

Keeping Animal Welfare Top of Mind:

*Key Insights from NAMI,
Dr. Temple Grandin,
& Alchemy*



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Today's Speakers



Janet Riley
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Dr. Temple Grandin
Scientist, Writer, Biologist, American
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Best Practices – Animal Handler Training

- Courses for **Cattle**

- Uploading and Receiving Cattle at Processing Facilities
- Proper Handling and Movement of Cattle
- Humane Stunning Practices for Cattle

- Courses for **Pork**

- Uploading and Receiving Pigs at Processing Facilities
- Proper Handling and Movement of Pigs
- Humane Stunning Practices for Pigs – Captive Bolt (New!)
- Humane Stunning Practices for Pigs – CO2 (New!)
- Humane Stunning Practices for Pigs – Electric (New!)

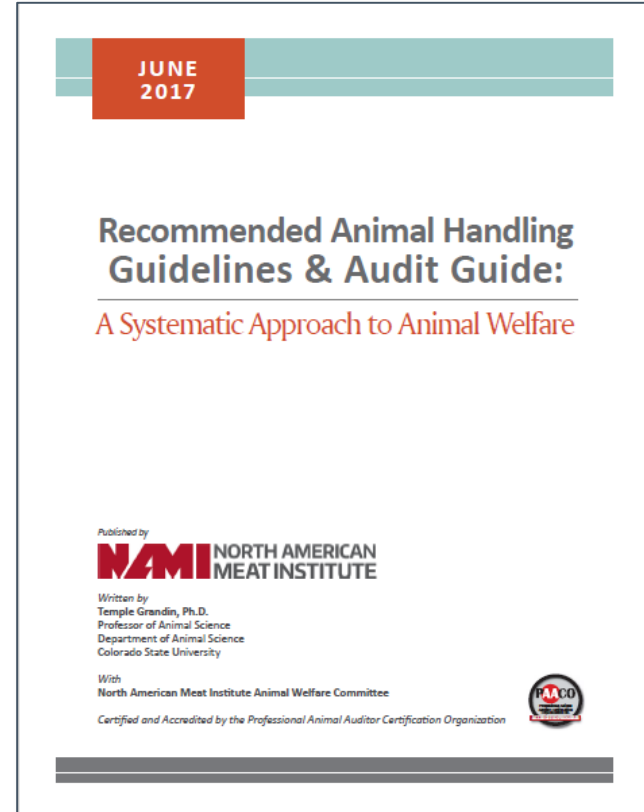
*Does the plant have
documented
employee training
for livestock
receiving?*

Request to learn more in the post-webinar survey.

NAMI Animal Handling Guidelines & Audit Guide

- 2017 Changes
 - Handling
 - Stunning
 - Transportation

Request to receive a copy in the post-webinar survey.

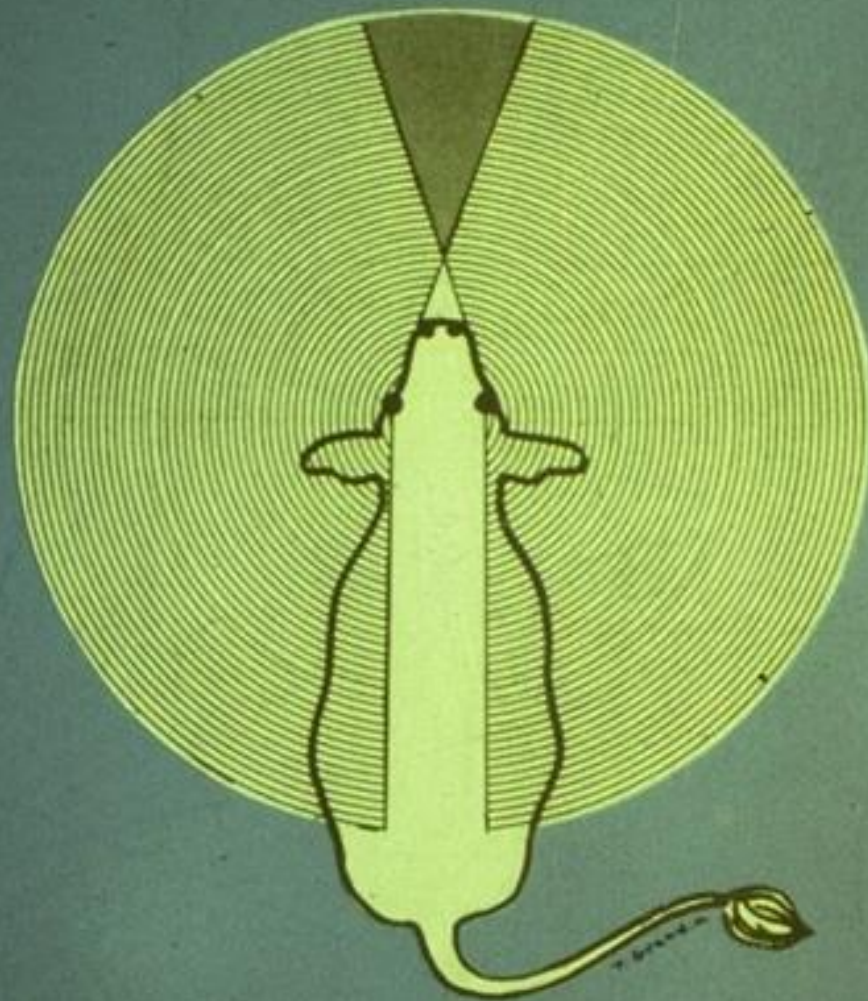


Recommended Animal Handling of Cattle & Pig



You Need to Become a Better Observer





STEER VISION DIAGRAM

Cattle have panoramic vision, as shown in this drawing. The area covered by the coarse concentric circles represents the animal's field of vision in which it has no depth perception. The small shaded area in front of the animal's head represents its binocular field. It has depth perception in this 25 to 50 degree area.

