

Wisconsin Dairy & Beef Well-Being Pre-Conference

Tundra Lodge &
Conference Center
Green Bay, WI

March 20, 2018





8th Annual Wisconsin Dairy & Beef Well-Being Conference

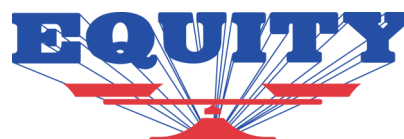
Tuesday, March 20, 2018
Tundra Lodge Resort & Conference Center, Green Bay, WI

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Tuesday, March 20, 2018
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Agenda

- 9:00 am** Registration (light refreshments provided)
- 9:45 am** **Opening Remarks**
Sarah Mills-Lloyd, UW-Extension Oconto County Agriculture Agent
- 10:00 am** **Residue Prevention, Part 1**
Robert Hagevoort, PhD, New Mexico State Extension Dairy Specialist
- 10:45 am** **Pain Management of Dehorning**
Sarah Mills-Lloyd, DVM, UW-Extension Oconto County Agriculture Agent
- 11:15 am** **Minimizing the Risk of Lameness to Improve Animal Well-Being**
Aaron LaVoy, Midwestern Hoof Care, LLC
- 12:00 noon** Lunch
- 1:00 pm** **Animal Handling and Carcass Quality**
Casey Davis, JBS Cattle Procurement Manager &
Chris Jacobs, Equity Cooperative Livestock Sales Association-Bonduel
Manager
- 1:45 pm** Break
- 2:00 pm** **Residue Prevention, Part 2**
Robert Hagevoort, PhD, New Mexico State Extension Dairy Specialist
- 2:45 pm** **Questions & Answer session**
Certificate Handout
- 3:00 pm** Adjourn
-



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General Information

Website

The UW-Extension's Wisconsin Dairy & Beef Well-Being Conference website can be found at <http://fyi.uwex.edu/animalhusbandryconference/>. An electronic copy of the proceedings will be located at the site shortly after the conclusion of the conference as well as proceedings from previous conferences. We hope you will find this site a valuable resource.

Continuing Education Credits



The UW-Extension's Wisconsin Dairy & Beef Well-Being Conference has been pre-approved by Northeast Wisconsin Veterinary Medicine Association for Continuing Education Credits (CEUs). A total of four (4) CEUs are available for the pre-conference. Please visit <http://www.newvma.org/>.



Endorsed by the National Dairy FARM Program, the Wisconsin Dairy & Beef Well-being Dairy Workers' Pre-Conference will provide a certificate of completion. This training program helps farms to meet the training requirements of the National Dairy FARM Program. Annual training of employees is a minimum participation requirement of FARM. For more information regarding the National Dairy FARM Program, please visit <http://www.nationaldairyfarm.com/>.

Surveys

Surveys will be provided at the conclusion of the conference.

Disclaimer

These materials are designed to provide general information regarding the subject matters covered. UW-Extension neither endorses nor provides any opinion as to any of the products, services or information provided in the materials. UW-Extension does not take any responsibility nor accept any liability for the validity of the materials provided.



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Wisconsin Dairy Business Association (DBA)

2763 Manitowoc Road, Suite B

Green Bay, WI 54311

Phone: 920.883.0020

Web: <http://www.widba.com/>

Equity Cooperative Livestock Sales Association

401 Commerce Avenue

Baraboo, WI 53913

Phone: 800.362.3989 or 608.356.8311

Web: <http://www.equitycoop.com>

Wisconsin Milk Marketing Board (WMMB)

8418 Excelsior Drive

Madison, WI 53717

Phone: 608.836.8820

Email: hello@EastWisconsinCheese.com

Web: <http://www.wmmb.com>

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Wisconsin Beef Council

632 Grand Canyon Drive

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Green Bay, WI 54311

Phone: 920.468.4000

Web: <http://jbssa.com>

Visit us on the web at <https://fyi.uwex.edu/animalhusbandryconference/>



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National Dairy FARM Program

National Milk Producers Federation
2107 Wilson Boulevard, Suite 600
Arlington, VA 22201
Phone: 703.243.6111
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Web: <http://nationaldairyfarm.com>

PDPW

820 North Main Street, Suite D
Juneau, WI 53039
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Wisconsin Farm Bureau Federation

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Email: info.demingway@wfbf.com
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Wisconsin Farmers Union

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8th Annual Wisconsin Dairy & Beef Well-Being Conference

Residue Prevention, Part 1

Robert Hagevoort, PhD
Extension Dairy Specialist
New Mexico State University



8th Annual Wisconsin Dairy & Beef Well-Being Conference



Robert Hagevoort, PhD
Extension Dairy Specialist
New Mexico State University

Email: dairydoc@nmsu.edu

Web: <http://aces.nmsu.edu/ces/dairy/>

Dr. Robert Hagevoort, a native of The Netherlands, is an Associate Professor and Extension Dairy Specialist in the Extension Animal Sciences and Natural Resources Department of College of Agricultural in the College of Consumer and Environmental Sciences at New Mexico State University.

He earned his bachelor's degree in Tropical Animal Production from the College for Tropical Agriculture (1987) in Deventer, The Netherlands. He received a M.S. degree in Range Nutrition (1989), and a Ph.D. in Animal Nutrition (1993) both from Texas A&M University.

Prior to joining New Mexico State University as an Extension Dairy Specialist in November of 2005, Dr. Hagevoort served for over 10 years as an independent dairy management consultant primarily in California's southern and central Valley. As a an Extension Specialist, he has been working closely with the Dairy Industry in New Mexico and across the Western US regarding many regulatory and environmental issues, and initiated an effort to rebuild a dairy program at NMSU through the formation of the U.S. Dairy Education & Training Consortium (formerly known as the Southern Great Plains Dairy Consortium).

A key component of his current research & extension program is the development and implementation of a comprehensive dairy workforce training & safety program.

In March of 2011, Dr. Hagevoort was the first recipient of the [Topliff Dairy Chair](#), a position charged with promoting the visibility of the dairy industry through research, extension and education and which serves as a policy center for regulatory matters.



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The Basic Clinical Exam: Key to Early Identification of Sick Animals

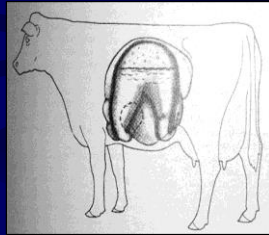
Ralph Bruno, DVM; Ellen Jordan, PhD; Juan
Hernandez-Rivera, MS; and Kevin Lager, MS -
Texas AgriLife Extension Service

Mireille Chahine, PhD - University of Idaho

Robert Hagevoort, PhD - New Mexico State University



Physical Exam of the Dairy Cow



Goals of a Physical Exam Program

1. Identify sick cows early
2. Treat sick cows early
3. Prevent spread of diseases
4. Protect the food supply
5. Improve animal welfare



The Normal Cow Parameters

Parameter	Normal Value
Heart rate	60-70/minute
Respiration rate	30/minute
Temperature	101 - 103 °F
Rumen contractions	1-2/minute



