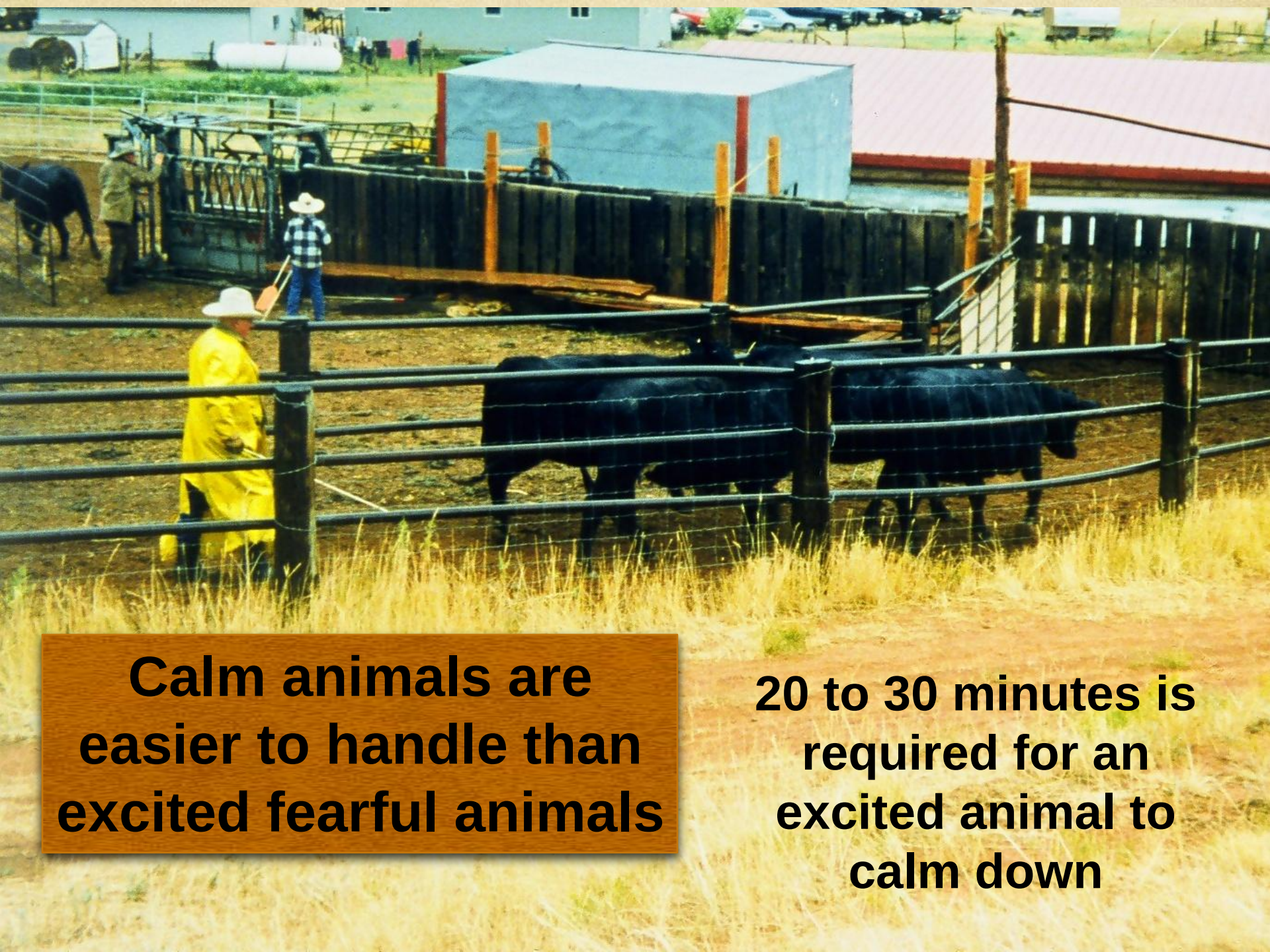
Improving Animal Welfare: A Practical Approach 2nd Edition

