WASHINGTON STATE UNIVERSITY
VETERINARY MEDICINE EXTENSION

ag animal health
VETERINARY MEDICINE EXTENSION
Spring 2009

WASHINGTON STATE UNIVERSITY EXTENSION & WSU COLLEGE OF VETERINARY MEDICINE

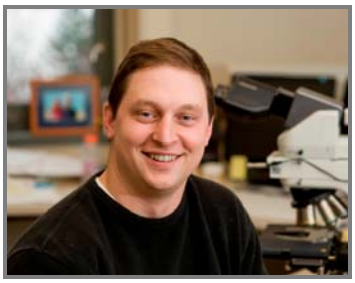
In This Issue

From the Editor

Milk Prices Low – Feed Prices High

In this issue we'll feature some new testing for feed and cattle for conditions that can affect breeding performance, highlight the role of genetics in beef quality, and discuss some ways dairy producers can weather the poor economics in the face of low milk prices and high feed costs.

Featured Faculty



Dr. Kevin K. Lahmers, DVM, PhD, Diplomate ACVP

Greetings! My name is Kevin Lahmers. I work as a veterinary pathologist at the Washington Animal Disease Diagnostic Laboratory as well as a researcher in the Department of Veterinary Microbiology and Pathology and the School for Global Animal Health. As the son of a dairy practitioner and having grown up on a beef and swine farm, I have always had a keen interest in helping the food animal industry. My research is focused on ruminant immunology and infectious disease with a particular interest in mucosal immune responses. My current research focus is on decreasing *E. coli* O157:H7 shedding by cattle leading to less environmental and meat contamination. I am also involved in smaller projects with *Mycobacterium avium* subsp. *paratuberculosis* (Johne's disease) and other potential zoonotic pathogens. Work in the diagnostic lab as a pathologist allows me to continue to work with animals, interact with producers and practitioners and hopefully helps keep me focused on issues important to those of you in the field.

klahmers@vetmed.wsu.edu

What's New at WADDL?

Fumonisin Testing, by Dr. Patricia Talcott. The toxicology section can now offer in-house fumonisin testing on feed samples: In state fee is $25.00 per sample and $50 for non-Idaho / Washington state samples.

Fumonisins are fungi-produced toxins (mycotoxins) produced by *Fusarium* fungi, primarily on corn. Fumonisins are a recently discovered class of mycotoxin and have been associated with damage to

brain function in **horses** (leukoencephalomalacia – ELEM) and pulmonary disease (pulmonary edema) in swine. Current evidence suggests that horses eating diets containing levels as low as 8 ppm fumonisin B may be at risk to develop ELEM. Fumonisins can have a negative impact on the immune system of **pigs** and **chicks**. For swine, recommended feed levels are 20 ppm total fumonisins. For **breeding ruminants**, the maximum level is 30 ppm and for cattle being raised for **beef**, the maximum level is 60 ppm. Although the *Fusarium* fungus can cause visual damage to corn kernels, mycotoxins may be found in feed in high concentrations without seeing damaged corn. For testing information:
http://www.vetmed.wsu.edu/depts_waddl/

Other Resources:
CVM and Fumonisins:
http://www.fda.gov/cvm/fumonisin.htm
Fumonisin, Vomitoxin, and Other Mycotoxins in Corn Produced by *Fusarium* Fungi
http://www.ca.uky.edu/agc/pubs/id/id121/id121.pdf

Diagnosis and official regulatory testing for bovine trichomoniasis in Washington State
By Dr. Tim Baszler, WADDL

What is trichomoniasis? Bovine trichomoniasis is caused by a protozoan parasite, *Tritrichomonas foetus* which can live in the reproductive tracts of bulls and cows and has worldwide distribution. The widespread use of artificial insemination in cattle has contributed to a low prevalence. However, *T. foetus* is still important in herds where artificial insemination is not used.

How is trichomoniasis transmitted? *T. foetus* is very fragile and cannot survive in well outside the animal. Transmission is primarily by sexual contact, but mechanical transmission by insemination instruments can occur. Venereal transmission can occur from an infected bull to an uninfected cow (or heifer), or from an infected cow (or heifer) to an uninfected bull. However, most cows clear the infection spontaneously and are not herd reservoirs for trichomoniasis. Bulls are the main reservoir of the disease, and those more than 4 years of age tend to be long-term carriers. For this reason, samples from bulls are preferred to diagnose and control the disease in cattle herds.