Calm Animals Are Easier to Handle



Signs of Fearful Stressed Animals

- ✓ Eye white in cattle
- ✓ Vocalization during handling in cattle and pigs – do not use in sheep
- ✓ Tail switching on cattle
- ✓ Pooping in cattle

Distractions that Cause Balking and Refusal to Move



- Shadows and high contrasts of light and dark
- Reflections on metal or water
- Seeing people up ahead
- Moving objects
- Air blowing in their faces
- Coat hung on fence

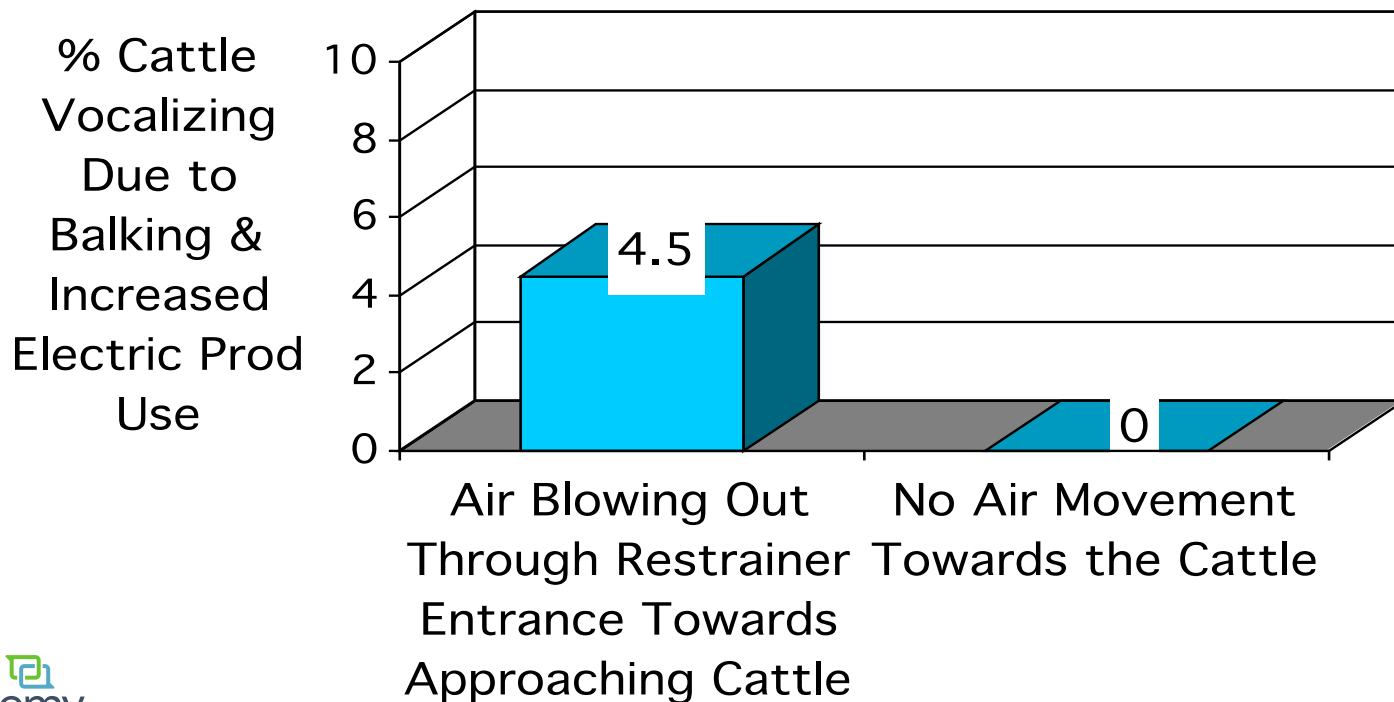
Distractions that Cause Balking

1. Objects lying on the ground
2. Drain grates
3. Changes in flooring type
4. Dripping water
5. Dangling chains
6. Turning fan blades



Use Scoring to Show How Changes Made in Your Organization Improve Handling

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



***Get down in the chute and
see what the approaching
animals are seeing***

Do you see anything in this photo?



*A Calm Animal
will look at the
distraction.*



Shadows and Light Streaks May Cause Baulking



Watch for Time of Day Effects

Animals Stop Where Flooring has White Strips



*A solid side should
be installed to
prevent the cattle
from seeing the
man.*



Herding Animal's Behavior is Controlled by Vision



An opaque curtain will contain them.



