

The Importance of Good Stockmanship

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Handling Has Improved But We Will Still Need to Discuss Basics

- Recent study, 30% of people make too much noise
 - Overload crowd pen – 46%
 - Stand in wrong position – 28%
-

Yost, et al., 2020

Students Failed To See This



Become a Better Observer



- ✓ Sharp shadows – Cattle more likely to stop moving
- ✓ Outdoors – Shadows constantly change

Calm Animals Easier to Handle



Photo by Sherry Taylor

20 to 30 Minutes Required to Calm Down



Fearful Cattle

- Heads up – Ears alert
 - Ears pinned back
 - Defecation
 - Tail switching
 - Eye white
-



**Animals may
refuse to move
into the sun**



Cattle may refuse to move when they see the white jug and the red car



**Tie up loose chain
ends that scare
animals**

Cattle may refuse to enter a dark building





Skylights installed in the walls will improve cattle movement into an existing dark building

Allow the Leader Time to Look at the Puddle





**If cattle balk at the
backstop gate,
tie it open**

In Corrals Move Small Groups into the Crowd Pen



Good Handling Requires More Walking



Fill Crowd Pen Half Full

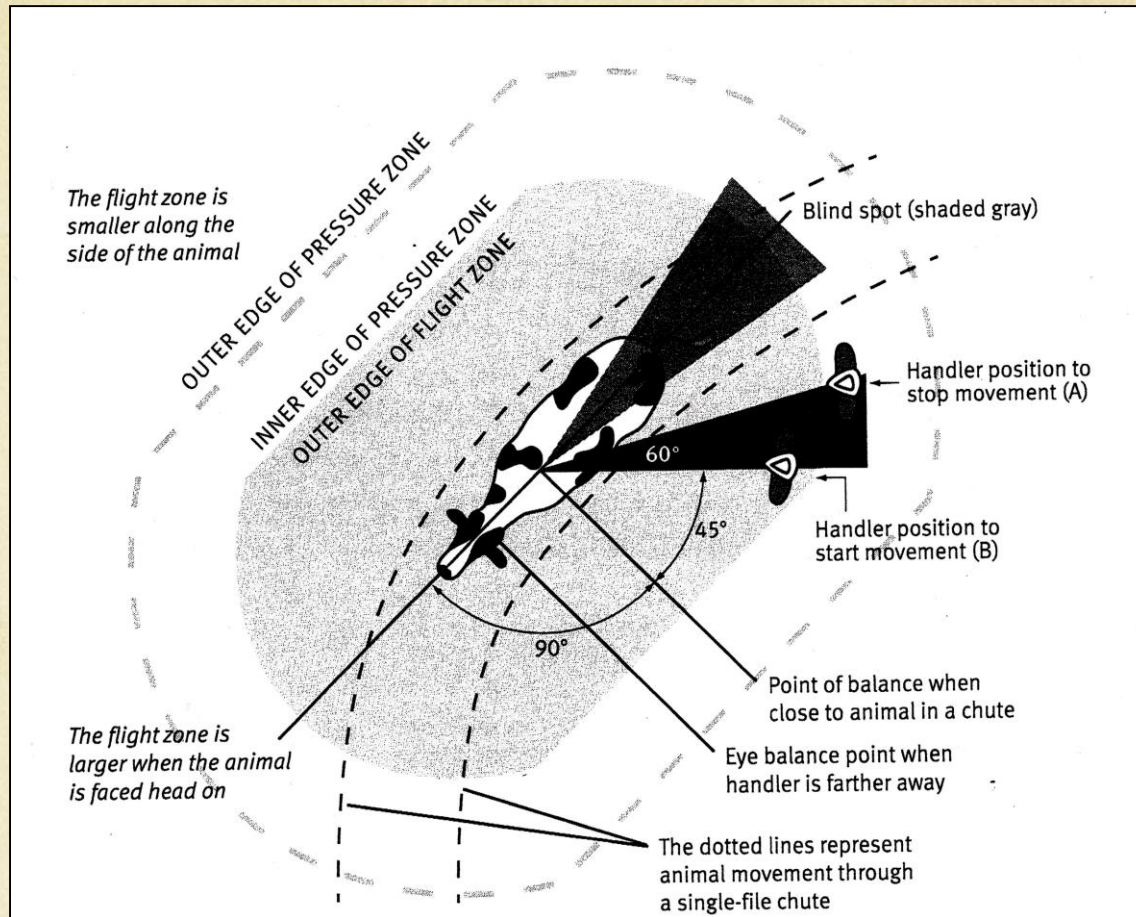


The Flight Zone is the Animal's Safety Zone



Cattle Flow Around the Edge of the Flight Zone



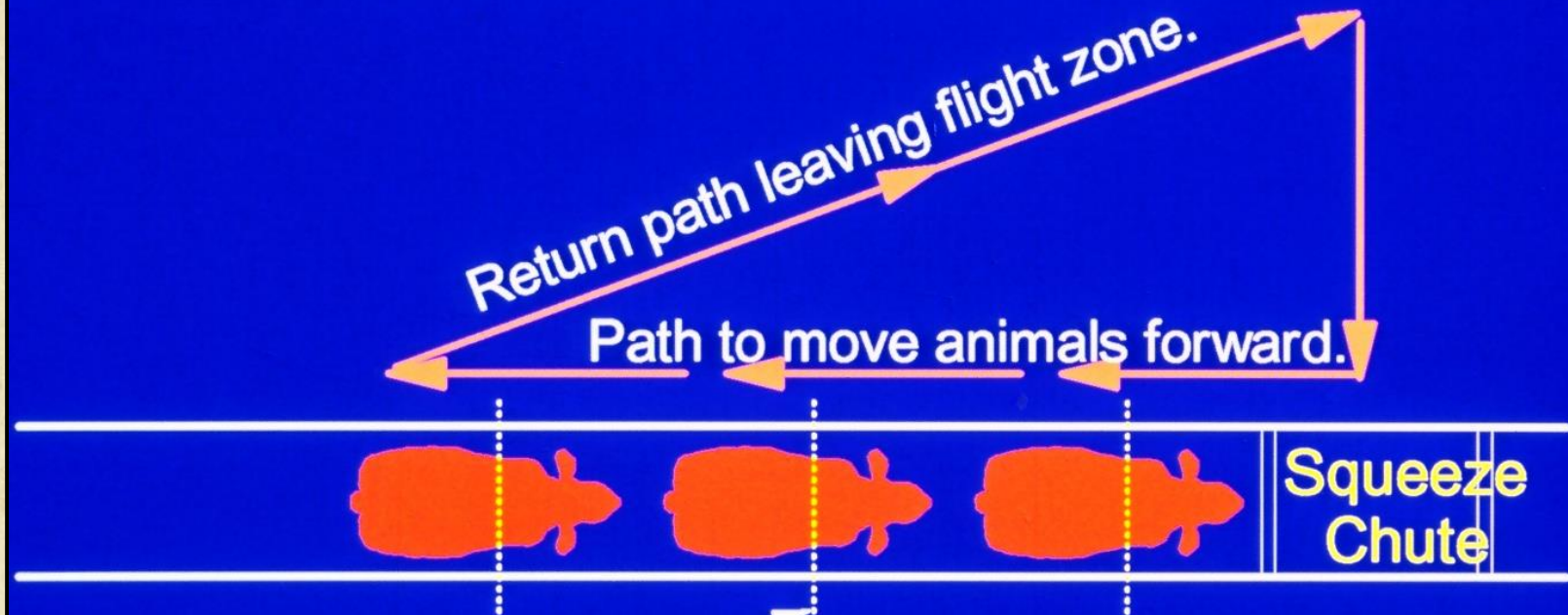