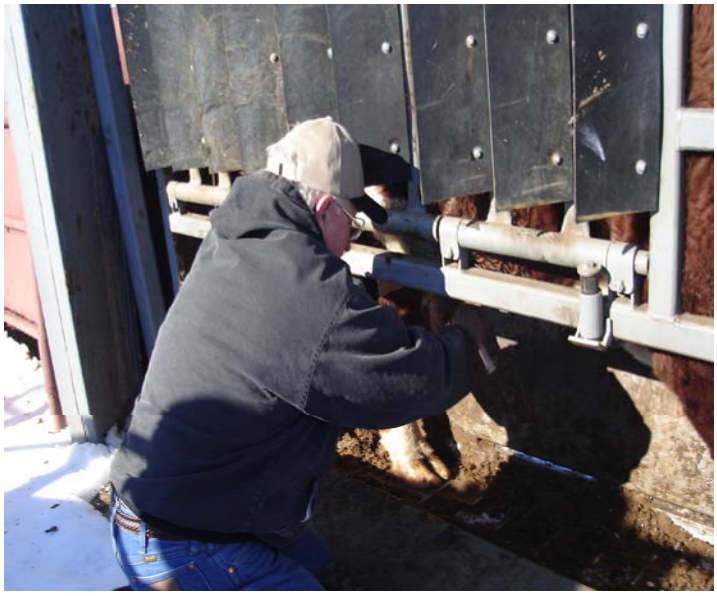
What are the clinical signs of trichomoniasis in individual cattle? Chronically infected bulls show no lesions or clinical disease. Infected bulls appear normal, breed normally, and can infect an entire herd through natural service. In a cow or heifer never before infected with *T. foetus*, there is inflammation of the reproductive tract, which leads to a discharge from the vagina or, in severe cases, pyometra (uterus distended with pus). If the cow is pregnant, the infection results in placentitis (inflammation of the birth membranes) and results in early abortion (1-16 weeks of gestation). Cows can clear the infection and become immune for the remainder of that particular breeding season.

How do I know if my cattle herd has trichomoniasis?
A tentative diagnosis of trichomoniasis as a cause of reproductive failure in a herd is based on clinical history (presence of clinical signs in individual cows in a bull bred herd), signs of early abortion, repeated returns to service, high percentage of unbred cows, and irregular estrus cycles. Confirmation requires demonstration of *T. foetus* parasites by laboratory testing.

What samples do I take for laboratory identification of trichomoniasis? In cows and heifers, the parasites are most reliably identified from placental fluids, placenta, stomach contents of aborted fetuses, uterine washings, pyometra discharge, or vaginal mucus. In bulls, preputial smegma is the optimal sample. If an aborted fetus is submitted to the lab, the diagnosis is relatively easy because of large numbers of parasites

in placental fluids and fetal tissues. Because recovery of fetuses from early abortions (1-16 weeks gestation) is rare, herd-based diagnosis is usually necessary. Herd-based diagnosis is most reliably made from preputial scrapings of bulls or vaginal scrapings/fluids from cows.

How are samples collected for laboratory identification of trichomoniasis? In non-abortion samples, appropriate sample collection for accurate diagnosis of trichomoniasis is critical. It is very important to avoid fecal contamination of the sample because intestinal protozoa and environmental trichomonad parasites can interfere with growth of *T. foetus* and be confused with *T. foetus* in lab cultures. In infected bulls, *T. foetus* parasites live deep in the preputial folds (microscopic crevices inside the prepuce) requiring a preputial scraping below the mucosal surface of the prepuce in order to reach the embedded parasites. The scraping is generally accomplished with an artificial insemination pipette (dry pipette technique) or special metal brush.



