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THE PRESIDENT'S MESSAGE

What Box Are You In?

In November 1998, I made the trek to the University of Minnesota where I had the great fortune of working with several incredibly talented dairy faculty, including Dr. John Fetrow. One of the many lessons I learned from John, which I reflect upon regularly, is the question of “What box am I currently sitting in?” It goes like this:

Box 1. Like/Not good: With any new endeavor, such as for new graduates stepping out into practice, we often start with “I like what I’m doing but I’m not very good at it yet”. Here we feel excited, enthusiastic and maybe a little bit scared.

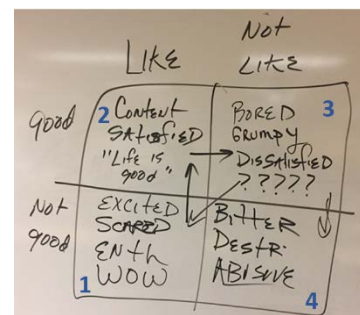
Box 2. Like/Good. Given sufficient time, practice and hopefully good mentoring, we move to where we both like and are good at what we do. This is the sweet spot where we feel content and satisfied.

Box 3. Not like/Good. Given extensive time and repetition, many of us eventually become bored and dissatisfied. We may be good at what we are doing, but we don’t enjoy it anymore. Grumpiness may begin to emerge.

Box 4. Not like/Not good. If we do not make a course correction, we can eventually become bitter, destructive and maybe even abusive, which results in being “not good” at whatever it is we are doing.

The lesson is that we need to reflect periodically on how we feel about our lives and what we are doing. If we find ourselves in Box 3, we need to decide what it is we want to do differently in order to bypass Box 4, and instead move directly back to Box 1, which of course means finding something new and exciting to learn and implement. A lucky few may never enter Box 3 or 4. However, for the majority of us, this cycle may repeat itself several times throughout our careers and lives. The trick is to be self-aware, periodically checking in as to how we are feeling, and then make course corrections when needed. And this

is where the beauty of what we do comes into play – as food animal veterinarians, there are almost limitless possibilities for us to retool and take on new challenges in practice, or to choose an entirely new career path and challenges outside of practice. And when we do decide to redirect, there are numerous resources to assist in



the process. AABP, along with the network of colleagues, friends and mentors that we build through this organization, is one such resource.

Recently AABP held its spring board of directors meeting in Ashland, Ohio, with the staff, the executive committee and district directors attending. As we reviewed the organization’s recent accomplishments and ongoing/future activities, I was reminded of the tremendous work that Dr. Fred Gingrich, his staff, and all of our member volunteers do in order to benefit our profession and the producers we serve. Find a full list of AABP benefits at https://aabp.org/about/Member_broch_2021.pdf. Some recent accomplishments include:

Continuing education

- There have been over 150,000 downloads of AABP Podcasts.
- Practice management workshops continue to provide excellent training to members.
- Recently updated guidelines and position statements include:
 - Humane Euthanasia of Cattle guidelines (Animal Welfare Committee)
 - Drug Use guidelines
 - Aminoglycoside Position Statement (Committee on Pharmaceutical and Biologic Issues)
 - Surgery Position Statement (Surgery Task Force)

- Spanish translation of Disposition of Non-ambulatory and Injured Ambulatory Cattle Guidelines, Dehorning Guidelines and Transportation of Cattle Guidelines
- The Milk Quality and Udder Health Committee is working on a raw milk position statement and selective dry cow therapy guidelines.
- A new Cattle Youngstock Committee has been created.
- The DEI Committee and the new Mental Health and Wellbeing Committee continue to work toward strengthening inclusivity, diversity and wellbeing within our profession.
- The AABP Mentorship program, which facilitates connections between recent graduates with experienced practitioners, continues to thrive. Find out more at <https://aabp.org/jobs/mentorship/>.

