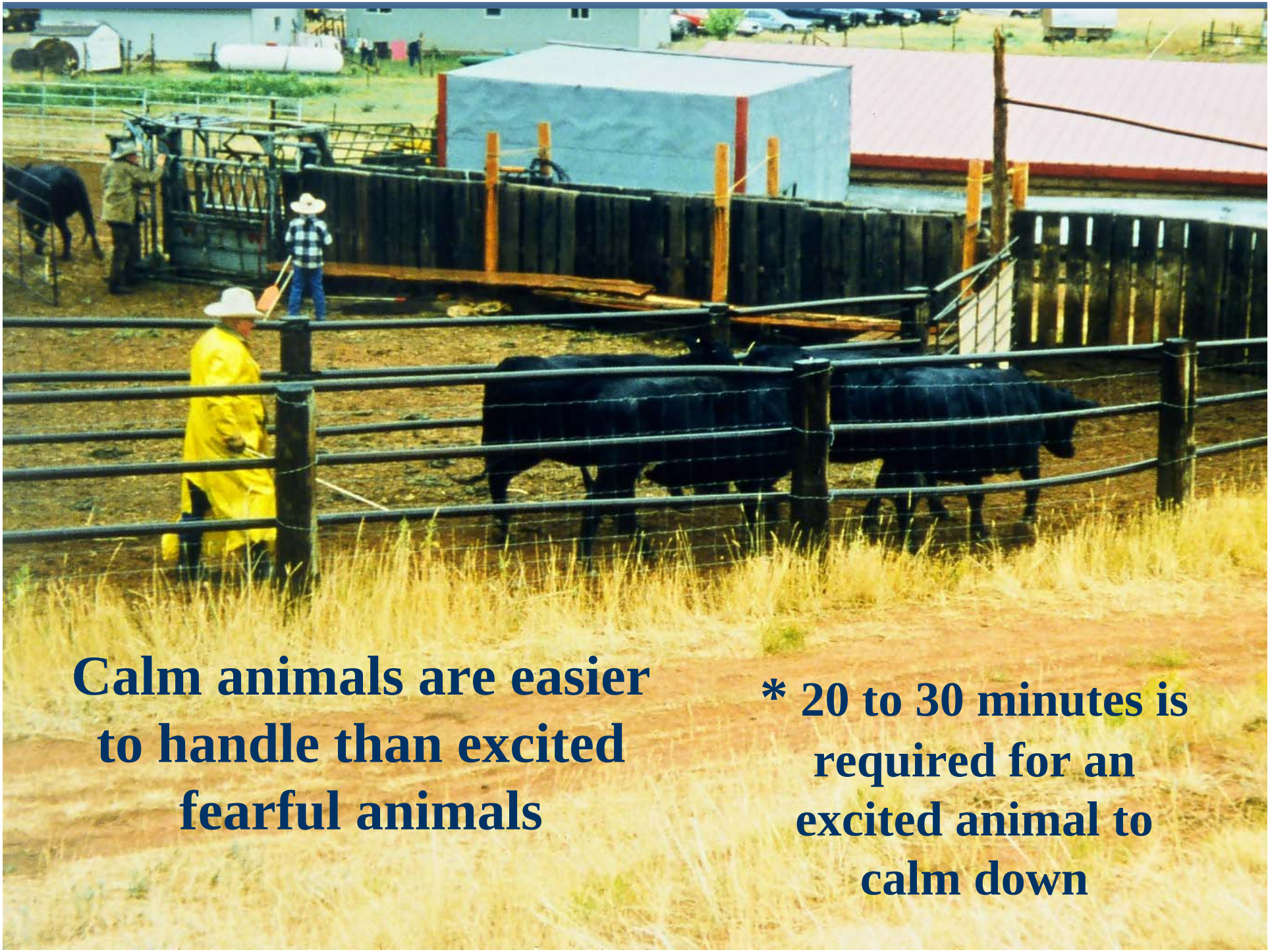
Animal Handling Welfare Audit

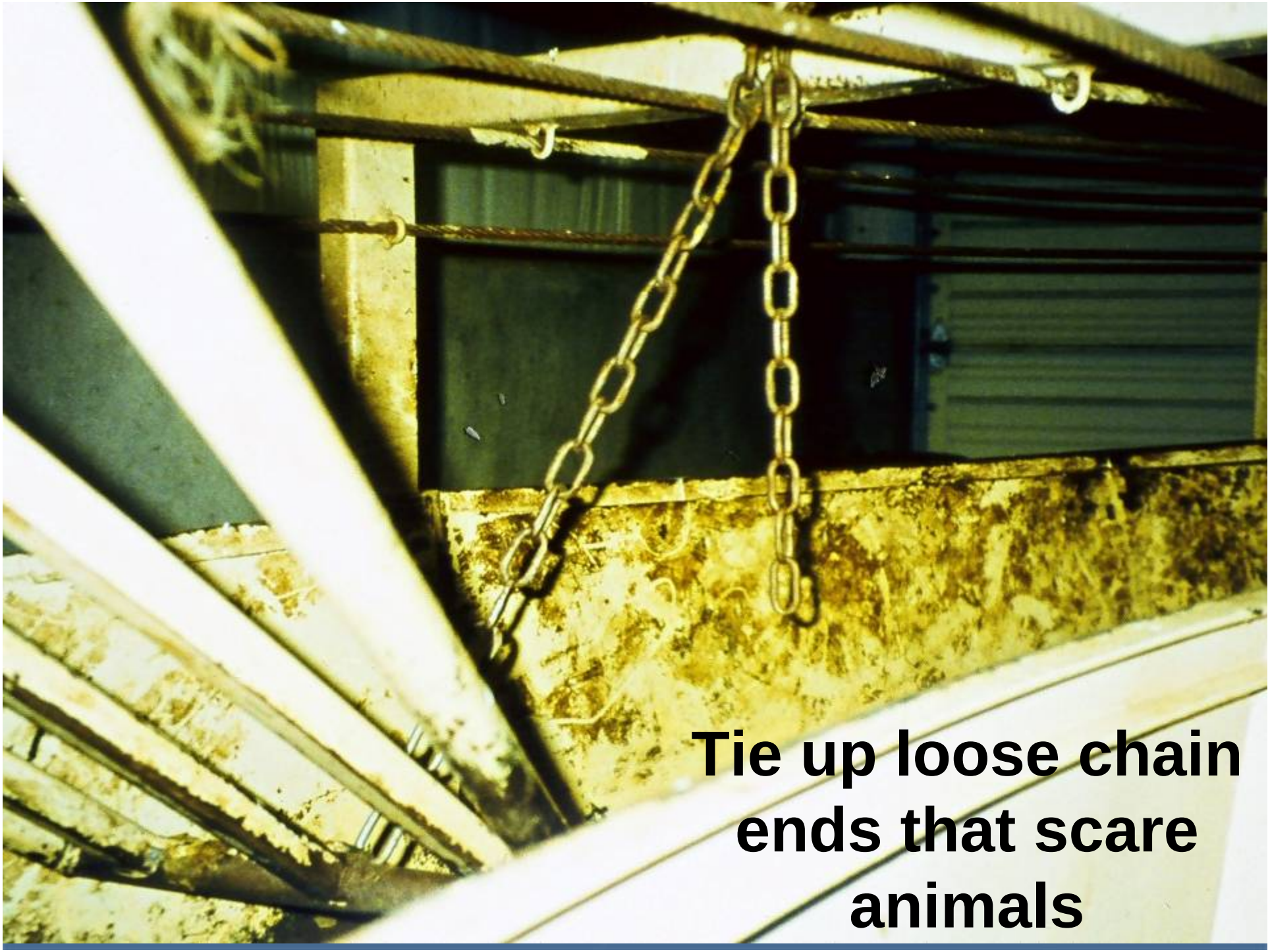
Temple Grandin,
Colorado State University