Potential Disorders

- Ketosis (urine or milk)
- Displaced abomasum (DA)
- Mastitis
- Metritis and endometritis
- Lymph nodes
- Lameness - feet and legs
- Lesions - mouth, feet, teats
- Endemic diseases
- Unusual symptoms that could indicate a
Foreign or Emerging Disease

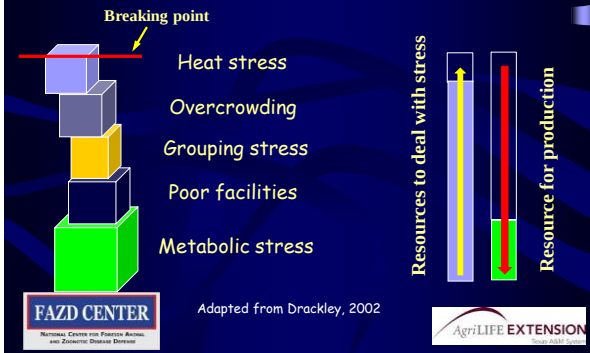


Groups of Animals

- Recently calved or "fresh" cows
- Non-stressed animals
- Recently purchased
- Stressed animals
 - Weaning
 - Environmental
 - Management Change
 - Transportation



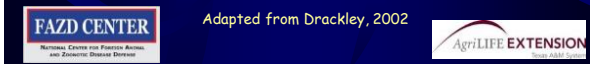
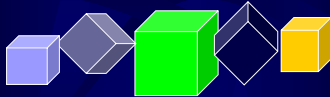
Multiple Stressors Build



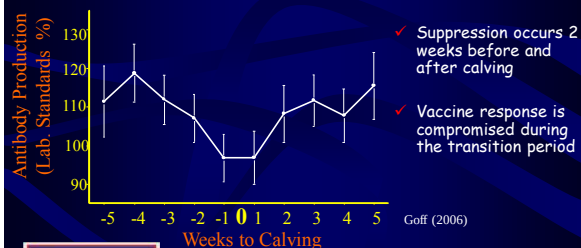
... until They Reach the Breaking Point for the System

Ketosis Retained Placenta Metritis

Disorders and Postpartum Diseases



Immune Suppression During the Transition Period



Immune Suppression in Fresh Cows Makes Them Susceptible

- Salmonella
- Clostridium
- Pneumonia



How to Identify Disease in Fresh Cows: Four Areas of Focus

1. Temperature
2. Appetite
3. Uterine Discharge
4. Hydration Status

Ideally, check each fresh cow daily during the first 10 days after calving!



*Important - this is a TWO man job:
Technician at the back of the cow and a helper at the head of the cow.



Develop a Systematic Approach

- | | |
|--|---|
| <ul style="list-style-type: none"> • Attitude <ul style="list-style-type: none"> - eyes and ears • Appetite • Hydration • Temperature • Feet and Legs | <ul style="list-style-type: none"> • Udder • Uterus • Heart Rate • Lungs • Rumen • Manure |
|--|---|



Start with Attitude



1 – Alert 2 – Mildly Depressed 3 – Depressed



Monitor - Appetite



1- Aggressive 2 - Normal 3 – Not eating

Compare with other cows around
her in the same pen



Hydration Status

Different levels of dehydration

- Skin test (skin elasticity)
- Eyes

sunken eyes = severe dehydration



Fluid therapy is important in severe
dehydration



Even "Normal Looking" Cows Must Be Monitored



Record Diseases and Treatments for Each Cow

- ❖ Dystocia or difficult calving
- ❖ Milk fever or hypocalcemia
- ❖ Metritis
- ❖ Ketosis
- ❖ Retained placenta or RP
- ❖ Displaced abomasum or DA
- ❖ Pneumonia
- ❖ Mastitis
- ❖ Lameness
- ❖ Lesions



Check the Heart



- Use stethoscope (both sides)
- Check for:
- Heart Rate
 - Different Sounds
 - Murmurs

Observe jugular vein:
When distended it is a sign of heart problems



Check the Rumen



- Sounds
- Number of Contractions
- Displacement
- Rumen Distension (Bloat)



Clinical examination of the rumen
includes palpation per rectum

*Manure consistency, smell, color and particle
size are good tools to identify
gastrointestinal disorders*



Check the Lungs

Listen to:

- Lung sounds
- Respiration rate

Observe for:

- Nasal discharges
- Congestion
- Coughing



*Associate findings with
other clinical signs*



Look Beyond Typical Symptoms

- International travel increases the potential to bring in foreign animal diseases.
 - Example: Foot and Mouth Disease
- Early detection of any disease can prevent its spread and minimizes the impact on the herd.



Foot and Mouth Disease (FMD)

- Impacts cows, sheep, pigs, deer and other cloven footed animals
- Very contagious virus
- Fever and blister-like lesions on teats, tongue, lips, and between hooves
- Lost milk production



ARS, 1969
USDA-APHIS, 2007



Foot and Mouth Disease

- Last reported cases in North America
 - U.S., 1929
 - Canada, 1952
 - Mexico, 1954
- Must maintain vigilance to prevent reintroduction.



ARS, 1969
USDA-APHIS, 2007



Foot and Mouth Disease

- 2001 Major Outbreak in United Kingdom
 - 6 million animals slaughtered
 - Estimated cost of 17 billion dollars



ARS, 1969
USDA-APHIS, 2007



Reasons for Losses

- Very contagious, so many animals affected
- Eradication programs based on slaughter and destroying carcass
- Lose international market - quarantine
- Lose market nationally, scares consumer



Visual Evaluation of Udder and Teats

Does she have mastitis?



Are there unusual lesions?
Report to vet/owner



FMD lesion

Courtesy of
Dr. Moeller



Check the Feet and Legs

Normal Stance



FMD Lesion
Report to Owner/Vet



Courtesy of
Dr. Moeller



Identify Something Wrong

- FMD confused with several other diseases:
 - Vesicular stomatitis
 - Bluetongue
 - Bovine viral diarrhea
 - Foot rot
- Don't panic
- Tell owner/manager
- Let them diagnose **WHAT** is the problem



Take the Temperature

- Digital thermometers
- Record daily results on cow with chalk for "cow side" record



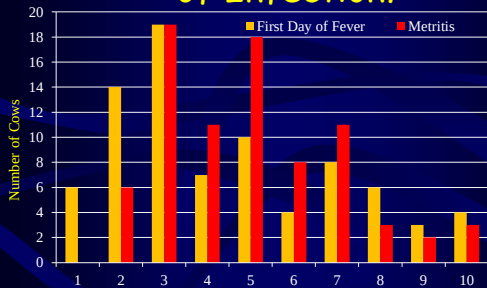
Interpreting Cow Temperature

Particularly important the first 10 days after calving.

- Normal temperature 101-103 °F (Normal can range up to 103.5 °F if during the heat of the summer)
- Elevated temperature > 103 °F = indicates an infection (metritis, mastitis, pneumonia, etc.)
- Low temperature < 101 °F = may mean the cow has milk fever, DA, ketosis, or indigestion



Can Fever Be the First Sign of Infection?



