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Would you rather....

N EXTENSION
Beef Systems

1. Would you rather have a cook or a maid?
2. Would you rather watch the big game at home or live at the stadium?
3. Would you rather spend the night in a luxury hotel room or camping surrounded by beautiful scenery?

Where are you from?
What breed of cattle do you raise?
Do you have a relationship with a veterinarian?

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This is me

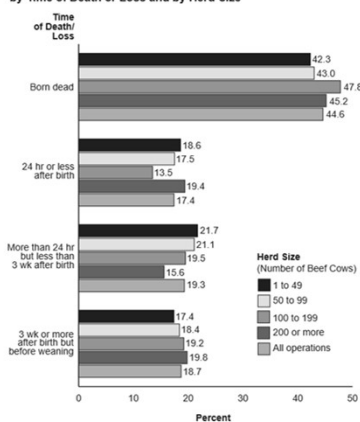
Wife, Mom, 4th Generation NE Cattlewoman, Veterinarian, Educator



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NAHMS Beef Study - 2007

Figure 1. For Calves Born During 2007 that did not Survive to Weaning, Percentage that were Born Dead, Died, or were Lost, by Time of Death or Loss and by Herd Size



- Out of the 6.4% of calves lost before weaning, 81% died in the first 3 weeks following birth.
- 25.6% of operations listed weather as primary cause of death



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Understanding Thermoregulation

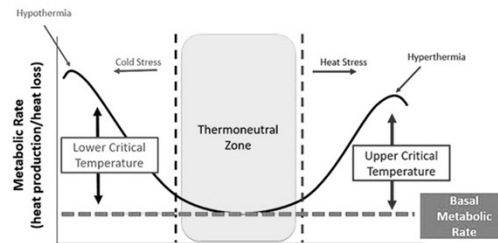
Thermoneutral zone: Range in temps where calves require the smallest amount of metabolic regulation. Ranges from 59-77°F in newborns

Lower Critical Temperature: Temps below the point where animals must increase heat production to maintain balance

Adult summer hair coat – 59°F

Adult heavy winter coat – 17°F

Newborn calves - 59°F



Ambient Temperature
<https://www.beefmagazine.com/animal-health/regulating-cattle-body-temperature-during-times-heat-or-cold-stress>

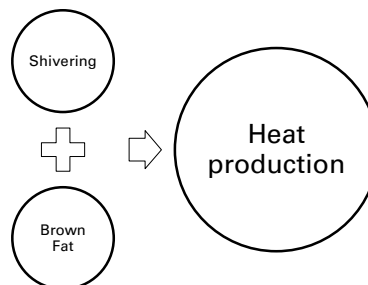
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Mechanisms of Thermoregulation

Shivering: skeletal muscle contractions (50% BW)

Brown Fat: Tissue around kidneys and heart, containing large amounts of capillaries and mitochondria (powerhouse) (2-3% of BW)



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Interruptions to Thermoregulation

Environment
Birth weight
Age of dam
Dam nutrition
Dystocia



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Interruptions to Thermoregulation - Dystocia

Contractions
create periods of
limited O₂

Calves born with
critically low O₂
blood levels

Respiratory
system is
depressed

Hypothermia



Depressed CNS,
Weak Calf
Syndrome

Blood CO₂ levels
build up, acidosis



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Interruptions to Thermoregulation – Colostrum Intake



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- 3-fold more energy reserves in colostrum than tissue, ~10% fat, ~14% protein
- Weak suckle = 41x greater odds of failed colostrum consumption (Homerosky, 2017)
- First line of defense for internal warming
 - ✓ Ensure colostrum intake if assisted in birth
 - ✓ Dam is best source, follow labels on replacers
 - ✓ Keep records on when and how much
 - ✓ Calf needs to be able to sit sternal

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External Warming Options

- Calf warming hut
- Floor bed of truck
- Tub of warm water

Watch for overheating and keep areas clean

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Summary

Understand
the risk
factors

Develop a
strategy to
prevent loss



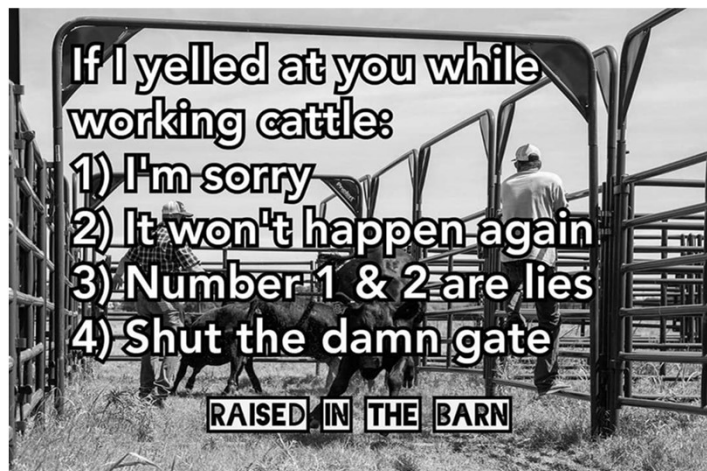
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