Low-Stress Dairy Handling Systems

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Components of a Cattle Handling System

- The design and maintenance of the facilities
- The cattle handling skills of the people
Poor Handling Skills are the Result of a Disconnection between the People and the Livestock

• Often facilitated by technology

• Lack of awareness by the people

• Our goal is to re-connect stockmanship to the dairy industry
  – Dairy Employees
  – Dairy Veterinarians
  – Dairy Professionals
  – Dairy Owners

• Includes all dairy production systems
HANDLING, MOVEMENT AND TRANSPORTATION
Employees should be properly trained to handle animals with a minimum of stress to the animal, and the consequences of inhumane handling should be known and enforced.

Training Programs should:
1. Be based on sound science
2. Produce the desired results

Stockmanship Principles
- Pressure area surrounds the flight zone
- Apply pressure to animals properly
All behavior is a product of

• Biological variables
  – Species history
    • Biological evolution and genetic makeup

• Environmental variables
  – The present environment
    • Including the internal physiological environment
  – The past environment
    • What has happened to the individual in the past

• Ethologist
  – One who studies animal behavior, as it occurs in a natural environment

• Behaviorist
  – One who studies behavior, in humans or animals
Life History Strategy

• Cattle are herbivores, a prey species that exhibits herding behaviors
• They do not communicate verbally, but rather experience the world with the uniqueness of their 5 senses

Communicate so the Cow Understands

1. Taste
2. Smell
3. Hearing
4. Sight
5. Touch
Taste & Smell

- Taste buds
- Olfactory epithelium
- VomeroNasal Organ
  - Flehman behavior

- Dew drops often form on nose or muzzle
  - Wiped with tongue, sensed by VNO
- Scents that are socially important to animals are derived from waste products: urine, feces, sweat, breath

Hearing

- Humans
- Cattle
- Dogs

Low .......................................................................................................................... High
Frequency in Kilohertz
Cattle and Noise

• Evidence shows that cattle are sensitive to auditory contact with humans
• Researchers have found that cattle show a similar aversion, based on avoidance, to hitting as to shouting by humans


Sight

• Primary sense used by grazing animals
• Horizontal, rectangular pupil shape
• Narrow field of vertical vision
• Located on sides of the head and bulbular
• Wide field of vision
• Poor depth perception
Touch Receptors

- Pressure
- Pain
- Warmth
- Cold

Key message

- We need to be honest with cattle and always let them see where we are
- Cattle will look (listen) to what is what is pressuring them
- *Be aware of the which senses are being stimulated, and work to avoid startle*
The Right Way

• The Cow cannot see behind her

The Right Way

• The best place to let the cow see you is from her side
The Right Way

- Notice when a cow looks at you with 2 eyes

Dairy Stockmanship

- Pressure animals where they can see you

- Only 1 person should pressure at a time
Driving a Cow

X

Driving a Cow

X
Driving a Cow

Driving a Cow
The Right Way

• Walking with animals will slow them down

• Cows walk 2 mph, People walk 3-4 mph

The Right Way

• Walking opposite direction speeds animals up

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Low Stress Handling Systems

• Informally, this is how to work cattle with low-stress methods

• Formally, this is the study of cow behavior and her stress response
  – We can apply the sciences of behavior analysis and stress biology

Low Stress Handling Systems

• What is Low Stress?
• What is High Stress?

• What is Stress?
• What is Distress?
• What is Eustress?
What is Stress?

• Ask a dozen people to define “stress” and you would likely get 12 different answers
• If we struggle to define stress, how can we possibly measure it?

Definitions

• **Stressor** = event threatening or potentially threatening the homeostatic balance

• **Stress Response** = the body’s attempt to re-establish the homeostasis after encountering a stressor

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2011 Trends in Stress Biology
Stress Response
Robert Sapolsky

- Stress response evolved as adaptive
- Consequences of the stress response can be maladaptive
- There is a “cost” to mounting a stress response

Stress Related Disease
Sapolsky

- Stress does not make you sick

- “Stress makes you more likely to get diseases that make you sick”
Testing for stress

• There is no litmus test for stress

Measuring the Stress Response

• Neuroendocrine system (HPA)
• Autonomic Nervous System
  – Sympathetic
  – Parasympathetic
• Immune System
• Behavior
All behavior is a product of

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Examples Getting Cows Into the Milking Parlor
Bud Box Technique for Moving Cattle Safely and Efficiently
The Bud Box

The Bud Box
The Bud Box

The Bud Box
The Bud Box

X

The Bud Box

X
Bud Box Design

- 14 x 20 to load a chute
- 14 x 30 to load a truck

- Same size
  - Regardless of the animal size
  - Regardless of the number of animals

- Exit opening wide enough for 1 animal

Components of a Cattle Handling System

- The design of the facilities
  - The maintenance of the facilities

- The cattle handling skills of the people
Dairy Stockmanship

• Every interaction between people and their livestock is important
  – Positive experiences/conditioning
  – Negative experiences/conditioning

• Be aware of the behaviors you are training your animals to perform

Interactions with Youngstock

• The concept of “Brain Plasticity”
• Important periods in behavioral development
  – Pre and Post-natal periods
  – Adolescence
• Condition the appropriate behaviors for an adult lactating cow in your production system
THANKS!

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