Temple Grandin

Colorado State University



Calm animals are easier to handle than excited fearful animals

20 to 30 minutes is required for an excited animal to calm down

A calm animal has soft brown eyes

Fearful Cattle or Horses

- Tail Swishing
- Eye White
- Head Up
- Ears Pinned Back

Tie up loose chain ends that scare animals

A change in flooring or a drain may retard movement

Allow the leader time to investigate

Reflections scare animals

Cattle can see people through the open sides

To find distractions: Get in the chute to see it from the animal's point of view

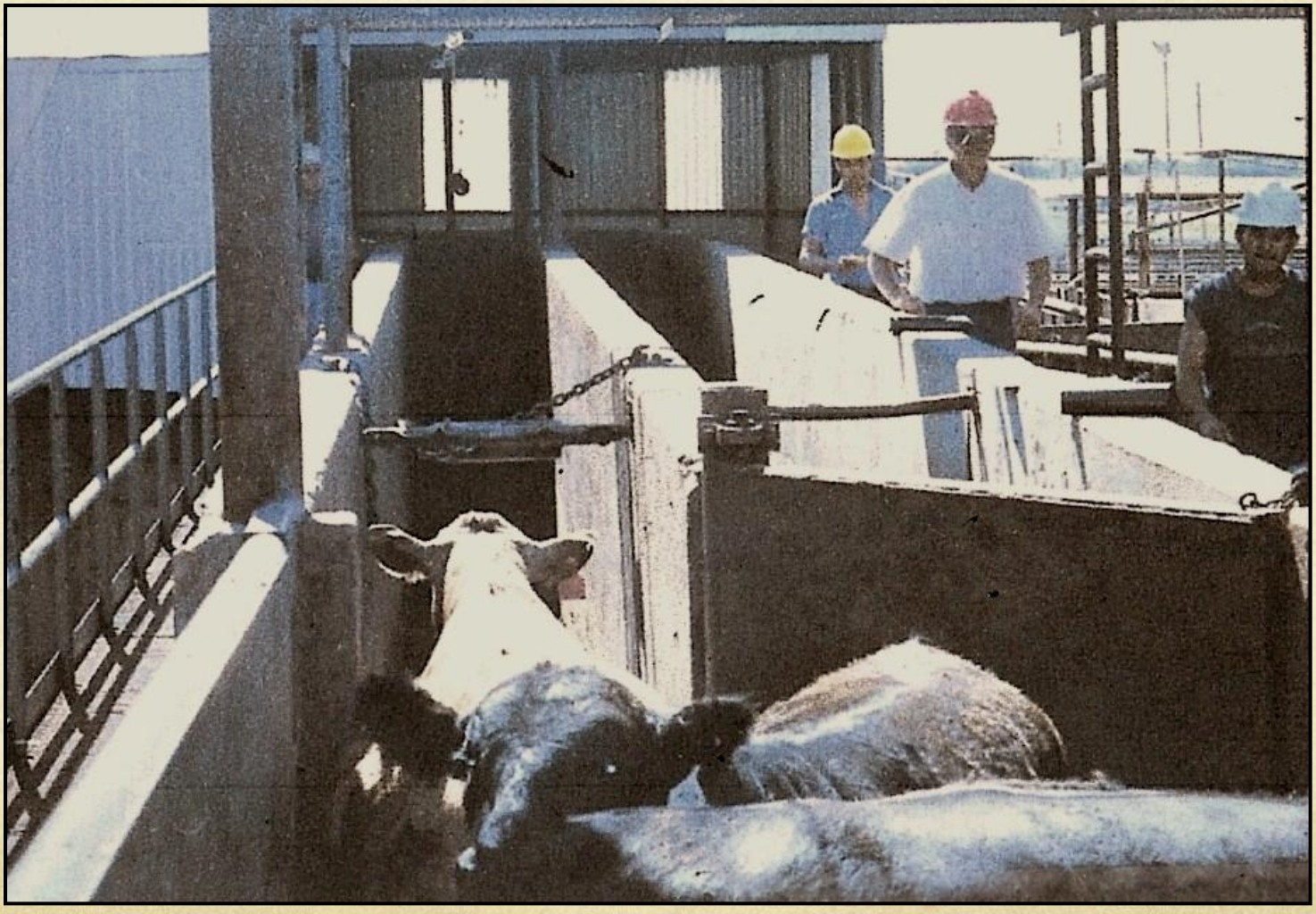
Shadows may impede movement

Sunny days are the worst

Cattle may refuse to enter a dark building

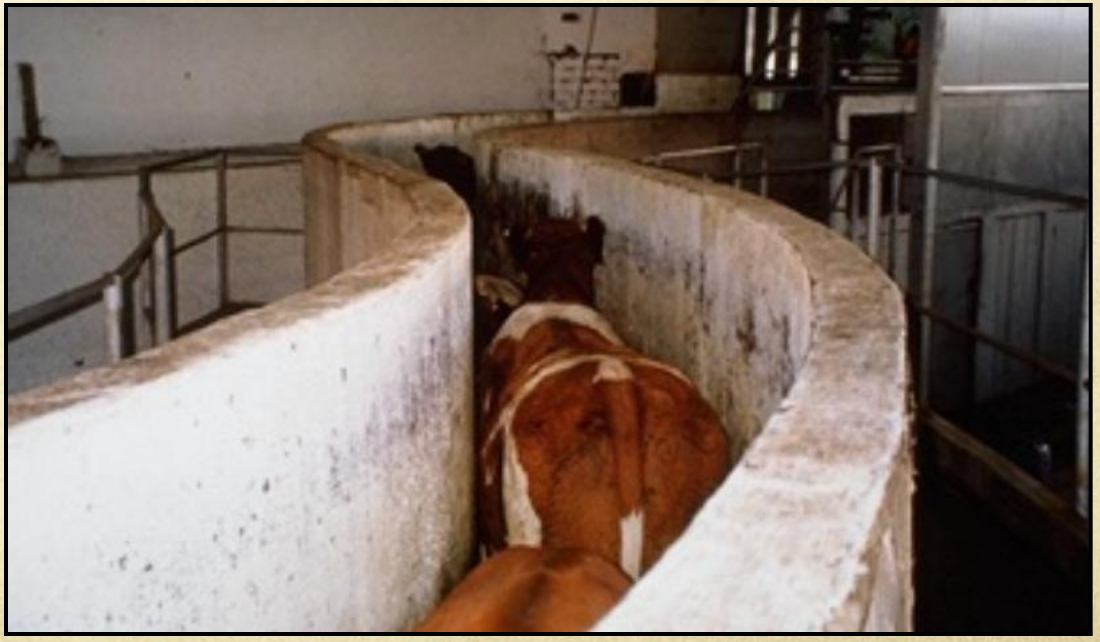
Skylights installed in the walls will improve cattle movement into an existing dark building

Animals going into the slaughter plant are afraid of little things people do not notice