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 will look at the distraction


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

Solid fences keep animals calmer

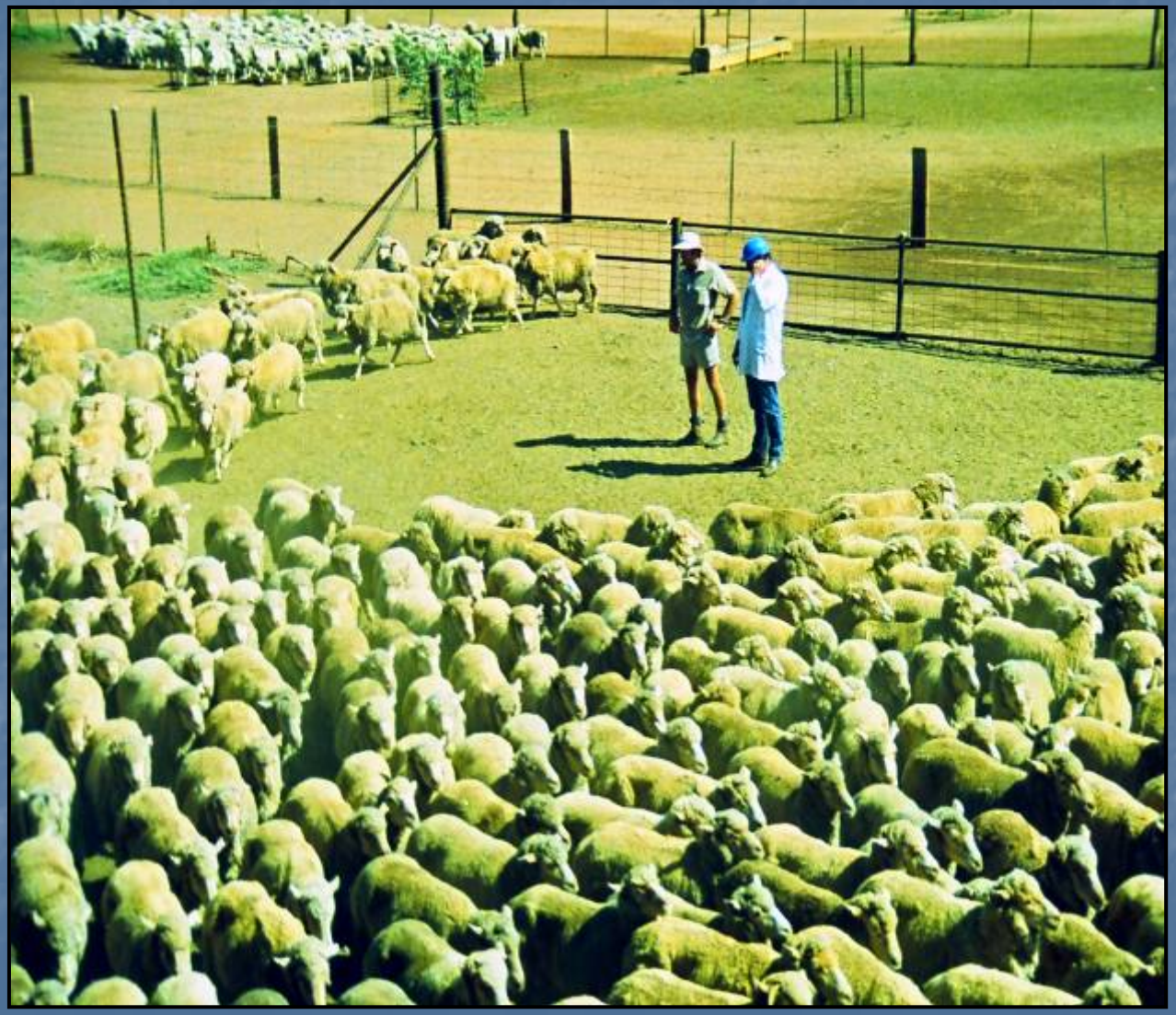
Solid fences are especially important for animals with a large flight zone

Curved systems work better than straight ones because

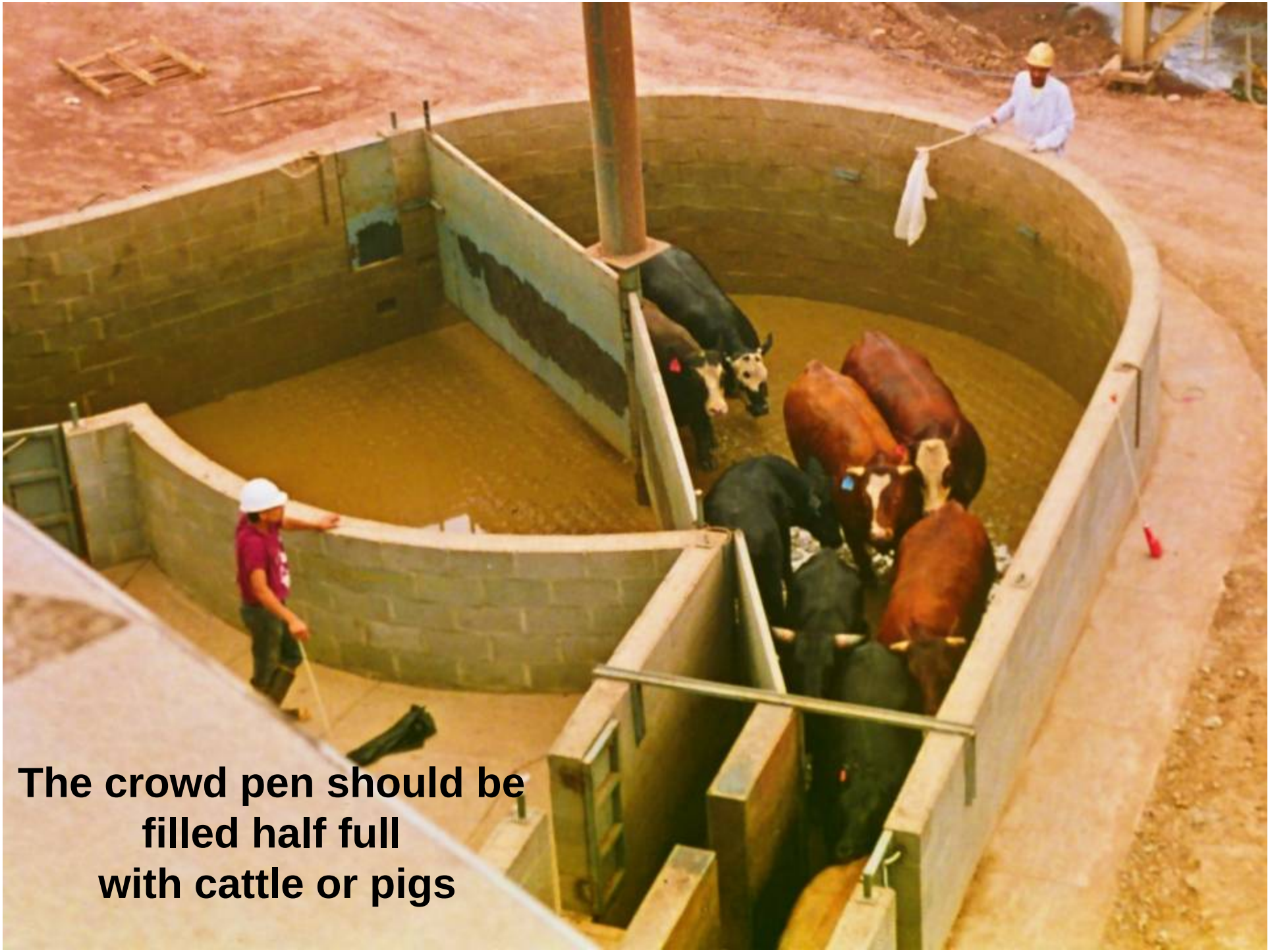
animals will turn back in the same direction they came from