Handlers should learn the principle of pressure and release on the flight zone



Animals turn away when the handler enters the flight zone

Handler Movement Pattern to Keep Cattle Moving Into a Squeeze Chute or Restrainer



Point of Balance

Cattle will move forward when the handler passes the point of balance at the shoulder of each animal. The handler walks in the opposite direction along side the single file race.

Solid Outer Fence Open Inner Fence



**People must stay outside the flight
zone unless moving animals**

Lack of Outer Solid Side Cattle See Truck Loading



**If an animal rears, back up
and get out of its flight zone**



Optimal Chute Length for Following Behavior



Cardboard on the Back Half of Squeeze Chute Blocks Vision of a Close Person



Cattle Had Lower Cortisol and Easier to Handle

- ✓ Cardboard on chute
- ✓ No yelling
- ✓ No dogs
- ✓ No electric prods

Lima et al., 2017

Solid vs. Open sides

Open Sides

- ✓ Must maintain people free zone around it
- ✓ Requires more skill
- ✓ 20 years of temperament selection – calmer cattle

Solid Sides

- ✓ Outer perimeter to block view of activity and vehicles
- ✓ Wild cattle
- ✓ Less skilled people



**Curved systems
block view of
squeeze chute
operator**

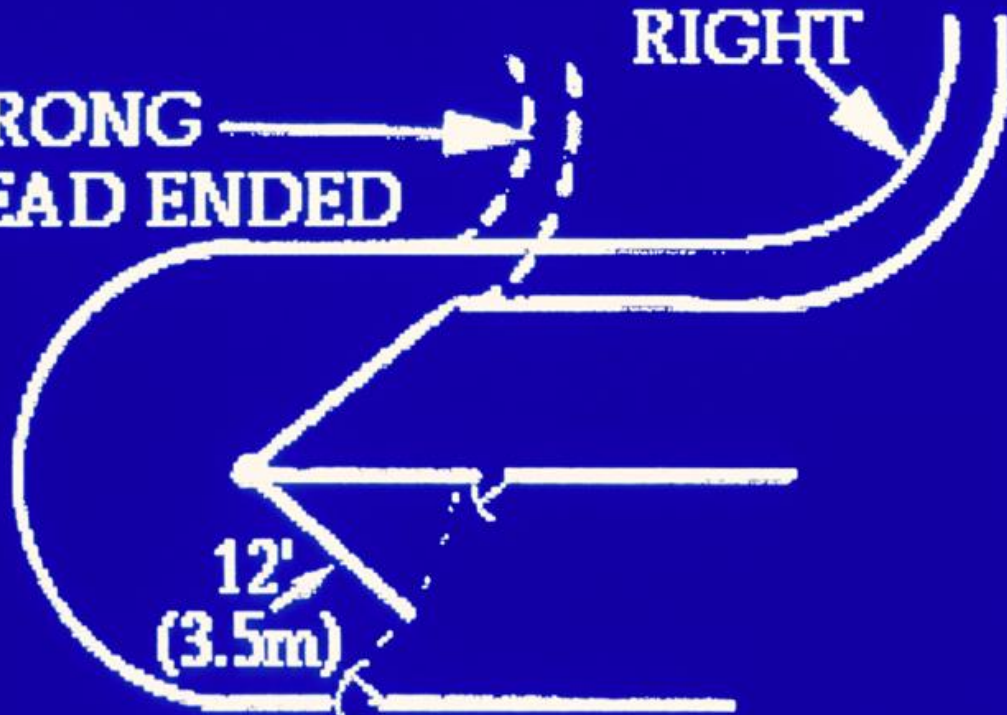
**Animals will turn
back in the same
direction they
came from**