Advocacy/legislative activity

Concerning the FDA proposal to make xylazine a controlled substance: The AABP has engaged several times with AVMA, as well as directly with legislators, and has been instrumental in advocating our position for what would have been very detrimental to cattle veterinarians. Current draft legislation is focusing on scheduling the illicit use of xylazine to address human abuse but maintaining the licit use to prescription status. This legislation will be a big win for the industry if it passes.

Student support <https://aabp.org/students/default.asp>

- The new NMPF-AABP Foundation Summer Dairy Externship and Research Program was announced in late December, and will fund two students in summer 2023.
- Financial support for student chapters, preceptorships and scholarships continues.

I would like to personally thank Fred and his staff for their passion and exemplary work this past six months, as well as every AABP member who has contributed their time and expertise through important work on the board, standing committees, task forces, conference planning committees and other initiatives. AABP dues renewals open April 1. At only \$225, I hope you agree that AABP membership is truly a bargain (<https://aabp.org/dues/paydues.asp>). And if you find yourself sitting in Box 3 or, worse yet, Box 4, I hope you will take advantage of some of what AABP membership offers to assist you in moving back into Box 1 or 2.

Be well, have fun and do good work.

Dr. Sandra Godden

SAVE THE DATE!

American Association of Bovine Practitioners Annual Conference

2023	Milwaukee, Wisconsin	September 21-23
2024	Columbus, Ohio	September 12-14
2025	Omaha, Nebraska	September 11-13

AABP Recent Graduate Conference

2024	Knoxville, Tennessee	February 9-10
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DISCLAIMER

The AABP does not take responsibility for information contained in or accuracy of the abstracts published in this newsletter.

ACTIVITIES AND ADVOCACY

The following are activities AABP leadership has been involved in for the benefit of members and the industry:

- AABP Board of Directors spring meeting, directors, officers, staff – Ashland, Ohio

AABP NEWS

New AABP Honor Roll Members

AABP Honor Roll members are those active members who have attained the age of 70 years and have maintained active AABP membership for 25 or more years. They are excused from paying dues and conference registration fees, but enjoy all rights and privileges of active members. If meeting these criteria, email Dr. Fred Gingrich (fred@aabp.org) to apply for Honor Roll status.

The following AABP members have been granted honor roll status at the AABP 2023 Spring Board meeting:

John Brix	Bill Kearley
Ann Chaffee	John Mayer
Peter Drehmann	D. Owen Rae
Robert Franck	Donald St. Ledger
Philip Howell	

Call for AABP Reviewers

Are you interested in serving as a peer reviewer for *The Bovine Practitioner* and research grants for the AABP Foundation? One challenge in managing a peer-reviewed journal is finding reviewers to assist in ensuring the

scientific integrity of articles that are published. Research grants that are submitted to the AABP Foundation are also sent out for review to ensure that the research supported by the Foundation has scientific merit and is clinically applicable to practicing beef and dairy veterinarians.

Please consider signing up to be a reviewer by going to the online publication site for *The Bovine Practitioner* by going to the Publications tab of the website or at <https://bovine-ojs-tamu.tdl.org/bovine/login>, and click on the register link in the top right corner. When you register, you can sign up to be a reviewer but must list your areas of interest and expertise. You do not need academic credentials beyond a veterinary degree to serve as a reviewer! Please sign up so that our associate editors and Foundation Board has a list to select from to assist our organization with publication of journal articles and research projects.

Recorded Sessions from 2023 AABP Recent Graduate Conference Now Available

AABP membership includes free access to all recorded sessions from the annual conferences, recent graduate conferences and webinars. To access, click on the purple cow head logo at the bottom of any AABP webpage or at https://aabp.org/members/cont_ed.asp. Members can also listen to presentations on their mobile device by downloading the free “BCI Mobile Conference” app from your device’s app store. RACE-approved CE certificates are available (RACE number pending for the 2023 conference) after viewing on a web browser and passing a quiz. Note that certified CE is not available through the app.

