

Tennessee



Master Beef Producer



UT | Extension

Tennessee Beef Cattle Improvement Initiative

Cattle Behavior and Handling Facilities



Objectives

- **Proper handling of cattle to avoid stress and harm to them and their handlers**
- **Proper design and construction of cattle handling facilities**
- **Techniques to identify highly excitable cattle**

Cattle Behavior

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The producer needs to know cattle behavior in order to work cattle to get done what needs to be done

Animal Behavior?

Animal behavior is defined as the pattern of action observed in animals that occurs either voluntarily or involuntarily.
(Taylor and Fields, 1998)

Animal behavior is the interaction of inherited abilities and learned experiences

...inherited or instinct. Example is the ability or desire of a “new” calf to nurse.

...a learned experience is cattle coming to feed following the horn on your pickup.

...an understanding of animal behavior will facilitate economic management and handling of beef cattle.

...and to have an understanding of the animal.

...and the animal's ability to adapt to various environment and management conditions.

- **Animal behavior can be defined as an animal's response to a stimulus from the environment.**

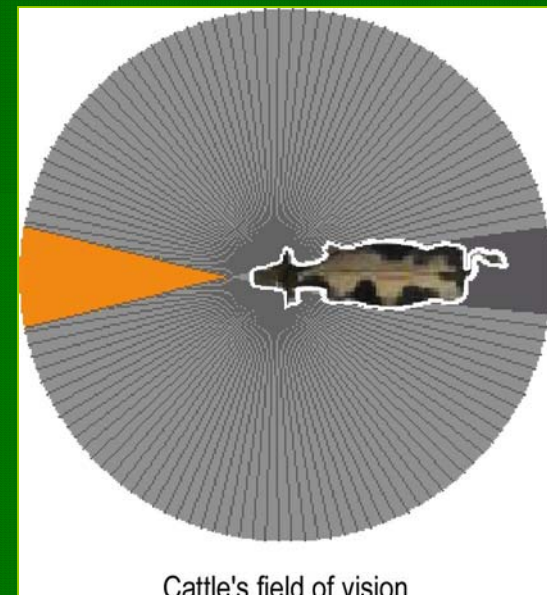
- What do you know about cattle?



General Features of Beef Cattle

- **Highly adaptable**
- **Limited agility**
- **Gregarious social structure**
- **Ruminants, with multi-compartmentalized stomach**
- **Herbivores with the ability to thrive on forages and by-products of little or no value to man**
- **Aggressive male**
- **Estrus (heat) display by female, with receptivity**
- **Early development of young**

- Cattle can distinguish red, orange, and yellow colors
- Small area of binocular vision
- Large area of monocular vision
- Olfaction (sense of smell)
 - Cattle can distinguish peers by urine odors



- **What do you know about cattle's behavior, instinct?**



- **In the evolution of domestication over the centuries - - that response was directed toward survival.**
- **Response was by fleeing (first option) - - - or fighting (survival mode).**

- **Cattle are animals of prey.**
 - **They rely on sight, sound, smell to detect predators and respond by fleeing or fighting. (survival mode)**

- **Humans were perceived as predators.**

...in some situations, they may still be perceived as predators.

...cattle's perception of handlers result from what they know about the cattle – and how they use that knowledge in management

Herd Instinct



- **Cattle have a herding instinct.**
 - “Safety in numbers.” (prey)
 - Follow other animals in the group or herd. (follow movement)
 - Go in direction they are facing.
 - React up to levels of adverse action when separated from the herd and not allowed to return.

Without human intervention, cattle are naturally herd animals

- Can be in several small groups
 1. Female
 2. Male
 3. Mixed Gender

Older bulls are the dominant members
of a herd or group



A group of cattle that have moved into an orderly bunch with "good movement."

Territorial Instinct of Cattle

- **Cattle are comfortable in a familiar environment – a safe environment.**
- **Cattle are creatures of habit.**
 - **Grazing patterns**
 - **Paths across pastures**
- **Cattle would prefer to maintain a familiar environment**

Territorial Instinct of Cattle

(continued)

- Change in environment can alter comfort level.
- Re-establish “pecking order”.
- Put a “new cow” in the herd and “pecking order” may change.