Entire Gate Rubber Curtain

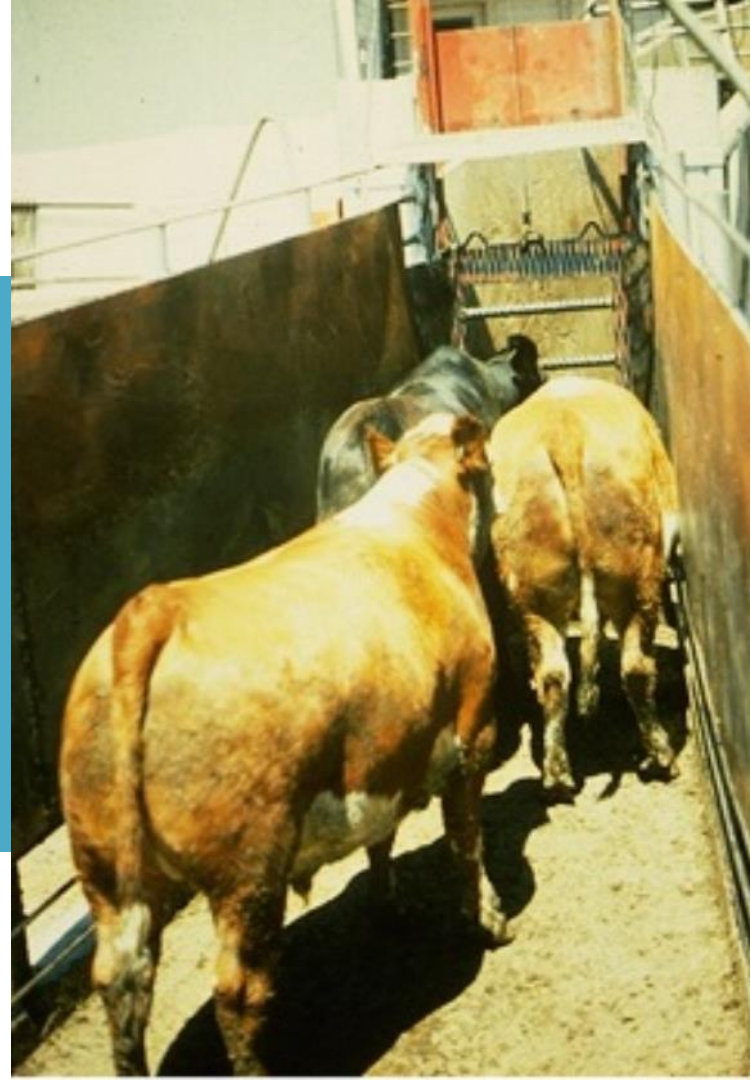




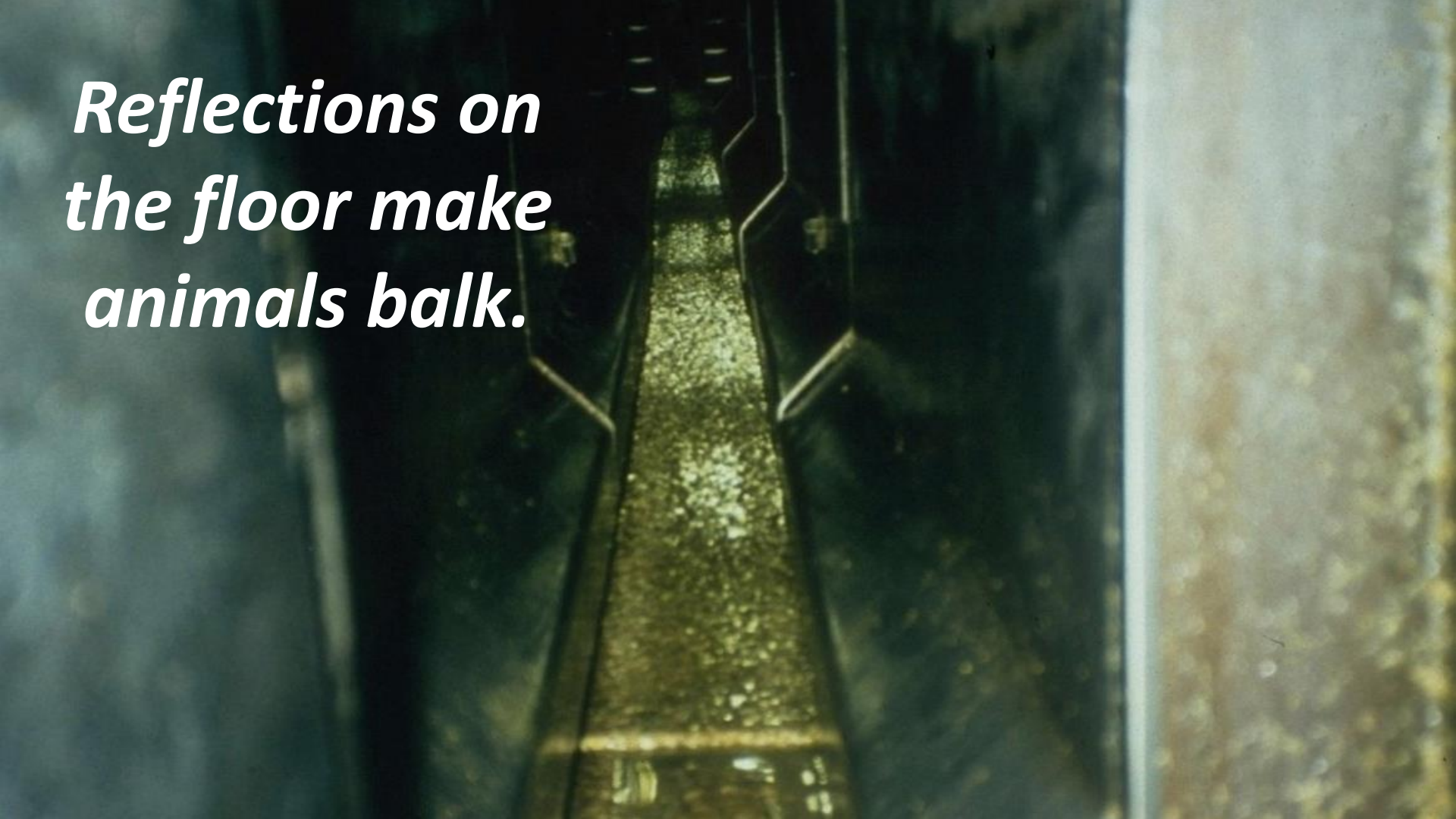
*Animals are
spooked by
distractions
outside this pen.*

*Cattle movement
improved after solid
sides were installed.*

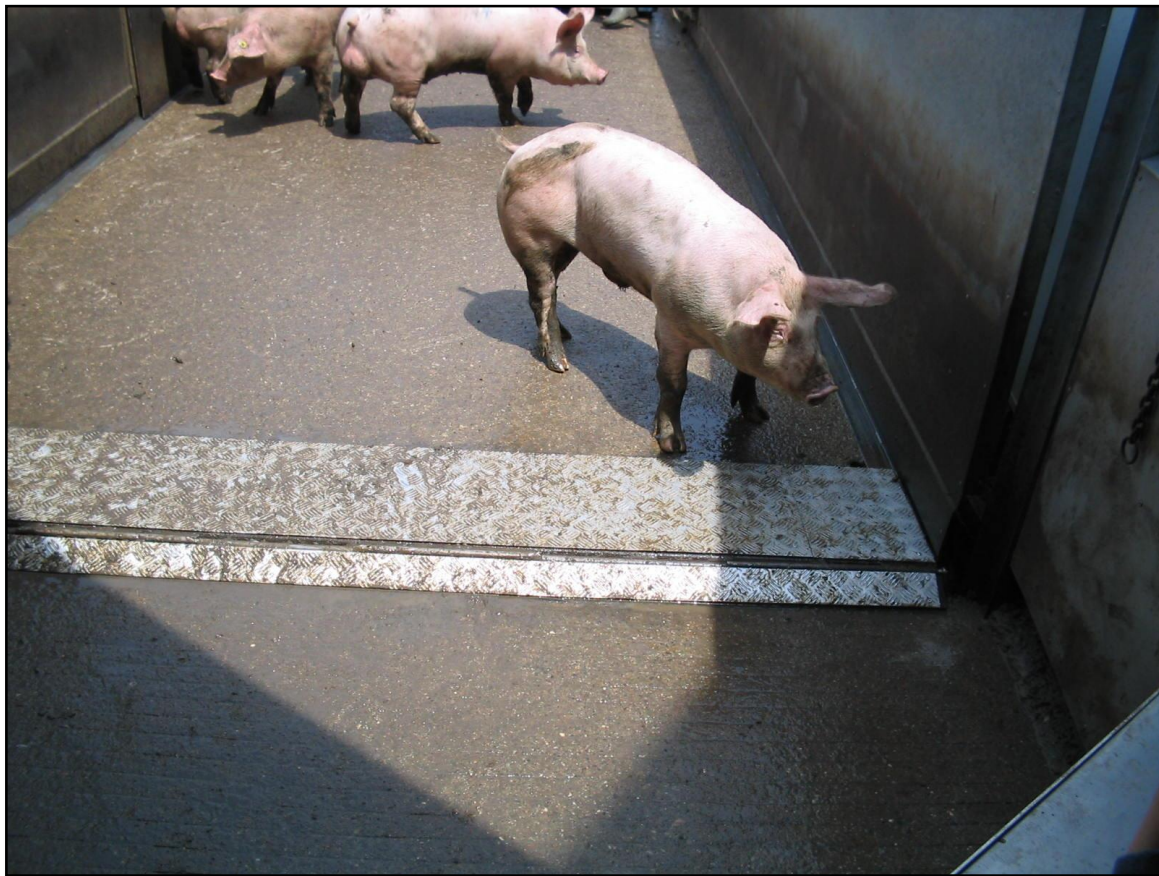
*Outer perimeters most
important to cover.*



