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Texas Dairy Matters

Newsletter

AgriLIFE EXTENSION
Texas A&M System

Editor: Texas AgriLife Extension Service - Dairy Team

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Ralph Bruno, DVM, MPVM

Ellen Jordan, PhD, ACAN

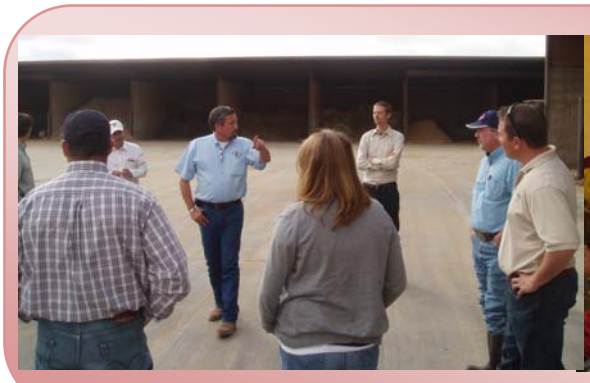
Kevin Lager, MS

Dairy Industry Short Course

The Dairy Industry Short Course was held in Amarillo last October 12-14. This training program was developed by the Southern Great Plains Dairy Consortium, in conjunction with New Mexico State University and Texas AgriLife Extension and was specifically designed for individuals who are either new to the industry or wish to learn more about how large dairies operate in the Southwest.

Each day's program included formal classroom instruction as well as on-farm tours and training in order for participants to see first-hand different management systems, facility types and milking parlors. Instruction was provided on topics such as calving and transition cow management; calf and heifer raising; lactating herd management (nutrition, reproduction, health and lactation); environmental issues such as air, water and nutrient management; economic impact; and labor management.

Instructors include: Dr. Todd Bilby, AgriLife Extension and Texas AgriLife Research, Stephenville; Dr. Daniela R. Bruno, Texas Veterinary Medical Diagnostic Laboratory; Dr. Ralph Bruno, AgriLife Extension, Canyon; Dr. Ellen Jordan, AgriLife Extension, Dallas; Kevin Lager, AgriLife Extension, Canyon; and Dr. Robert Hagevoort, New Mexico State University Extension, Portales, N.M.



2010 Herdsman Short Course Series

The Texas AgriLife Extension Service Dairy Team has extended the 2010 Herdsman Short Course Series to North/Central Texas. Last August 31st and September 1st dairy employees were trained at the Texas AgriLife Research and Extension Center in Stephenville and the Knights of Columbus Hall in Windthorst, respectively. Dr. Ralph Bruno, Texas AgriLife Extension Associate presented the importance of leadership in the milk parlor and also the basic aspects of lactation physiology. Drs. Todd Bilby and Ellen Jordan, Texas AgriLife Extension Dairy Specialists, emphasized the importance of animal husbandry and welfare in dairy operations, and Dr. Daniela Bruno, Texas Veterinary Medical Diagnostic Laboratory, closed the morning section by training participants on mastitis prevention and control.

Lunch was sponsored by Boehringer Ingelheim. In the afternoon, attendants participated in a wet lab presented by Drs. Ralph Bruno and Daniela Bruno in which basic aspects of mammary gland anatomy and physiology were covered as well as laboratory techniques for mastitis diagnostics.

The final round of our 2010 HSC Series has been scheduled for November 29th at the Extension Office in Hopkins Co. located at 1200B Houston Street, Sulphur Springs, TX.

For registration and more information, contact our county offices in Hopkins Co. (903) 885-3726, Wood Co. (903) 763-2924, or Rains Co. (903) 472-5000 or visit our website at http://texasdairymatters.org.

Dr. Ralph Bruno showing udder anatomy

Log on to http://texasdairymatters.org to subscribe to the quarterly TDM newsletter

Texas Association of Dairymen (TAD) Recognizes Dairy Extension Agent

Recently, at the annual Texas County Agriculture Agents Association (TCAAA) conference, Mr. Curtis Preston, a 23-year Texas AgriLife Extension Service agent in Bailey County, was recognized as the state's top dairy agent.