How should I store samples for trichomoniasis testing prior to shipping and how should they be shipped?
All samples should be collected into InPouch TF system containers, and these should be kept at room temperature prior to shipping to the lab by overnight carrier (DO NOT SHIP WITH ICE PACKS). Small numbers of InPouch TF containers (<10) can be obtained from WADDL for a small fee (Phone: 509-335-9696-Bacteriology Section). Larger numbers of pouches can be purchased directly from the supplier:

BioMed Diagnostics
1430 Koll Circle, Suite 101
San Jose, CA 95112-4608
Phone (408) 451-0400
FAX (408) 451-0409
The catalog #s are:
11-1001 InPouch TF-20 (20 pouches)
11-1002 InPouch TF-100 (100 pouches)

Samples must not be exposed to temperature extremes and should be kept at room temperature prior to and during shipping. Samples for regulatory testing of bulls should be submitted on the WADDL Trichomoniasis Accession Form available on the WADDL website (http://www.vetmed.wsu.edu/depts_waddl/).

Is specialized training required for collection of samples for lab identification of trichomoniasis?
Yes. The Washington State Department of Agriculture (WSDA) and State Veterinarian require special training, certification and registration for collection of preputial samples from bulls. Only veterinarians registered with the WSDA can collect samples for official trichomoniasis testing in bulls. The WSDA Animal Services Division provides educational seminars to veterinarians on proper trichomoniasis sampling and handling techniques. WSDA will recognize other states' official trichomoniasis collection protocols if samples are collected by veterinarians outside Washington State.

What are the laboratory tests for trichomoniasis?
T. foetus parasites can be identified in samples by direct microscopic visualization, culture in specialized growth medium, or polymerase chain reaction (PCR) detection of parasite nucleic acid (DNA). The sensitivity of direct detection in bull preputial samples or vaginal samples is not optimal because the number of parasites is generally low. Better sensitivity is obtained by amplification of parasite numbers by culture or parasite DNA by PCR. Studies comparing the sensitivity and specificity of culture and PCR vary but both methods perform very well on samples obtained from animals with clinical signs (about 100%). In samples obtained from animals without clinical signs of trichomoniasis, generally PCR is more sensitive than culture. To prove a bull from an infected herd is

uninfected generally requires 3 sequential samples (at least one week apart) if using culture methods, while only one sample is required if using PCR methods. For this reason, PCR is usually the preferred testing method for official testing of trichomoniasis in bulls entering Washington State.

How do I get trichmonosis out of my cattle herd or prevent trichomoniasis from entering my cattle herd?
Cows with trichomoniasis spontaneously clear infection in 90-95 days and are not a source of *T.* infection from one breeding season to the next. Bulls become chronically infected with *T. foetus*, are long-term carriers and can serve as the source of in cattle herds from one breeding season to the next. Thus, control requires identification of infected bulls by lab methods and removal of infected bulls from the herd. Also, testing all purchased bulls for *T. foetus* before entering the herd will prevent the introduction of trichomoniasis into the herd. There is no effective method for treating *T. foetus*-infected bulls. Infected bulls are generally culled and sold for slaughter.

What are the Washington State Department of Agriculture regulations regarding trichomoniasis?
Because bulls with trichomoniasis do not show clinical signs of infection and because trichomoniasis can cause economic losses to Washington cattle herds through significant reproductive failure, the WSDA and State Veterinarian require all breeding bulls entering the state be shown free of trichomoniasis. The bovine trichomoniasis requirements are published in Washington Administrative Code (WAC) document #16-54-086, "Bovine Trichomoniasis Requirements".
According to WAC # 16-54-086, breeding bulls may be imported into Washington if they meet the following requirements:

1. Bulls originate from a herd wherein all bulls have tested negative for trichomoniasis since removal from female cattle and the bull(s) being imported have tested negative within 30 days of import and had no contact with female cattle.
2. Bulls originate from a herd of unknown trichomoniasis status (no animals laboratory tested for trichomoniasis) but with no know clinical diagnosis of trichomoniasis, AND the bull being imported is tested negative within 30 days of import and had no contact with female cattle
3. Bulls originate from a trichomoniasis positive herd within the past 12 months and have 3 consecutive negative culture tests (one week apart) or 1 negative PCR test within 30 days of import.
4. All imported, test negative bulls must be identified with official identification or official trichomoniasis bandle tag.

Bulls entering Washington State without meeting the above requirements will be quarantined at the owner's expense until they have 3 consecutive negative culture tests (one week apart) or 1 negative PCR test. PCR and culture are both accepted as official trichomoniasis tests.