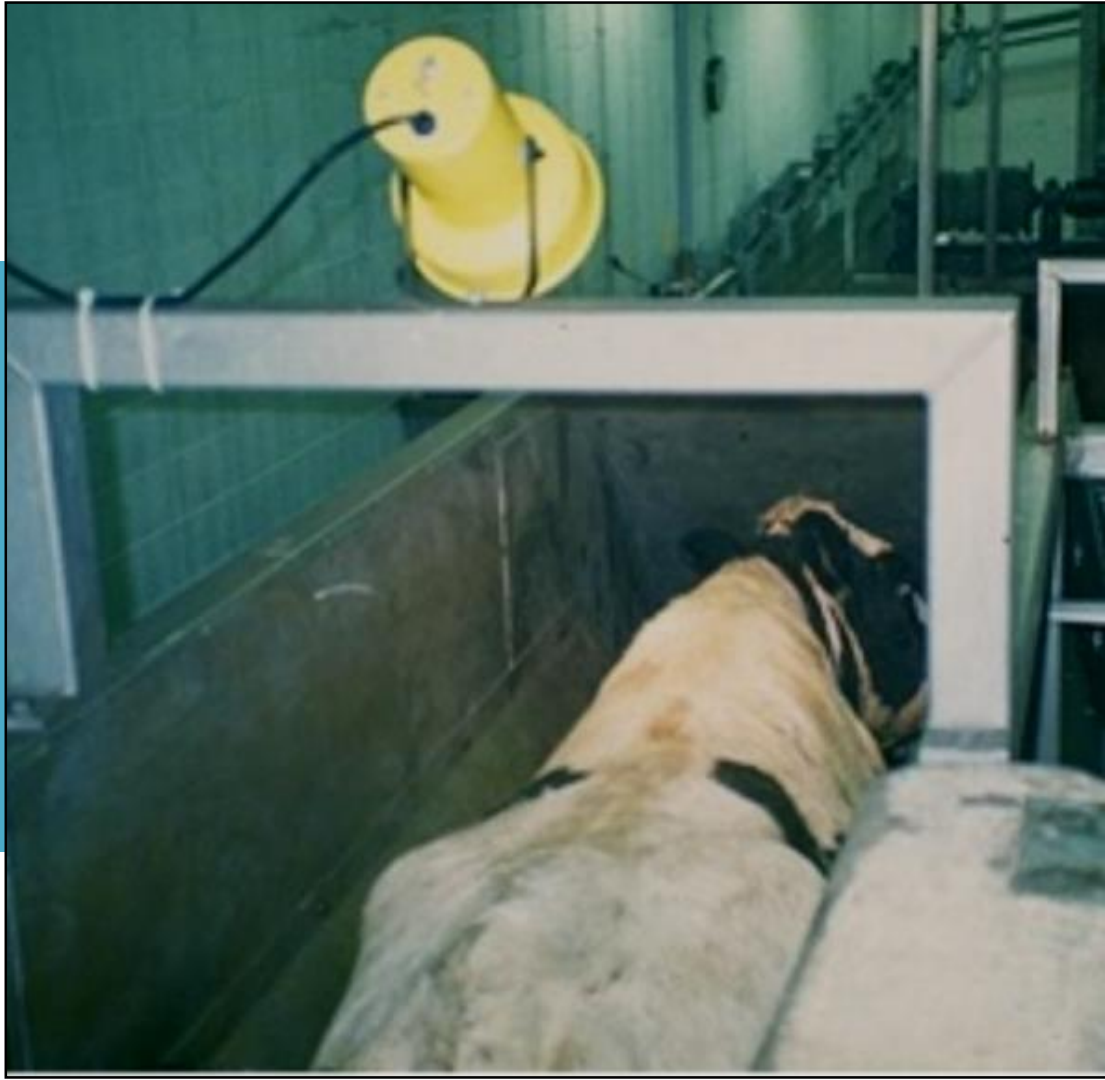
*Reflections on
the floor make
animals balk.*



What do you see in this picture?