The award was presented by TAD Executive Director Darren Turley and TCAAA President Warren Thigpen.

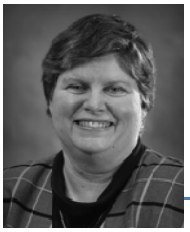
The Texas AgriLife Dairy Team congratulates Mr. Preston for this award.

Mr. Curtis Preston (center) receiving the 2010 TCAAA award from Mr. Darren Turley (right) and Warren Thigpen (left)

CWT votes to stop funding herd retirements, program will continue for the next 2 years at a funding rate of 2 cents/cwt vs current 10 cents/cwt.

Each person in America eats an average of 46 slices of pizza a year.

New forecasts published by the United States Department of Agriculture (USDA) suggest that dairy retail prices in the US could jump by more than 5 percent in 2011.



Feed Management for Transition Cows

Ellen Jordan, PhD
Texas AgriLife Extension Service – Dallas, TX

The transition period, from three weeks before to three weeks after calving, sets the stage for a successful lactation. As summer winds down, take time to prepare for fall calving by evaluating your feed management program for transition cows.

Score your management from one to five in the following areas with a five for always to a one for never.

1. Provide cooling for cows in the dry period as well as the lactating herd. Provide shade in the dry cow pens. Keep calving area clean and dry.

2. Separate heifers from older cows. Older cows dominate heifers, reducing heifer dry matter intake. During the close-up period, mature Holsteins should consume over 26 pounds of dry matter intake per day while heifers should consume over 23 pounds per day. After calving, mature Holsteins (second and later lactation) should consume at least 43 pounds of dry matter intake per day, while first lactation animals should be over 35 pounds per day.

3. Provide a minimum of 30 inches of bunk space per cow in the close-up pen. Stanchions reduce how often dominant cows displace lower ranked cows. Minimize time spent with cows locked in stanchions, particularly for transition cows.

4. Monitor feed intake for close-up and recently fresh cows. Weigh feed delivered to close-up and fresh cows daily, as well as the feed refusals. Use a particle size separator to evaluate whether the cows sort feed by comparing the particle size of fresh feed to the refusals.

5. Feed high quality, palatable hay and silage. Do not feed the top or sides of silage piles to cows since they usually have more mold. Molds or mycotoxins reduce dry matter intake.

6. Clean out feed bunks daily for close-up and fresh cows. Molds grow in feed refusals much more rapidly when temperatures are higher, reducing palatability.

7. Monitor fresh cow culling. Strive for less than 5% culled and 2% death loss during the first 60 days after calving.

8. Insure that all cows and heifers have an abundant supply of clean, palatable water available continuously.

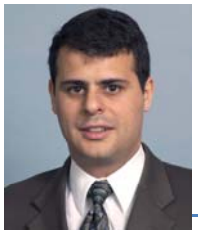
Total the points for each management practice and then rate your performance using the following scale:

40 = Excellent
30-39 = Good
20-29 = Fair
< 20 = Needs Change

Although this list is not all inclusive, improving management in these key areas can help cows successfully transition into lactation. Use your score on individual items to identify where to begin.

Dairy Team
Texas A&M University System
http://texasdairymatters.org

This article is part of our TDM fact sheet series (Aug, 2010) and can also be viewed at http://texasdairymatters.org



Open – What Now?

Ralph Bruno, DVM, MPVM
Texas AgriLife Extension Service – Canyon, TX

It is very common to hear a veterinarian calling a cow "not pregnant" during vet check. Unfortunately, this reality has become more frequent over the last decade. Based on data collected through the National Animal Health Monitoring System (NAHMS – USDA), reproductive failure has become the number one reason for culling dairy cows.