Curves reduce walking

Outer perimeter solid sides most important

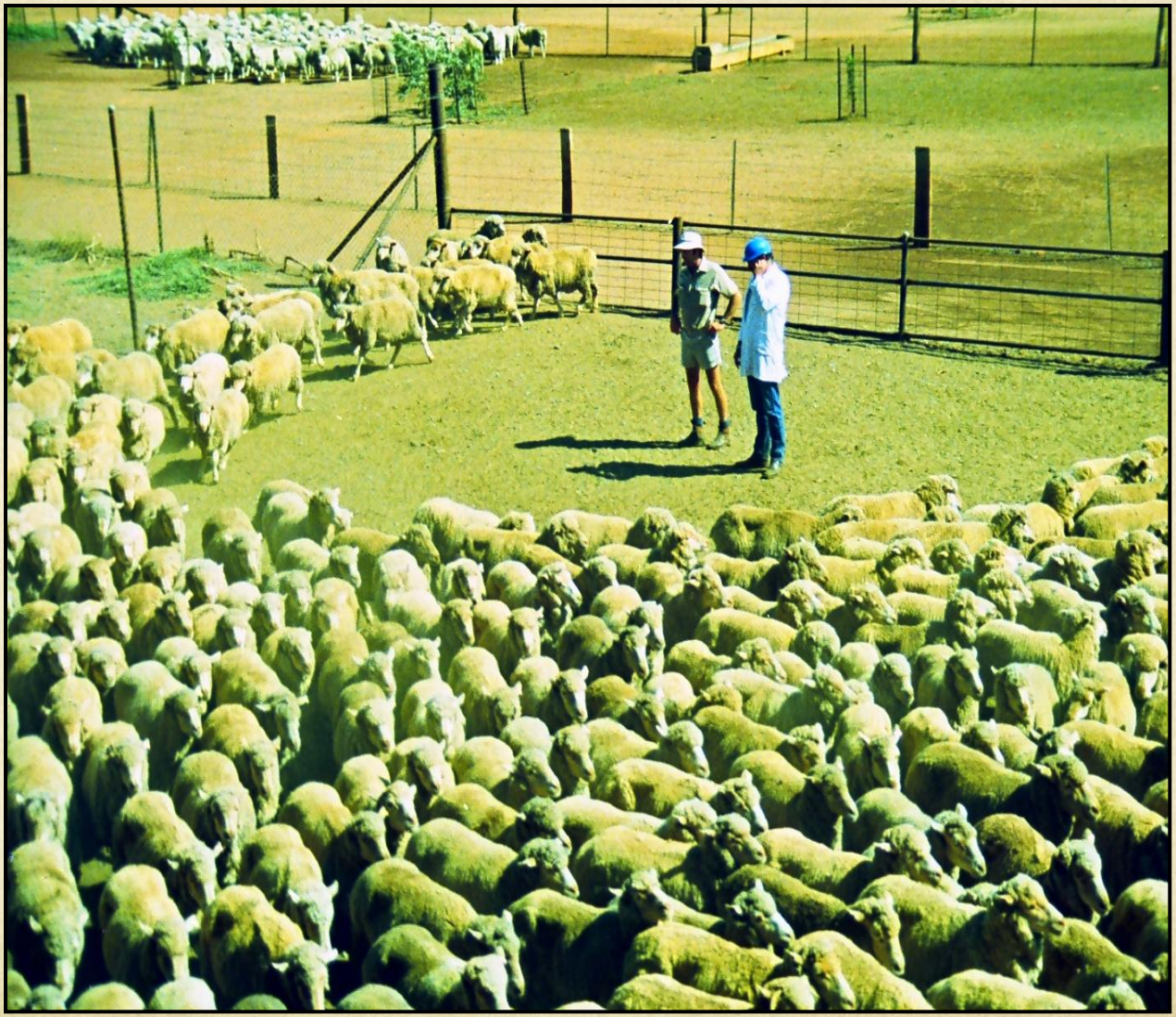


Curved systems block view of squeeze chute operator

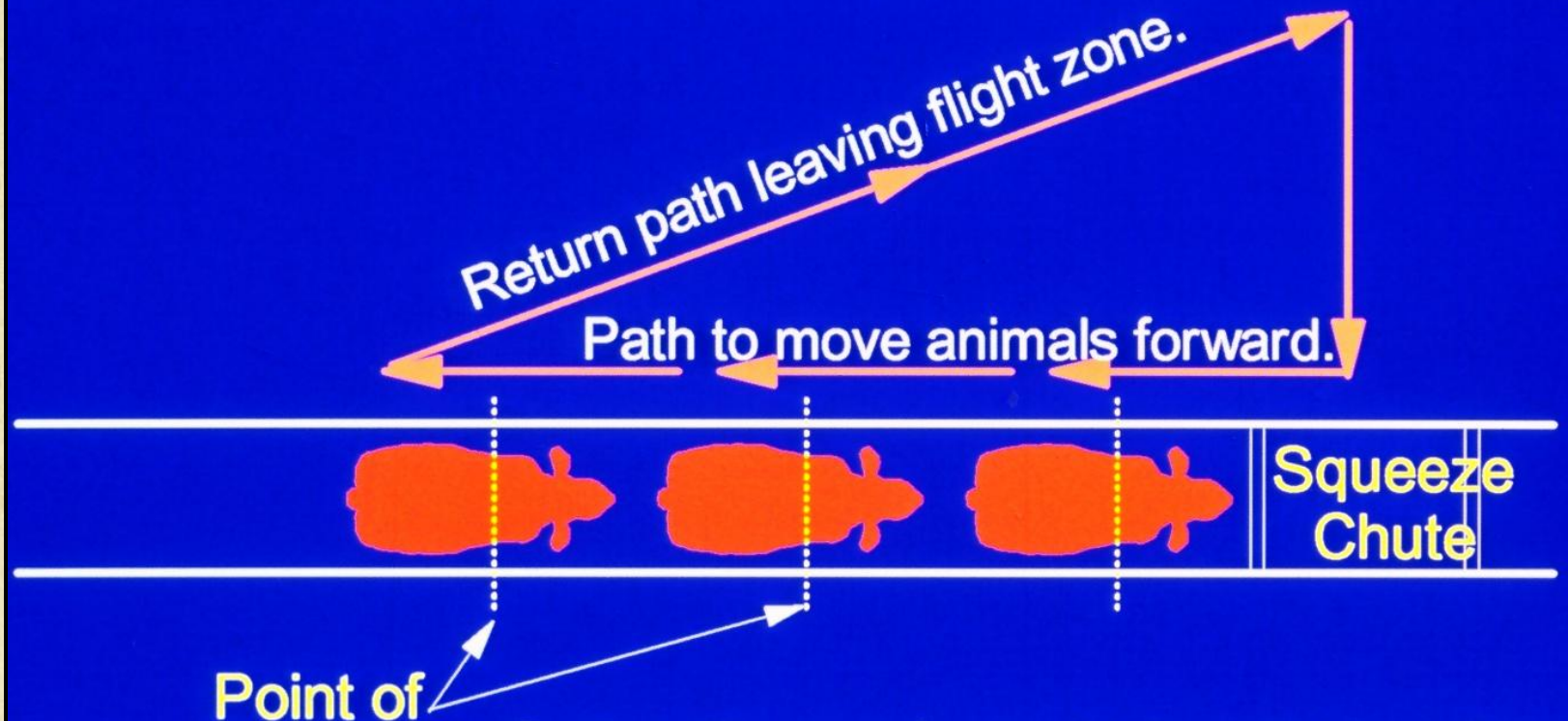
Animals will turn back in the same direction they came from

The Flight Zone Is The Animal's Safety Zone

Calm animals will have a small flight zone and tame animals will have no flight zone



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



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.

A flag can be used to turn an animal by blocking the animal's vision on one side

The crowd pen should be filled half full with cattle or pigs

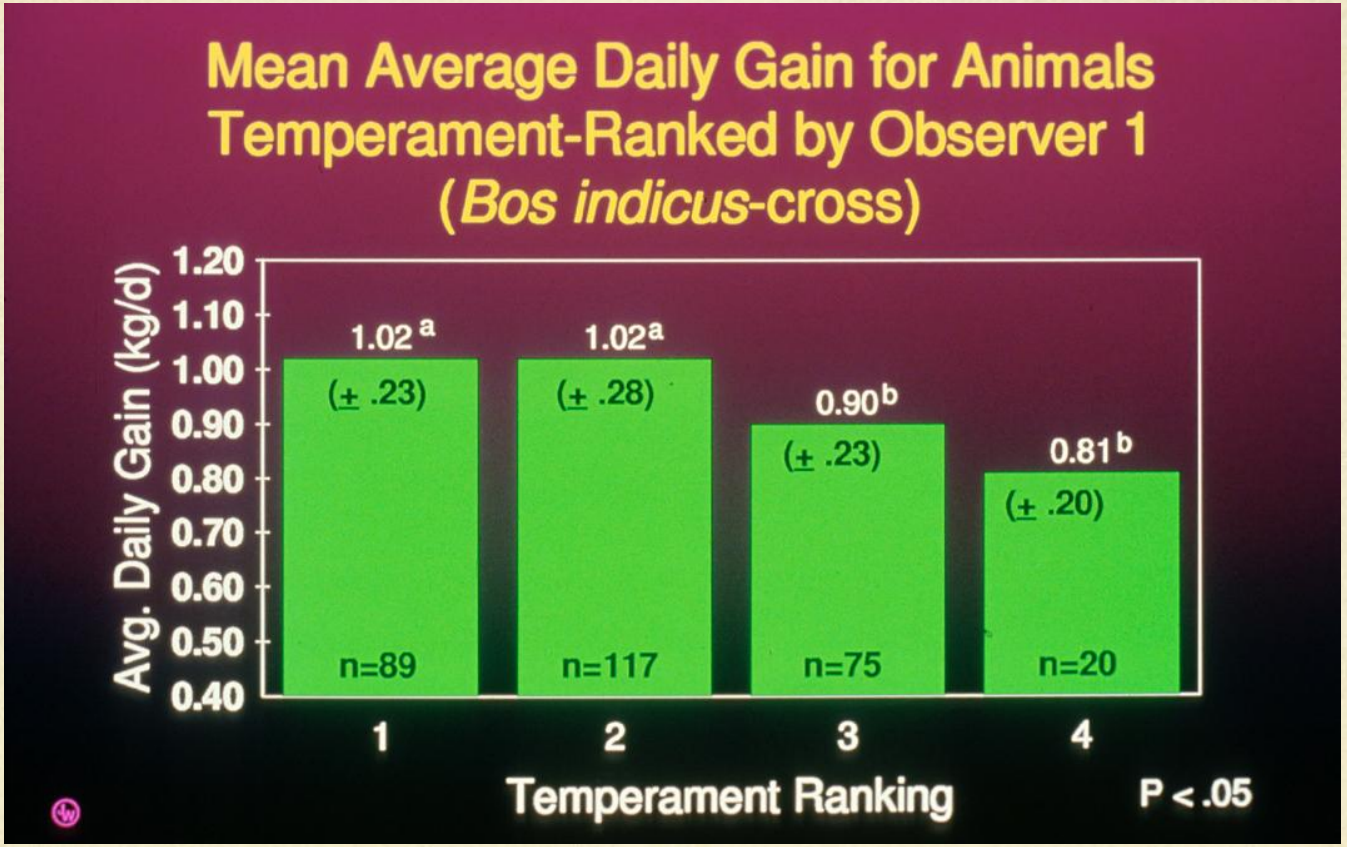
Animals also “watch” with their ears for potential danger

The horse has an ear pointed at both a photographer and a zebra

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)

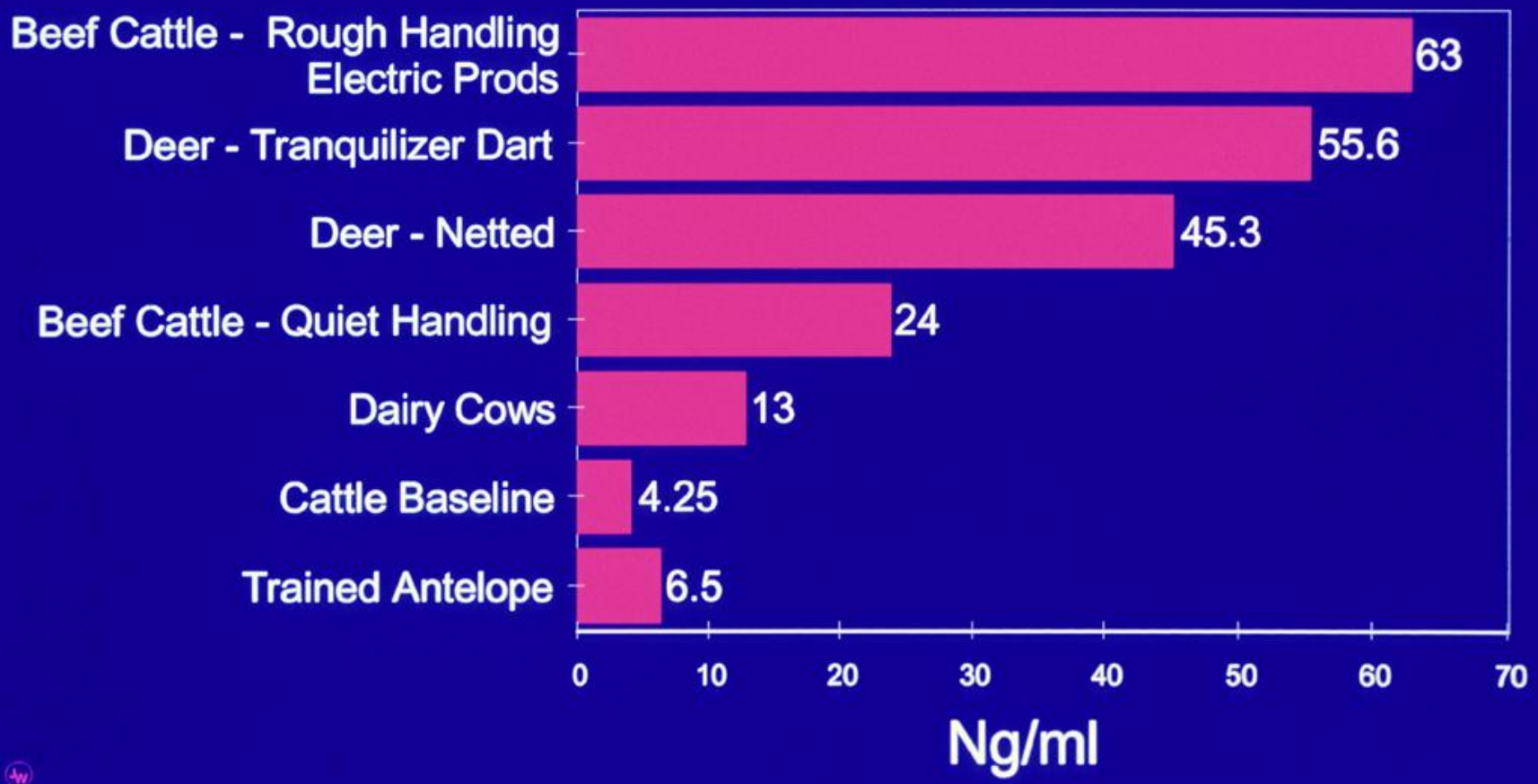
Cattle that become agitated in the squeeze chute have lower weight gains