FAZD CENTER
 National Center for Feline, Bovine,
 and Zoonotic Disease Research

Day Postpartum
 Overton et al., 2001

AgriLIFE EXTENSION
 Texas A&M System

Reasons to Check the Temperature

- ✓ Identify illness earlier
- ✓ Minimize antibiotic usage and milk discard by identifying illness earlier
- ✓ Maintain dry matter intake
- ✓ Maintain milk production
- ✓ Minimize involuntary culling

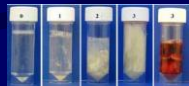
FAZD CENTER
 National Center for Feline, Bovine,
 and Zoonotic Disease Research

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Check the Uterus



- Note normal or abnormal discharge
- Varies by day after calving



Type of uterine discharges



Palpation of the uterus per rectum is a tool to evaluate uterine discharge and retained placenta

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 and Zoonotic Disease Research

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Maintain Records

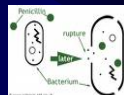
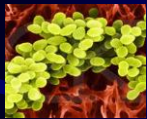
- Date
- Cow ID
- Symptoms
- Diagnosis
- Treatment



Date	Cow ID	Symptoms	Diagnosis	Treatment
1-1-2018	12345	fever, cough	respiratory infection	antibiotics
1-2-2018	12345	fever, cough	respiratory infection	antibiotics
1-3-2018	12345	fever, cough	respiratory infection	antibiotics
1-4-2018	12345	fever, cough	respiratory infection	antibiotics
1-5-2018	12345	fever, cough	respiratory infection	antibiotics
1-6-2018	12345	fever, cough	respiratory infection	antibiotics
1-7-2018	12345	fever, cough	respiratory infection	antibiotics
1-8-2018	12345	fever, cough	respiratory infection	antibiotics
1-9-2018	12345	fever, cough	respiratory infection	antibiotics
1-10-2018	12345	fever, cough	respiratory infection	antibiotics



Determine if Antibiotic Treatment Is Necessary



Before Selecting a Treatment

- Do not stop the clinical exam at the first findings - **you can miss other signs of disease!!**
- Try to associate all normal and abnormal signs found during the exam with common diseases
- **If you don't recognize something talk to your supervisor and/or herd veterinarian immediately!**
- Follow the treatment indicated in the dairy's protocols for each specific illness
- In case of no response to treatment - contact your supervisor immediately.



Other Disease Considerations

- Nutrition from close-up to freshening
- Early assistance in calving if needed
- Clean, comfortable bedding
- Feed waiting in bunk when cows return from the parlor
- Bunk and freestall space for all animals - **don't exceed 80% capacity in transition period**
- Water



Healthy Cows



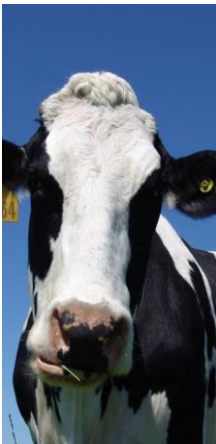
Protected Consumers



For more technical articles visit:
texasdairymatters.org



Thank You !



A Collaborative Effort:
Texas AgriLife Extension Service,
New Mexico State University and
University of Idaho
Funding provided by the National Center for Foreign
Animal and Zoonotic Disease Defense Center.

Ellen Jordan, PhD; Ralph Bruno, DVM; Juan A. Hernandez-
Rivera, MS; and Kevin Lager, MS-
Texas AgriLife Extension Service
Mireille Chahine, PhD - University of Idaho
Robert Hagevoort, PhD - New Mexico State University



Pain Management of Dehorning

Sarah Mills-Lloyd
Agriculture Agent & Assistant Professor
UW-Extension Oconto County



8th Annual Wisconsin Dairy & Beef Well-Being Conference



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Dr. Sarah Mills-Lloyd joined UW-Extension Oconto County in 2013 as the Agriculture Agent specializing in dairy and livestock. With her veterinarian background and certification in Milk & Dairy Beef Quality Assurance program, Sarah provides educational programs related to animal health and animal husbandry not only in Oconto County, but across Wisconsin. Sarah incorporates new innovative technologies with university-based research to provide educational and outreach efforts for producers focusing on animal well-being, calf management and transition cow management.



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Managing Pain in Dairy Calves

Sarah Mills-Lloyd, DVM
Agriculture Agent
University of Wisconsin-Extension, Oconto County

2018 Wisconsin Dairy & Beef Well-Being Conference
Green Bay
March 20, 2018



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Routine Husbandry Procedures in Heifer Calves

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Veterinarian's Oath

*"Being admitted to the profession of veterinary medicine, I solemnly swear to use my scientific knowledge and skill for the **benefit of society** through the **protection of animal health and welfare**, the **relief of animal suffering**, the conservation of livestock resources, the promotion of public health and the advancement of medical knowledge."*

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Pain

- Pain
 - Unpleasant sensory and emotional experience associated with actual or potential tissue damage
(International Association for the Study of Pain)

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Suffering

- To feel, or endure with pain (Webster Dictionary, 1913)
 - Used similarly to distress
- Distress = a state in which an animal cannot escape from or adapt to the internal or external stressor's, resulting in negative effects on its well-being (USDA-APHIS working definition)

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Dehorning

- Anatomy
- Description
- Reasoning
- Pain
- Pain Mitigation Strategies

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Disbudding

- Destruction or excision of horn-producing cells before skull attachment
 - Attachment ~8 weeks of age

Source: *Farmers Assuring Responsible Management*

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Disbudding

- Less likely to:
 - Cause a setback in calf growth
 - Cause complications (bleeding or sinus infection)

- Techniques:
 - Chemical cauterization (paste)
 - Heat cauterization (hot irons)
 - Physical/Surgical removal (spoons/tubes)

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Dehorning



- Excision of the horn after skull attachment



Source: Farmers Assuring Responsible Management

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Dehorning



- More potential to:
 - Cause a setback in calf growth
 - Cause complications (bleeding or sinus infection)
 - Invasive procedure
- Techniques:
 - ~~Chemical cauterization (paste)~~
 - ~~Heat cauterization (hot irons)~~
 - Physical/Surgical removal (spoons/tubes)

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Reasoning for Procedure



- Safety for handling
- Decreased incidence of carcass wastage due to bruising
- Requirement of less feeding-trough space
- Decreased risk of injury to other cattle
- Increased value of the animal
- Fewer aggressive behaviors

Source: Vet Clin Food Anim 29 (2013) 103-104

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Is the Pain Real? Behavioral Changes

- Seen as:
 - Head shaking
 - Ear flicking
 - Head rubbing
 - Transition between standing and lying
 - Vocalization
 - Grooming
- Subjective interpretation—influenced by individual perception

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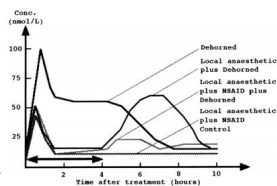
Is the Pain Real? Behavioral Changes

- Viewed by:
 - Videography
 - Chute behavior
 - Accelerometer
 - Remote triangulation devices

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Is the Pain Real? Physiologic Changes