AABP would like to thank the partnership with the Kansas State University Beef Cattle Institute, Dr. Brad White, and the Kansas State University students for assisting with the recordings and hosting the CE portal for AABP members.

Student Case Presentation Competition AABP 56th Annual Conference

The AABP Program Committee seeks abstract submissions for the 2023 Student Research/Clinical Case Presentation Competition to be held Thursday, September 21, 2023 at the 56th AABP Annual Conference in Milwaukee, Wis.

Submit cases online by **April 14, 2023, 5:00 pm EST** at <https://aabp.org/students/case/default.asp>.

For a category involving four or fewer entries, one award of \$1,500 will be provided. For a category involving five or more entries, a first-place award of \$1,500 and a second-place award of \$750 will be presented.

Contact your AABP faculty representative for more information and for assistance in preparing your abstract.

Contact Dr. Tracy Potter (tlpotter62@gmail.com) or Dr. Fred Gingrich (fred@aabp.org) for questions.

Scholarships are Open!

The AABP scholarship portal is open for veterinary students. Find a list of scholarships and online applications at <https://aabp.org> under the Students tab.

AABP Foundation-funded scholarships include:

- Amstutz
- Zoetis Foundation
- Merck Animal Health Bovine Veterinary Student Recognition Award
- Francis Welcome Dairy Practitioner
- Edwin Robertson Therio/ET
- James H. Bias

The deadline for all scholarships is **May 31, 2023, 5:00pm EASTERN.**

AABP Introduces James H. Bias Scholarship

Dr. James Hendrix Bias was the first Black man to graduate from The Ohio State University College of Veterinary Medicine in 1910. Upon graduation, he assumed a veterinarian position at Tuskegee University, a historically Black university, where he established the veterinary medical program. The courses he developed, which focused on the study of the anatomy and physiology of the diseases and treatments of farm animals, helped encourage livestock production in the region. Dr. Bias is credited with establishing veterinary medicine as a critical component of the agricultural science department at Tuskegee, and fostering a positive image of veterinarians in the local community. This influential scholarship is named in honor of this historic trailblazer who opened many doors for veterinary students of color.



In the spirit of his legacy, this scholarship will be awarded to AABP veterinary student members from underrepresented racial and/or ethnic backgrounds who demonstrate excellence in their leadership skills and passion in their pursuit of a career in beef or dairy medicine.

For more information, visit <http://aabp.org/students/bias/>. Scholarship applications are due May 31, 2023 by 5:00 pm EASTERN.

New AABP Committees

At the 2023 Spring AABP Board of Directors meeting, the Mental Health Task Force was approved as a standing Mental Health and Well-Being Committee. In addition, the board created the ad hoc Cattle Youngstock Committee. If you are interested in joining a one of these new committees, send a statement of interest and CV/resume to fred@aabp.org. You can also go to the committee page on the website and click on the "Send an email to this committee" link, and include your statement of interest and CV/resume to join any standing committee.

Call For AABP and AASRP Research Summaries Abstracts 56th AABP Annual Conference

The 56th AABP Annual Conference will feature scientific sessions focused on cutting-edge research that is directly applicable to the health, welfare and productivity of cattle and small ruminants.

Oral presentations made by graduate students in the AABP Research Summaries will be eligible to compete in the AABP Graduate Student Research Summary Presentation competition. The top three presenters from the graduate student competition will receive cash awards.

Abstracts must be submitted electronically **by April 14, 2023 by 5:00 pm EST**. The abstract submission portal opens Jan. 2, 2023, and will be available at aabp.org. Select the Conference link at the top of the page, then click on the Abstract Submission link located in the submenu.

For questions on AABP abstracts, contact Dr. Whitney Knauer (knaue20@umn.edu), Dr. Jared Bourek (jbourek@gmail.com) or Dr. Fred Gingrich (fred@aabp.org). For questions on AASRP abstracts, contact Dr. Clare Scully (cscully@lsu.edu).