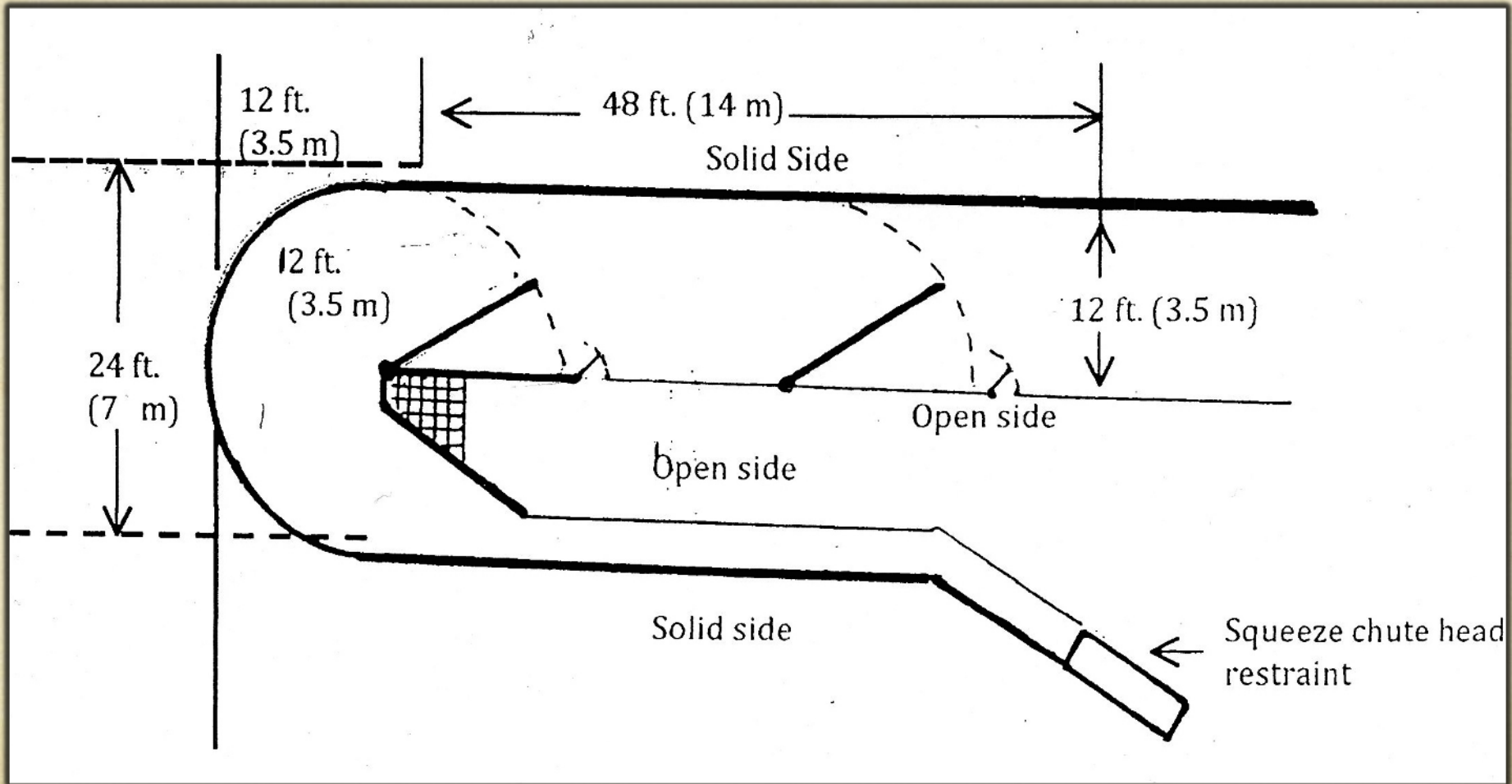
WRONG
DEAD ENDED

RIGHT

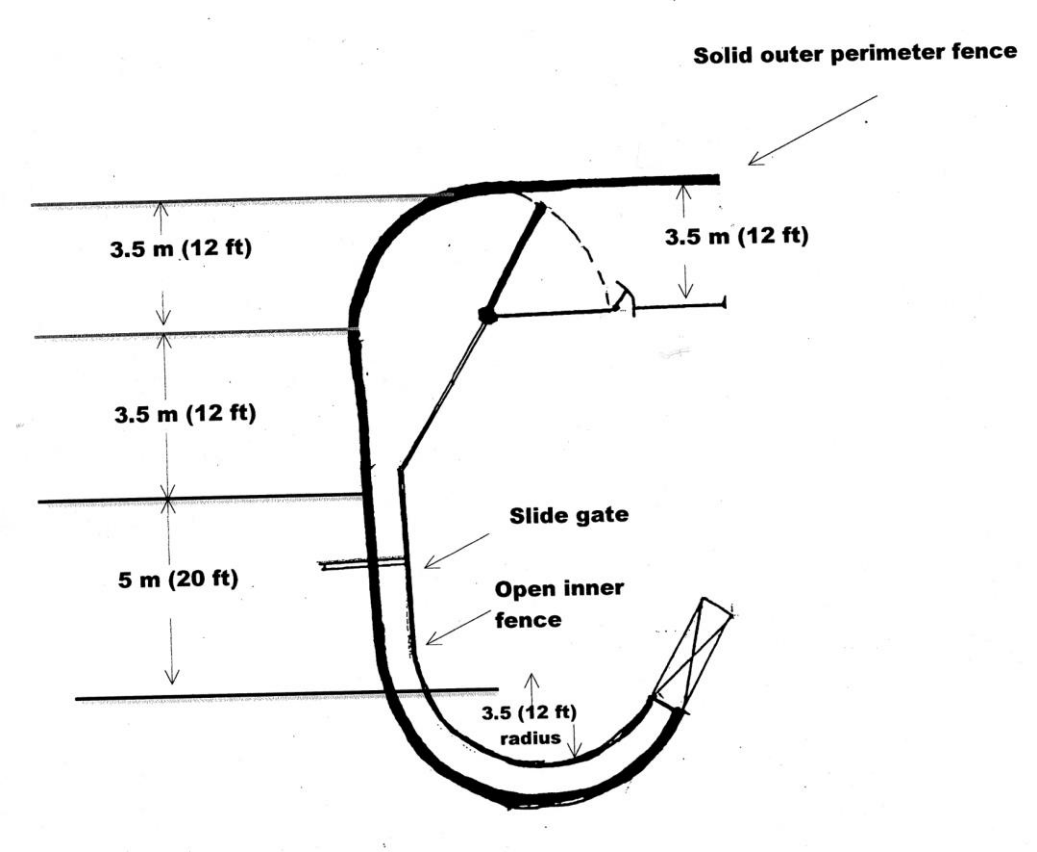
12'
(3.5m)



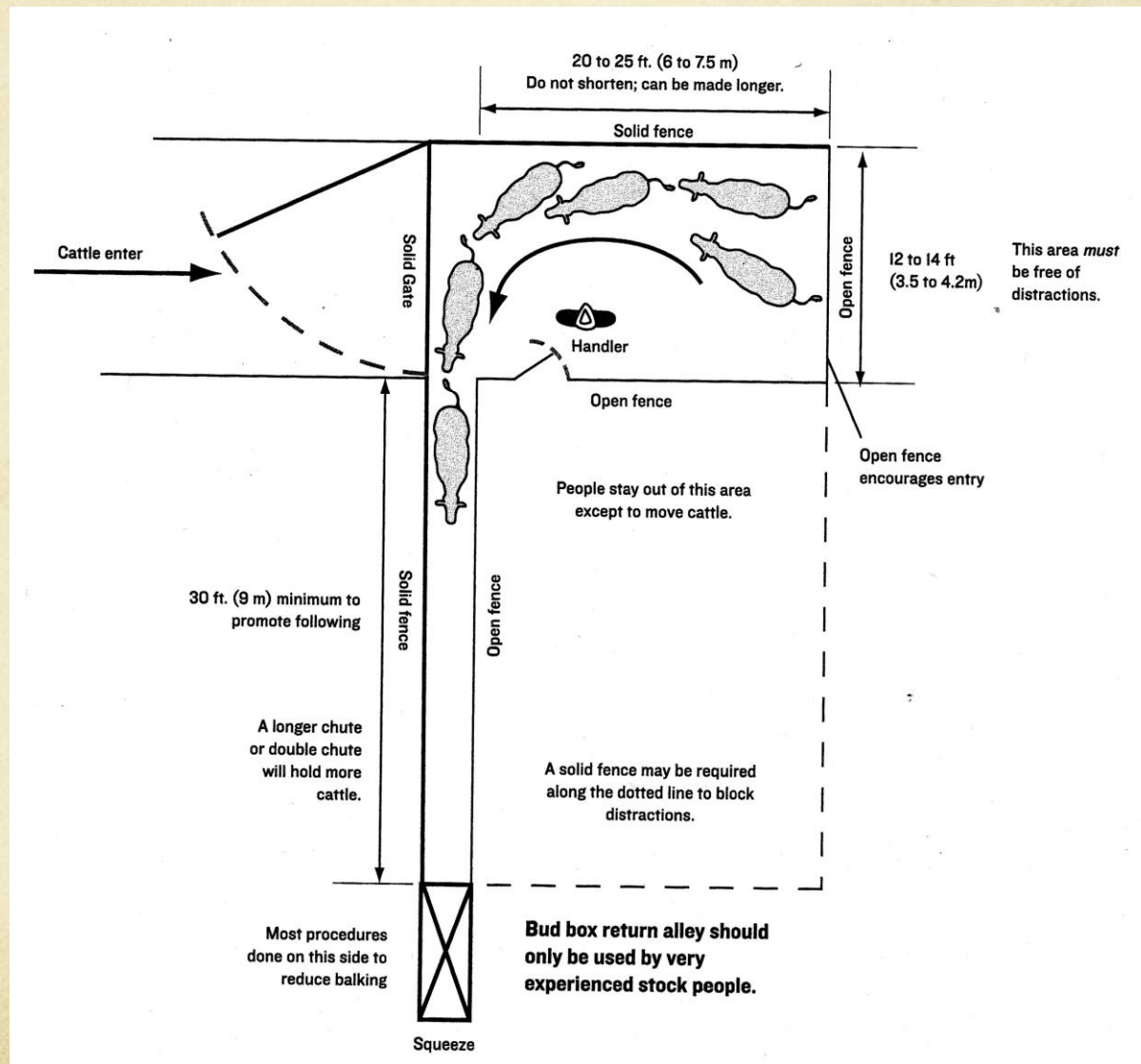
Simple Round Crowd Pen Handler Works the Pivot Point