*Animals will
enter a restrainer
more easily if the
entrance is
lighted.*



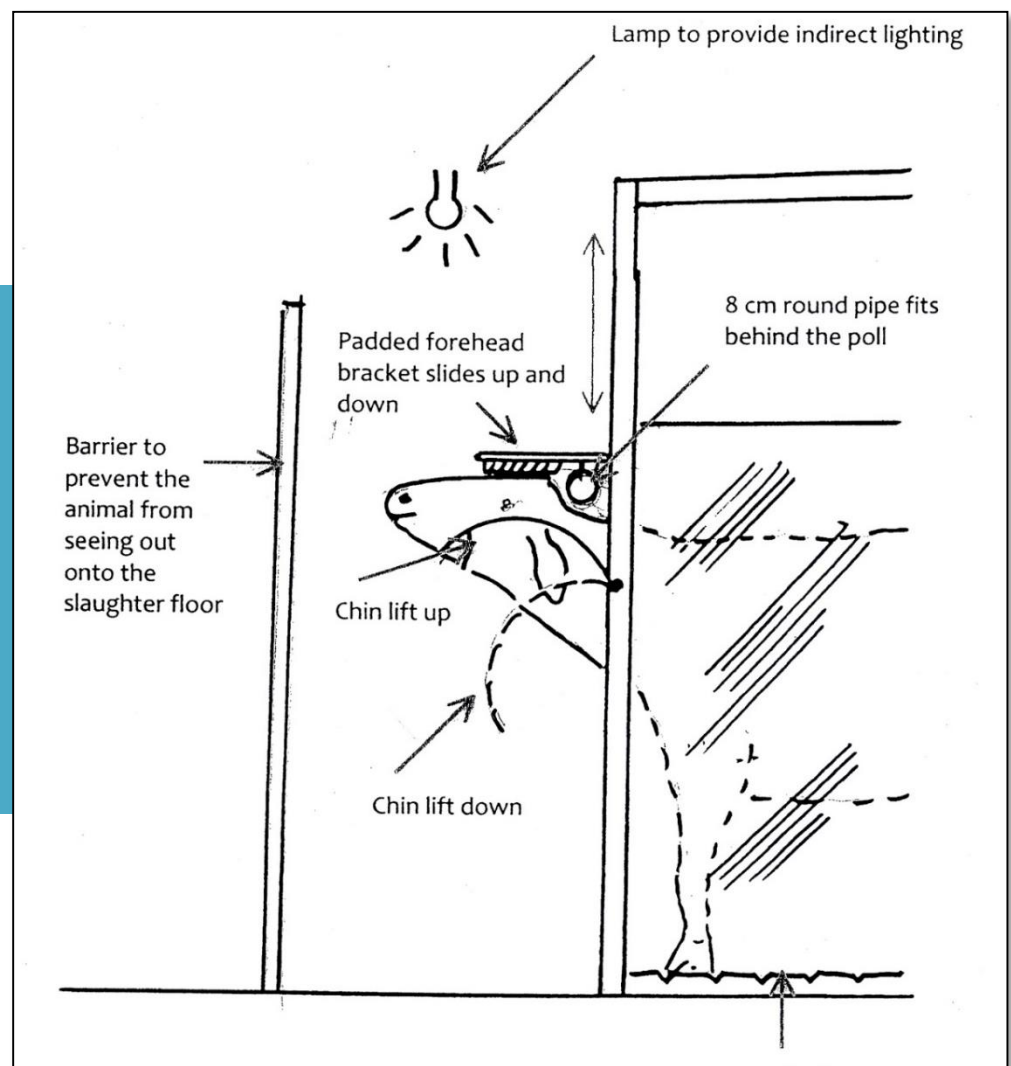
Electric Prod Used on Pigs Was Reduced by Adding Lighting at the Restrainer Entrance



Experiment to Reduce Balking Use these Simple Tools

- A portable electric light on a long cord
- Lots of cardboard
- Duct tape and other things to fasten cardboard

Barrier prevents animal from seeing people and moving equipment.



Animals Move Towards the Light



*An animal may refuse to place
its head into this dark head
opening.*





*Cow's eye view into a
squeeze chute with
louvre sides*

*Lighted head opening
attracts the animals, but
no people are visible
through the sides.*

Do Vertical Gates Provide Sufficient Back Clearance?