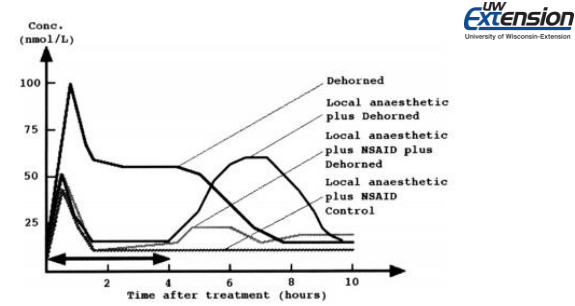
- Biomarkers:
 - Serum cortisol
 - Feed intake
 - Heart rate
 - Average daily gain



Cortisol Change with Various Dehorning Protocols

Source: Appl Anim Behav Sci 2011; 135:192-213

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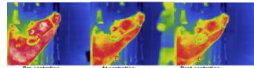
Cortisol Change with Various Dehorning Protocols

Source: Appl Anim Behav Sci 2011; 135:192-213

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Is the Pain Real? Neuroendocrine Changes

- Biomarkers:
 - Infrared thermography
 - Substance P
 - Heart-rate variability
 - Brain wave patterns (EEG)

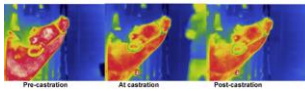


Time	Temperature	Notes
Pre-castration	32.5°C	Baseline
At castration	34.5°C	Peak temperature
Post-castration	33.5°C	Recovery

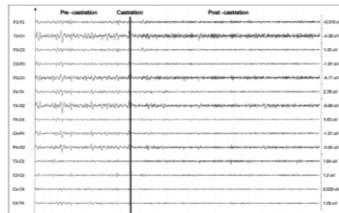
Source: Appl Anim Behav Sci 2011; 135:192-213

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Infrared Thermography



Electroencephalography (EEG)



Source: Appl Anim Behav Sci 2011; 135:192-213

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Purpose of Pain

- Important behavior
 - Modification—Automatic—Healing
- Normal physiologic response

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Cattle Behavior Complicates Pain Perception

- Natural prey of predators
- Disguise pain in their stoic nature
- Pain might be present in spite of outward signs

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Importance of Properly Measuring Pain

- Validated (and repeatable) methods of pain assessment must be used in order for a drug to be indicated for pain relief in the target species (FDA Guidance 123)
 - A reason for the lack of analgesic drugs labeled for use in livestock in the United States

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"Pain management is an important issue in human medicine, and with urbanization and less people involved in animal agriculture, this issue will become increasingly important in veterinary medicine."

~ Paul Walz, DVM, PhD, Auburn University

Source: Bovine Veterinarian, Pain Management in Cattle, November–December 2007
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"Dehorning [and castration] should be done at the earliest age practicable. Disbudding is the preferred method of dehorning calves. Local anesthetic should be considered for other dehorning procedures."

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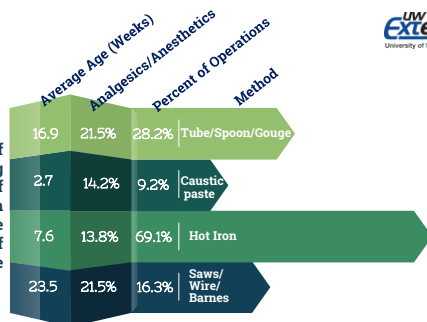
American Veterinary Medical Association's

Animal Welfare Division

Source: avma.org

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Comparison of Dehorning Method, Use of Pain Mitigation and Average Age of Procedure



Source: USDA APHIS NAHMS Dairy 2007; 106–113

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Extra Label Drug Use (ELDU)

- Talk to your veterinarian about pain management and proper procedure of dehorning
- Pain mitigation medications mentioned in this presentation require veterinary oversight through a Valid Client Patient Relationship (VCPR)

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Proper Injection Sites



- Intramuscular
- Subcutaneous
- Avoid



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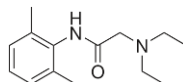
Local Anesthesia

Provide reversible loss of sensation in the localized area without causing loss of consciousness.



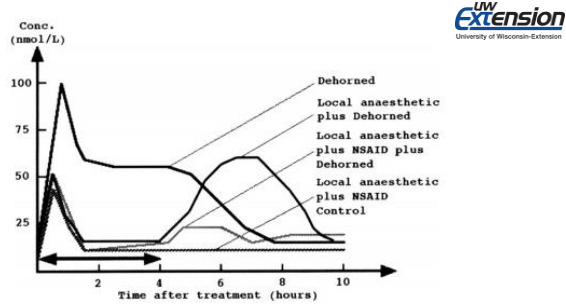
Example: Lidocaine

- Most commonly used for dehorning
- Provides ~2 hours of analgesia per scientific studies when comparing behavior and physiologic changes



Graphic Source: Wikipedia, Accessed February 26, 2018

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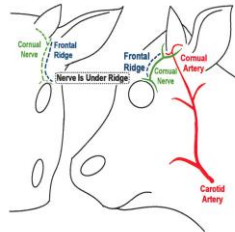
Cortisol Change with Various Dehorning Protocols

Source: Appl Anim Behav Sci 2011; 135:192-203

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Cornual Nerve Block

- Infuse lidocaine in or around the Cornual Nerve
- Inject half-way between the eye and horn SQ, under the frontal ridge



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Nonsteroidal Anti-Inflammatory Drugs (NSAIDs)

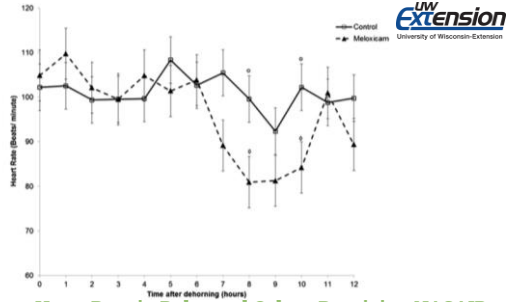
Decreases the inflammatory-mediated pain response.

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Examples: Ketoprofen, Meloxicam, and Flunixin meglumine

- Research provides evidence for mild decrease in cortisol levels, physiologic responses (heart rate/ respiratory rate/ increased time spent eating) when administered prior to dehorning

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Average Heart Rate in Dehorned Calves Receiving NSAID

Source: Vet Clin Food Anim 29 (2013) 103-103

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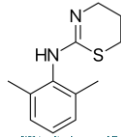
Sedative-Analgesic Drugs

Provides pain relief as well as altered state of consciousness.

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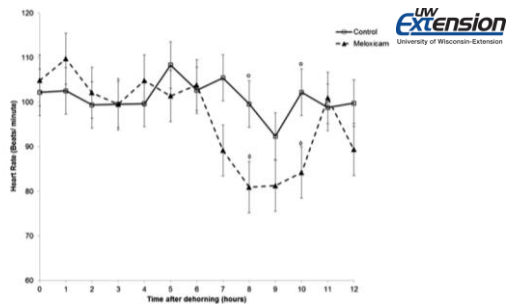
Example: Xylazine

- Provides initial decreased cortisol levels at the time of procedure, but no evidence of continued effect



Graphic Source: Wikipedia, Accessed February 26, 2018

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Average Heart Rate in Dehorned Calves Receiving NSAID

Source: Vet Clin Food Anim 29 (2013) 127

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Record Information

- Maintain written/computer records on animals
 - Date
 - Protocol used: medication, dose, route
 - Procedure
 - Person responsible

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Other Considerations

- Proper restraint
- Following appropriate withdrawal times
- Selective breeding for polled animals
- Developing a best practice for your farm



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Conclusion



- Pain is associated with the dehorning process.
- Scientific research provides numerous examples of dehorning pain management strategies.
- Work with your veterinarian to establish the best dehorning protocol for your farm.