Work Cattle From Crowd Gate Pivot



Correct Layout of Bud Box



Use Flags, Paddles or No Driving Aid



**An Electric Prod is NEVER the
Primary Driving Aid**

Ranches That Use Electric Prods

- ✓ More balking
- ✓ More falling
- ✓ More stumbling
- ✓ More vocalization

Simons et al., 2016



**Curves
reduce
walking**

**Outer
perimeter
solid sides
most
important**



Design Concepts

- **Simple, Economical** – Requires more Stockmanship skill
 - **More Expensive** – Easier for unskilled people to use
-

Behavioral Principles of Restraint

- ❑ Non slip flooring – Prevents fear of falling
- ❑ No sudden jerky motion
- ❑ Optimal pressure – not too tight, not too loose
- ❑ Block vision (grazing animals)

Non-Slip Flooring is Essential

- Animals get agitated when they slip
- Squeeze chutes, stocks, scales, unloading ramps



**Steer coming out of
squeeze chute**

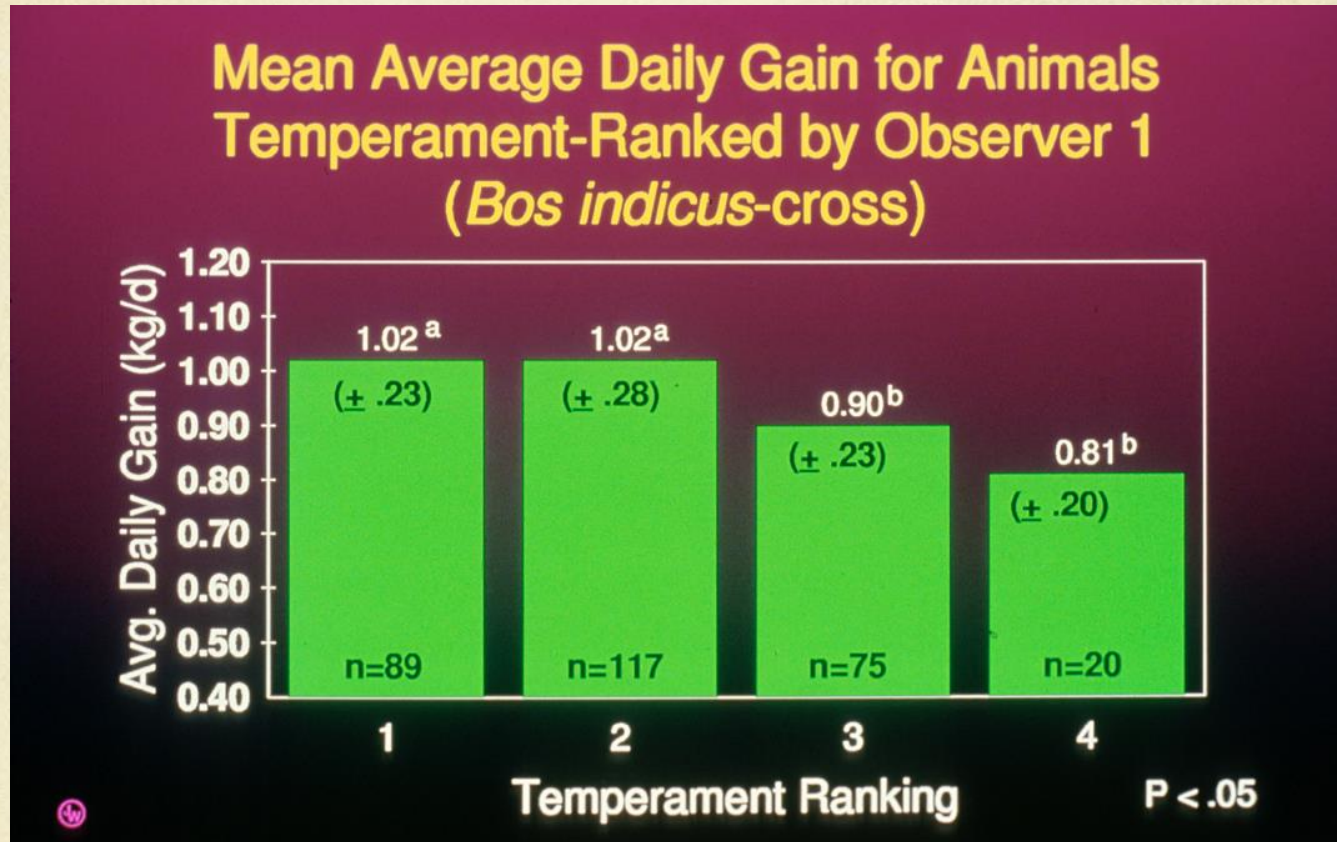
Survey of Cattle Handling in Squeeze Chute in 28 Nebraska, Kansas, and Colorado Feedlots

	Average	Range
Electric Prod %	5.5	0 to 45
Vocalization % *	1.3	0 to 6
Exit Falling %	0.8	0 to 2
Exit Stumble %	6.7	0 to 28
Miscaught %	2.2	0 to 16
Exit Run %	30.7	2 to 75

