsock was named Livestock Inspection Program manager on Jan. 1st. Sean had done an excellent job overseeing the compliance section before taking on the new responsibility. Welcome Sean in his new role.

Continuing Education

Veterinarians

Academy of Dairy Veterinary Consultants

Spring 2014 Meeting. Dairy Business Communication & On-farm Clinical Trials. April 25-26, 2014. Seattle, WA. For more information contact Dale Moore at damoore@vetmed.wsu.edu

Producers

WSU Beef Production Conference

Yakima, WA. June 13-14, 2014. For more information, contact Curtis Beus at beusc@wsu.edu

Or go to: <http://beefconference.wsu.edu/>

Free Low-Stress Cattle Handling Video From WSU Available

Washington State University Extension has a video available to individuals interested in low-stress cattle handling. The video is a result of funding from a WSU Extension Western Center for Risk Management grant and is free to view at <http://vimeo.com/83256777>. Producers can also request a free high-definition DVD version to watch through your TV by contacting Sarah Smith at <mailto:smithsm@wsu.edu> with your mailing address.

Send newsletter comments to the Editor: *ag animal health*
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