Teritorial Instinct of Cattle (Continued)

- **Maintain order in herd.**
 - **“Boss Cow” is a reality.**
 - **There is a “rank and order” among cows in herd.**
 - **Put a “new cow” in the herd and rank goes through establishing a “new order”.**

Maternal Instinct



Maternal Instinct

- Defensive instinct to protect young.
- Cows can become very aggressive and unpredictable following calving.
- Be extremely cautious when working with newborns.



- **Producers should take time to observe their cattle's temperament and understand their animals behavior so they can predict their actions and become a safer cattle handler.**

Cattles' behavior and/or disposition can be
of economic importance

Iowa State University

- Tri-County Steer Carcass Futurity (TCSCF)
- Last 5 years: 24,315 steers & heifers / 12 states
- Evaluated 3,132 steers (2004-2005)
 - Top 1/3 made profit of \$225.26/head;
 - Lowest 1/3 lost avg of (-\$46.46)/head

TCSCF Disposition Score

1. Docile – Mild disposition, gentle, and handles quietly, exits chute calmly.
2. Restless – Quieter than average, but maybe stubborn during processing. Some tail flicking. Exits chute promptly.
3. Nervous – Typical temperament is management, but nervous and impatient. Constant movement. Repeated pushing and pulling on headgate. Exits chute briskly.

TCSCF Disposition Score

4. Flighty (wild) – Jumpy and out of control, quivers, and struggles violently. Continuous tail flicking. Frantically runs fence line and may jump when penned individually. Exhibits long flight zone and exits chute wildly.
5. Aggressive – Similar to score 4, but with added aggressive behavior, fearful, extreme agitation, continuous movement which may include jumping and bellowing while in chute. Exits chute frantically and may exhibit attack behavior when handled alone.

TCSCF Disposition Score

6. Very aggressive – Extremely aggressive temperament, “killers”. Pronounced attack behavior.

TCSCF Disposition Data

Morbidity rates are higher in docile calves (scores 1 & 2), perhaps because aggressive calves don't show depression & hide illness.

Mortality was almost twice as high in aggressive calves (scores 5 & 6) compared to docile calves.

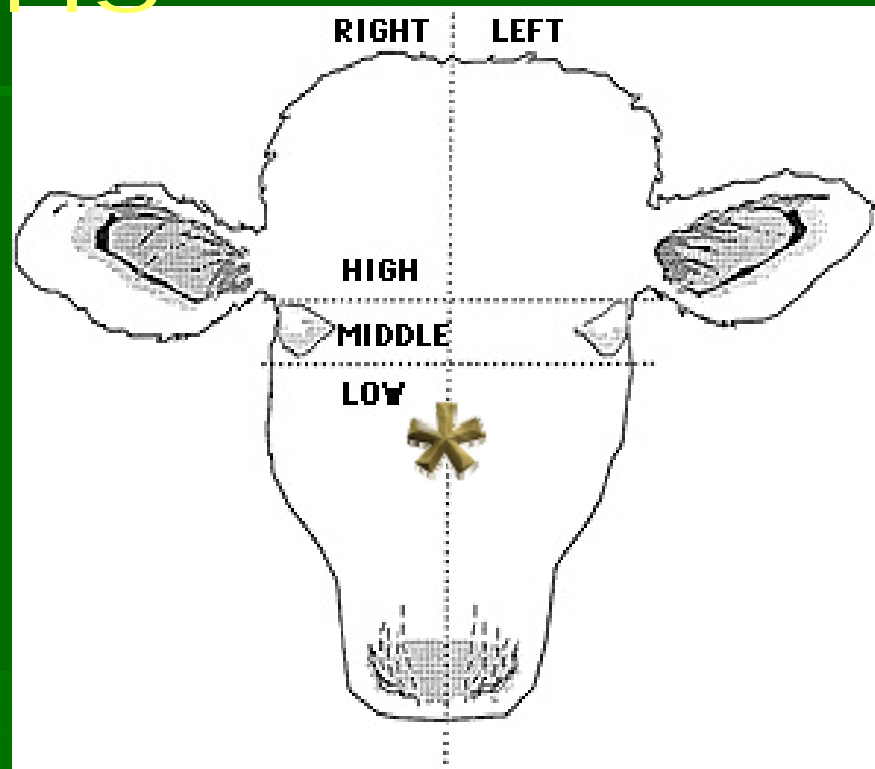
TCSCF Disposition Data

Aggressive, more excitable calves:

1. Less tender;
2. Lower degree of marbling (USDA Choice reduced by 15.9%);
3. More borderline toward dark cutters;
4. Less efficient in feed conversion;
5. Lower feedlot ADG (by 8.2%);



Cattle with Low Whorls



Are less agitated and excitable when restrained

Grandin et al. 1995

@FDK

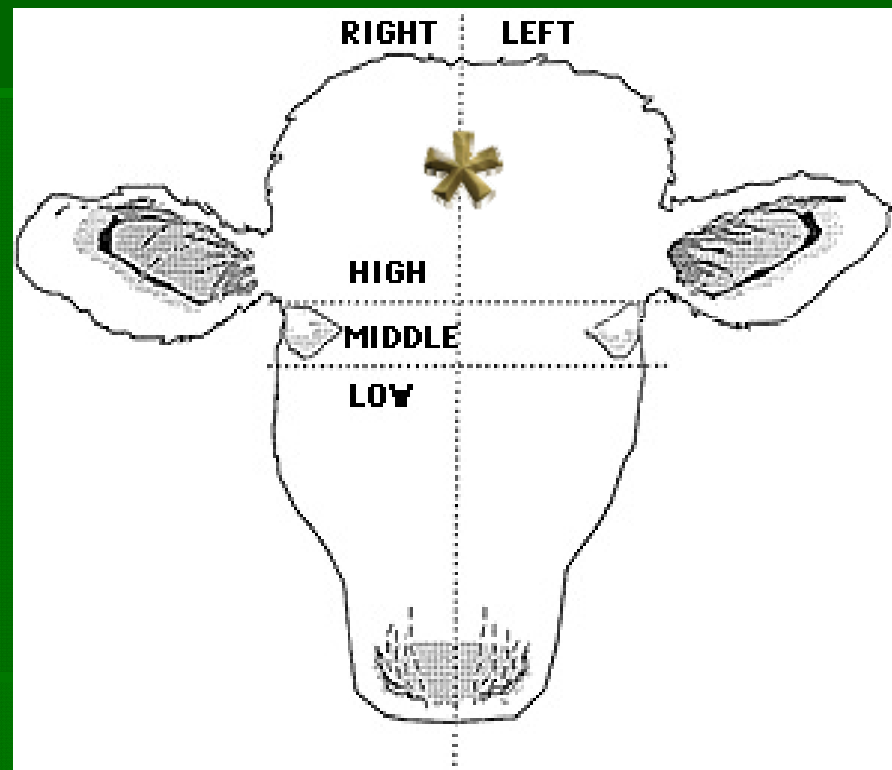


Longitudina
low whorl



Circular Whorl

Cattle With High Whorls



**Are More Excitable And Easily Agitated
When Restrained**

Grandin et al., 1995



Cattle Temperament

- Genetic selection and proper handling are the keys to improving cattle temperament.
- With a heritability factor of 0.40 – 0.60, selection pressure for desirable temperament (ease of handling) will result in relatively rapid change or improvement.

“PBR” (Professional Bull Riders) select
bucking bull sires based on heritability.

Cattle Temperament

- Breeding / selection adjustments should be considered when repeated exposure shows that attitude – not environment – is to blame for unruly / aggressive behavior.