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THANK YOU FOR YOUR ATTENTION!
 Any questions?

Sarah Mills-Lloyd, DVM
 sarah.mills@uwex.edu | (920) 834-6845

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Managing Pain in Dairy Calves

Sarah Mills-Lloyd, DVM
 Agriculture Agent
 University of Wisconsin-Extension, Oconto County

2018 Wisconsin Dairy & Beef Well-Being Conference
 Green Bay
 March 20, 2018



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Minimizing the Risk of Lameness to Improve Animal Well-Being

Aaron LaVoy, Owner
Midwestern Hoof Care, LLC



8th Annual Wisconsin Dairy & Beef Well-Being Conference

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Aaron LaVoy
Owner & Hoof Trimmer
Midwestern Hoof Care, LLC

Phone: 920.470.1267

Email: midwesternhoofcare@gmail.com

<http://www.midwesternhoofcare.com/>

Owner/operator of Midwestern Hoof Care, LLC, LaVoy has been a professional hoof trimmer since 2004 and serves the very top dairies in Wisconsin. Prior to starting Midwestern Hoof Care, LLC, LaVoy started his agricultural career working on a 1,000 head custom heifer farm where he learned the priority of quality and animal welfare. He is a member of the Hoof Trimmers Association and has written articles featured in Progressive Dairyman. With Midwestern Hoof Care provided a professional hoof trimming school, hoof care, and hoof care consulting.



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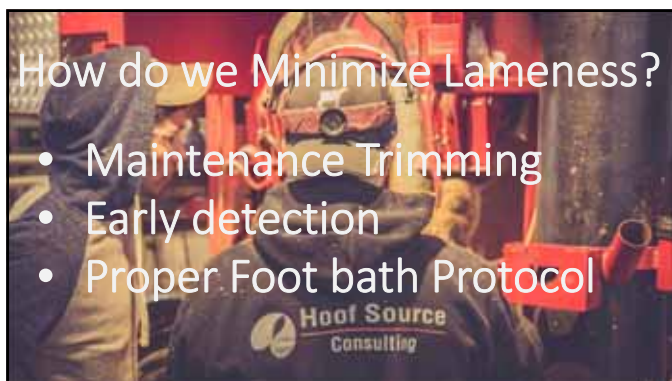






How do we Minimize Lameness?

- Maintenance Trimming
- Early detection
- Proper Foot bath Protocol



How often should we trim?

- Heifers 45 days Prior to Calving



How often should we trim?

- Heifers 45 days Prior to Calving

Although they are young, heifers are susceptible to the same hoof lesions as cows, and many times, lesions in cows are the result of lameness as a heifer.

With early detection being critical to the full recovery of most lesions catching them at this stage is crucial.

How often should we trim?

- 100 days into lactation



How often should we trim?

- 100 days into lactation

This trim is put in place as a check-up/rebalance to keep things going well during the taxing lactation. Many soon to be problems are discovered and corrected at this trim and are corrected before they develop into actual lesions.

How often should we trim?

- At or near dry off



How often should we trim?

- **At or near dry off**

Dry cows go through a number of transitions/stresses. Trimming cows at this time allows for any correction to be made with balance and also therapeutic steps to be taken, allowing time for healing to take place or rechecks before starting the new lactation on the wrong foot.

How often should we trim?

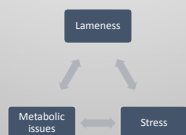
- **At the earliest detection of pain**



How often should we trim?

- **At the earliest detection of pain**

Lameness, Metabolic Issues and Stress run a viscous circle, therefore it is important to detect and correct lameness in the early stages before it causes excess stress or metabolic issues.





Questions about When to trim?

Detect and Correct

Who's responsibility is it to detect lameness in the herd?

It is everybody's job to identify animal welfare issues!

If your job depends on the dairy industry it is your moral responsibility to pay attention to the welfare of the animals that are in your care.

Detect and Correct

Owners
Herdsman
Hoof Trimmers
Milkers
Pushers
Veterinarians
Nutritionist
Breeders

Locomotion Score 1

Stands and walks normally with a level back. Makes long confident strides.



Locomotion Score 2

Stands with flat back, but arches when walks. Gait is slightly abnormal.



Locomotion Score 3

Stands and walks with an arched back and short strides with one or more legs. Slight sinking of dew-claws in limb opposite to the affected limb may be evident.



Locomotion Score 4

Arched back standing and walking. Favoring one or more limbs but can still bear some weight on them. Sinking of the dew-claws is evident in the limb opposite to the affected limb.



Locomotion Score 5

Pronounced arching of back. Reluctant to move, with almost complete weight transfer off the affected limb.



Detect and Correct

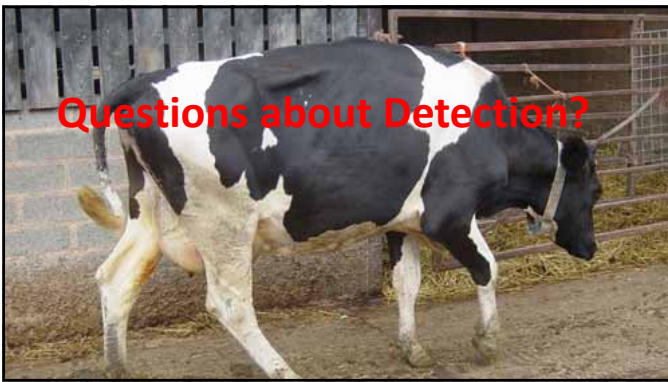


Notice how the backs are arched and heads are lowered

Detect and Correct



Questions about Detection?



Foot Bath 101



Foot Bath 101

- A length of approximately 10 feet will result in the desired 2-3 immersions per hoof per pass.
- A width of 2-3 feet will result in a more efficient foot bath with more immersions per gallons of water and treatment.
- Sidewalls of at least 3 feet high will prevent the treatment from being splashed out as cows pass through.
- Foot bath solution should be at least 6 inches in depth to ensure proper coverage of the hoof.
- Having a covered, "tunnel-like" bath will encourage cows to keep moving through without stopping and defecating in the treatment.

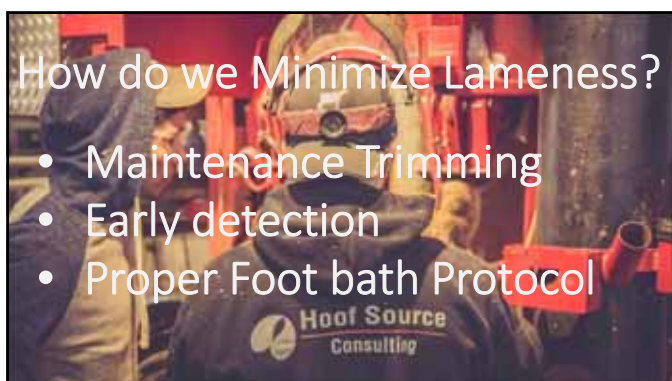
Foot Bath 101

- Recommended solution based on results are as follows
- Copper sulfate 5%-10% solution.
- Copper extenders or acidifiers may be used according to manufactures directions.
- Formalin 3%-5% solution (use extreme caution when handling and only use in well ventilated areas) loses its effectiveness at temperatures below 67° Fahrenheit. Formaldehyde can be very caustic and should not be increased to more than 5% treatment.