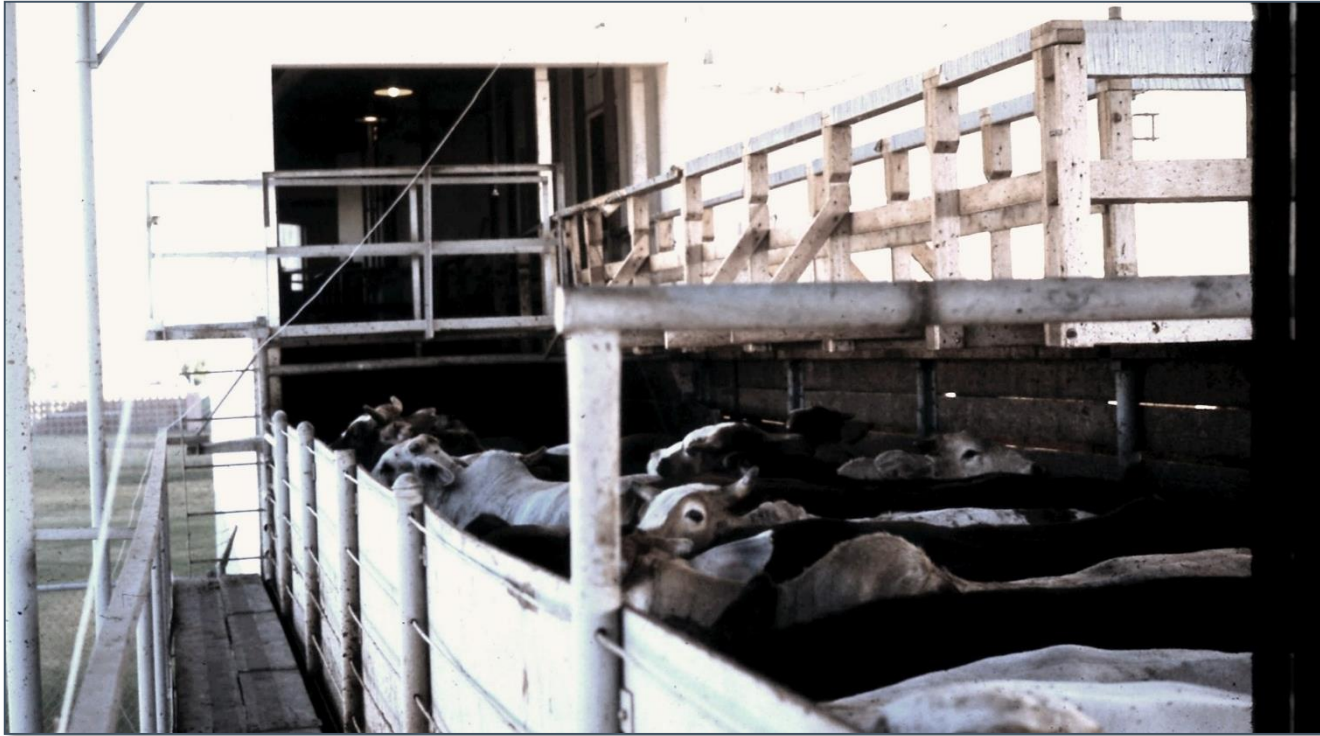
Tall Steers Get Back Bruises on Trucks



Race Outside Entrance May Appear too Dark



Dark Movie Theater Effect Problem on Sunny Days



Electric Prod is Never the Main Driving Aid



***Get it out of your hands. Only use on
an occasional stubborn animal.***

Driving Aids for Pigs



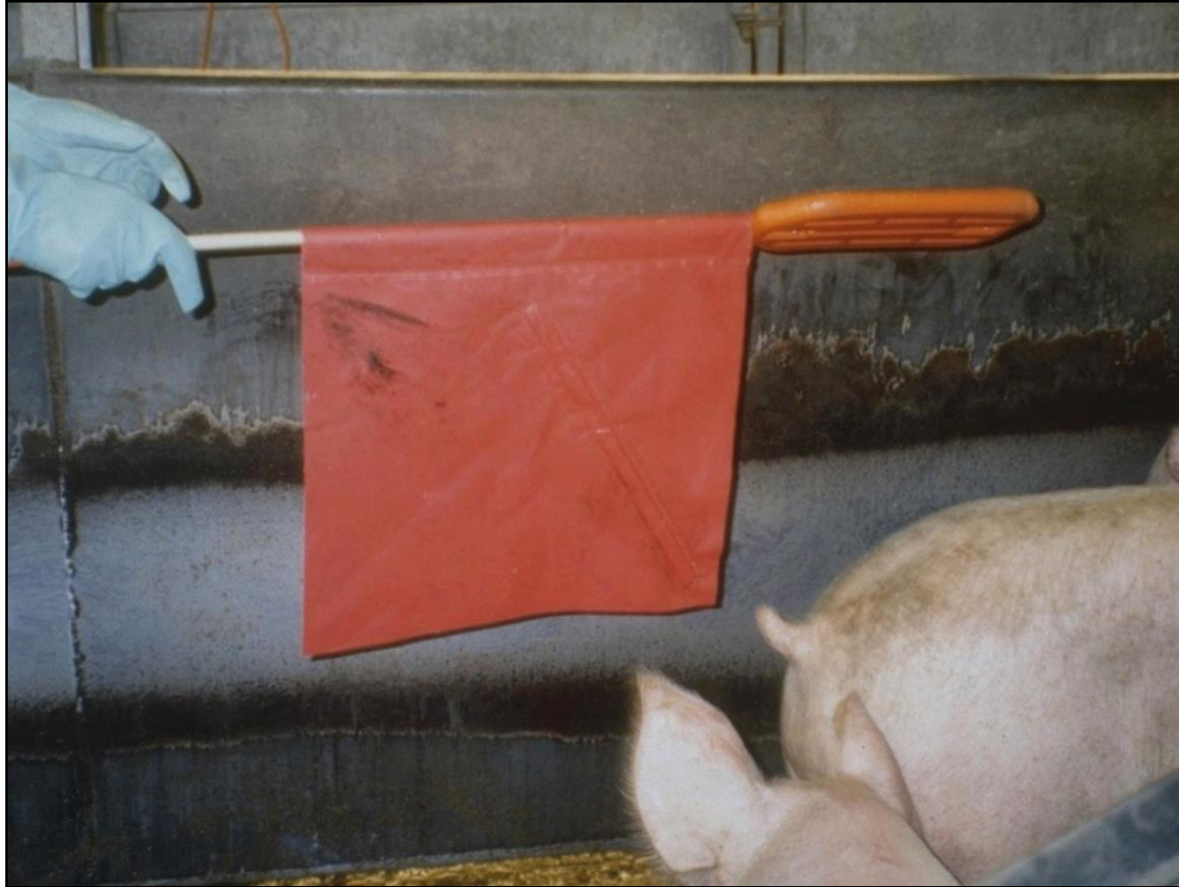
Use a Flag to Move Livestock





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

Paddle Stick and Small Flag for Moving Animals



Witch's Cape for Moving Pigs



When does tapping become beating? Be Careful!



*Beating is an Egregious
Act of Abuse*

Never Do Acts of Abuse

- Never drag conscious animals
- Never poke sensitive areas
- Never deliberately slam gates on an animal
- Never deliberately drive animals over a downer
- Never beat animals

Never Drag or Knock Over Animals with Powered Gates



Natural Livestock Behaviors for all Species

- Flight Zone – animals move away
- Pressure Zone – animals turn and face a person
- Point of Balance
- Natural Following Behavior – learn to time small bunches of cattle and pigs
- Go back to where they came from

The Flight Zone is the Animal's Safety Zone

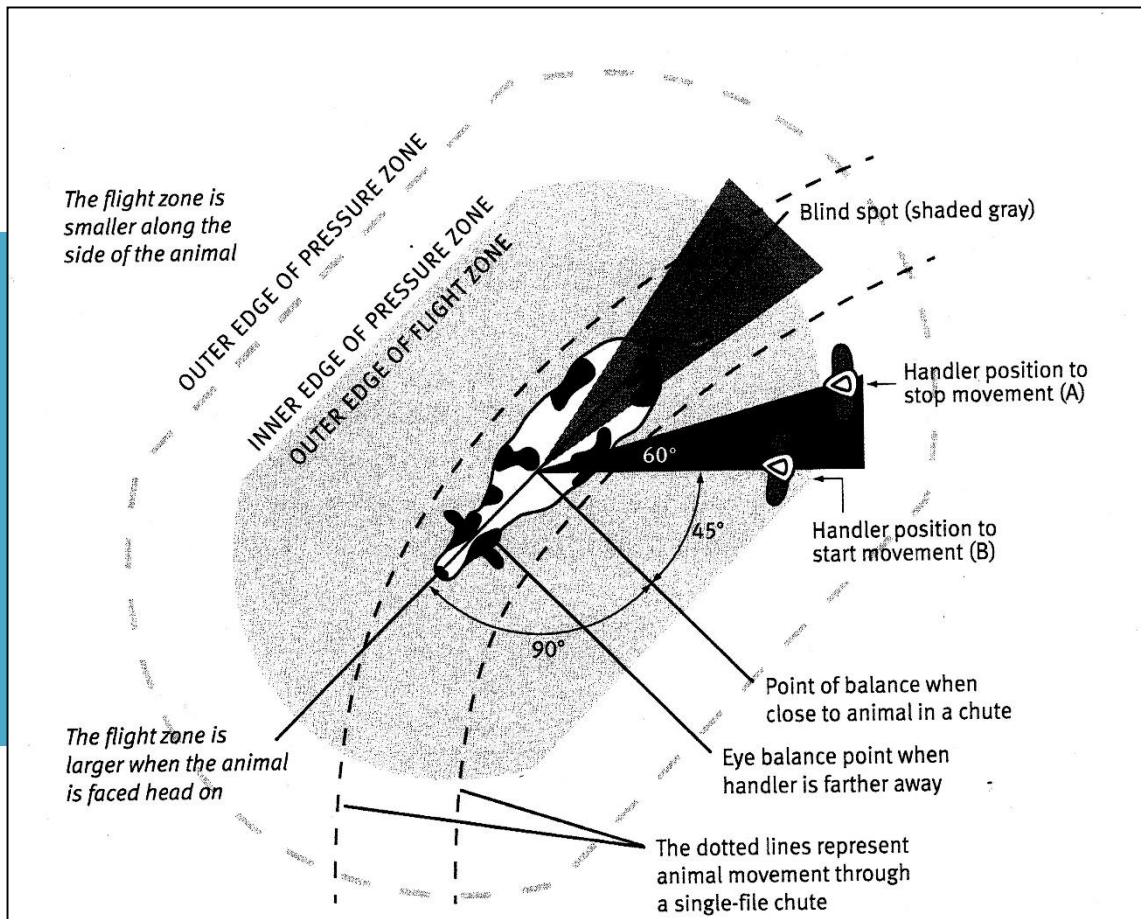
**Calm animals will
have a smaller
flight zone**