The State Veterinarian determines the trichomoniasis training for veterinarians and laboratories and the types of tests used to determine infection. A veterinarian registered by WSDA to perform trichomoniasis testing must collect the samples and must submit those samples within 48 hours to an official laboratory. Currently, WSU-WADDL is the only Washington laboratory recognized by the State Veterinarian for official trichomoniasis testing. Official collection protocols and testing from other states also are acceptable if approved by the State Veterinarian.

WSDA Corner

Euthanasia and proper disposal
By: Dr. Leonard Eldridge, WA State Veterinarian

As a veterinarian, I never take euthanasia (from the Greek "good death") lightly. When I was called out for an animal that could not be helped, I often told the owner that the animal's suffering may be worse than death. It was always the owner's decision, but if the owner did elect to end the animal's life in a humane, painless manner, I felt I had performed a service for that animal.

I always made sure that the euthanized animal was buried or disposed of in a way that no other animal was exposed to the carcass. If an animal was left for scavengers, they too could die from the toxic solution

that was left in the euthanized animals' tissues. Euthanized animals must be properly disposed of by deep burial, incineration or other method to ensure that wildlife will not be killed.

I recently got a phone call from a U.S. Fish and Wildlife investigator. A horse in Yakima County had been euthanized and left for scavengers. Several eagles were found dead and very sick. No one knows how much other wildlife was exposed. Proper disposal of the euthanized animal would have prevented these other unnecessary animal deaths.

WSDA, WSU and disease investigation – I received a call on a Friday afternoon from a feed yard veterinarian that a calf was exhibiting signs of vesicular disease and was sloughing its hooves. Fearing the worst, I sent a WSDA vet to the site and contacted my counterpart at USDA. I proposed that we take two separate laboratory samples and have my vet deliver them to WADDL at WSU in Pullman.

Dr. Baszler at WSU received the samples that evening. WSU retained one set of samples for testing and forwarded the second set to USDA's lab in Plum Island, NY. By 9:30 a.m. on Saturday, Dr. Baszler reported that preliminary testing for foot and mouth disease was negative. At 11:30 a.m., WSU reported that the samples were positive for malignant catarrhal fever. I called the feed yard vet to report the results and order the animal stopped until final results came back from USDA. I received preliminary results from USDA on Monday afternoon and final results from USDA on Wednesday, confirming WSU's diagnosis.

Because of WSU's involvement, I had science-based information that I could use to make decisions in less than 24 hours – two days before similar information was available from the USDA lab. This is the first time we have been able to test for a vesicular disease at our lab in Pullman. From my point of view, things went very well. If we are ever going to identify and contain a foot and mouth disease, we need this quick turnaround. I want to congratulate USDA, WSU and WSDA staff for an excellent job.

Animal Identification – Animal identification is an indispensible tool during disease investigations. In one recent case, we traced back TB-infected feeder heifers to their Canadian origin, thus preserving our state free status. We do multiple animal health investigations every week.

I recognize that there are many concerns about animal identification in Washington. It has always been voluntary and will continue to be voluntary unless animals are illegally entering the state or there is a disease investigation. Animals entering the state need to be identified and be accompanied by a certificate of veterinary inspection that allows traceability back to the state or country of origin.

Today we rely on several sources for animal identification, but many states have stopped brucellosis vaccination. A brand is a useful tool to tracing livestock, however, only about 40% of livestock are branded and many eastern states do not have brand laws or requirements. Also, a brand recorded to a livestock producer in one state can also be recorded to another producer in another state. Serious gaps remain in our ability to trace exposed livestock.

Some state legislatures have passed laws prohibiting any mandatory animal ID, including on imported animals. The state veterinarian from Nebraska, Dr. Dennis Hughes, tells me the effect of these laws are huge. "In this day and age of disease problems," Dr. Hughes wrote me, "I feel like I have been handcuffed. Here in Nebraska, I am surrounded by states with major disease problems, plus issues with rodeo cattle that have travelled from state to state that showed up at Nebraska slaughter plants with Tuberculosis. We are the largest cattle slaughter state in the USA. If an

animal shows up at slaughter with Tuberculosis or tests positive for Brucellosis, and we cannot trace it back to the original state of origin, then we are hung with it."