AABP Edwin Robertson Beginning Embryo Transfer Seminar

July 31-Aug 2, 2023
Virginia Tech, Blacksburg, Va.

AABP, with the support from the American Embryo Transfer Association (AETA), will hold a three-day embryo transfer seminar for beginners July 31-August 2, 2023, at the Virginia-Maryland College of Veterinary Medicine in Blacksburg, Va. If you want to learn embryo transfer or if you have begun and are struggling, this seminar is for you. You will be taught the most up-to-date techniques by a staff with years of experience at your side. Registration is limited to 20 veterinarians who are members of AABP.

Superovulated cows will be provided for each student to collect, and then search for, evaluate, and freeze embryos on their own. Microscopes, freezers, and all ET equipment will be provided, but you are welcome to bring

any equipment with you. All techniques will be discussed and demonstrated on donor cows before you begin your work on the practice cows. Superovulation, collection, freezing, transfer, estrus synchronization, donor scheduling, and embryo morphology will all be discussed in detail. We will also include a discussion on transferring fresh and frozen IVF-derived embryos.

A highly qualified faculty of experts teaching the seminar includes Joel Anderson, DVM (Cross Country Genetics); Bill Croushore, DVM (White Oak Veterinary Clinic); Sam Edwards, DVM (Harrogate Genetics International); Greg Schueller, DVM (Sunshine Genetics); and Ashley Swenson DVM (Midwest Embryo Transfer Service). In addition, a certificate for 24 RACE-approved CE credits will be available through AABP for this hands-on seminar.

Find information and register at https://aabp.org/seminars/display_seminar.asp?seminar=2023%20AABP%20ET%20Seminar. The registration fee is \$2,250 and must be paid online at the time of registration. As part of the registration, the AETA is giving one free annual membership to the association and one free registration to its annual conference to every attendee.

For those flying into Roanoke, Va., we will make our best effort to provide transportation if needed. We have secured a rate of \$123 per night (plus taxes) at the Hilton Garden Inn Blacksburg which is walking distance to the seminar location. Call 540-552-5005 and ask for the American Association of Bovine Practitioners block or book online at www.blacksburg.hgi.com and enter the group code under special rates: AABP23 to make a reservation. The group rate is available through 06/30/2023 or until the group block sells out, whichever comes first.

Call Randall Hinshaw at 540-246-2697 or e-mail randall@ashbygenetics.com for more information.

AABP Beef Cow Nutrition Seminar

Are you a cow-calf veterinarian interested in offering nutrition consulting services to your clients and would like to attend an AABP seminar at a more convenient time? If yes, then AABP has a seminar for you!

Feed cost makes up over 50% of the total cost of keeping a beef cow and many producers could use assistance in allocating those resources wisely. Unlike their dairy counterparts, beef cow-calf producers spend a small amount of their feed dollars off farm as much of their feed is raised. Because of this, many beef producers do not utilize the services of a nutritionist. This is where you fit in.

This seminar will cover the basics of beef cow-calf nutrition and outline how you can get paid for your advice. Lecture/discussion will be coupled with working with the BRaNDs beef cow nutrition program from Iowa State. You will need a computer with Microsoft Excel to run the BRaNDs program. We expect that the day you return to

practice you will be ready to consult with your first client to help them save money on their winter ration and provide improved nutrition for their herd.

The seminar faculty are Dr. Mark Hilton and Dr. Sara Linneen who are eager to teach you how to immediately incorporate this service into your practice. It will be held June 22-23, 2023 at the AABP office in Ashland, Ohio. Registration is limited to 20 AABP members. This course is approved for 15 hours of CE in jurisdictions that recognize RACE approval.

To register and find out more information, visit https://aabp.org/seminars/display_seminar.asp?seminar=2023-BEEF.