* No branding, castration, or dehorning

R. Woiwode, 2014

Cattle that become agitated in the squeeze chute have lower weight gains



Cattle that run fast out of the squeeze chute may perform poorly

Voisinet et al., 1997, Fell et al., 1999

Core Emotions

- ❑ FEAR – Most primitive emotion for survival (Amygdala) (Shy or bold personality)
- ❑ RAGE – Anger (Hypothalamus)
- ❑ PANIC – Separation anxiety (Periaqueductal area brain stem) (Isolation stress)
- ❑ SEEKING – Approach novelty (Nucleus Acumbens) (High or low exploration personality)
- ❑ ADDITIONAL EMOTIONS – Lust, caring, play

Jaak Panksepp, Affective Neuroscience, 1998
and Panksep, 2011

Music Mixing Board of Emotion in Cattle

- ❑ High or low FEAR (shy or bold) cows, Measured with exit speed. Separate trait from aggression.
- ❑ High or low SEEK (Exploration), Go getter, Laid back cows

Perez-Torres et al., 2014; Goodman, et al., 2016

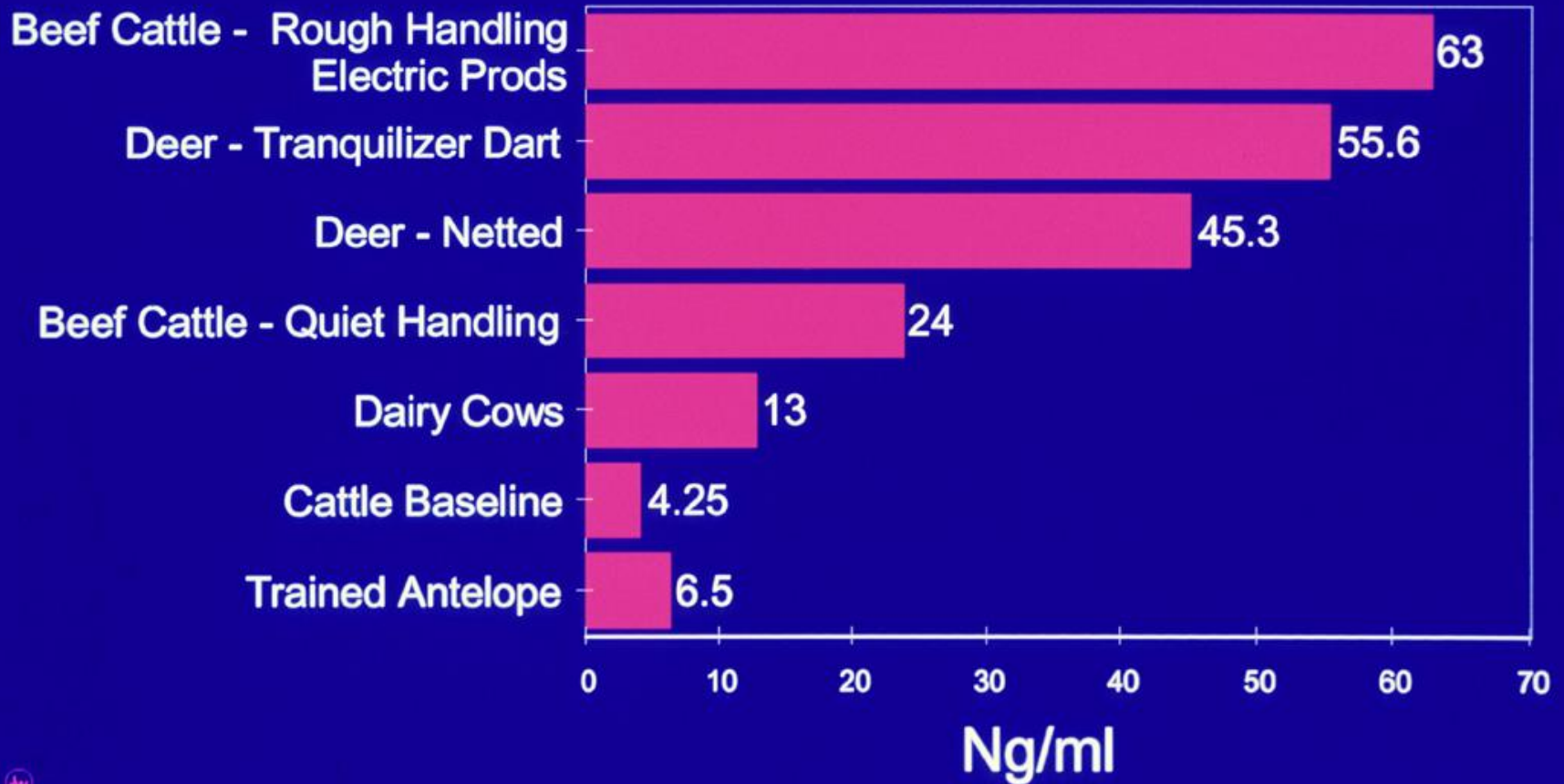
- ❑ Do not over select for temperament
- ❑ Genetic differences in maternal behavior
- ❑ Difference in vigilance
- ❑ Some mothers call their calf
- ❑ A few poor mothers walk away

Florecke et al., 2012

Purebred Brahman Approach People for Stroking



Cortisol Levels During Restraint



- **First experiences with new people, places, or equipment must be good**
- **Acclimating animals to handling reduces stress**

Stockmanship Research

- Cattle handled carefully lower cortisol (Petherick et al., 2009)
 - Heifers acclimated by walking through chutes improved reproductive performance (Cook et al., 2009, 2012)
 - Training Brahman heifers to quietly walk through chutes produces calmer adults (Binstead, 1977; Fordyce, 1987)
-

Advantages of Good Stockmanship

- Cattle frequently moved between pastures reduces exit speed score (Cebellos et al., 2016)
 - Good handling practices reduced flight zone and exit speed scores (Pontes-Silva, et al., 2017)
-

New things are attractive when an animal is allowed to voluntarily approach, and scary when they are suddenly introduced



-
- **Animal memories are very specific. Acclimating cattle to close contact with people by feeding range cubes does not transfer to reduced temperament scores in the squeeze chute (Cook et al., 2009)**
 - **Habituating an animal to a blue and white umbrella does not habituate an animal to other novel objects (Leiner and Fendt, 2011)**
-