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

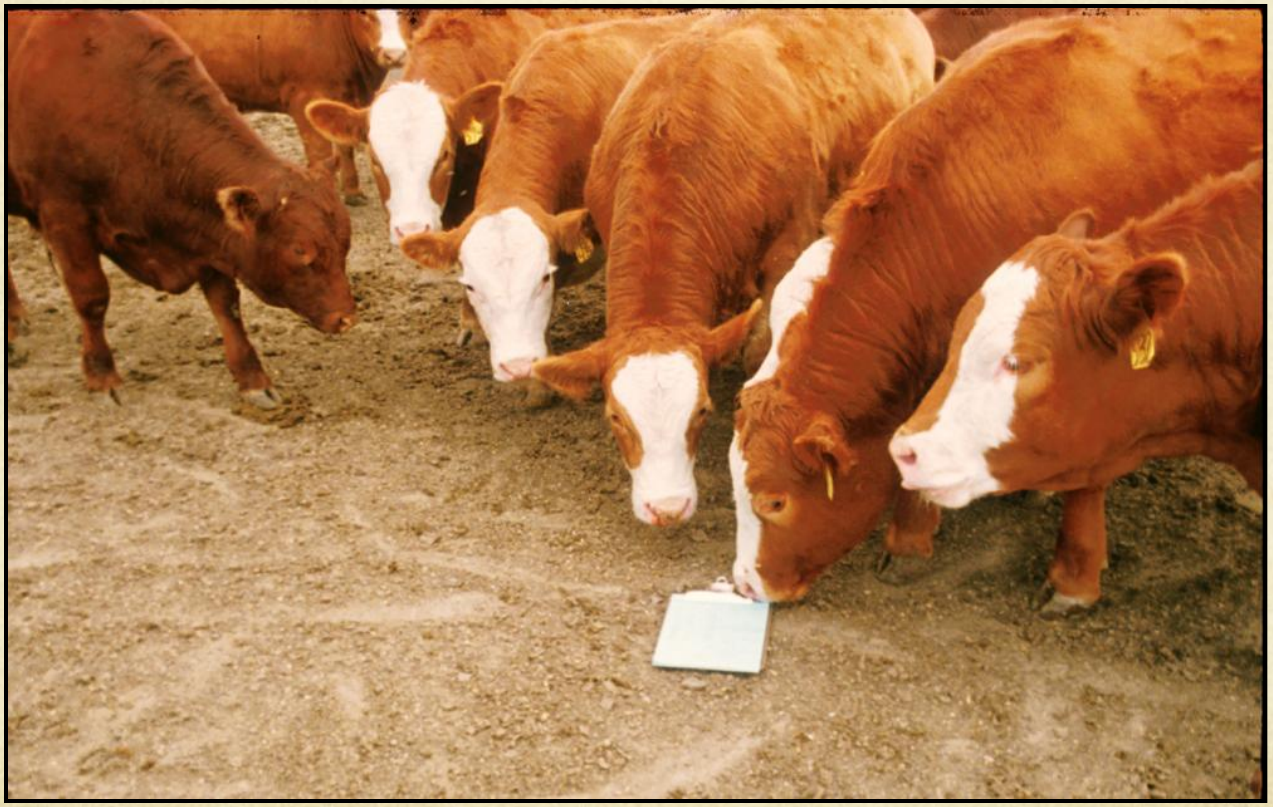
Voisinet et al., 1997, Fell et al., 1999

Cortisol Levels During Restraint



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

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

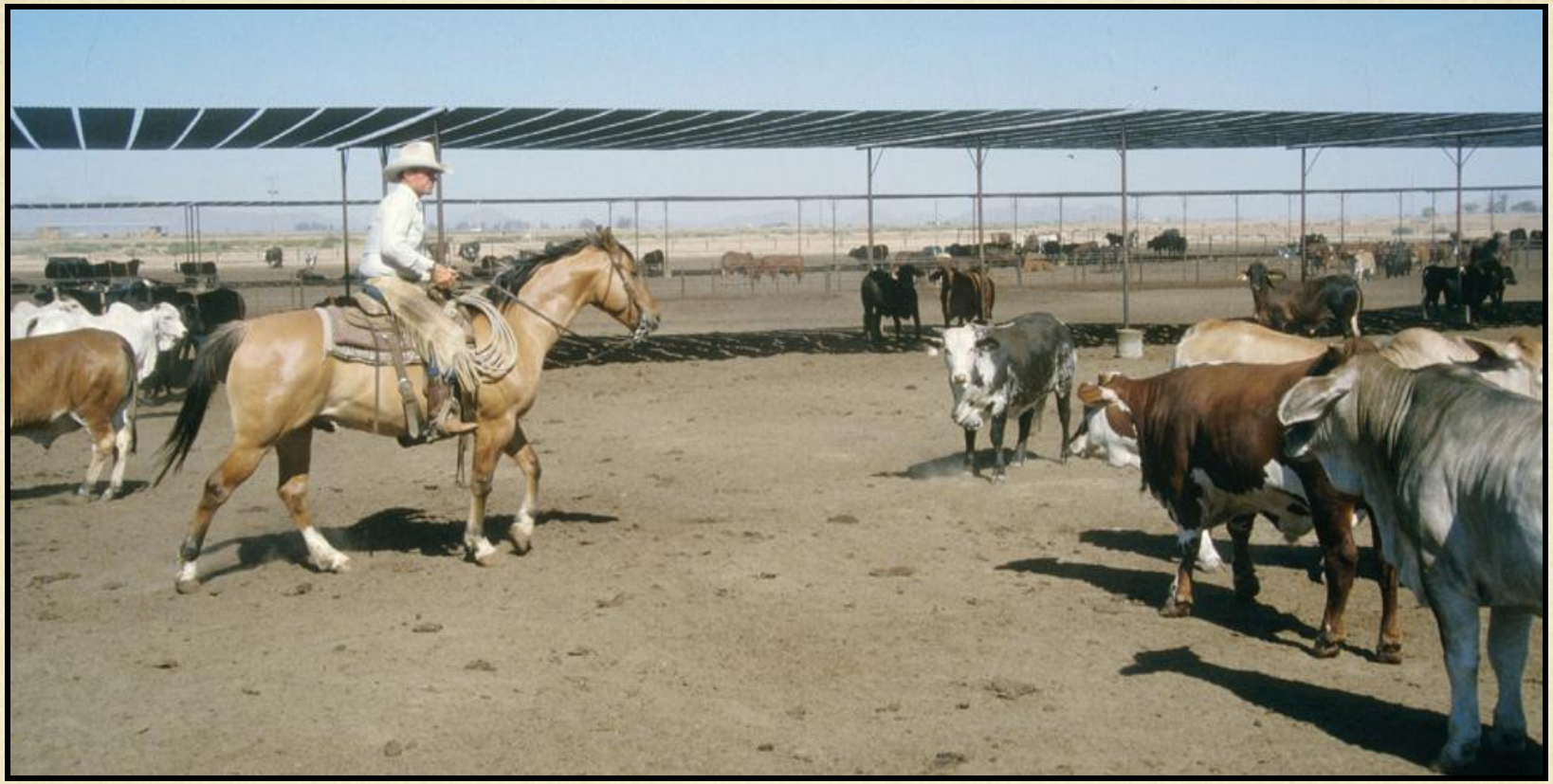


Grandin and Deesing., 1998

A sudden novel stimulus, such as an umbrella suddenly opening, frightens many animals unless they have low fear genetics