and

**Tame animals will
have no flight zone**



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



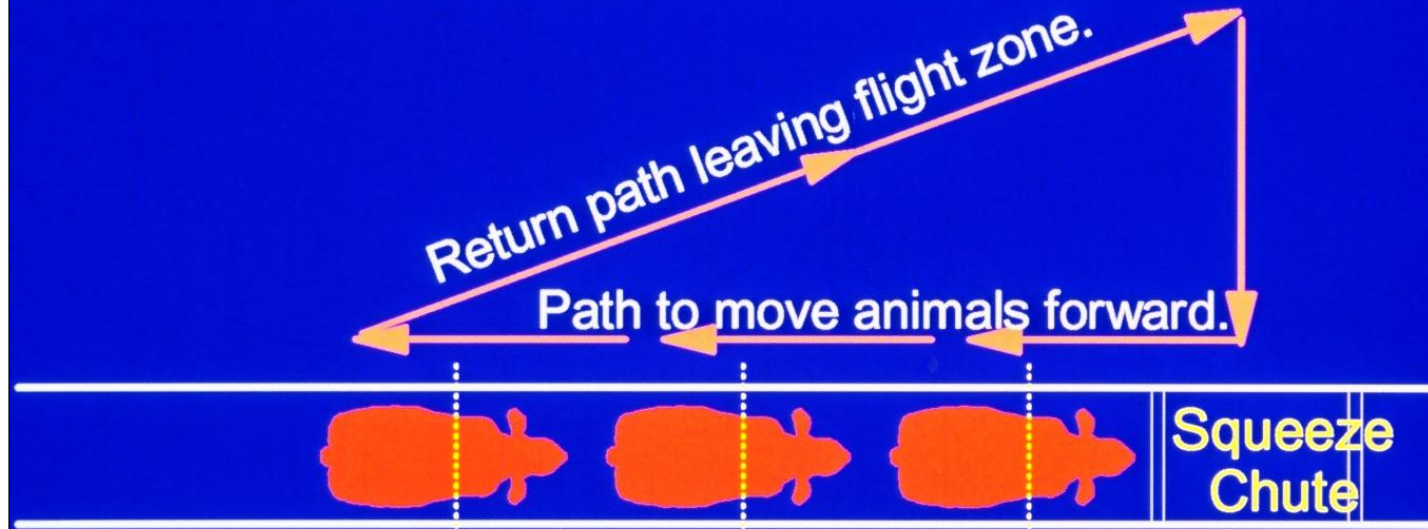
Point of Balance Principles

- It is at the shoulder when the handler is close to cattle in chutes
- It is usually just past the eye when the handler is further away
- To make an animal move forward, the handler must be behind the point of balance

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



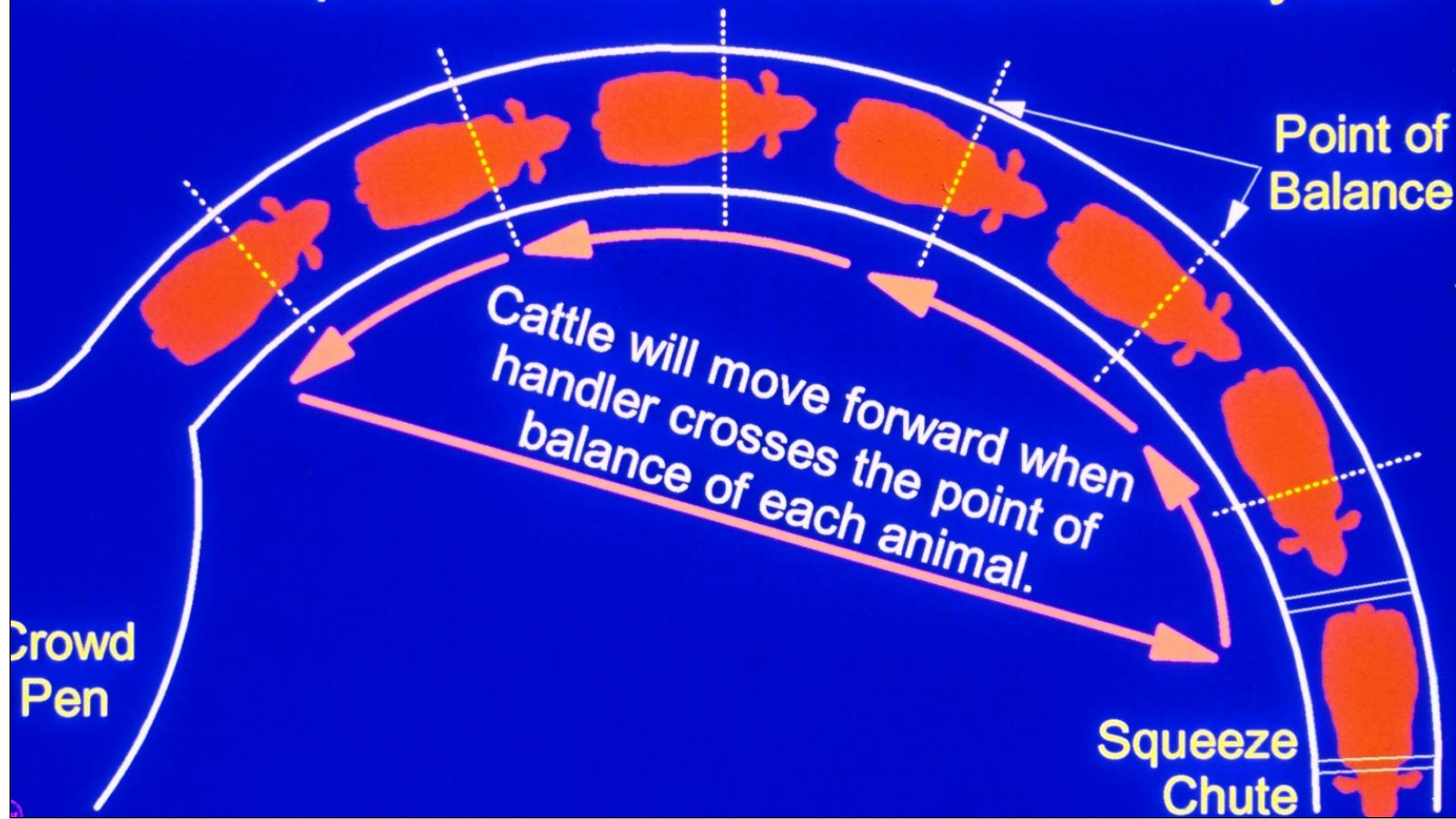
Handler Movement Pattern to Keep Cattle Moving Into a Squeeze Chute or Restrainer