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



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

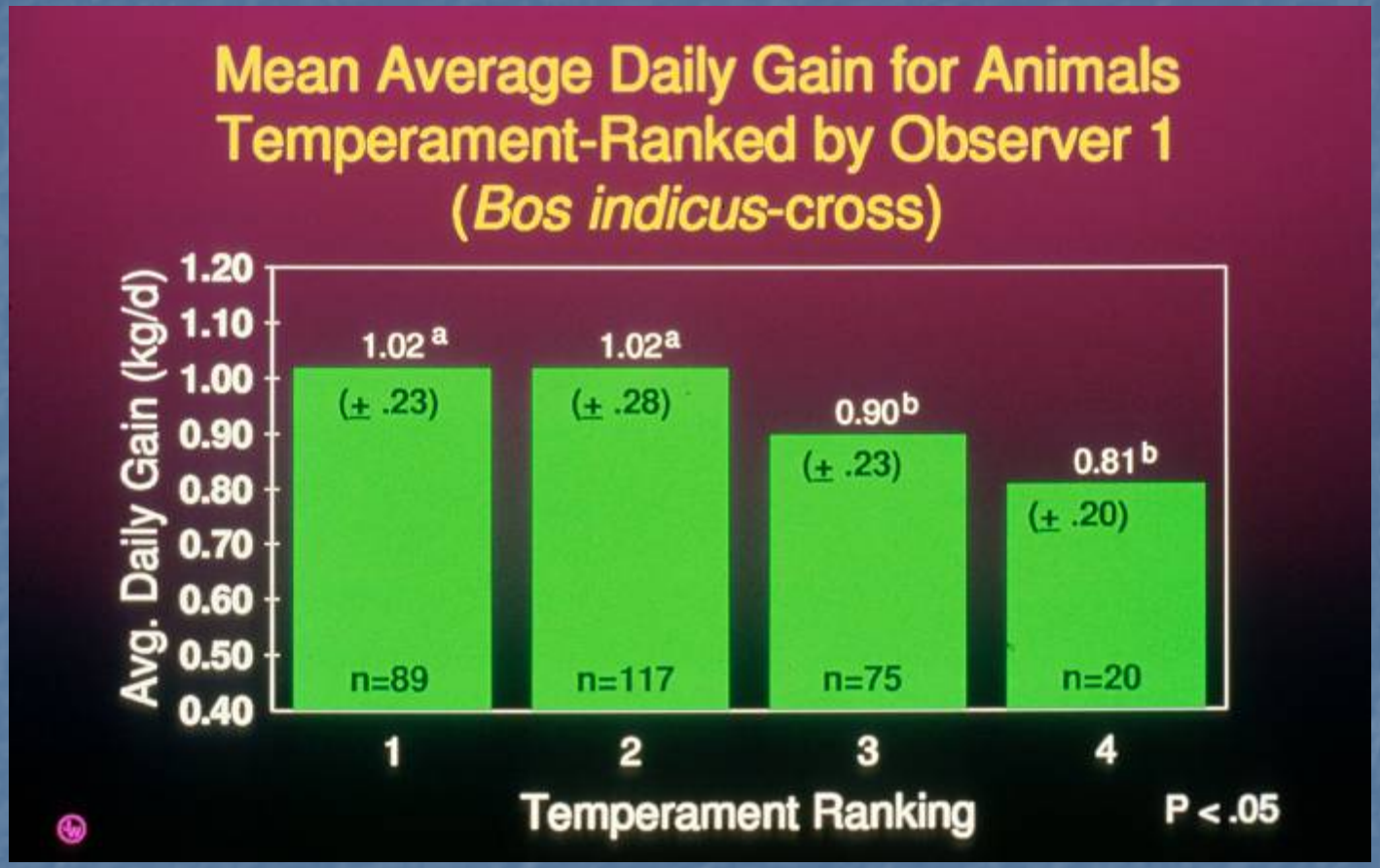
Animals also “watch” with their ears for potential danger

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)

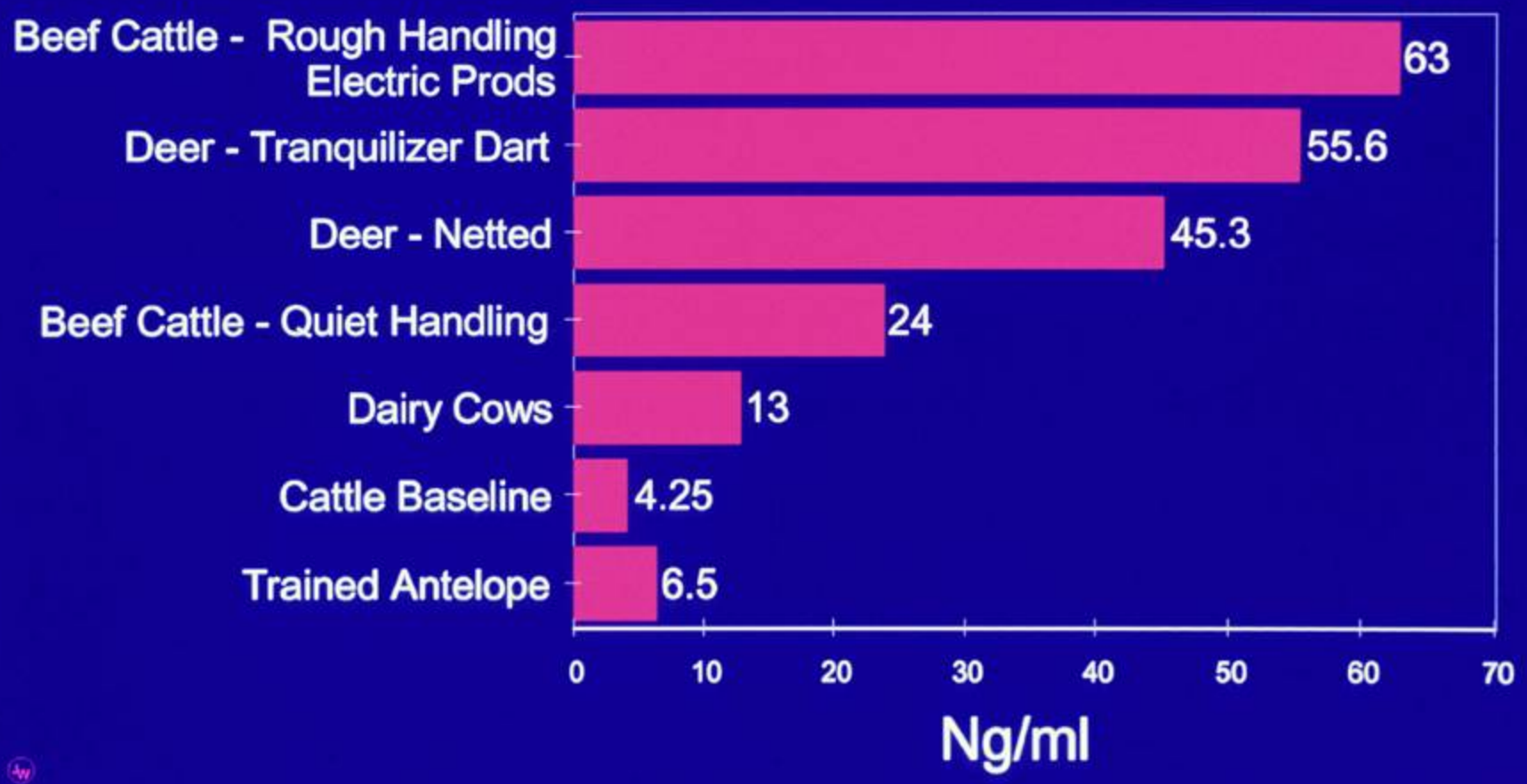
Cattle that become agitated in the squeeze chute have lower weight gains