WSDA needs to identify all livestock entering the state. If we have a disease outbreak, we need the ability to trace animals back to their origin, just as we did with those TB-positive feeder heifers from Canada. WSDA needs to know which animals have met Washington's animal health requirements and which ones do not. We also need to know where exposed animals have gone within our state. I believe a universal identification system that allows states to work together is the best way to do that. Rather than having to sift through old and incomplete records, we need one system that rapidly traces all cattle throughout the system.

http://www.clemson.edu/edisto/beef/an-cowcalf/F906-L303-b.jpg

Beef Quality Assurance Program

BREEDING AND GENETICS – Part I

By: Dr. Holly Neibergs, Dept Animal Science, WSU

The goal of genetic selection of animals is to select individuals with the best set of genes to produce desired characteristics in the next generation such as growth efficiency, disease resistance and carcass quality. Most economically relevant traits such as these are referred to a polygenic because they are affected by many genes and most of these genes have small effects. The animals with the best set of genes will have the best **breeding values**. The breeding value is the collective genetic merit of an animal when all of its genes are considered. However, the progeny will, only inherit a random sample of half of the genes from the sire and half of the genes from the dam. So only half of the breeding value of an animal will not be passed on to the offspring. The relationship between the traits (phenotype) and the breeding value is measured by **heritability**. Heritability is a term that is often misunderstood. Heritability applies to populations and not to individual animals. Heritability is a measure of the **strength** of the relationship between performance (phenotype) and breeding values for a trait, such as birth weight, in a given population and environment. If a trait is highly heritable, animals with high phenotypic performance tend to produce offspring with high phenotypic performance. In contrast, if a trait is not highly heritable, the performance of the parents will provide little insight into the performance of the offspring.

Heritability measurements range from 0 to 1, or in percentage terms 0% to 100%. In general terms, traits with heritability estimates of 0.2 and below are considered lowly heritable. Traits with heritabilities between 0.2 and 0.4 are considered moderately heritable and traits with heritabilities greater than 0.4 are considered highly heritable. Heritabilities above 0.7 are rare. Some examples of heritability estimates for different traits in cattle are listed in Table 1.

Table 1. Heritability Estimates of Beef Cattle Traits

Trait	Heritability estimate (h^2)
Carcass weight	0.32-0.34[1]
Backfat thickness	0.12-0.14[1]
Longissimus muscle area	0.26-0.27[1]
Marbling score	0.27[1]
Follicle size	0.16[2]
Pregnancy rate	0.07[2]
Mature weight	0.52[3]
Mature height	0.71[3]
Incidence Johne's disease	0.10[4]
Incidence Bovine respiratory disease	0.08[5]

It is important to remember that the heritability of a trait is not fixed. Heritability estimates will vary from population to population (or from breed to breed) and from environment to environment.

Expected progeny differences or EPDs is a selection tool used in choosing breeding stock. The expected progeny difference is the expected difference between the average performance of an animal's progeny and the average performance of progeny of parents with EPD's of zero. This assumes that the mates of the animals being compared are similar. Comparisons of EPDs of animals that are of different breeds can be problematic as the mates of the animals are typically not similar. There are across-breed adjustment factors that can be used to compare some different breeds for various traits. For further information see http://www.beefimprovement.org/2007_ABEPD_press_release.pdf .

Expected progeny differences are estimates of an animal's true breeding value and are predicted from performance data. Expected progeny differences are expressed in measurements associated with the trait such as pounds and inches. Sire summaries provide EPDs based on performance records within a breed at a given time. EPDs, and their accuracy, may change over the life of an animal. As an animal acquires more progeny, the accuracy of the EPD will increase, and the relative value of the EPD may change. When reviewing EPDs from sire summaries, be careful to note the accuracies of the EPDs listed for each animal. Accuracy values close to 1.0 indicates greater reliability, whereas accuracies of 0.70 to 0.30 provide low reliability.

Let's look at an example of an EPD for yearling weight. Two bulls from the same breed and sire summary are being compared. The first bull, 101, has a yearling weight EPD of +6.0 pounds with an accuracy of 0.99. The second bull, 102, has a yearling weight EPD of +50 pounds with an accuracy of 0.95. If both bulls were randomly mated to the cows in your herd, you could expect bull 102's calves to weigh, on average, 44 pounds more as a yearling than bull 101's progeny as a yearling (50 pounds - 6 pounds = 44 pounds). It does not mean that all of 102's calves will weigh more than 101's calves, as the genetic contribution given to each calf from each sire will vary. The contribution of the cow on weaning weight will also vary.