Foot Bath 101

Questions about Foot Baths?



How do we Minimize Lameness?

- Maintenance Trimming
- Early detection
- Proper Foot bath Protocol



Thank you
Midwestern Hoof Care

Animal Handling & Carcass Quality

Casey Davis
Manager

JBS Cattle Procurement Manager

Chris Jacobs
Manager

Equity Cooperative Livestock Sales Association



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Christopher (Jake) Jacobs
Manager
Equity Cooperative Livestock Sales Association

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Email: cjacobs@equitycoop.com

Web: <http://www.equitycoop.com/>

Chris Jacobs grew up on a small diversified farm raising cattle and cash crops. After high school he worked in the farm sales and service industry for Patz Equipment for 5 years at which time he took a job working with a local livestock dealer buying and selling all classes of livestock. During his ten years of dealing livestock pursued a degree in criminal justice and was hired by the Wisconsin Department of Agriculture as a Livestock Health Inspector-Investigator. Jacobs worked there regulating diseases in all classes of livestock along with regulating imports, dealers and truckers. After 15 years as an inspector Jacobs was offered a position with Equity Livestock which after a some hard consideration accepted the position and is currently going into his fifth year as Market Manager. Over the course of his career he was able to obtain vast amount of knowledge on all aspects of livestock farming including many training sessions from some of the most renowned livestock handlers and humane investigators in the country plus has made many contacts in the livestock industry.



Casey Davis
Cattle Procurement Manager
JBS Green Bay

Phone: 920.468.4000

Email: casey.davis@jbssa.com

Web: <http://jbssa.com>

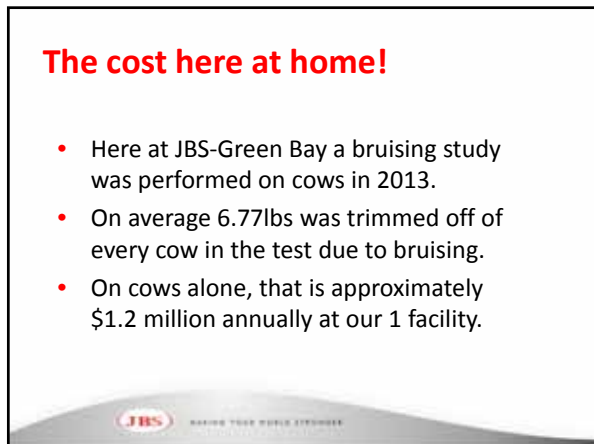
Casey was born and raised on a beef cow/calf operation in Southern Indiana. As a teenager he worked in local livestock auctions. The past 12 years he has worked for JBS in the cattle procurement division in multiple areas throughout the United States. The last 4 years he has been in his current role, managing the cattle buy for the Green Bay facility. Together with his wife and children they have a small beef farm south of Green Bay. Having produced livestock, handled it through marketing facilities, and dealt with the end product Casey has a considerable amount of experience and knowledge in how handling and facilities can impact the value of livestock to both the producer and the processor.



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FSIS **Ante-mortem** Inspection

- FSIS enforces the Federal Meat Inspection Act (FMIA), Humane Methods of Slaughter Act
- Inspectors observe cattle on the day of slaughter at rest and in motion.
- Look for:
 - Overall condition of the animal
 - Degree of alertness, mobility and breathing
 - Unusual swellings or abnormalities
- **Condemn animal or slaughter as a US Suspect**

FSIS Directive 6100.1



MAKING YOUR WORLD STRONGER

4

FSIS **Post-mortem** Inspection

- Inspect the tongue, head, pluck, viscera, liver and carcasses
- Look for:
 - Inflammation, swelling, masses
 - Pathology or abnormal condition in lymph nodes
 - Cysts, lesions in muscles
 - Parasites



MAKING YOUR WORLD STRONGER

5

Bruising is a concern for animal welfare and economics

What's hiding behind the hide?

Imagery: Stephen D. Hagg/Corbis; Illustration: Michael J. O'Connell



MAKING YOUR WORLD STRONGER

"It ain't all about the money –"

Think back to the last cow you sent to market. If you peeled back her hide, what would you find? Bruising? Injection site lesions? Tissue damage?

Would you be proud to say that cow came from your dairy?

Progressive Dairyman Editor Peggy Coffeen, 2014



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Impact on our system



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Bruises must be trimmed out of carcasses



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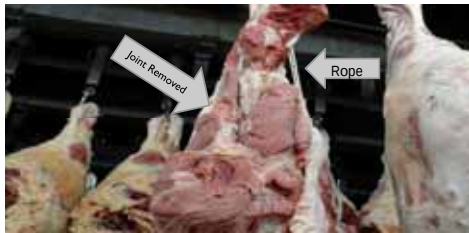






Arthritis

- Has the round cut open and the joint removed
- Usually a rope is used to connect this void



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13

Belly/Flank damage

- Has the plate/flank removed



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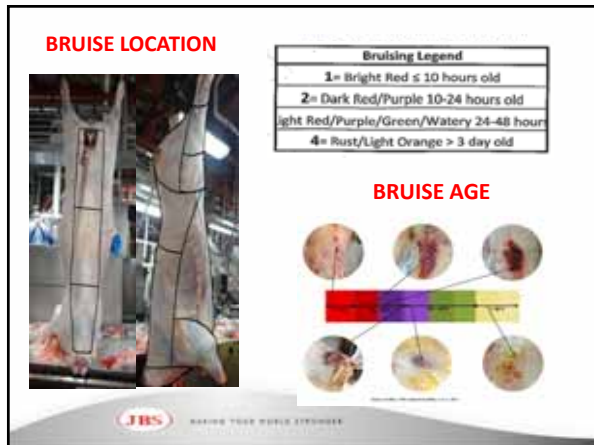
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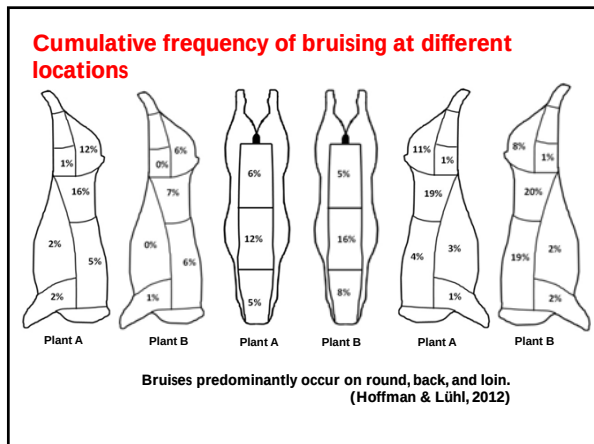
Bruises tell a story



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Main Factors Causing Damage

- Transportation
- Facilities
- Other Cattle / Horns
- People



JBS MAKING YOUR WORLD STRONGER

Beef's \$35 Million Bruise

Greg Henderson

- "An estimated industry wide loss of \$35 million due to carcass bruising on strip loins." Casey Mabry, Cargil.
- Dan Thomson, Kansas State University Veterinarian, "Total carcass bruises create an estimated \$4 to \$8 per head loss for the industry."
- That totals \$100 million to \$200 million in losses annually!
- Cattle bruises were found more frequently on Holsteins than on beef breeds.