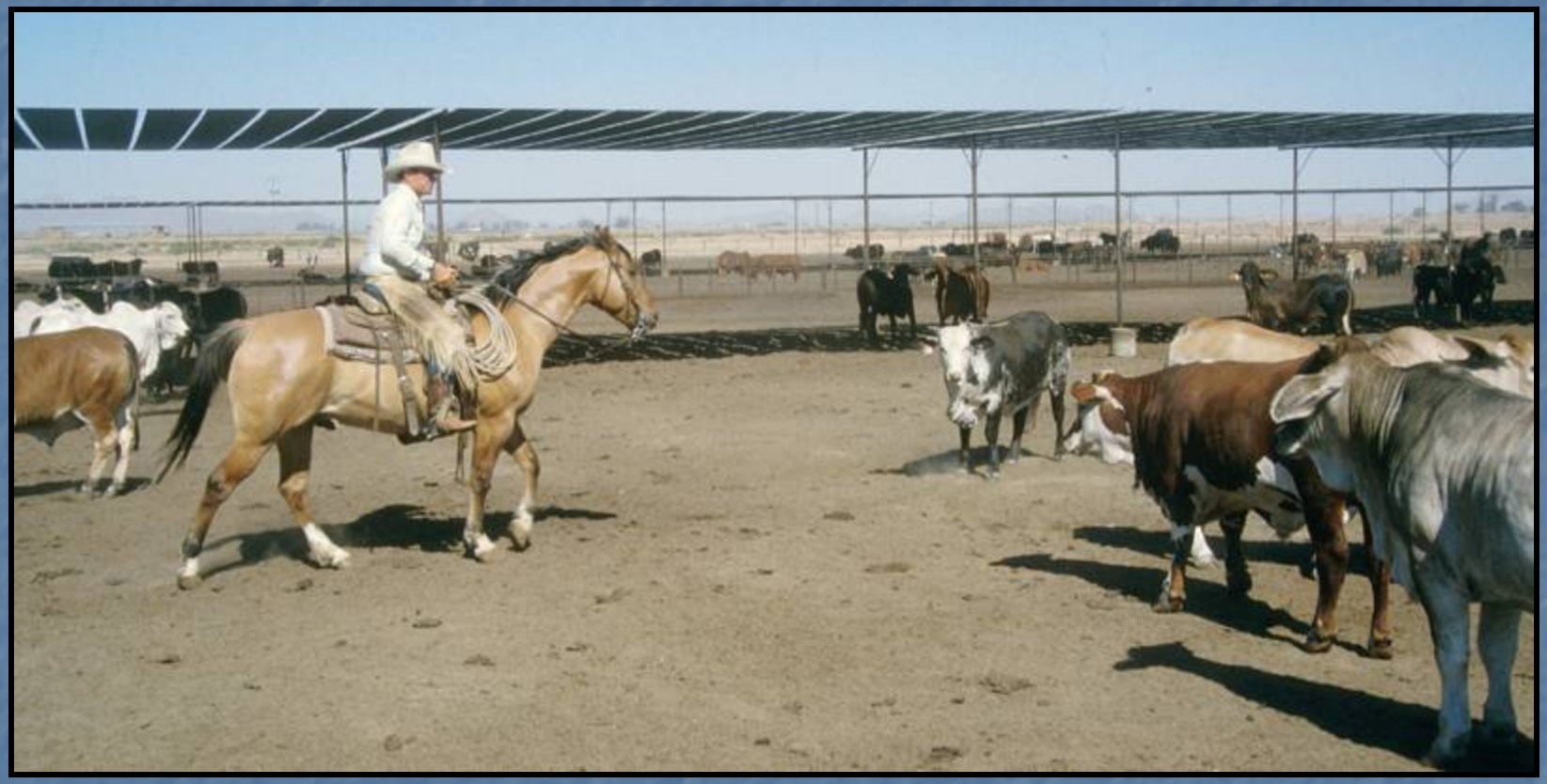
Cattle that run fast out of the squeeze chute may perform poorly

Voisinet et al 1997, Fell et al 1999

Cortisol Levels During Restraint



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

American Meat Institute
Basic Critical Control Points
(Core Criteria)

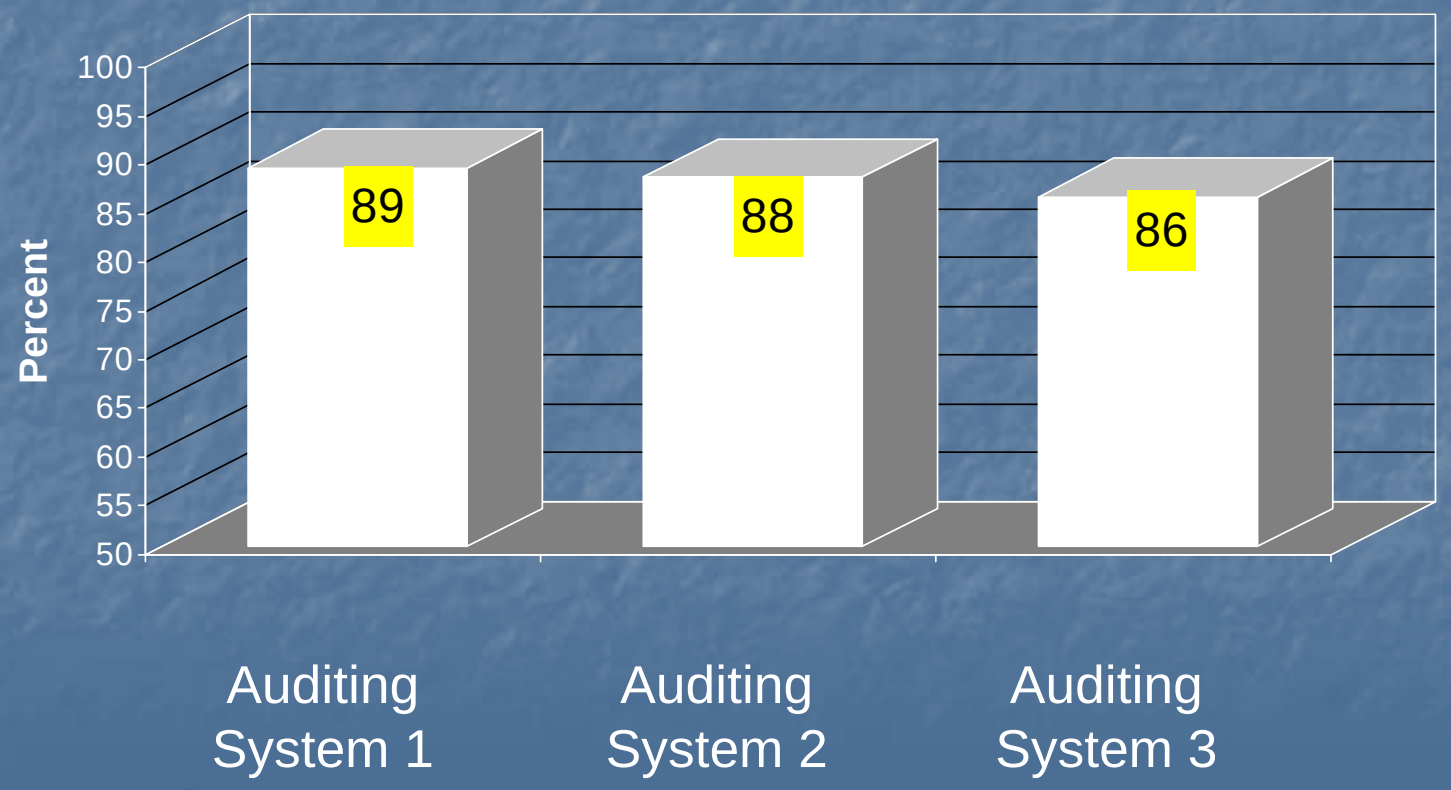
1. Percentage of animals stunned correctly on the first attempt
2. Percentage of animals rendered insensible
3. Percentage of animals prodded with an electric prod
4. Percentage of animals that vocalize
5. Percentage of animals that slip or fall