Estimated progeny differences are calculated for many traits. To use EPDs for choosing breeding stock, you must identify the traits that you want to emphasize for improvement, and keep records for those traits so that you can monitor your progress toward your goals. For example if Joe is searching for a new bull for his herd, he must first identify what his goals are for improving his herd. If he has previously established his goals, he will need to determine how he is progressing toward his goals. This may be facilitated by a review of the performance records of his herd.

http://agteamdirect.com/BeefDetails.aspx?naab=014SM03049

Most producers do not select animals based on a single trait. This is because profitability is affected by many traits and selection of animals for a single trait may have a detrimental correlated effect on another trait of importance. To overcome this, selection indexes are used. Selection indexes are a method for weighting different traits to achieve a more balanced and profitable response to selection. The use of indexes provides a more effective means of selecting for multiple traits simultaneously.

In our next issue we'll discuss how to choose bulls based on EPDs.

References

[1] Rumph JM, Shafer WR, Crews DH Jr, Enns RM, Lipsey RJ, Quaas RL, Pollak EJ. 2007. **Genetic Evaluation of beef carcass**

data using different endpoint adjustments. J An Sci. May; 85(5):1120-5.

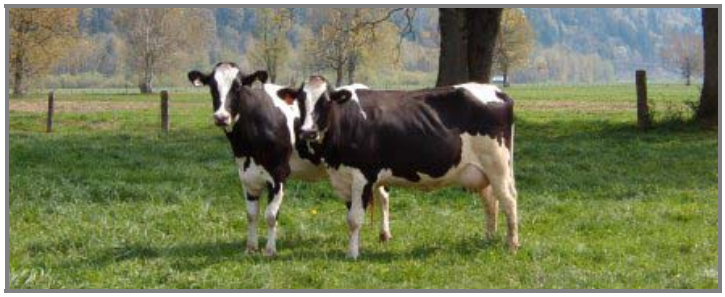
[2]MacNeil MD, Geary TW, Perry GA, Roberts AJ, Alexander LJ. 2006. **Genetic partitioning of variation in ovulatory follicle size and probability of pregnancy in beef cattle.** Jul;84(7):1646-50.

[3]Nephawe KA, Cundiff LV, Dikeman ME, Crouse JD, Van Vleck LD. 2004. **Genetic relationships between condition score, height and body condition score of cows, and carcass traits of their steer relatives.** J Anim Sci. Mar;82(3):647-53.

[4]Hinger M, Brandt H, Erhardt G. 2008. Heritability estimates for antibody response to Mycobacterium avium subspecies paratuberculosis in German Holstein cattle. J Dairy Sci. Aug;90(8):3237-44.

[5]Snowder GD, Van Vleck LD, Cundiff LV, Bennett GL, Koohmaraie M, Dikeman ME. 2007. **Bovine respiratory disease in feedlot cattle: phenotypic, environmental and genetic correlations with growth, carcass, and longissimus muscle palatability traits.** J Anim Sci. Aug;85(8):1885

For more information on Washington Beef Quality Assurance --- see the BQA website at:
http://www.bqa.wsu.edu/states/wa/index.htm



Weathering the Dairy Economic Storm?

By: Dale Moore, Veterinary Medicine Extension, WSU; Shannon Neibergs, Extension Livestock Economist, WSU; David Galligan, New Bolton Center, School of Veterinary Medicine, University of Pennsylvania

With milk prices down 50% over last summer and feed prices still high, what are Washington dairy producers to do? The answer (which no one ever likes) is "it depends". It depends on your level of debt, your local prices of feed, feed storage, the list goes on. I queried several people about what would help stem the financial hemorrhage from the dairy. The bad news, according to Dr. Neibergs is that despite any economic recovery predicted for 2010, "milk price improvement is going to lag economic recovery so milk price is not expected to recover in the near term. So price will not rescue dairies – management will."

How should producers respond?