Several reasons exist for reproductive failure in dairy cows. However, decline in fertility probably results from a combination of physiological and management factors that have an additive effect of suppressing reproductive efficiency. Among possible causes are the detrimental effects of postpartum diseases on fertility. Diseases such as ketosis, milk fever, retained placenta, displaced abomasum, uterine infection or any other metabolic disorder decrease the likelihood of pregnancy not only at first artificial insemination (AI), but during subsequent services. Failure to become pregnant in a timely manner increases the risk for culling.

Most postpartum diseases are related to the transition period, which links back to reproductive performance in the previous lactation. Cows that only became pregnant after repeated attempts are more likely to be over-conditioned or even obese at subsequent calving. The excess body condition significantly increases the chance of postpartum problems and subsequent reproductive failure.

Some management factors also play an important role on this declined fertility. With more milk production, cows increase their intake to support the higher production level. The elevated intake leads to an increased metabolism, consequently speeding the clearance of reproductive hormones. A study from the University of Wisconsin indicates that cows producing over 99 pounds of milk daily have shortened duration of estrus and lower levels of estradiol, the hormone involved in estrous expression.

One management strategy to overcome poor estrous expression is the synchronization program. These programs allow animals to be bred by appointment without the need for estrous detection. The protocols utilize GnRH and prostaglandin treatments in prescribed sequence. For these programs to be successful, compliance with the exact protocol is critical.

Basic recommendations to improve reproductive outcomes include:

- Improve the transition period to minimize postpartum diseases;
- Identify cows with special needs during the early postpartum period and provide them the support and treatment needed;
- Work with breeders to improve their ability to identify cows with reduced estrous expression;
- Apply a synchronization program properly, striving for 100% compliance; and
- Avoid over conditioned or obese cows at dry-off. Ideally body condition score at dry off should not be more than 3.5 or 3.75.

Work closely with your consultants and veterinarian to monitor reproductive performance of the herd. Cooperate as a team to determine the best protocol on your dairy when your veterinarian calls a cow "open." Remember the best protocol is the one with which you can attain 100% compliance.

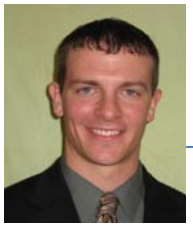
Dairy Team
Texas A&M University System
http://texasdairymatters.org

This article is part of our TDM fact sheet series (Sept., 2010) and can also be viewed at http://texasdairymatters.org

2010 East Texas Herdsman Short Course

November 29th
Hopkins Co. Extension Office
1200B Houston Street,
Sulphur Springs, TX.

Registration at County Extension offices:
Hopkins Co. (903) 885-3726
Wood Co. (903) 763-2924
Rains Co. (903) 472-5000



SARA: Necessary Evil or Manageable Condition

Kevin Lager, MS
Texas AgriLife Extension Service – Canyon, TX

Sub-acute ruminal acidosis (SARA) is described as a digestive disorder where the pH of the ruminal contents is between 5.5 and 5.8. Historical estimates indicate it costs the dairy industry in North America between $500 million and $1 billion per year. A decrease in rumen pH from the normal range of 6.0 to 6.4 may be attributed to many factors. Some potential causes include:

- Quick diet changes from a lower to a higher concentrate ration,
- Over mixing the TMR,
- High DCAD diets, and
- Diet sorting and errors in nutrient content of feeds.

The decrease in rumen pH is due to increased production of lactate and volatile fatty acids (VFA), which are produced by the rumen microorganisms as feed components are broken down. After each feeding a drop in pH is expected; however, if sustained below optimum for multiple hours, the negative effects may become apparent. SARA may be difficult to identify and diagnose specifically. It is not a common practice to measure rumen pH, which may be done through rumenocentesis. However, SARA does play a role and commonly exists.

Study results have shown that over 23 % of Holstein cattle sent to slaughter had liver abscesses, an indication of acidosis. Abscesses occur when the level of VFA present in the rumen increase significantly following a feeding challenge. The VFA pass through the ruminal wall, enter the blood stream, and are transported and filtered out of the blood. They then remain in the liver where the abscess forms.