blueoak@connemaras

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



They need to be habituated to both

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

A Good Auditing System Must Not be Vague

Ban the words “properly”, “adequate” and “sufficient”. What is “proper” to one auditor might be considered “terrible” by another.

A guideline must have clearly written standards which are not subject to different interpretations by different people.

Example of a Clearly Worded Guideline

All pigs must have enough space to lie down without being on top of each other

Scoring Animal Handling

- Percentage of animals that run
- Percentage of animals that fall
- Percentage of animals that vocalize
- Percentage moved with electric prod

American Meat Institute
Basic Critical Control Points
(Core Criteria)

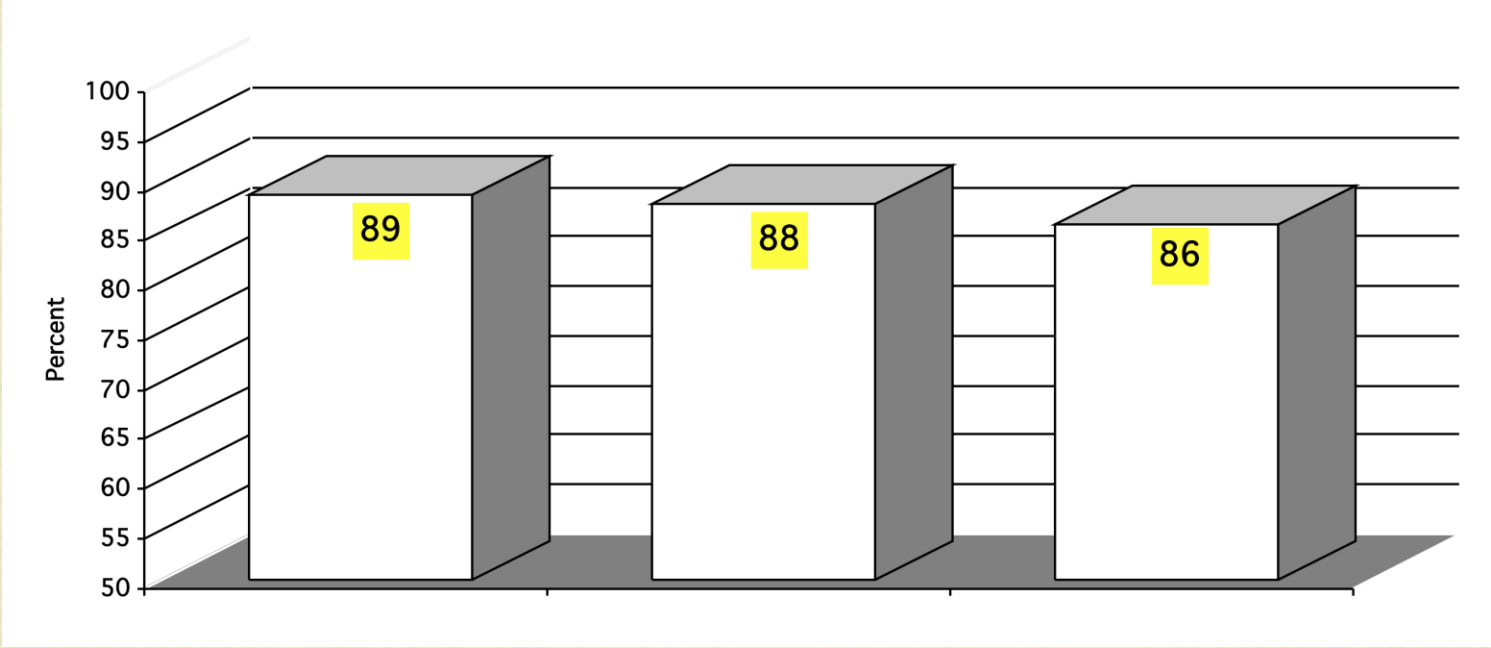
1. Percentage of animals stunned correctly on the first attempt
2. Percentage of animals rendered insensible
3. Percentage of animals prodded with an electric prod
4. Percentage of animals that vocalize
5. Percentage of animals that slip or fall

All scores are on a per animal basis

Objective Scoring Reduces Subjectivity and Improves Agreement Between Different Auditors from Different Customers

% of Plants That Passed the Stunning Audit.

Twenty or more plants were scored by each auditing system

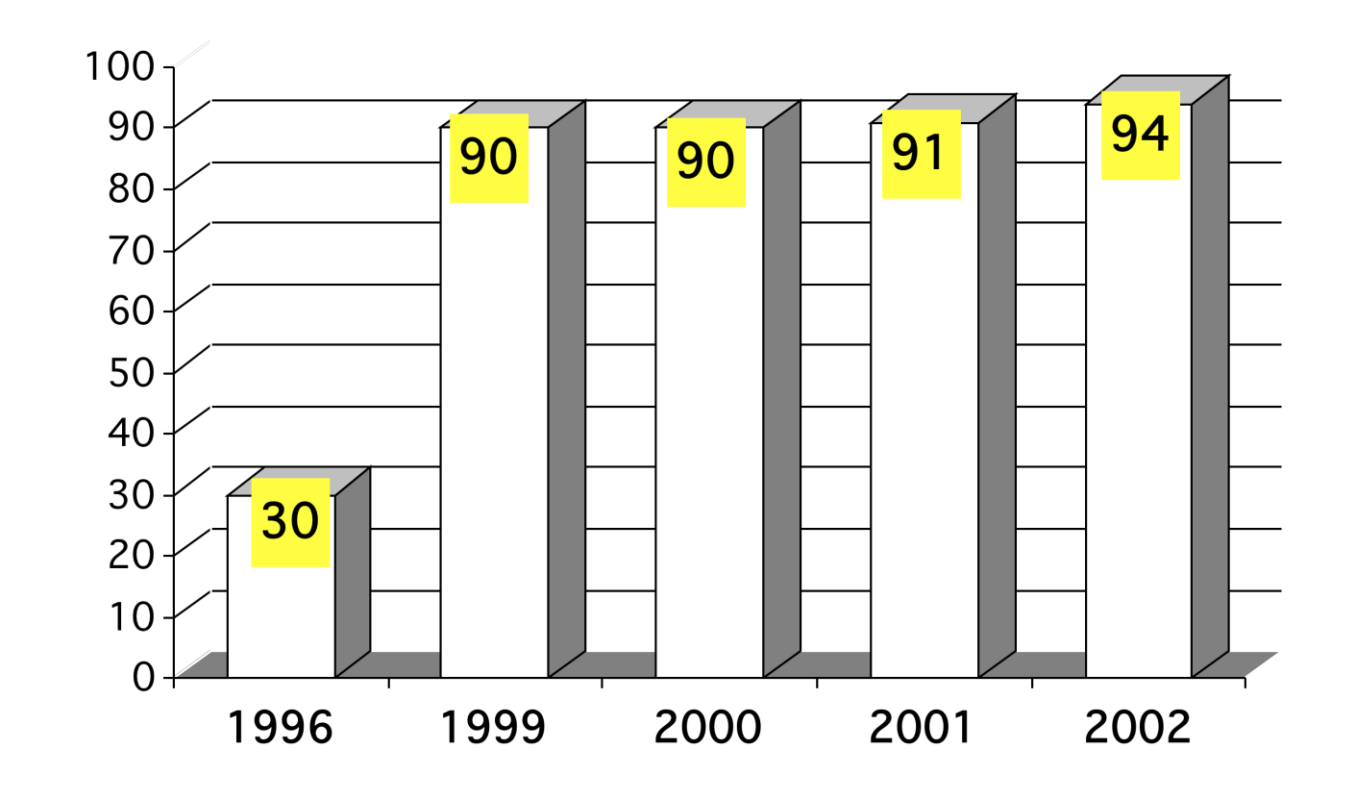


Auditing System 1

Auditing System 2

Auditing System 3

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

American Meat Institute Objective Scoring System

It measures a small number of critical control points that will objectively locate many different problems affecting welfare. Scoring is based on performance.