**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.

Handler Movement Pattern to Keep Cattle Moving Into the Squeeze Chute in a Curved Chute System



*Cattle and pigs should be moved
in small groups*



*Sheep can be moved in
larger groups*



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



Crowd gate used correctly and the animals have room to turn



Sheep Handling is a Continuous Flow



Use Following Behavior



Non-Slip Flooring is Essential

- Animal get agitated when they slip
- Scales and unloading ramps



Non-Slip Grating Built from Rock



Concrete Non-Slip Floor



Correctly Stocked Pen and Cattle Resting



Overstocked Cattle Cannot Rest



Animal Avoids Walking on the Reflection



Describe the new French research on insensibility and the new approach to assessing sensibility...

Three Stages

- ✓ Definitely conscious (sensible to pain)
- ✓ Transition Gray Zone
- ✓ Unconscious and brain dead (Terlouw et al., 2016)

All Methods of Stunning

Definitely Conscious – Also Applies to Religious Slaughter

- Remains standing
- Head or body righting reflex on the rail
- Voluntary vocalization
- Spontaneous blinking (do not confuse with nystagmus)
- Eye pursuit to moving objects
- Response to treat (menace) test – no touching (Terlouw, et al., 2016)

If any one of these signs is present, the animal is conscious

RESTUN IMMEDIATELY

All Methods of Stunning

Definitely Unconscious – Also Applies to Religious Slaughter

- Absence of corneal reflex to touch
- Absence of eyelash reflex to touch
- Absence of rhythmic breathing (do not confuse with gasping)
- Absence of response to threat (menace) test – no touching

(Terlouw et al., 2016; Verhoeven, et al., 2016)

ALL of the above signs must be absent

All Methods of Stunning

Unconscious but Beginning to Transition Back to Consciousness

Situations where a second shot application of the electric stunner prevents return to sensibility.

- Weak corneal reflex
- Eyelash reflex
- Rhythmic breathing

All indicators of definite consciousness must be absent

Gray Zone

- ✓ Transition Zone between definitely conscious and definitely unconscious and brain dead
- ✓ An immediate 2nd captive bolt or gunshot prevents return to sensibility and would prevent Humane Slaughter Act violation

All Methods of Stunning

- ✓ Before invasive dressing procedures start after bleeding
- ✓ All indicators of definite consciousness and definitely unconscious or brain dead must be absent
- ✓ No corneal reflex

Confirmation of Brain Dead

- In cattle shot with captive bolt or gunshot, use corneal reflex.
Touch eyeball with finger
- In pigs and sheep, do **NOT** poke eyes with a finger because it can get forced shut and stuck with mucous. When it pops open, it may look like a blink
- Use a small blunt object, such as a pencil eraser to touch the cornea

- Conflict between scientific recommendations and commercial correlation
- Be extremely careful with testing corneal reflexes in pigs. It is easy to get confused.

Grandin, 2001



*Sensible
bovine with
righting
reflex*

(photo not from U.S.)

Righting Reflex in a Fully Sensible Pig



(photo not from U.S.)

Order of Events Return to Sensibility

Transition Zone



Conscious

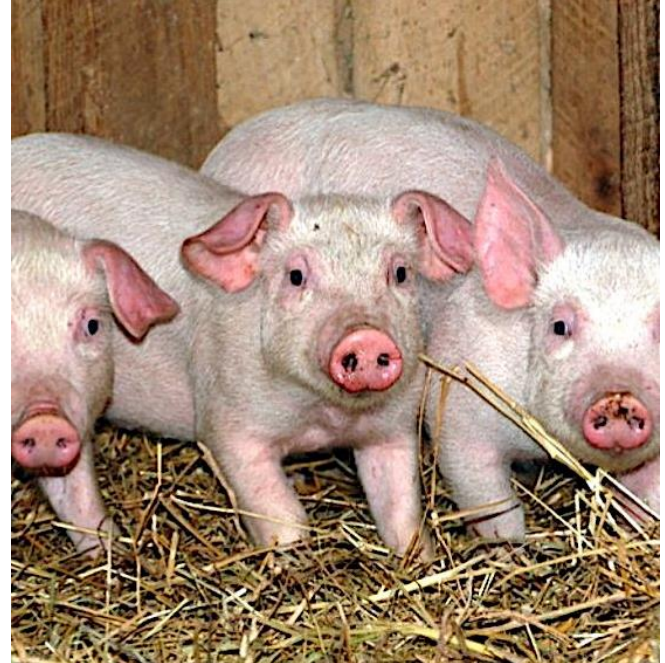


1. Corneal reflex – Brain stem reflex
2. Rhythmic breathing
3. Spontaneous natural blinking like live animal
4. Menace (threat) reflex – wave hand near eye
5. Response to painful stimulus
6. Righting reflex
7. Stands back up

Look at live animals in yard so you can recognize a natural spontaneous blink or a threat (menace) blink



Source: beefmag.com



Source: Countrysidenetwork.com

- Both spontaneous blinking and threat (menace) reflex look the same
- The eyelid does a complete close then open cycle

Understand Differences in the Behavior of the Unconscious Animal After Different Methods of Stunning

- ✓ Methods that physically damage large parts of the brain
- ✓ Methods that do not cause gross physical damage

Captive Bolt or Gunshot

- Agonal gasping must be absent (like a fish out of water)
- Nystagmus (vibrating eye) must be absent. Do not confuse with natural blinking
- An animal exhibiting the above signs should be immediately restunned

Electrical or CO₂ Stunning

- Agonal gasping may be present like a fish out of water in a properly stunned animal
- Do not confuse with rhythmic breathing where the ribs must move in and out at least twice

Electrical or CO₂ Stunning

- Nystagmus (vibrating eye) may be present in a properly stunned animal
- See chart in NAMI 2017 Guidelines

www.grandin.com

Questions?



THANK YOU