All scores are on a per animal basis

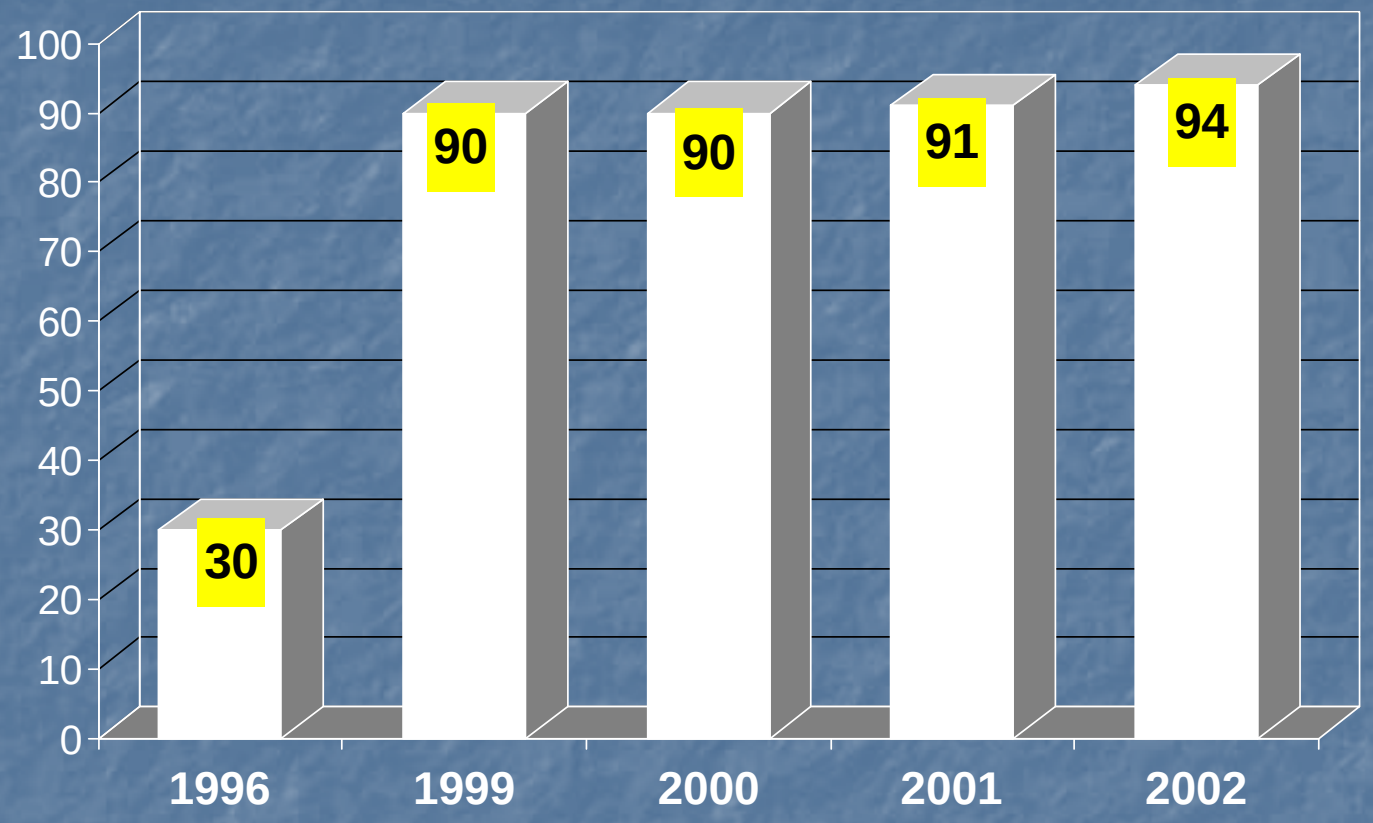
Objective Scoring Reduces Subjectivity and Improves Agreement Between Different Auditors from Different Customers

% of Plants That Passed the Stunning Audit.

Twenty or more plants were scored by each auditing system



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

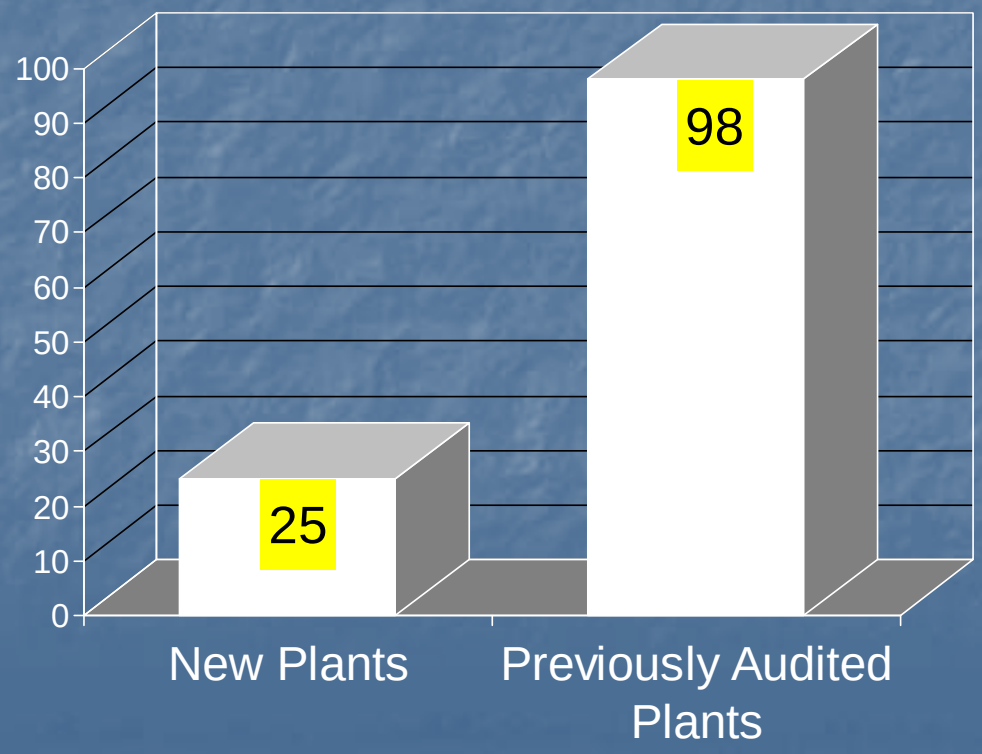
Continuous auditing maintains good performance

Comparison of Beef Plants: Audited for 4 Years vs. First Audit for New Plants (Did not know what to expect)

% of Plants That Passed the Stunning Audit

3 out of 4 new plants failed to stun 95% of the cattle with a single shot

2 out of 4 failed insensibility



50 out of 51 plants passed

1 plant failed on insensibility

Easily Attainable Scores for the AMI Critical Control Points for Beef
(Based on Customer Audit Data)