These objects are totally different pictures



Objects
may be
perceived
as new
when
rotated

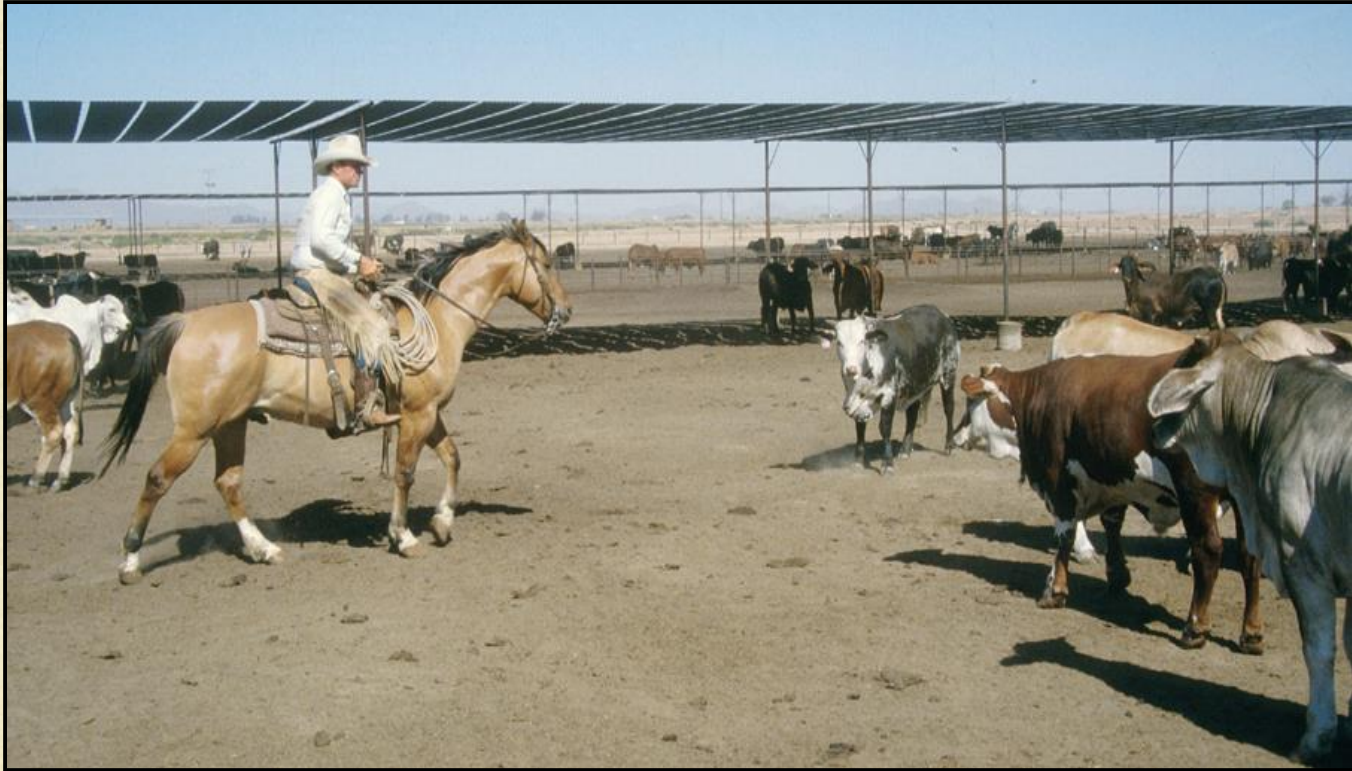


Original Position



Rotated Position

Cattle perceive a man on a horse and a man on foot as two different things

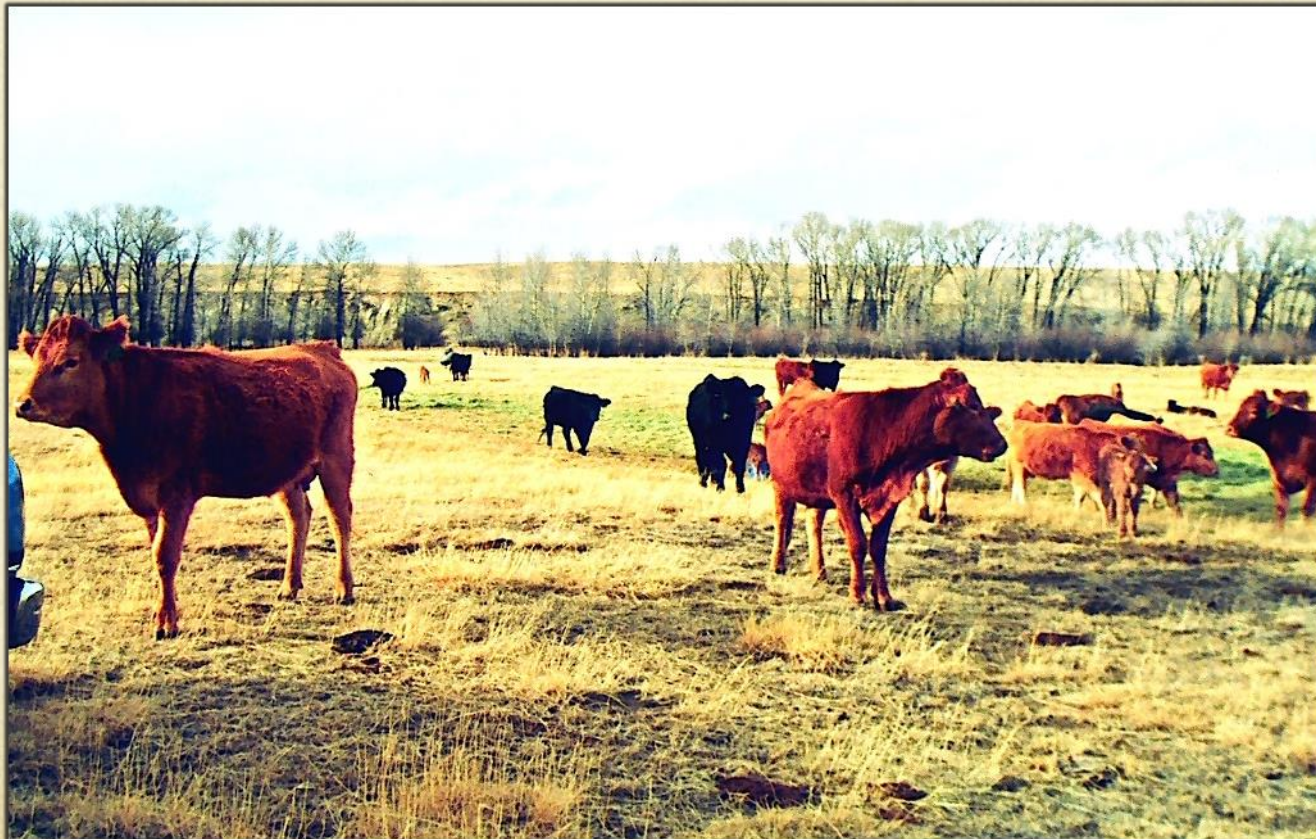


They need to be habituated to both

Dogs around the chutes stress cattle because they cannot move away. They may also teach cattle to kick



