

efficiency in Bos indicusinfluenced cattle

2015 Beef Improvement Federation: NAAB Symposium

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What is Temperament?

- Behavioral responses of cattle when exposed to human handling
- As cattle temperament worsens

 Response to human contact becomes more excitable
- Selection for temperament (docility)
 - Heritable trait Up to h² = 0.50
 - Mainly for safety reasons
 - Productive implications being established

How to assess temperament?

- Chute Score
 - Cattle are individually restrained in the chute
 Scored in 1-5 scale according to behavior
 - 1. Calm with no movement
 - 2. Restless movement
 - 3. Frequent movement with vocalization
 - 4. Constant movement, vocalization, shaking of chute
 - 5. Violent and continuous struggling



How to assess temperament?

Exit Velocity or Score

- Speed of cattle after it leaves the chute
- Methods for measurement
 - Electronic
 - Establish distance to be traveled by the animal (feet)
 - Measure time (chronometer, infrared sensor in seconds)
 - Classify animals according to speed (feet/second)
 - Visual
 - 1. Walks away from the chute
 - 2. Trots away from the chute
 - 3. Runs away from the chute





How to assess temperament? Temperament type

- Based on Temperament Score
 - Adequate temperament (TS \leq 3)
 - Excitable temperament (TS > 3)
- · Maintain "some" temperament in the herd
 - Without impairing safety and productive traits
 Cow-calf systems
 - · Pairs survive challenges of extensive environments
 - Feedlot systems
 - Competition for bunk space

Factors that affect temperament

- · Sex
 - Females are more temperamental
- Age
 - Young animals are more temperamental
- · Production system
 - Range cattle are more temperamental
- · Breed type
 - Greatest source of variation
 - Bos indicus cattle are more temperamental

Temperament x Production What's the relationship?

- · Reducing feed intake and nutritional status?
- Physiological effects?
- Fear-related stress responses
- Including CRH ACTH cortisol axis
- Impact several metabolic processes
- Imperative for optimal cattle performance
- Genetic effects?
 - Relationship among behavioral and reproductive traits is still unknown – <u>deserves investigation</u>



























































Temperament x Feedlot Gain

- · Excitable temperament is detrimental to:
 - Bos taurus
 - Weaning weight = weaning value
 - Carcass weight = carcass value
 - Bos indicus
 - Feedlot performance and efficiency
 - Carcass quality
 - Other research groups (various breeds)
 - Feedlot performance
 - Carcass quality (marbling, tenderness)

Conclusions

- Excitable temperament impacts:
 - Reproductive and overall efficiency of females
 Cow-calf production efficiency
 - Performance and carcass of feeder cattle
 - Feedlot production efficiency
 - Overall productivity of the beef industry
 Independent of breed
- · So, what is the connection?
- Behavioral and physiological effects
- Genetic relationships?

Conclusions

- Strategies to improve herd temperament
 - Imperative to enhance beef production efficiency
 - Temperament as selection/culling criteria
 - Selection of sires
 - Culling aggressive and unproductive females
 - Maintain "some" temperament in the herd
 - Adequate handling of cattle
 Aggressive and docile animals

Acclimation of young cattle to human interaction



· Grazing heifers

- UF = Brangus/Braford
- OSU = Angus x Hereford
- Exposed or not to acclimation after weaning
 4 weeks total
- Brought to the cowpens 3x/week
- Exposed to common handling procedures
- Growth, temperament, and reproduction











Acclimation of Heifers

- Acclimation of heifers to human handling
 - Decreased cortisol concentrations
 - Hastened reproductive development
 - Independent of breed type

Effects on mature cows?

- No positive effects detected
- Cows often on extensive conditions
- Improve temperament of mature cowherd
- Include temperament in selection/culling criteria

- Acclimation to human handling

Presence of predators

Increased wolf population in OR and ID

 Grey wolves reintroduced into Yellowstone

- · Report from cattle producers
 - Cattle loss unconfirmed predation
 <u>Not only predation loss...</u>
 - Substantial increase in cattle excitability
 - · Long-term stress implications
 - Fear
 - Presence of predators
 - Decrease in pregnancy rates, weaning BW...











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