AABP COMMITTEE REPORTS

Good Days and Bad Days

"For what moment today am I most grateful? For what moment today am I least grateful? When did I feel most alive today? When did I most feel life draining out of me?"



This quote is referred to as the Ignatian Examen. (Linn, D.; Linn, S.; Linn, M.; *Sleeping With Bread: Holding What Gives You Life*. Mahway, N.J.: Paulist Press, 1995). All of us have good days and bad days. What makes the difference?

Taking some time to reflect can help us understand what activities improve our quality of life, and which ones drag us down. Given this understanding, we can then try to include more "life giving" things in our schedule, and fewer "life draining ones".

We cannot avoid everything that causes us distress. We can work to minimize the negative and maximize the positive, in both our professional and personal life.

GENERAL INFORMATION

Upcoming AABP Webinars

AABP Webinar: Crafting an Effective Presentation, Session 1
Wednesday, April 19, 2023, 2:00 pm – 3:00 pm CENTRAL
Speaker: Lindsay Ames Wing and Dr. Kent Ames

Join Dr. Kent Ames (Past AABP President) and Lyndsay Ames Wing (University of Michigan Learning Experience Designer) for 2 1-hour webinars on crafting an effective presentation. Session 1 topics will include scoping your presentation, identifying your audience, and making your presentation engaging for audience members. Session 2 will include effective use of visuals, public speaking

techniques, accessibility, and will highlight select technology tools. The sessions are meant to be independent of one another and members are encouraged to attend one or both sessions. These sessions are great for practitioners who don't have much experience presenting to groups and for new AABP members who may be presenting at the annual conference.

Session 1 will include discussion on setting parameters, setting/writing objectives, outlining content by objective, and picking your technique(s) to match your goals and audience.

The Session 2 webinar will take place on Wednesday, May 3.

AABP Webinar -- Beginner Spanish for Conducting the Physical Exam, Session 1
Wednesday, April 26, 2023, 2:00-pm – 3:00 pm CENTRAL
Speaker: Shannon Zeller

In this session, participants learn how to use a variety of simple verb structures and field-specific vocabulary to communicate about symptoms and behaviors associated with pneumonia and metritis. They will learn how to give instructions for treatment, including what medication is needed, route of administration, frequency of administration and duration. Participants will be able to share and discuss different ways this information can be communicated and ask questions about what they have heard used in the field.

The session 2 webinar will take place on Wednesday, May 17.

AABP members can find all upcoming webinars at <https://aabp.org>, select the Members tab, then click on Webinars to find login information or add to your calendar. To view previous webinars, click on the purple cow head logo at the bottom of any AABP webpage, and under the Conference Location dropdown menu, scroll down and select Webinar, then click Search.

BEEF

Trans Anim Sci October 2022
<https://doi.org/10.1093/tas/txac148>

Assessment of Effectiveness of Deworming Options in Recently Weaned Beef Cattle Utilizing Different Anthelmintic Programs in the Southeast
S.R. Hernandez, D.B. Davis, B.C. Credille,
J.J. Tucker, R.L. Stewart

This study evaluated the effects of three different anthelmintic strategies on animal performance and anthelmintic effectiveness in weaned calves during a 42-d preconditioning period. The study was conducted at four locations over 2 yr and included a total of 797 recently