Acclimate Cattle to Different Vehicles and Going through the Chute



You Manage What You Measure

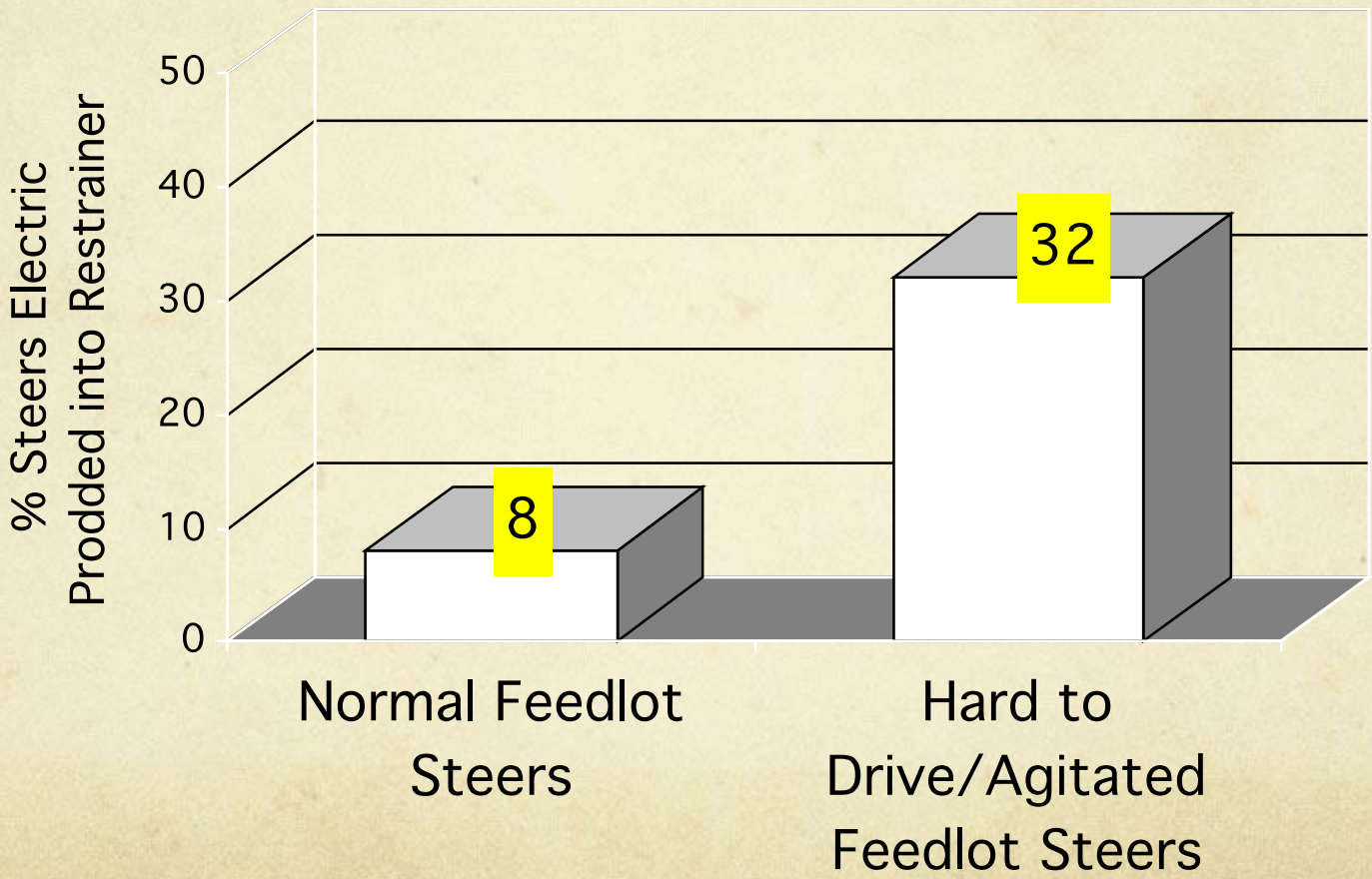
- Maintaining high standards requires continuous measurement
- Handling quality can be maintained by regular audits of your handling practices with an objective numerical scoring system

PREVENTS BAD FROM BECOMING NORMAL

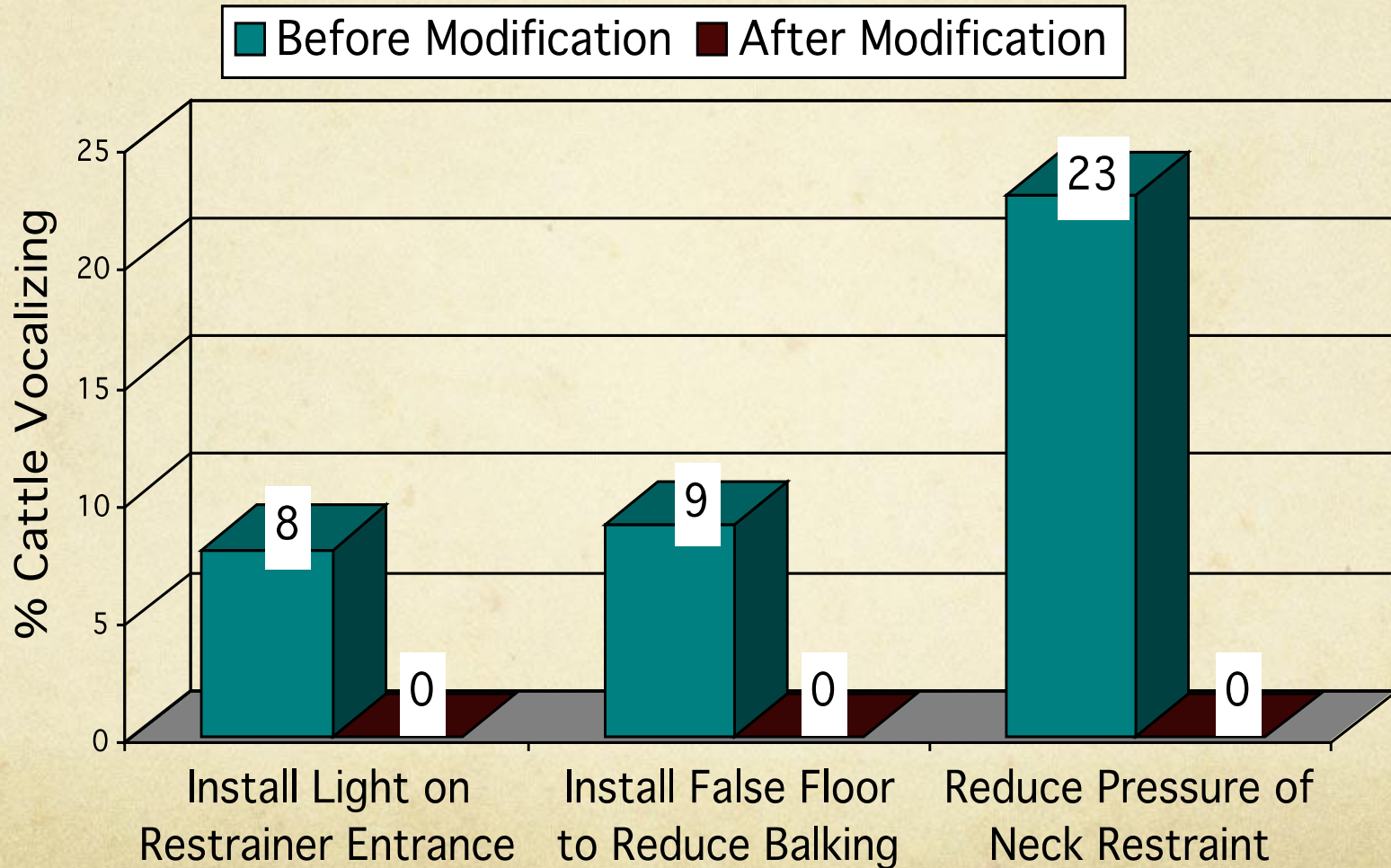
Scoring Animal Handling

- Percentage of animals that run
- Percentage of animals that fall during handling
- Percentage that stumble exiting squeeze
- Percentages of animals that vocalize during catching
- Percentage moved with electric prod