- Gain better knowledge and understanding of the dairy's financial shape. Do you have all your numbers at your fingertips? Are you managing the dairy's finances on a monthly basis rather than annually? Some dairies may need to expand debt to meet cash flow needs or some dairies may consider partial herd liquidation to generate short-term cash and minimize losses through the current economic recession. In order to analyze the impact of these strategies, knowing the dairy farm's financial condition is fundamental.
- Hay purchasing decisions for 2009 are quickly approaching. One strategy that has emerged from this economic crisis is that some dairies have moved from seasonal hay purchases to monthly hay purchase contracts. The business term for this is "just in time supply chain management". This saves costs by not having the large overhead and interest costs of financing large hay contracts and better matches a dairy's cash flow. This may be a cost saving strategy to consider if you are willing to bear the risk of hay availability. Currently, in the Northwest there appears to be adequate available hay stocks to consider this as a short-term strategy.
- Another measure that dairies need to monitor is income over feed cost (IOFC). Obviously you want to maximize this difference. Dairymen need to manage to "optimize" milk protein and fat component price premiums, increase peak milk yield, and have low somatic cell counts – optimized in terms of net income gain.
- However, it won't do any good to maximize milk yield through high cost nutrition if feed costs are higher than milk revenue generated. Managing feed costs is the second half of the equation. Current conditions may necessitate looking at changing roughages and grains. There may be an option to replace some hay in the ration with straw and make up for the nutrient loss with lower priced grains. Producers should be working closely with their

nutritionist to come up with the best plan for their herd, taking into account feed stores, prices and production potential, and take into account the impacts changing feeds might have on rumen health.

- Another factor that comes into managing IOFC is your culling program. Given current economic conditions, it may be beneficial to cull cows earlier in the lactation cycle than typically done in the past. Managing to maximize the value of cull cows may be more important now than ever.

Culling decisions need to be both strategic and tactical at this point. The daily production for a cow to carry her weight on the farm may be higher than in previous economic times – from 40 lbs per day to something higher – but will depend on all your inputs and milk price. To maximize the value of cull cows, Dr. Galligan recommends using a culling model, either the DairyComp305® Cow Value (COWVAL) program or his spreadsheet "OptiCow" to help producers identify economic culls (http://www.dgalligan.com/culling/ "New OptiCow"). At his website one can download the program and obtain the manual for its use. The purpose of OptiCow is to help producers make optimal economic dairy culling decisions. It calculates the Retention Pay Off (RPO) value of cows with different levels of production, lactation stage, etc. The Retention Pay Off value of a cow is an economic index that can be used to rank cows according to their future profitability. The OptiCow model can also calculate costs associated with extra days open.

When using a culling model, Galligan cautions to make sure that the alternative investment (i.e. a heifer) is available; all culling models are based on replacement availability. Other conditions not accounted for in models, such as somatic cell counts (SCC), bad quarters, etc., should also enter the culling decision process. A ranking by individual cows' contributions to bulk tank SCC can be found with the Econ command in DairyComp305 or can be obtained through a "hot list" of high SCC cows provided with DHIA records. Using a list of high SCC cows, a producer can make one of four decisions (in combination with other economic values):

1 – ***Worth an attempt at treatment – Good production, young and first time on the high SCC list.*** Use the CMT to determine infected quarter and collect a sterile milk sample. Use treatment protocol written by herd veterinarian. After treated twice, if not cured, move to category 2.

2 – ***Worth milking but not treating.*** This cow is chronic or unresponsive to treatment. Use of CMT will identify infected quarter(s). May be logical to dry the quarter or use a "quarter milker".

3 – ***Dry off on time or early. Cow is later in pregnancy and may be ready to dry off early or on schedule.*** Discuss with herd veterinarian the best protocol for dry off.

4 – ***Cull immediately.*** *A c*hronic mastitis cow can act as a reservoir for bacterial spread to clean cows.

Somatic cell counts, milk production and reproduction are major inputs, in addition to milk and feed prices, to making culling decisions. And, just like looking at the farm's finances, Galligan suggests evaluating culling on a monthly basis. Dairies are in the middle of this economic storm along with the rest of the country's businesses. Best to get all the information you need to make the quick adjustments necessary to ride it out.