weaned spring-born calves (initial BW 260 ± 37.7 kg). At the start of each year, at each location, calves were weaned and randomly assigned to one of four treatments: 1) oxfendazole (ORAL); 2) transdermal eprinomectin (POUR); 3) both anthelmintic treatments (BOTH); and 4) the control (CONT) group who did not receive treatment. Anthelmintic was applied per the manufacturer recommendation, the transdermal eprinomectin was administered at 1 mL per 10 kg and oxfendazole was administered orally at 1 mL per 50 kg. Weights were measured at the start of the study (day 0) and again at the end of the preconditioning phase (day 42). Fecal samples were collected at the start of the study prior to treatment application (day 0) and again on day 14. Rumen fluid was collected at the start of the study prior to treatment (day 0) and again on day 6. There were treatment effects for all performance metrics ($P < 0.001$). All treatments had greater weight gain and value of weight gained ($P < 0.024$), and all three strategies did not differ from each other ($P > 0.420$). On day 0, there were no ($P = 0.795$) treatment effects detected for fecal eggs per gram (EPG) counts. On day 14, there were ($P < 0.001$) treatment effects for EPG counts with feces from CONT calves containing greater ($P < 0.014$) EPG than feces from treated calves. EPG in feces from BOTH calves did not differ ($P > 0.123$) from the other two treated groups and feces from POUR calves tended ($P = 0.052$) to contain greater EPG counts than feces from ORAL calves. Volatile fatty acids were similar across treatments on days 0 and 6 ($P > 0.115$). Butyrate tended ($P = 0.063$) to be lower in ORAL on day 6. These results suggest that using eprinomectin and oxfendazole in combination was an effective strategy for reducing EPG and improving performance during a 42-d preconditioning phase.

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Submitted by the AABP Beef Health Management Committee

Appl Anim Behaviour Sci January 2023
Vol. 258, doi.org/10.1016/j.applanim.2022.105810

Feeding Behaviour and Activity of Beef Calves During the First Week at the Feedlot: Impact of Calf Source and Commingling Ratios

A. Hodder*, E. Pajor, F. Van Der Meer, J. Loudon, S. Thompson, K. Orsel

Preconditioned (PC) calves have reduced morbidity, mortality and improved performance compared to auction-derived (AD) and non-preconditioned calves; however, there is limited research on the impacts of commingling PC and AD calves at the feedlot. Commingling calves from various sources is known to be highly stressful

and can impact performance on arrival at the feedlot. Therefore, the first objective was to assess feeding behaviour (time spent eating and ruminating) and activity of PC beef calves during the first 7 days after arrival at the feedlot compared to ranch-sourced (RS) and AD calves. The second objective was to assess the impacts of commingling PC calves with various proportions of AD calves (25, 50, 75 %) on feeding behaviour and activity in that same time frame. A subset of 45 calves per pen for PC, AD, and commingled pens, and 20 RS calves were equipped with CowManager® tags on arrival. This technology detects ear movement through a sensor in the tag linked to eating, ruminating, active and not active. On average, in the first 7 days at the feedlot, PC calves spent 11 % more time eating than RS and 15 % more time than AD calves. PC calves spent 5 % less time active compared to RS ($P < 0.000$), and there was no significant difference in activity compared to AD. PC calves spent 4 % less time not active compared to RS ($P = 0.017$) and 15 % less time inactive compared to AD calves ($P < 0.001$). There was no difference among PC, RS and AD in overall time spent ruminating. When comparing PC calves from 100 % PC and commingled pens, 100 % PC calves spent 5 % more time eating compared to a 75 % ratio PC and 5 % more time eating compared to a 25 % ratio PC pen. However, time spent eating was not significantly different between 100 % PC and 50 % ratio PC. Furthermore, PC calves had increased time spent eating and less time spent active and not active during the first 7 days after arrival at the feedlot compared to RS and AD calves. When commingled with AD calves, PC calves had more time spent eating and reduced time spent active and not active; therefore, PC calves have exhibited increased feeding behaviour also after being commingled with AD calves at the feedlot. The current study acknowledges the limitations of the field experiment that not all confounding variables could be controlled for, explicitly pen effect due to the lack of replication of pens across groups.