SARA is most prevalent in animals in early to mid lactation due to the higher energy content of the rations. Cows in this period are consuming large amounts of dry matter for milk production and maintenance. Also, research has shown that each time the cow experiences a challenge, such as a ration imbalance, the bout of acidosis increases. Cows become more prone to subsequently experiencing acidosis, even if intakes are decreased.

The negative effects of SARA may include: decreased feed intake, displaced abomasum, bloat, milk fat:protein ratio less than one, laminitis, diarrhea and loss of production due to one or a combination of the preceding factors. Some symptoms that may be observed if SARA occurs include:

1. High culling rates for incorrectly defined health reason,
2. Poor body condition even with adequate energy intake and
3. Limited response to routine therapy for common health.

A challenge exists in balancing adequate ration energy for the high producing cow to maintain production, while also minimizing the incidence of SARA. However, managing those challenges is possible:

- Separate cows and heifers; at least in the transition period to prevent competition.
- Minimize slug feeding by frequently pushing up feed.
- Provide adequate bunk space.
- Maintain feed access time over 16 hours each day.
- Minimize stress caused by pen moves, diet changes and weather.
- Ensure proper mixing of rations to prevent sorting against larger particles.
- Know the nutrient content of diet components for accurate ration formulation.
- Step up the ration over 4-6 weeks instead of making quick changes.

Communicate with your nutritionist and feeder to be sure everyone agrees to the mixing protocol for each ration. Provide training where needed.

While eliminating the occurrence of SARA on your operation may be impossible due to the factors involved, managing the factors under your control minimizes the incidences and associated losses; thus improving herd health and overall productivity.

This article is part of our TDM fact sheets series (Oct., 2010) and can also be viewed at http://texasdairymatters.org

Adding Value to Market Cows

On July 9th, dairy producers and cattle ranchers congregated at the Sulphur Springs Livestock and Dairy Auction to learn how to receive more money for their dairy and beef cows. Drs. Ron Gill and Ellen Jordan, Texas AgriLife Extension Service specialists, joined Joe Don Pogue, auctioneer, to discuss the factors that impact bidding by the packing industry when cows "change careers" from being a "mama" cow or "milk" cow to a meat animal.

Beef and dairy animals from a recent auction came through the ring as examples of how body condition score (BCS) and physical soundness influence price. A virtual tour through a packing plant was presented by Dr. Dan Hale, AgriLife Extension specialist, to illustrate how low BCS result in less marbling in beef products. Dr. Jason Banta, AgriLife Extension specialist, presented examples of how strategic marketing can improve net returns.

Dr. Tom Hairgrove with the TVMDL discussed identifying those animals that shouldn't be taken to market. He presented information on how to handle cows that are no longer mobile, including their humane euthanasia. Dr. Saqib Mukhtar, AgriLife Extension specialist, discussed different composting and disposal methods to insure that the environment was protected as carcasses are disposed of on farm.

The afternoon concluded with a panel discussion on how to improve management of cows destined for market. Ken Miller, President of Texas Association of Dairymen, and Phil Sadler, NETBIO, joined Gill and Jordan on the panel.

The meeting was co-hosted by Texas AgriLife Extension Service and the Texas Beef Council.

Johne's Disease Test at TVMDL

Johne's disease is a contagious, chronic and sometimes fatal infection that affects primarily the small intestine of ruminants. It is caused by Mycobacterium avium paratuberculosis (MAP), with the main signs including diarrhea and wasting. Most cases are seen in 2 to 6 year old animals. Signs are rarely evident until 2 or more years after the initial infection, which usually occurs shortly after birth.