Percentage of cattle stunned with one shot	97–98%
Percentage insensible (100 animal audit)	100%
Percentage of cattle vocalizing	3%
Percentage of cattle falling down	< 1%
Percentage of cattle electric prodded	15%

The AMI minimum acceptable scores are stunning 95% and electric prod use 25%

Breaking of tails or other abusive methods must never be used as a substitute for electric prod

Easily Attainable Scores for the AMI Critical Control Points for Swine
(Based on Customer Audit Data)

Percentage insensible (100 animal audit)	100%
Percentage of pigs correct wand placement	99-100%
Percentage of pigs “hot wanded”	< 1%
Percentage of pigs electric prodded	15%
Percentage of pigs falling down	< 1%
Percentage of pigs squealing in restrainer	2%

The AMI minimum acceptable scores for electric prod use is 25%, wand placement 99%, hot wands 1%

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

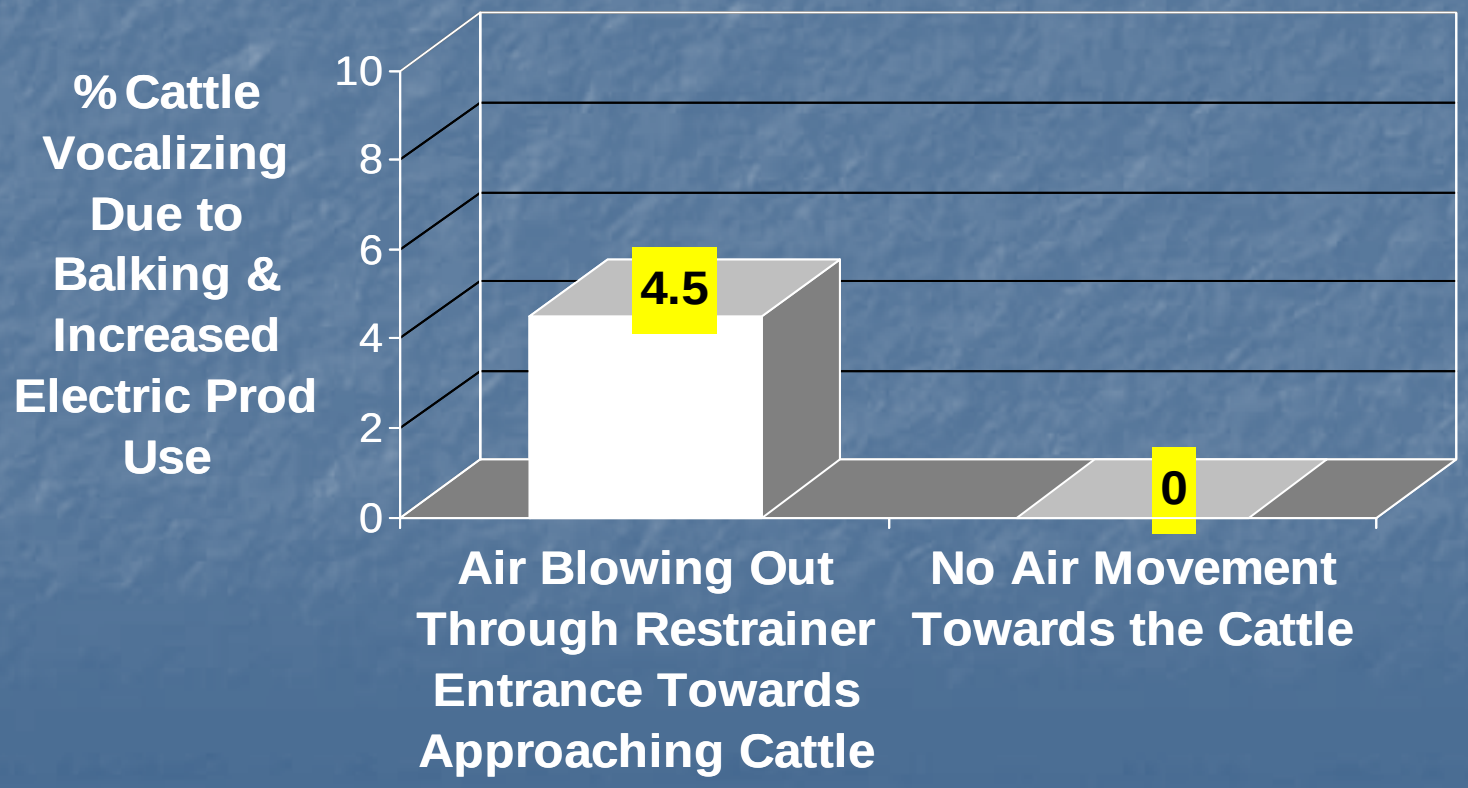
- HACCP Principles same as food safety
- Directly observable things that are outcomes of bad practices or bad facilities
- Not a paperwork audit

1996 USDA Survey Data on Vocalization Prior to Implementation of Regular Auditing by Both Plant Management and Major Customers

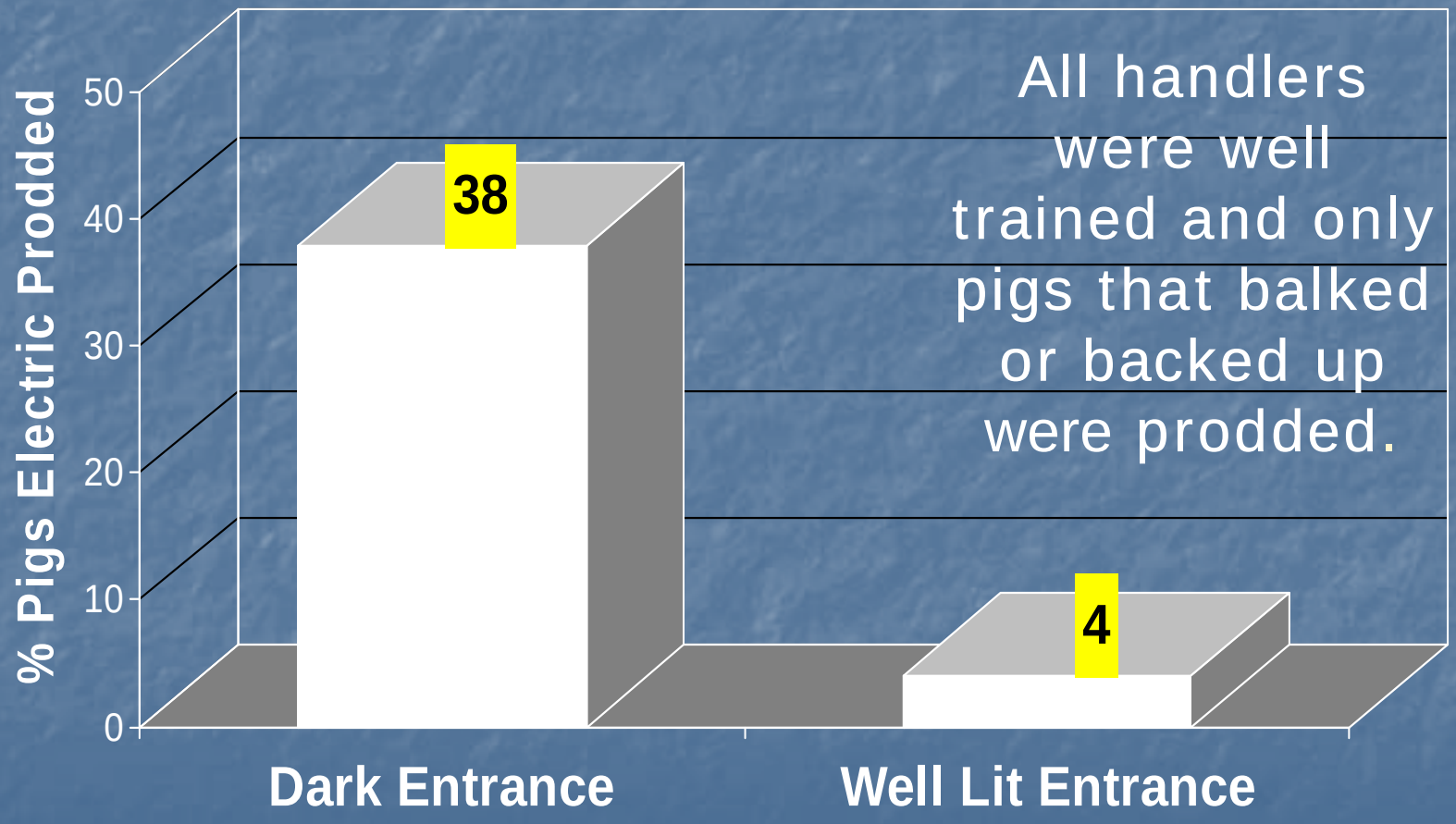
	Rough Beef Plants	Quiet Handling Beef Plants
Average % Of Cattle Vocalizing	**22%**	4.5%
	Excessive electric prod use; over crowding of cattle	Well-trained handlers