- **“You can observe a lot by watching.”**

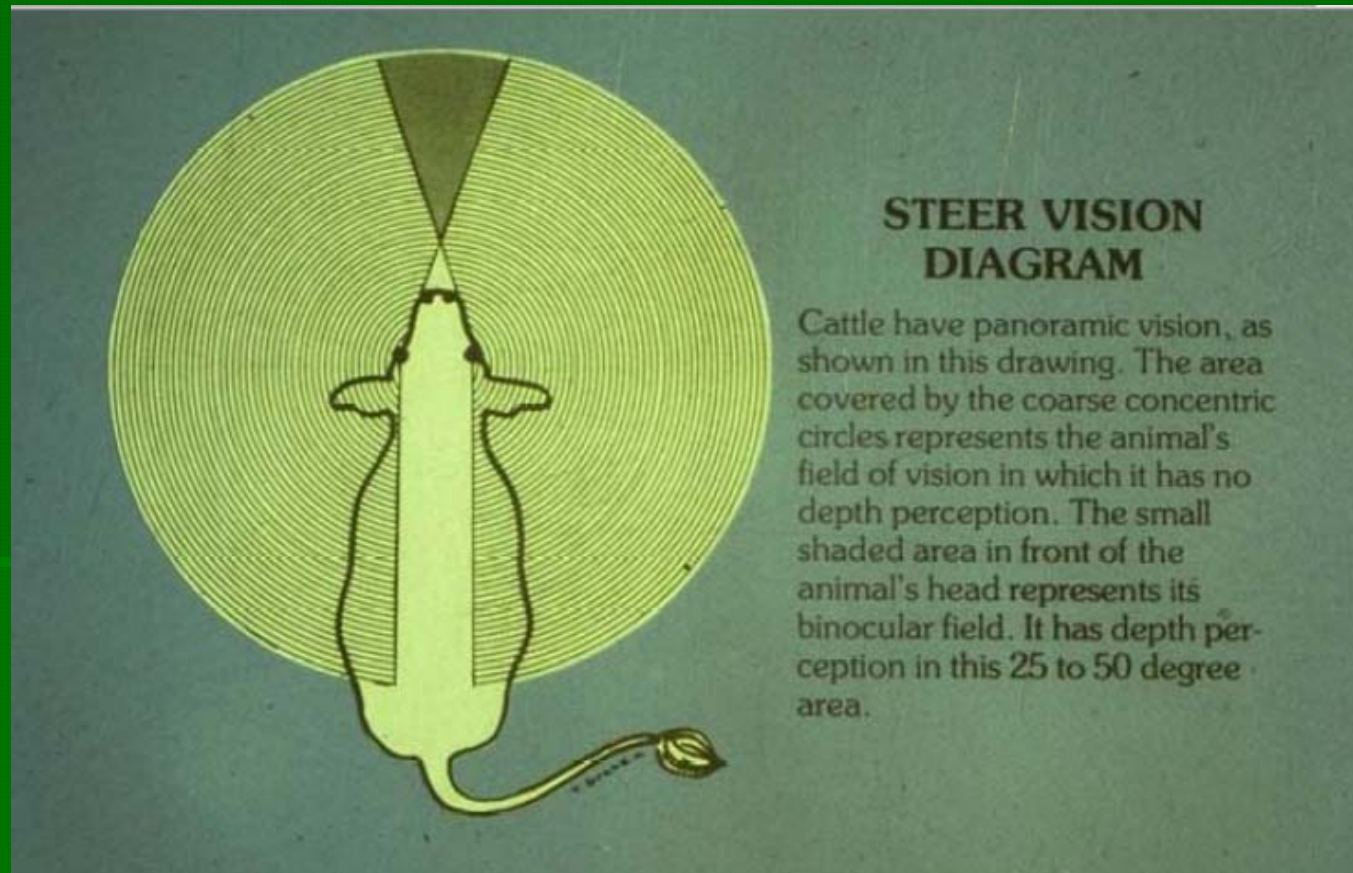
-Yogi Berra



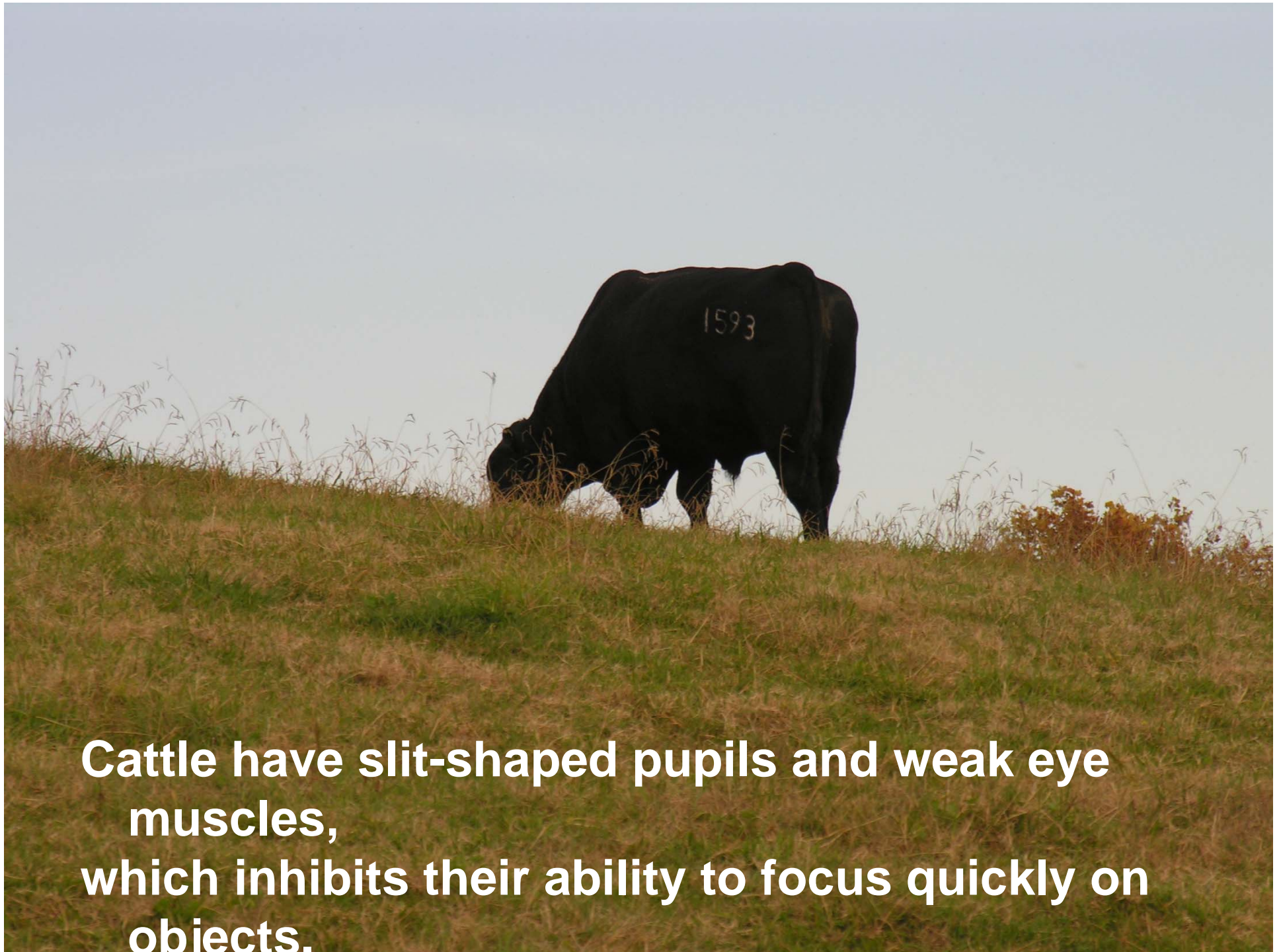
Cattle and Vision

- Panoramic vision (over 300 degrees), a blind spot directly behind them.
- Chasing is perceived as predatory.
- Poor depth and vertical perception ability to perceive ground depth while moving is very limited and sometimes results in limited movement (balking).

Cattle have a wide angle of vision – about 300 degrees







Cattle have slit-shaped pupils and weak eye muscles, which inhibits their ability to focus quickly on objects.

Cattle and Vision

(continued)

- Can only focus on an area of 25-50 degrees in front of them.
- Sensitive to light differently than humans...move more easily from dark to light.
- Fear extreme contrasts of light and dark.



- “Eyes in the front
the animal hunts.”



- Eyes on the side
the animal hides.”