JBS MAKING YOUR WORLD STRONGER

Facilities



JBS MAKING YOUR WORLD STRONGER







Animal Husbandry: *Handling of Market Cattle Prior to Slaughter*

Presented by: Christopher Jacobs
On behalf of Equity Livestock Sales Association
February 6, 2018

Goals

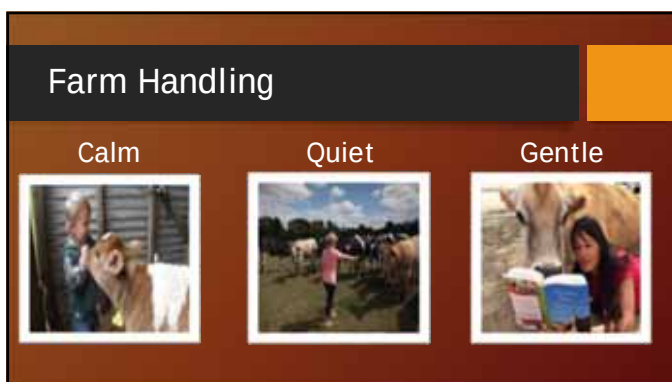
- 1 Define animal husbandry
- 2 Heighten awareness
- 3 Enhance knowledge

Defining Animal Husbandry



- Animal care and safety
- Breeding
- Feeding
- Training
- Slaughter/market









Trailers

Tools of the Trade

- Flags
- Rattle paddles







Residue Prevention, Part 2

Robert Hagevoort, PhD
Extension Dairy Specialist
New Mexico State University



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Robert Hagevoort, PhD
Extension Dairy Specialist
New Mexico State University

Email: dairydoc@nmsu.edu

Web: <http://aces.nmsu.edu/ces/dairy/>

Dr. Robert Hagevoort, a native of The Netherlands, is an Associate Professor and Extension Dairy Specialist in the Extension Animal Sciences and Natural Resources Department of College of Agricultural in the College of Consumer and Environmental Sciences at New Mexico State University.

He earned his bachelor's degree in Tropical Animal Production from the College for Tropical Agriculture (1987) in Deventer, The Netherlands. He received a M.S. degree in Range Nutrition (1989), and a Ph.D. in Animal Nutrition (1993) both from Texas A&M University.

Prior to joining New Mexico State University as an Extension Dairy Specialist in November of 2005, Dr. Hagevoort served for over 10 years as an independent dairy management consultant primarily in California's southern and central Valley. As a an Extension Specialist, he has been working closely with the Dairy Industry in New Mexico and across the Western US regarding many regulatory and environmental issues, and initiated an effort to rebuild a dairy program at NMSU through the formation of the U.S. Dairy Education & Training Consortium (formerly known as the Southern Great Plains Dairy Consortium).

A key component of his current research & extension program is the development and implementation of a comprehensive dairy workforce training & safety program.

In March of 2011, Dr. Hagevoort was the first recipient of the [Topliff Dairy Chair](#), a position charged with promoting the visibility of the dairy industry through research, extension and education and which serves as a policy center for regulatory matters.



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Handling and Proper Usage of Medication for Dairy Cows

Ralph Bruno, DVM; Ellen Jordan, PhD; Kevin Lager, MS; Juan Hernandez-Rivera, PhD; and Alexandre Farias, DVM

Texas AgriLife Extension Service
Texas A&M System



Medicine Storage Room

- Store all medications in a clean, dry, frost-free room
- Protect from:
 - Temperature changes
 - Sunlight
 - Dust
 - Moisture
 - Animals
 - Insects



Medicine Handling

- Most medications are heat sensitive
 - Improper storage can affect effectiveness
- Store in a refrigerator when directed on label
 - Temp. between 2° and 8°C (35° and 46°F)
- Many other products require storage in a controlled temperature, but not refrigerated
- Labels indicate the proper storage



Medicine Handling

- To prevent errors store separated
 - Lactating cow approved medicines
 - Non-lactating cow medicines
- Label the shelves
- Group products
 - Antibiotics
 - Anti-inflammatory
- Lock storage units to prevent access by unauthorized people



Why Are These Products Stored in Amber Bottles?



To protect from the sunlight

Some antibiotics lose effectiveness when exposed to sunlight



Vaccine Handling

Note the expiration date



Store according to directions



Properly Dispose of Needles and Discard Unused Vaccine

- Once opened vaccines need to be used immediately
- Put needles in a puncture-proof container
- Do not reuse livestock medicine containers
- Dispose of them properly by incineration, if available, or in municipal landfill
- Never flush down toilet or drain



Have you seen it?



What's wrong?



Take Home Message:

Proper medication storage conditions prevent reduction of drug effectiveness and treatment errors

Proper disposal of used needles and unused medicine prevents accidental exposure of people, animals, and the environment to sharps and medicine



Usage of Medicine on the Dairy



Our Goal:
Produce Meat and Milk that
Is Free of Antibiotics and
Any Other Residue



Antibiotic

Definition:

Antibiotic is a substance or compound that kills bacteria or inhibits their growth (Davey, 2000)

It has been used in food animals since their discovery more than 50 years ago (Penicillin discovered in 1928, therapeutic usage 1940)

Used to treat or prevent diseases

Main issue since discovery Antibiotic Resistance
(First report of antibiotic resistance 1946 - indiscriminate usage)



Antibiotic Usage

- Necessary to:
 - Treat sick animals
 - Protect the food supply



MUST be used **PRUDENTLY**



Some Antibiotics Used in Dairy Cattle



Other Medicines

- Anti-Inflammatory
 - Flunixin meglumine (Banamine®, Flu-Nix®)
- Antipyretic (fever reducer)/Analgesic
 - Aspirin, Dipirone
- Reproductive Hormones
 - GnRH (Fertagyl®), Prostaglandin (Estrumate®)
- Other Medication
 - Pepto Bismol®, Endosorb Bolus®



Other Medications



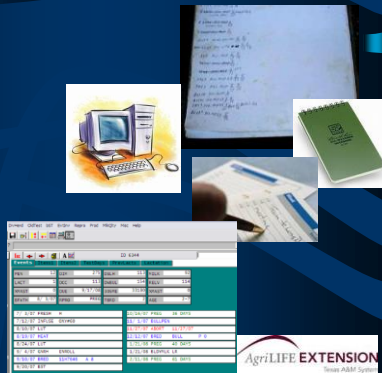
If Any Antibiotics Are Used in Treatments...

- Mark the cow
- Follow discard protocols for milk
- Note MEAT withdrawal time



Maintain Treatment Records

- Date
- Cow ID
- Quarter
- Diagnosis
- Treatment
- Withdrawal



Records help...