A report from the National Animal Health Monitoring and Surveillance (NAHMS) 2007 Dairy Study shows that approximately 68 % of U.S. dairy herds had at least one cow actively shedding the organism in their feces. NAHMS 1996 Dairy Study determined a loss of $227 per cow/yr in herds with more than 10 % of their cull cows showing clinical signs. This loss was due to reduced milk production, early culling, and poor condition at culling. Testing suspect animals in the herd can help minimize losses due to MAP. Various diagnostic techniques are available including PCR, culture and ELISA.

TVMDL offers all Johne's tests for client's convenience. TVMDL's internal evaluation of test performances have shown similar results for known positive and negative blood and milk samples meaning that either one are good samples for Johne's ELISA testing.

Please contact Dr. Daniela Bruno or Dr. Robert Sprowls at (806) 353-7478 for more details.

Carbon Footprint of Milk

The fluid milk carbon footprint study, which was commissioned by the Innovation Center for US Dairy, measured the greenhouse gas (GHG) emissions associated with the production of 1 gallon of fluid milk from farm to table. It is the first, significant step for the dairy industry in a comprehensive, science-based approach to measure and improve its environmental footprint.

Researchers gathered data from more than 500 farms and 50 processing plants across the US, and analyzed more than 210,000 round trips to transport milk from farm to processor.

The fluid milk carbon footprint study identifies opportunities to further reduce GHG emissions at and beyond the farm gate, and it finds that management practices make a significant difference in reducing GHG emissions.

The study provides a scientific foundation for dairy businesses along the entire dairy value chain to make independent decisions about management practices that are both economically and environmentally feasible.

Additional studies on nutritional value, economic impact and other environmental measures such as water quality and conservation are under way as the industry seeks more ways to be economically, socially and environmentally sustainable.

For more information visit www.usdairy.com/sustainability

People from the Texas Dairy Industry

Benji Henderson

Benji Henderson is the County Extension Agent for Parmer County. He received his B.S. from Texas Tech in Intediscipilinary Agriculture and he's completing his M.S. from Texas A&M/Texas Tech Universities. His extension programming includes wheat, cotton and corn (grain/silage) production; cow/calf, sheep and goat production; range and wildlife; and 4-H, youth projects and dairy programs.

Whit H. Weems

Whit H. Weems is the County Extension Agent for Comanche County. He received his B.S. in Agricultural Services and Development and his M.S. degree in Agriculture Education from Tarleton State University. He will complete his Doctorate of Education in December. Whit is a native of Erath County and has served as the County Extension Agent in Falls, Hamilton and Comanche Counties

You can ask a question to the Dairy Team at: texasdairymatters@ag.tamu.edu

Texas AgriLife Extension Service Dairy Team

Todd Bilby, PhD

Ralph Bruno, DVM

Ellen Jordan, PhD

Kevin Lager, MS

Save the dates:

November 17 - 18, 2010 – Kansas Agri-Business Expo –Wichita, KS – www.ksgrainandfeed.org

November 29, 2010 –East Texas Herdsman Short Course – Sulphur Springs, TX - http://texasdairymatters.org

November 30, 2010 – Midwest Dairy Expo - Saint Cloud, MN

December 13-15, 2010 – Cornell Dairy Executive Program, Ithaca, NY - www.ansci.cornell.edu

January 8 -12, 2011 – International Embryo Transfer Society Annual Meeting – Orlando, FL – www.iets.org

January 23 - 26, 2011 – National Mastitis Council Annual Meeting – Arlington, VA – www.nmconline.org

For other event dates, log on to http://texasdairymatters.org

Texas Dairy Matters Newsletter is produced by the Dairy Team of Texas AgriLife Extension Service / Texas A&M System. Ralph Bruno, WTAMU Box 60998, Canyon, TX – 79016; Phone (806) 651-2620; Fax: (806) 651-2504; rgbruno@ag.tamu.edu; Todd Bilby, trbilby@ag.tamu.edu; Ellen Jordan, e-jordan2@tamu.edu; Kevin Lager, kjlager@ag.tamu.edu. Fact sheets are based on peer reviewed research and edited by the Dairy Team.