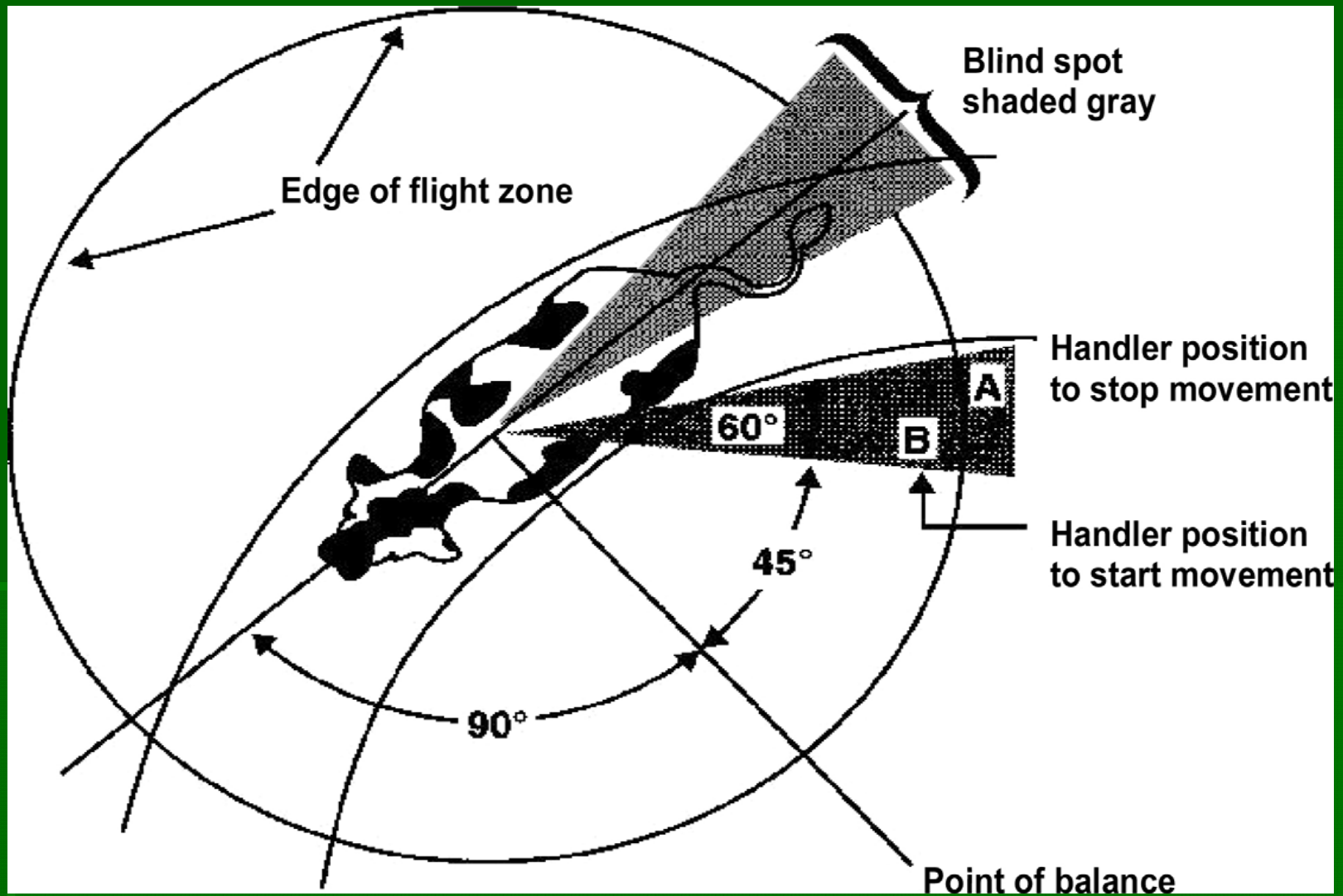


Chasing cattle is perceived as being
predatory... revert to instinct

Flight Zone

- **Animals “Flight Zone” = Personal space**
- **Entering flight zone causes animal to move away**

Flight Zone



Flight Zone (Continued)