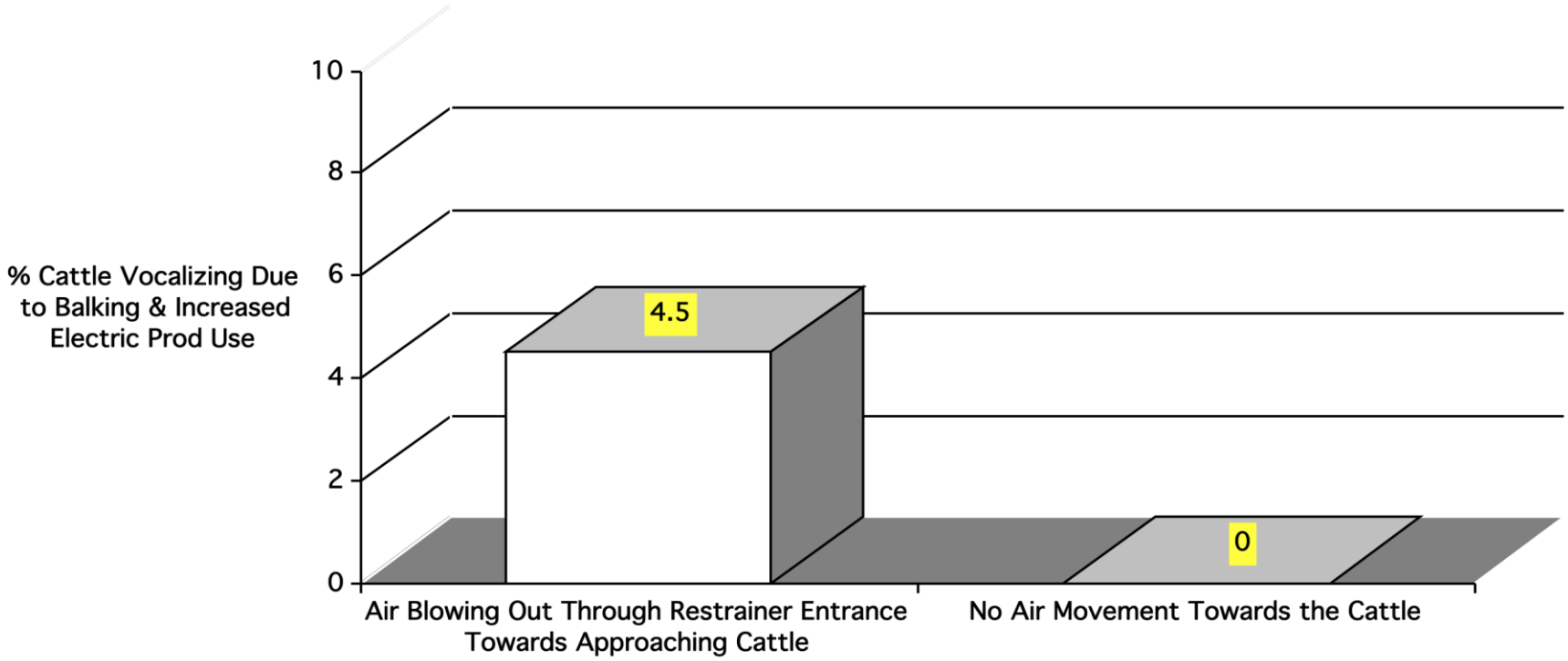
When CCPs are being chosen, a good CCP will be a point that monitors a variety of problems.

AMERICAN MEAT INSTITUTE

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

Use Scoring to Show How Changes Made in Your Operation Improved Handling

Effect of Air Blowing into the Faces of Cattle at the Restrainer Entrance on Vocalization Score



Electric Prod Use on Pigs Was Reduced By Adding Lighting at the Restrainer Entrance