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

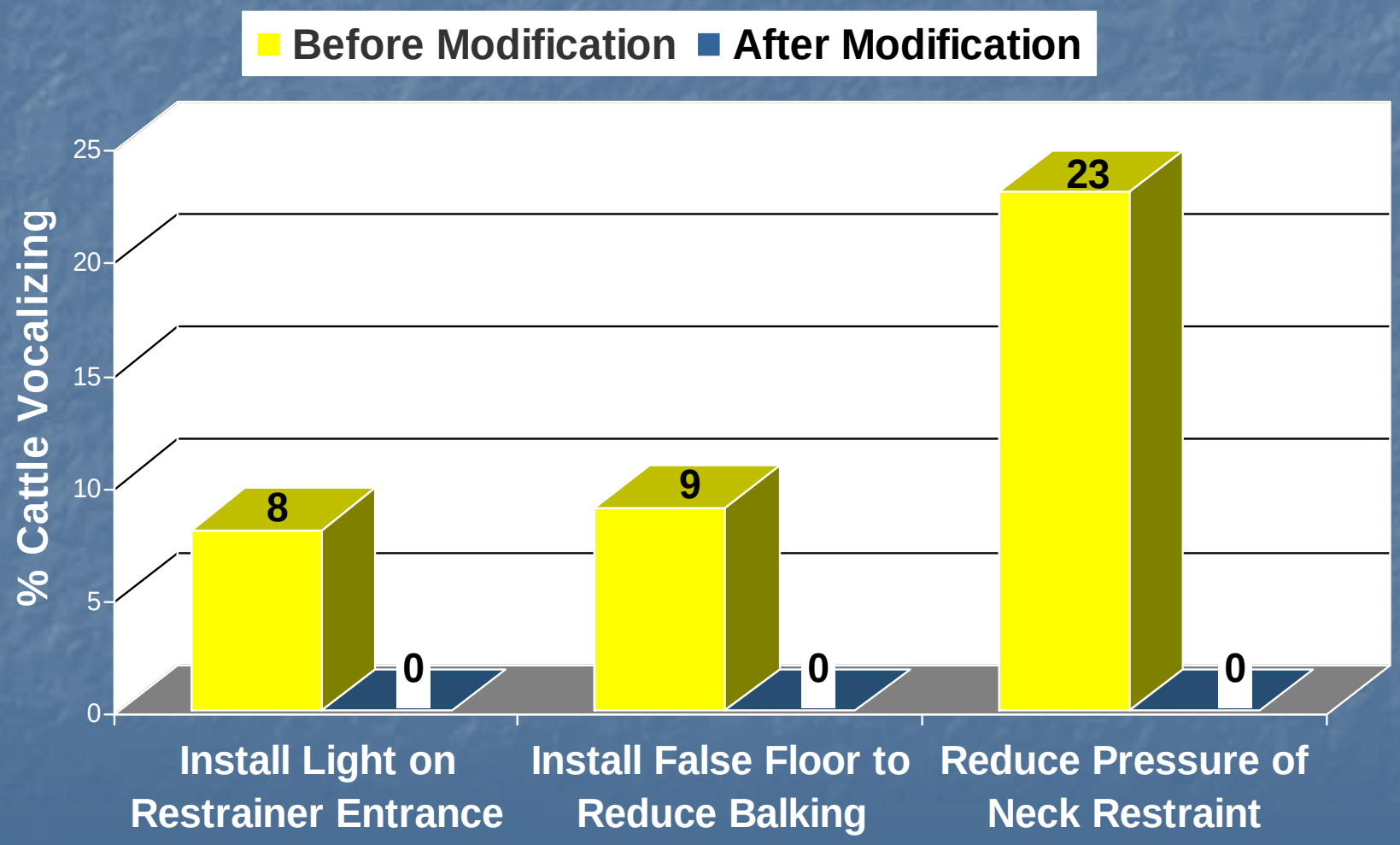


Electric Prod Use on Pigs Was Reduced By Adding Lighting at the Restrainer Entrance



All handlers were well trained and only pigs that balked or backed up were prodded.

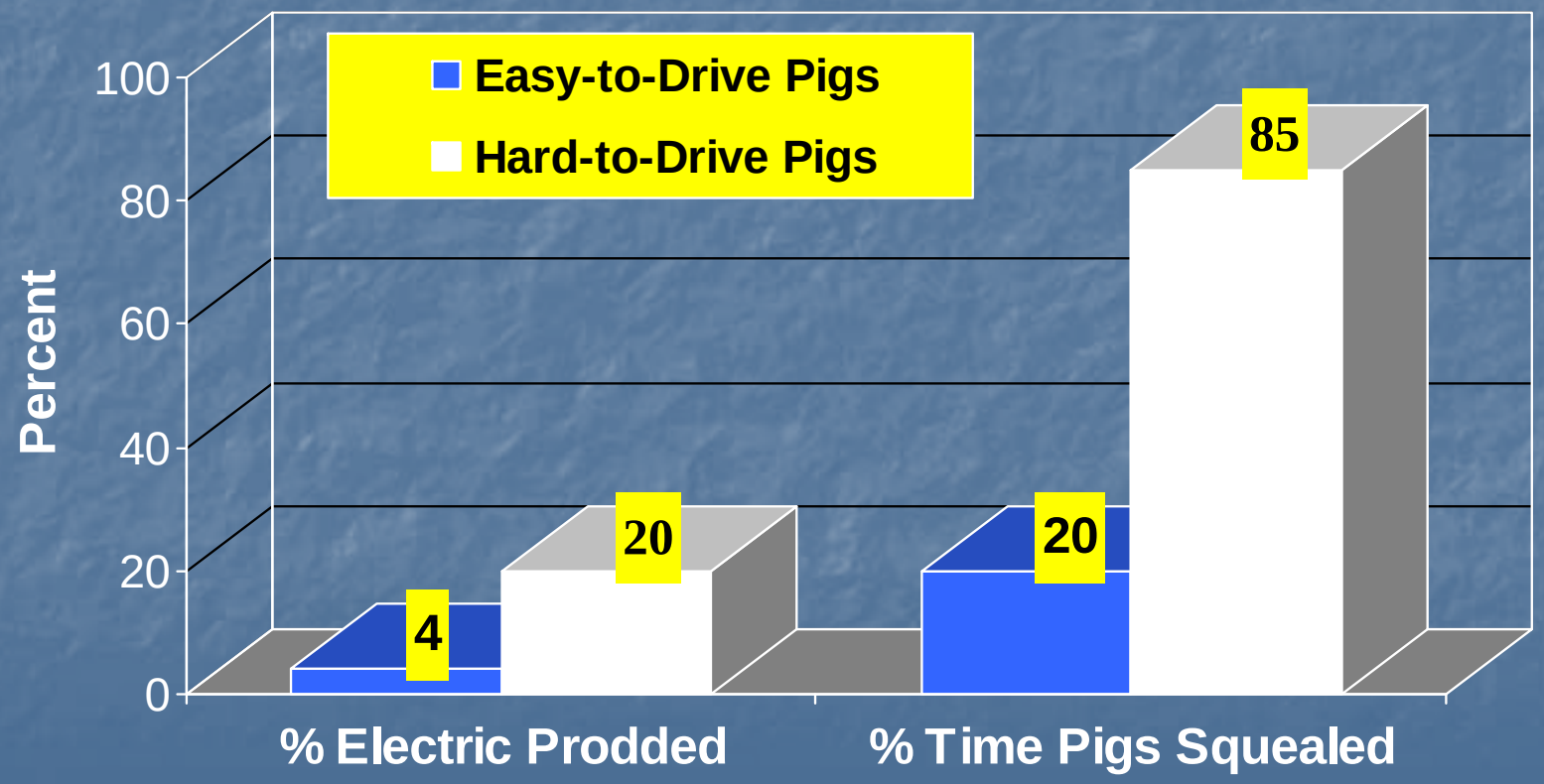
Reduction in Cattle Vocalizations After Equipment Modifications