References

The Value and Use of Dairy Herd Improvement Somatic Cell Count. National Mastitis Council. http://www.nmconline.org/dhiscc.htm

Udder Health Assessment. Cornell University. http://nyschap.vet.cornell.edu/module/mastitis/section2/Udder%20Health%20Assessment.pdf

US Dairy Farms In Crisis As Milk Prices Turn Sour. JAVNO.COM. February 10, 2009. http://www.javno.com/en/economy/clanak.php?id=232623

Continuing Education

Western Dairy Management Conference

March 11-13, 2009: Reno, NV. Contact Dr. John Smith for more information at jfsmith@ksu.edu or (785) 532-1203.

Veterinarian CalfScience Meeting

April 7, 2009 in Mt Vernon, WA. Held from 6:30-9pm at the Farmhouse Restaurant. Contact Katy Tellessen for more information at ktellessen@vetmed.wsu.edu

Academy of Dairy Veterinary Consultants

Spring Meeting – April 17 & 18, 2009 in Boise, ID.

This meeting will focus on Vaccinology, Immunology, and Low Stress Handling. Go to the ADVC website for details and registration materials.

http://www.vetmed.wsu.edu/orgADVC/

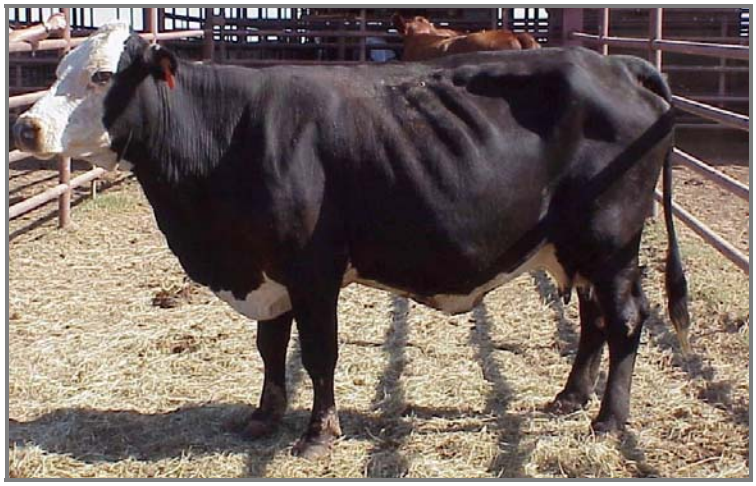
Dairy Employee Education Materials Online

A link to the producer version of ***DairyBeef: Maximizing Quality & Profits*** is available as well as down-loadable employee education programs in English and Spanish on market cow quality. To view or download these files visit:

http://www.bqa.wsu.edu/DairyBeef/index.htm

Test Your Knowledge

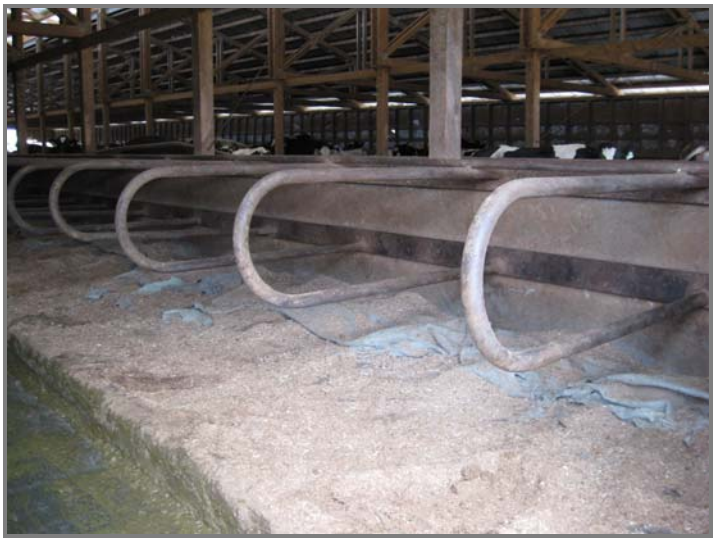
A. What is the body condition score of this beef cow?



B. Should this kid be allowed to go to the fair?

www.cdc.gov

C. What's problematic about this stall design?



Answers: A. 3; B. No, it has sore mouth; C. No forward or side lunge space.

Send newsletter comments to the Editor:

ag animal health

Veterinary Medicine Extension

Washington State University

P.O. Box 646610

Pullman, WA 99164-6610

(509) 335-8225

VetExtension@vetmed.wsu.edu