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Prev Vet Med February 2023
<https://doi.org/10.1016/j.prevetmed.2022.105818>

A Scoping Review of Neonatal Calf Diarrhea Case Definitions

S.J. Wilson*, G. Habing, C.B. Winder, D.L. Renaud

Various case descriptions and scoring systems have been used to define neonatal calf diarrhea (NCD) and diverse diarrhea-related outcomes are reported, which limits direct comparison between studies. Therefore, the objective of this scoping review was to characterize the case definitions used for NCD and describe diarrhea-

related outcomes to inform future efforts towards standardization. A literature search identified articles using 3 databases (Medline, CAB Direct, Agricola), along with Google and Google Scholar. This returned 16,854 unique articles, which were then screened for eligibility by two independent reviewers, resulting in 555 being selected for data extraction. Among articles, the study populations included mostly dairy-breed calves (88%; n = 486) while the remainder evaluated beef, crossbred, or dual-purpose beef/dairy calves (10%; n = 53), or did not report breed (3%; n = 16). Studies used between 1 and 8 metrics to define NCD, with 933 unique metrics extracted in total. The most common metric was fecal consistency alone (30%; n = 281), or with at least 1 other metric (26%; n = 241). To define diarrhea, fecal consistency was either described qualitatively (e.g., “profuse liquid feces”), or semi-quantitatively, for example using a scoring system that frequently included 4 levels (n = 208). Some NCD case definitions included fecal color, volume, or odor (10%; n = 98), physical exam parameters (8%; n = 79), the duration of abnormal feces (7%; n = 67), the presence of abnormal contents (e.g., blood, 7%; n = 61), farm treatment records (6%; n = 54), fecal dry matter (1%; n = 12), or another metric (4%; n = 41). One or more references were cited for the NCD case definition by 49% of studies (n = 273/555), with the most common references being Larson et al. (1977) (n = 85), and McGuirk (2008) (n = 59). In the 555 included articles, 979 unique diarrhea-related outcomes were found, most commonly a binary categorization of calves having or not having diarrhea (49%; n = 483). Other articles reported statistical outcomes calculated from fecal scores (16%; n = 159), multiple diarrhea severities (10%; n = 95), or the age calves first developed NCD (8%; n = 76). This review characterized substantial heterogeneity among NCD case definitions and diarrhea-related outcomes, which limits interpretation and comparison of studies. Future work is required to develop and validate reporting standards for NCD to optimize knowledge synthesis and support rigorous and ethical calf health research.

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DAIRY

J Dairy Sci Communications

March 2023

<https://doi.org/10.3168/jdsc.2022-0280>

The High Fertility Cycle

P.M. Fricke *, M.C. Wiltbank, J.R. Pursley,

The development of fertility programs and their adoption by the dairy industry over the past decade is a major driving factor underlying the dramatic increase in reproductive performance in lactating dairy cows during

the past 20 years. Another major driving factor underlying this increase in reproductive performance is what we describe in this minireview as the “high fertility cycle.” We now know that reproductive performance and the incidence of certain periparturient health events are interrelated. The high fertility cycle describes the relationship between body condition score (BCS) change during the periparturient period and postpartum health events and subsequent reproductive performance in which lactating dairy cows that establish pregnancy by 130 d in milk have shorter calving intervals and thereby gain less BCS during the current lactation and dry off and calve at a lower BCS (2.75 to 3.0) than cows with a longer lactation. After calving, these cows undergo less BCS loss, experience fewer health issues, have greater fertility at first insemination, and have reduced early pregnancy losses after establishment of pregnancy and thereby become pregnant before 130 d in milk. This minireview overviews these relationships and highlights the key concepts underlying the high fertility cycle. Future randomized, controlled experiments are needed to causally link these relationships between BCS change and fertility in lactating dairy cows.