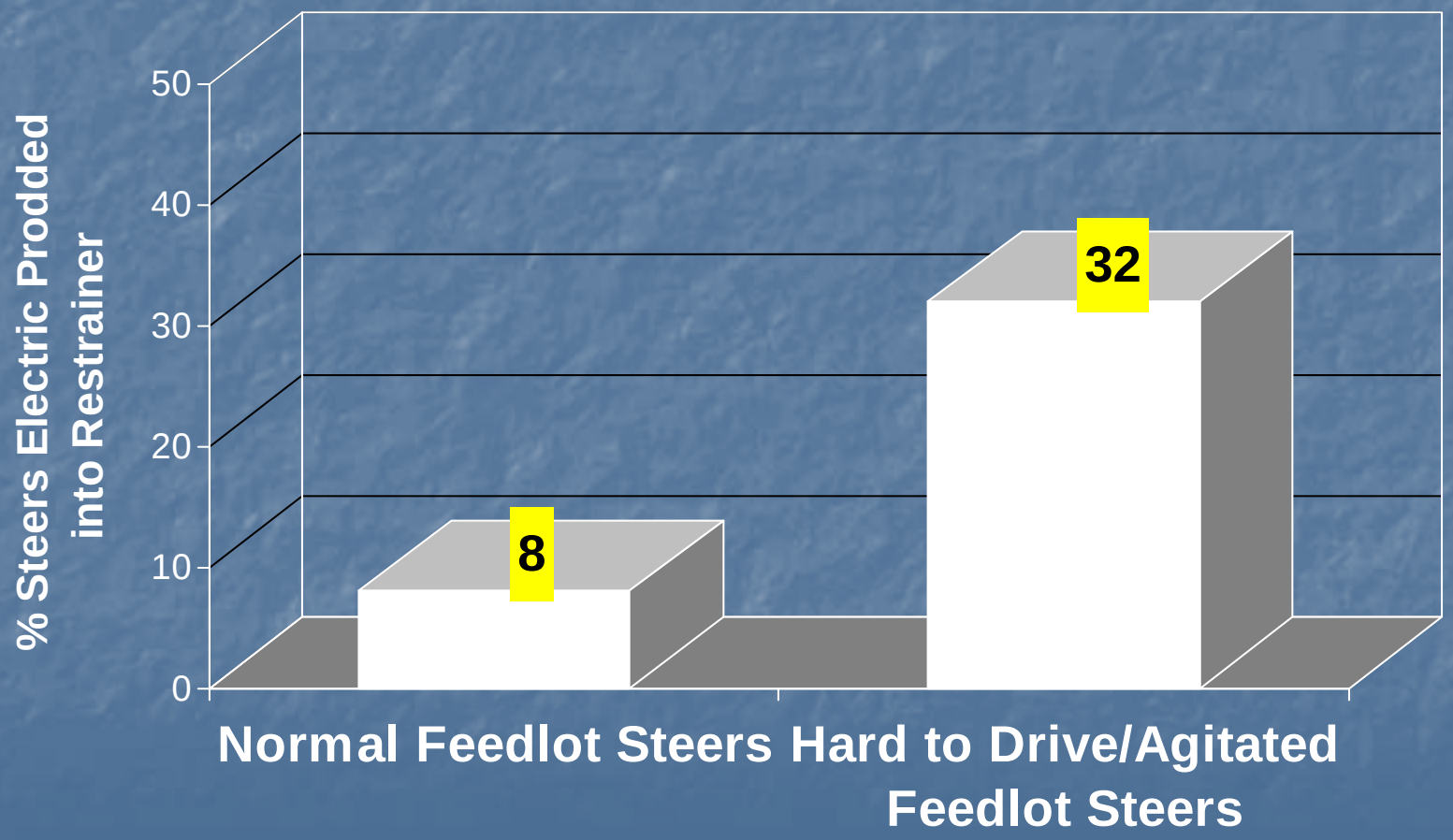
Animals Are Afraid of Dark Places

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



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



Comparison of USDA Survey Cattle Vocalization Scores

	Before Customer Auditing (8 plants)	After 4 Yrs of Customer Auditing (52 plants)
Avg Score	8%	2%
Worst Plant Score	35%	6%

Use Scoring as a Trouble Shooting Tool

"Do I have a facility problem or a people problem?"

Use <u>balk scoring</u> to determine if you have a facility problem

Balking Scores

Low Balking Plant (well-trained handlers)		High Balking Plant (facility problem)	
% Cattle Backing Up in the Chute	% Vocalizing	% Cattle Backing Up in the Chute	% Vocalizing
0%	1%	38%	8%
3%	2%	25%	8%

Vocalization Score increase due to increased electric prod use

Critical Control Points for Handling

- Percentage of animals **prodded** with an electric prod
- Percentage of animals that **fall** down
- Percentage of animals that **run into fences** or attempt to **jump** over a fence
- Percentage of animals that exit from a squeeze chute **faster than a trot** (cattle only) – speeders or nonspeeders
- Percentage of animals that **vocalize** (moo, bellow, squeal)

All scores are on a “per animal” basis

Each animal either passes or fails

Two Types of Variables When Auditing Animal Welfare

- Yes/No things not allowed
- Continuous variables where perfection is impossible

Examples of Yes/No Variables in a Welfare Standard

- No sow gestation stalls
- No tail docking
- Specific stocking densities
- Untreated sick animals (organic)
- Specific housing requirements
- No hoisting of live animals
- No tendon cutting or blinding (developing countries)

Major continuous variables are outcomes that are directly observable caused by either bad management or poor facilities

Major Continuous Variables Where Poor Performance on any ONE of These Variables Should be a Failed Audit

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

Lameness Is a Good Example of a Major Critical Control Point

Many Different Problems Can Contribute to Lameness

- Poor leg conformation
- Rough concrete
- Improper hoof trimming
- Nutritional mistakes
- Rough handling
- Growing heifers too rapidly
- Poorly designed stalls

How to Set the Initial Levels for a Failed Audit

- Collect baseline data
- Initially set the limit so 25% of the farms in a country will pass
- Provide time for farms to get up to standard
- Decisions to make limits more strict must be based on audit data from many farms

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