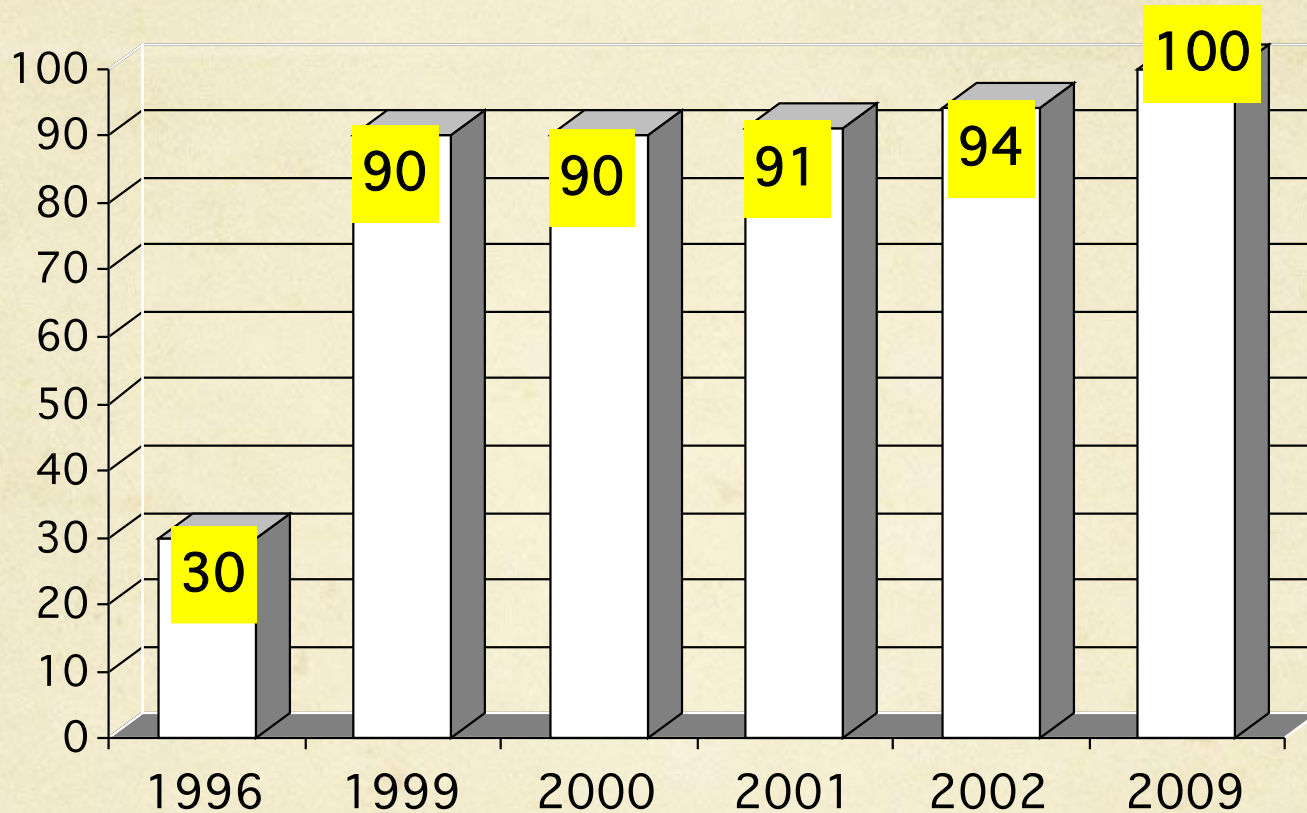
Comparison of Electric Prod Use Between Normal Fed Cattle and Hard to Handle Steers



Reduction in Cattle Vocalizations After Equipment Modifications



Percentage of Beef Plants That Stunned 95% or More Cattle with the First Shot



USDA
survey prior
to industry
wide auditing

McDonald's
Audits
started

Continued auditing
by major customers
Continuous auditing maintains
good performance

-
- HACCP Principles same as food safety
 - Directly observable things that are **outcomes** of bad practices or bad facilities
 - Not a paperwork audit
-

Three Types of Variables for Auditing Animal Welfare

1. Animal based outcome measure
(continuous variables)
 2. Prohibited practices (discreet variable)
 3. Input-based engineering variables
(discreet variable)
-

Critical Control Points for Cattle Welfare

- ✓ Handling scoring
- ✓ Sores, lesions, and swollen leg joints
- ✓ Lameness
- ✓ Dirty animals
- ✓ Body condition
- ✓ Ammonia levels – Indoor animals
- ✓ Heat stress – Open mouth breathing in cattle
- ✓ Coat condition

Example: Lameness is an Outcome of Many Bad Conditions

- ❖ Agitated Cattle Scuff Hooves (toe abscesses)
- ❖ Rapid Growth
- ❖ Poor Leg Conformation
- ❖ Poor Foot Care
- ❖ Foot Disease
- ❖ Injuries
- ❖ Beta-Agonists – Hot Weather

Poor Leg Conformation Causes Lameness and Difficulty Walking



Correct

Collapsed Poor

Straight Post
Poor

Post Legged Cattle Leg is Too Straight



The pig has bad leg conformation



Beef should not repeat this mistake

Corkscrew foot – A genetic defect in cattle



**Photo by L.A. Horstman, DVM,
Purdue University, 2010**

Examples: Prohibited Practices

- ❑ Poking sensitive areas to move animals
- ❑ Dragging downer cows or bulls
- ❑ Beating animals – See video
“Proper Use of Livestock Driving Tools”

Example: Input Base Measures

- ❑ Measures
- ❑ Space Requirements for Feeders and Waterers
- ❑ Space Requirements for Transport
- ❑ Stunning Equipment Specifications

Steps to Improve Animal Welfare

- Eliminate acts of abuse and animals with neglected health problems
- Implement numerical scoring
- Accommodate highly motivated behavioral needs
- Do animals have positive emotions

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