* Department of Animal and Dairy Sciences, University of Wisconsin-Madison, Madison, WI 53706

Animal Health Research Reviews

January 2023

<https://doi.org/10.1017/S1466252322000032>

Use of Antimicrobials in the Treatment of Calf Diarrhea: a Systematic Review

C. Bernal-Córdoba*, R. Branco-Lopes,
L. Latorre-Segura, M. de Barros-Abreu,
E.D. Fausak, N. Silva-del-Río

The objective of this study was to conduct a systematic review of the scientific literature evaluating the efficacy and comparative efficacy of antimicrobials (AMs) for the treatment of diarrhea in calves. Eligible studies were non-randomized controlled trials evaluating an AM intervention against a positive and negative control, with at least one of the following outcomes: fecal consistency score, fever, dehydration, appetite, attitude, weight gain, and mortality. Four electronic databases were searched. Titles and abstracts (three reviewers) and full texts (two reviewers) were screened. A total of 2899 studies were retrieved; 11 studies met the inclusion criteria. The risk of bias was assessed. Most studies had incomplete reporting of trial design and results. Eight studies compared AMs to a negative control (placebo or no treatment). Among eligible studies, the most common outcomes reported were diarrhea severity (n = 6) and mortality (n = 6). Eligible studies evaluated very different interventions and outcomes; thus, a meta-analysis was not performed. The risk of bias assessment revealed concerns with reporting of

key trial features, including disease and outcome definitions. Insufficient evidence is available in the scientific literature to assess the efficacy of AMs in treating calf diarrhea.

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Hormone Use for Reproductive Diseases and Heat Induction in Relation to Herd-level Reproductive Performance in Dutch Dairy Farms

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This ecological study aimed to associate hormone use for reproductive diseases and heat induction with reproductive performance at herd level. Hormone use, herd characteristics, and test-day recording data were obtained from 754 representative Dutch dairy farms belonging to five large veterinary practices from 2017 to 2019 (1679 observations in total). Hormone use was classified into prostaglandin, gonadotropin-releasing hormone (GnRH), and progesterone, and was expressed at herd level as the annual number of hormone doses per 100 adult dairy cows. Hormone use was categorized into four levels (no usage, low, medium, and high use), following the 33rd and 66th percentiles of herds that applied them. Three herd-level reproductive performance indicators (calving interval, calving-to-1st insemination interval, number of inseminations per cow) were analyzed using multivariable General Estimating Equations models. The median annual total hormone use was 36.1 (mean=43.1; min=0.0; max=248.2) doses per 100 adult dairy cows in all herds while the median was 39.2 (mean=46.8; min=0.4;

max=248.2) doses per 100 adult dairy cows among the user-herds. The median annual group-specific hormone use was 21.3 (mean=26.1; min 0.0; max=180.0), 11.0 (mean=15.3; min=0.0; max=127.0) and 0.0 (mean=1.8; min=0.0; max=40.3) doses per 100 adult dairy cows for prostaglandin, GnRH, and progesterone, respectively. The final statistical models identified that herds with a high hormone use had a calving interval and a calving-to-1st insemination interval that was 9.3 ± 2.6 and 16.4 ± 2.1 days shorter than that of non-user herds (424.0 ± 2.7 and 114.0 ± 2.1 days), respectively. Furthermore, high-user herds needed on average 0.3 ± 0.04 inseminations more to get their cows pregnant compared to non-user herds (1.83 ± 0.04 no. of inseminations per cow). Medium-user herds had a 6.5 ± 2.6 days shorter calving interval and a 12.0 ± 2.1 days shorter calving-to-1st insemination interval with 0.2 ± 0.04 additional inseminations per cow compared to non-user herds. Low-user herds had a 6.2 ± 2.7 days shorter calving interval and a 7.9 ± 2.2 days shorter calving-to-1st insemination interval compared to non-user herds. The model produced the same trend for prostaglandin and GnRH use, with the higher use being associated with a shorter calving interval, a shorter calving-to-1st insemination interval, and a higher insemination per cow number. For progesterone use the opposite effect was observed. In conclusion, using a large representative herd-level dataset, hormone use was associated with a better reproductive performance in terms of calving interval and calving-to-1st insemination interval but gave extra average number of inseminations per cow. It should be monitored how reproduction performance changes when striving for a more prudent hormone use.

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