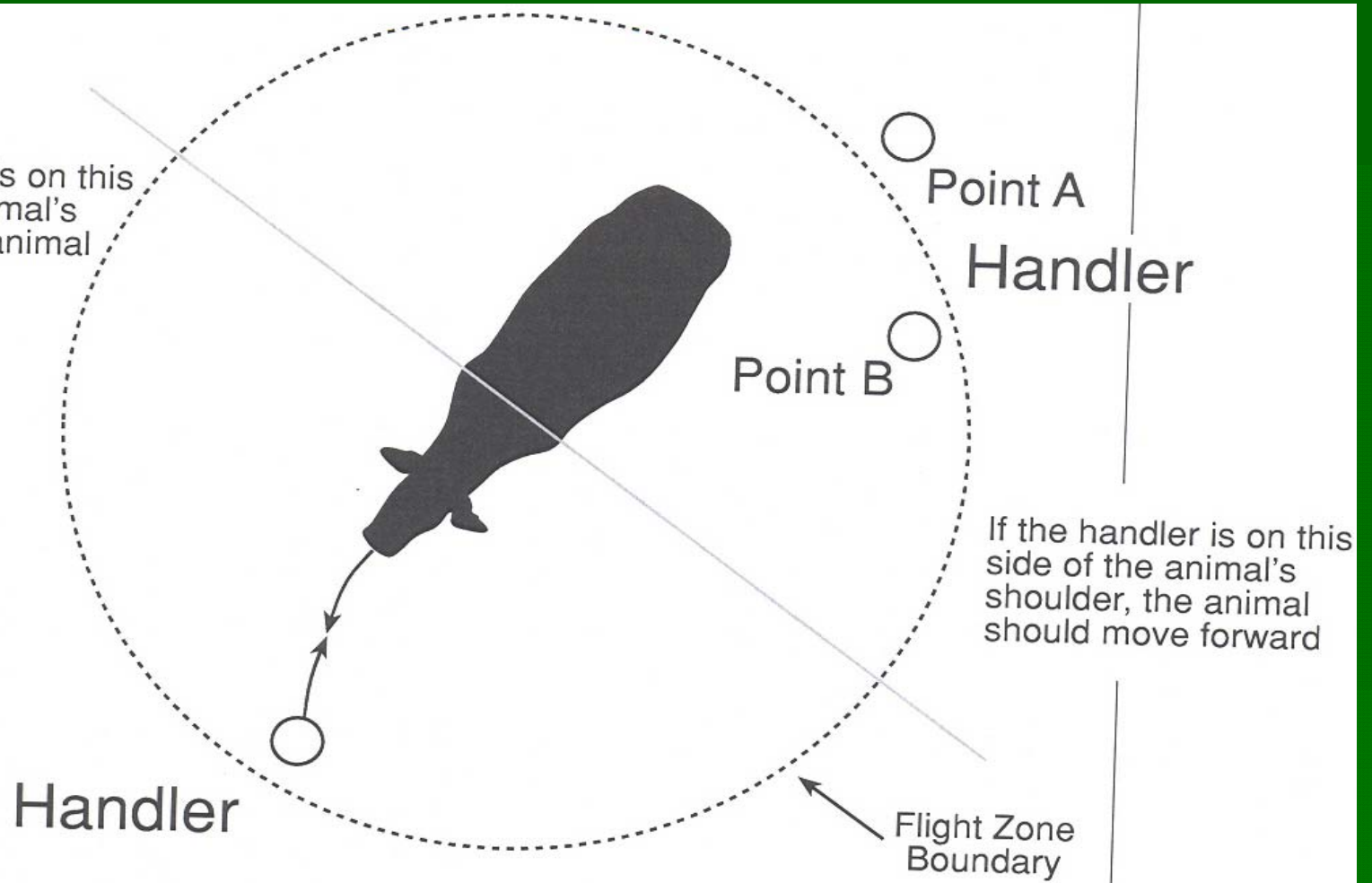
- Go to deep into “flight zone”
Cattle will bolt and run
Turn and fight
- Move back to outer edge of flight zone
Cattle will stop moving
Best for producer to work at the edge
of flight zone

Size of flight zone depends on:

- How accustomed cattle are to being handled
- Familiarity with people
- Familiarity with surroundings, facilities, etc.
- Breed

Edge can be determined by slowly walking up to the animal

If the handler is on this side of the animal's shoulder, the animal should move backward.