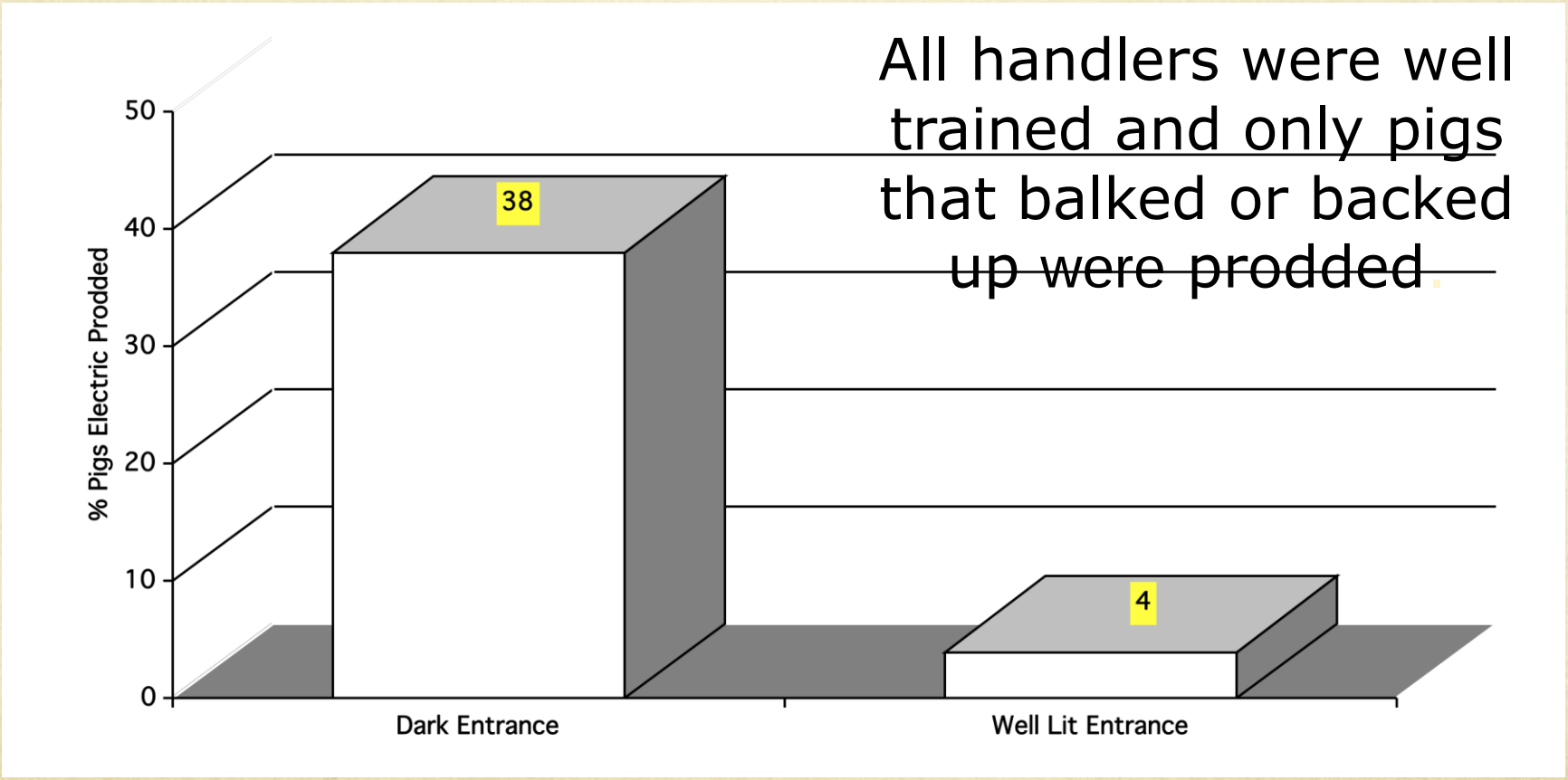
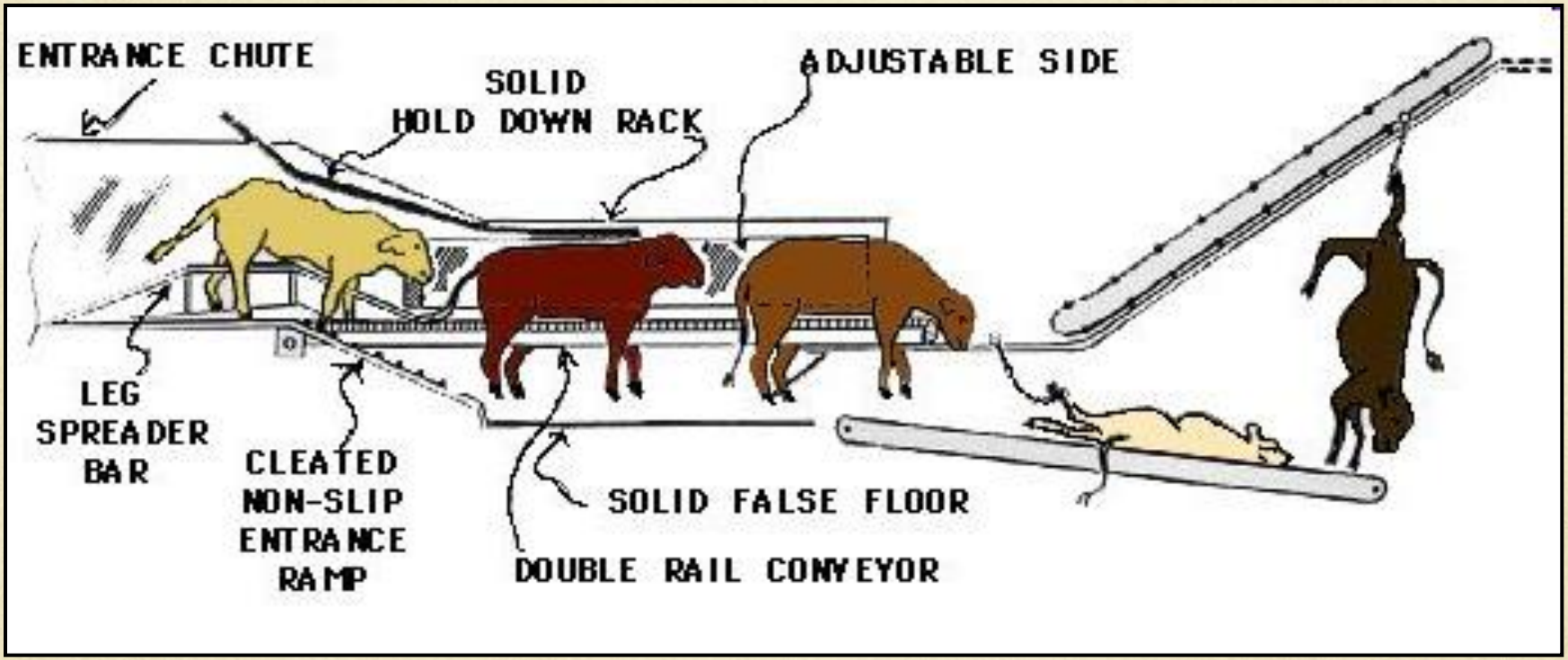
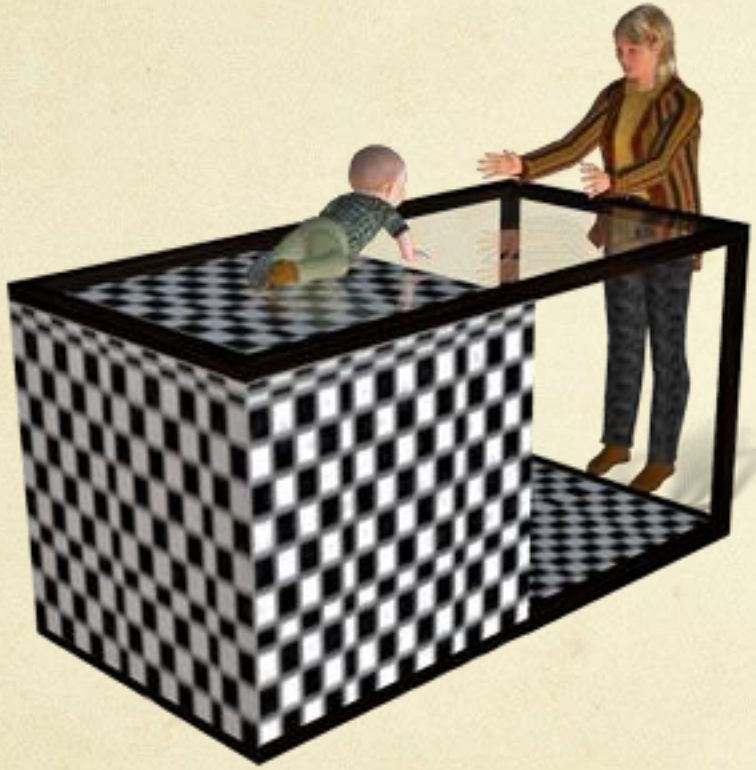


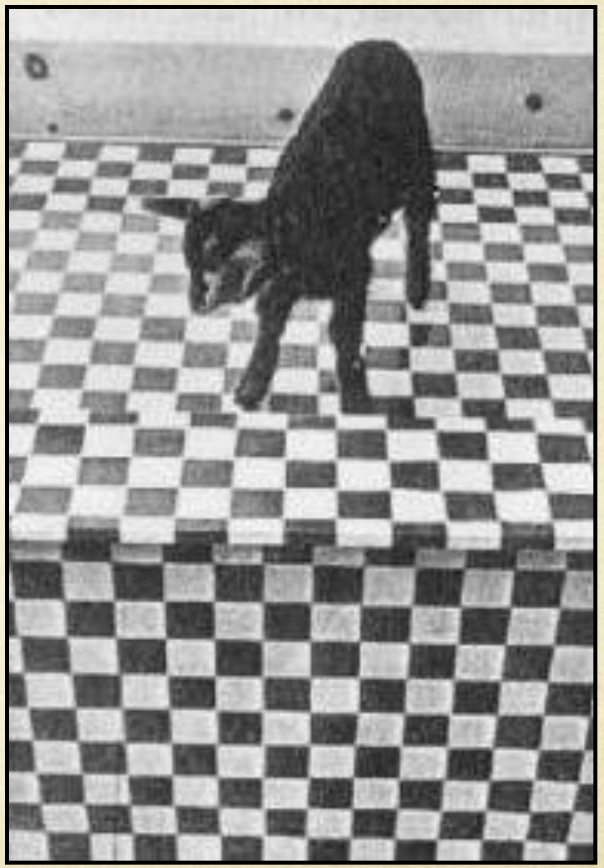
Diagram of center track conveyor system for a large plant