- Identify new problems
- Assist the herd owner determine what may be the cause of illness or disorder
- Evaluate whether treatments are working
- Track cows to be rechecked or have meat or milk withheld



What's the difference between antibiotic residue and antibiotic resistance ?



Antibiotic Residue

Detectable amount of antibiotics in meat and milk after using them to treat cows and calves with mastitis, pneumonia, metritis, diarrhea or other diseases



Top Residues



Penicillin

Ceftiofur

Ampicillin

Sulfadimethoxine

Flunixin

Sulfamethazine

>70% of all violations

Dairy Team
Texas A&M System
www.tamuprecision.com

AgriLIFE EXTENSION
Texas A&M System

FSIS Meat Residue Violator List (April 15-22, 2010)

- Total Positive Residue Tests: 1,521 (7 days)

Animal Type	Number	%
Cattle	1,501	98.7
Goats	11	0.007
Swine	5	0.003
Horses	3	0.001
Total	1,521	

Cattle	Number	%
Dairy	837	55.8
Beef	129	8.6
Veal	535	35.6
Total	1,501	

Your Job: Reduce Risk of Residues

- When treating an animal read and follow directions on label or from the farm veterinarian
- Record the treatment



Not Following the Label Recommendation Can Be a Problem

Muscle Lesion



Not Following the Label Recommendation Can Be a Problem

Muscle Lesion



Remember: Two "Withdrawal" Times

Milk

Meat



Communication - Key to Preventing Residues

- Communicate to and between employees, owners, and veterinarians
- Label all antibiotics



Your Job: Reducing Potential Resistance

- Follow the directions for amount of antibiotic used, the number of times to treat, and the amount of time between treatments
- If a cow doesn't respond, follow farm policy developed with herd veterinarian for further diagnosis or treatment



Final Words on Antibiotics

- What we all want is:
 - production of a healthy, wholesome product
- Our goals, when using medications, should include:
 - Product, meat or milk, free of residues;
 - Prevention of antimicrobial resistance; and
 - Meat that is free from injection site lesions that detract from beef quality



Together We Can Meet the Worker Goals

- Harvest the highest quality product possible
- Take good care of the cows and identify when they are sick
- Produce meat and milk that is free of antibiotics and other residues






Healthy Cows



Safe Food





Protected Consumers



For more technical articles visit:
<http://texasdairymatters.org>





Thank You !




Visit the UW Extension Livestock Resources On the Web

Your source for research based unbiased information



<http://fyi.uwex.edu/smallfarms/>



<http://fyi.uwex.edu/wisheepandgoat/>



Grazing Resources & Research

Pasture Management, Grazing Information & Research
Updates from University of Wisconsin Cooperative
Extension & Team Forage



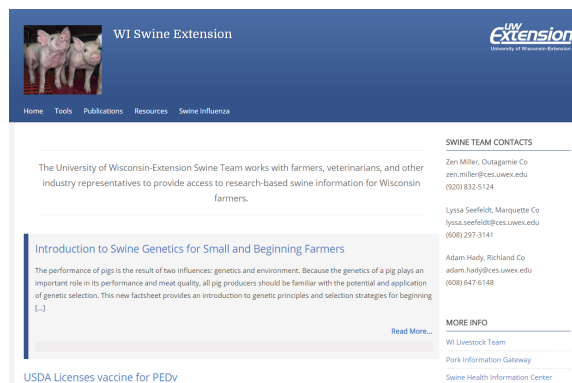
Resources
Home
Contact Info
Designing Grazing Systems
Ecology and Environment
Economics and Decision Tools
Educator Resources
Establishment & Improvement

Livestock Forage Disaster Program: Contact Your FSA Office

The 2014 Farm Bill makes the Livestock Forage Disaster Program (LFP) a permanent program and retroactive to October 1, 2011. The LFP provides compensation to eligible livestock producers who have suffered grazing losses due to drought or fire. USDA Farm Services Agency has released a new fact sheet on the Livestock Forage Disaster Program to explain basic eligibility for the program. Producers can determine whether they live in an eligible county at the USDA Farm Services Agency website. The national Drought Mitigation Center at the University of Nebraska has also developed an online

Extension Resources
UW Forage Research and Extension
UW Horse Extension
UWEX Team Forage Resources
WI Beef Information Center
WI Sheep & Goat Extension
Grazing Research

<http://fyi.uwex.edu/grazres/>



<http://fyi.uwex.edu/swineextension/>

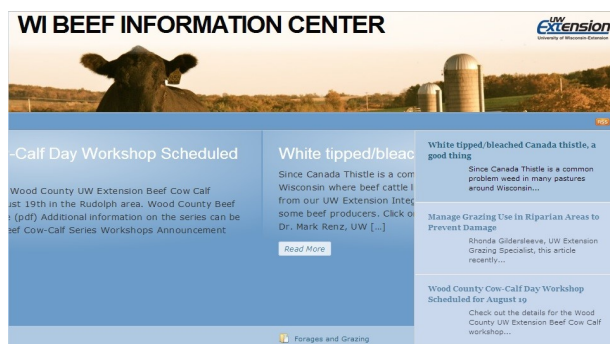


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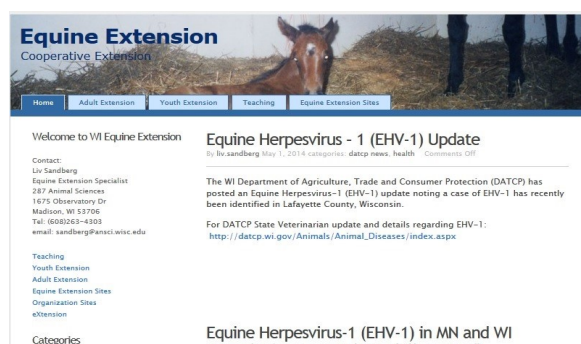
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Strengthen the competitiveness of the Wisconsin Dairy Industry through statewide leadership in education and research

DAIRY EXTENSION RESOURCES PROVIDED BY UW EXTENSION DAIRY TEAM

Resources

Providing up to date resources related to:

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- Dairy Nutrition
- Dairy Reproduction & Genetics
- Dairy Replacements
- Dairy Facilities
- Animal Well-Being

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Upcoming events and topics important to 4-H and FFA members in Wisconsin

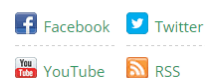
4-H DAIRY QUIZ BOWL AND MANAGEMENT CONTEST RESULTS

Barron County's senior dairy bowl team and Sheboygan County's senior dairy management team topped the State 4-H Dairy Quiz Bowl and Management Contests on January 30 in Madison. The quiz bowl team will represent Wisconsin in November at the national contest in Louisville, KY and the Management Contest team will represent Wisconsin at the All [...]

[Read More...](#)

New Later Start Time and New Location for 4-H Dairy Quiz Bowl and Management Contests

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THROUGH THE YEARS



8th Annual Wisconsin Dairy & Beef Well-Being Conference

UW-Extension provides equal opportunities in employment & programming, including Title VI, Title IX, and ADA requirements.

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Visit us on the web at <https://fyi.uwex.edu/animalhusbandryconference/>



**Supporting and strengthening the dairy and beef cattle industry
through awareness and understanding of improved animal
handling and animal well-being practices.**