Non-slip Entrance Ramp

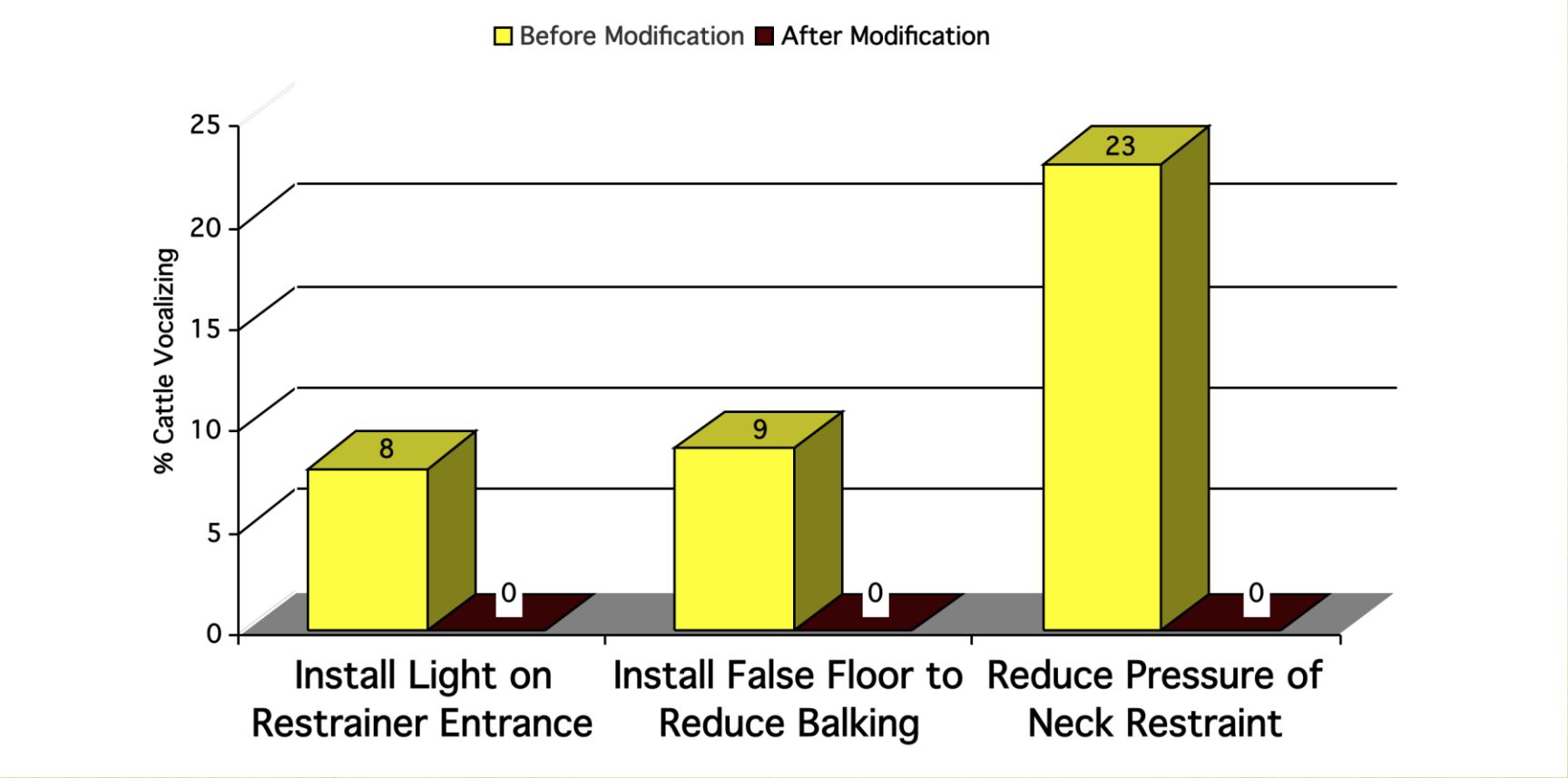
Animals and Young Children Fear Visual Cliff





Source: gynomite.wordpress.com

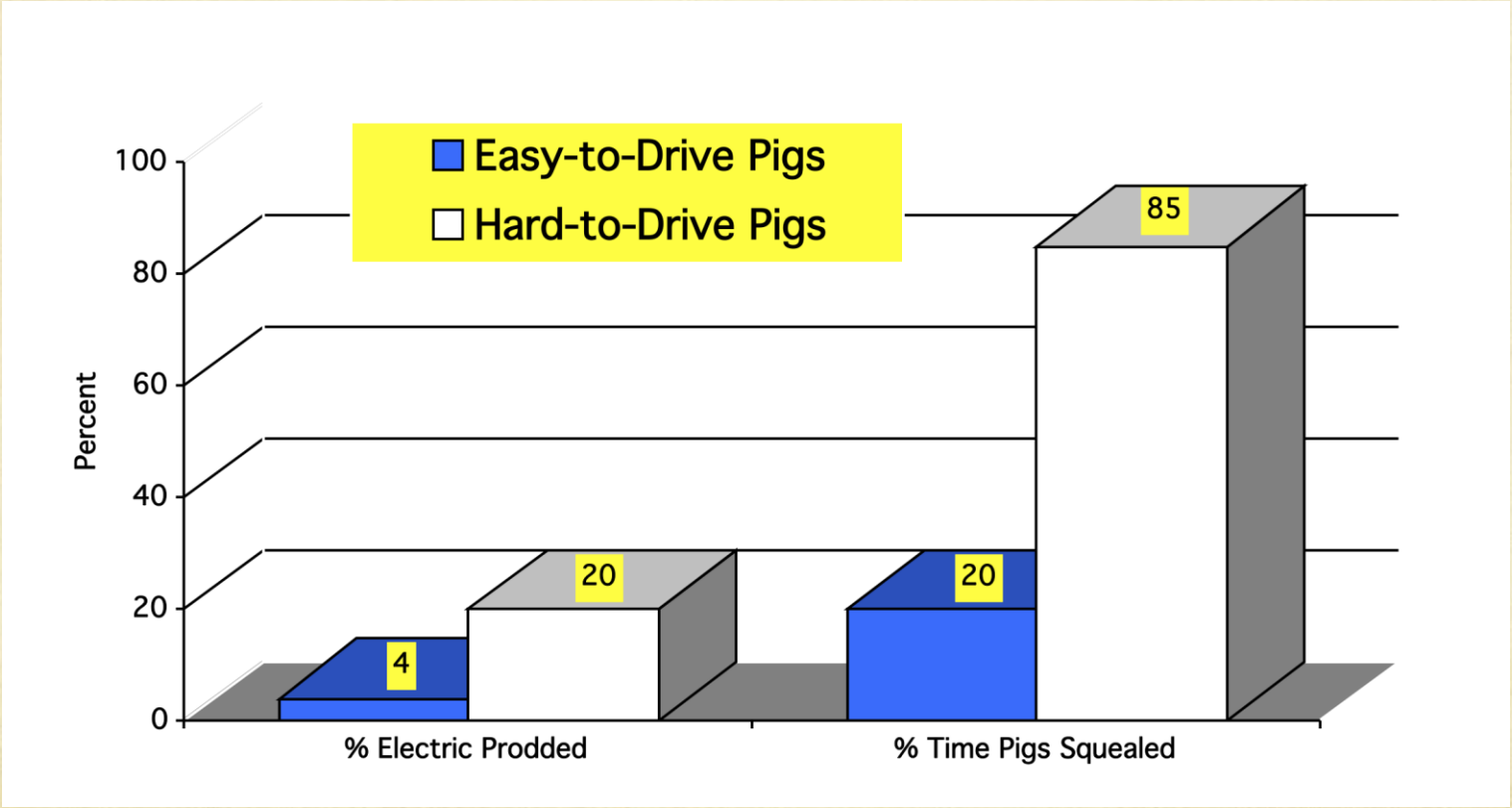
Reduction in Cattle Vocalizations After Equipment Modifications



Animals Are Afraid of Dark Places

Adding a light at the restrainer entrance or making other lighting changes that eliminate shiny reflections will improve animal movement

Comparison of Electric Prod Use and Squealing Between Easy-to-Drive Pigs and Hard-to-Drive Pigs



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)

Animal-Based Outcome Measures (Continuous Variable) Should Receive the Most Emphasis

- Body Condition Score
- Lameness
- Dirty Animals
- Injuries, Sores, Swellings, Cancer Eye
- Coat Condition (Organic)
- Ammonia Levels (Indoor facilities)
- Abnormal Behaviors

Example: Lameness is an Outcome of Many Bad Conditions

- Poor Housing
- Rapid Growth
- Poor Leg Conformation
- Poor Foot Care
- Foot Diseases
- Injuries

Examples: Prohibited Practices

- Sow Gestation Stalls
- Docking Dairy Cow Tails
- Beating Animals
- Small Chicken Cages

Example: Input Based Measures

- Measures
- Space Requirements for Housing
- Space Requirements for Transport
- Stunning Equipment Specifications

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