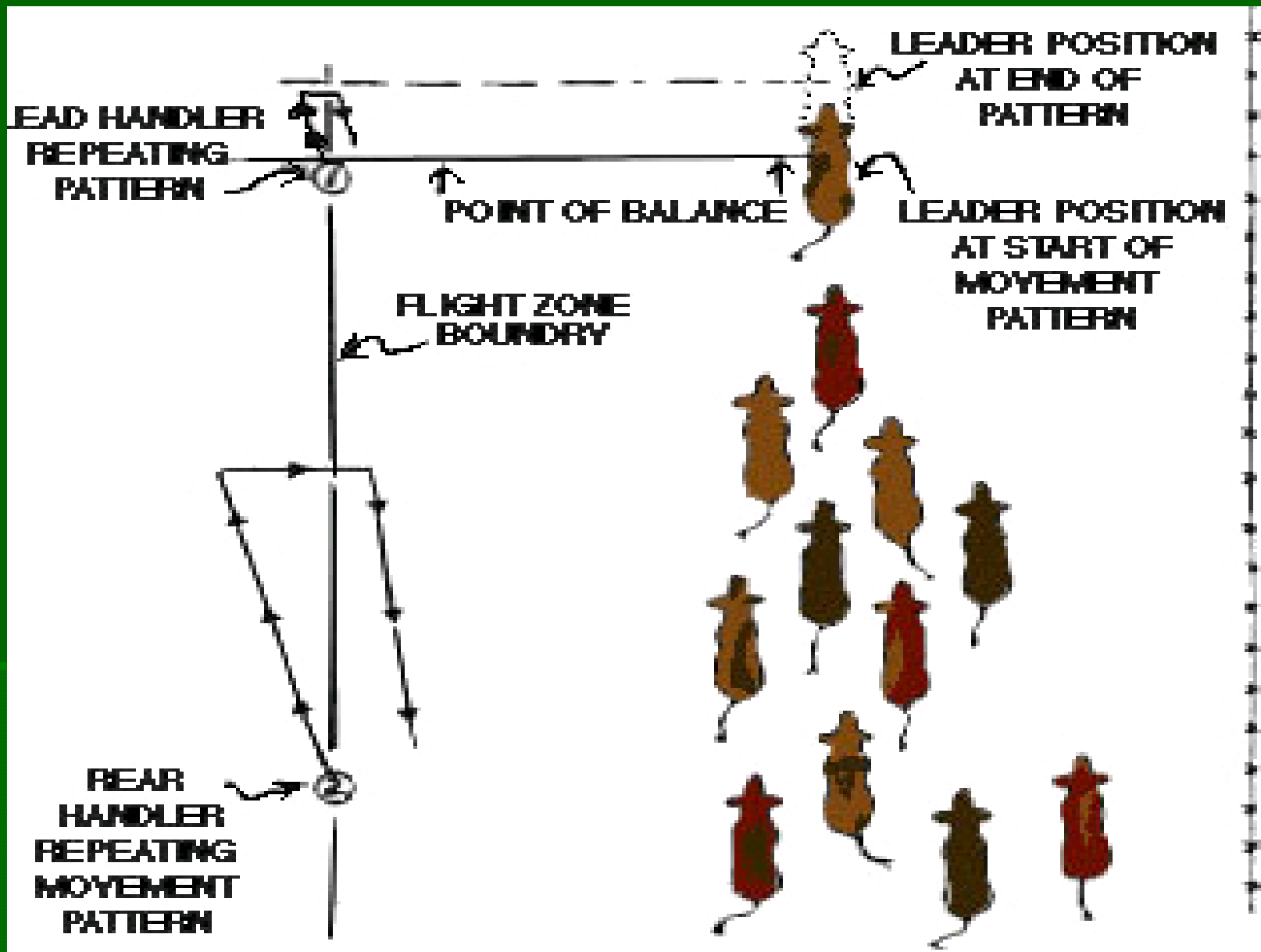
Point A
Handler

Point B

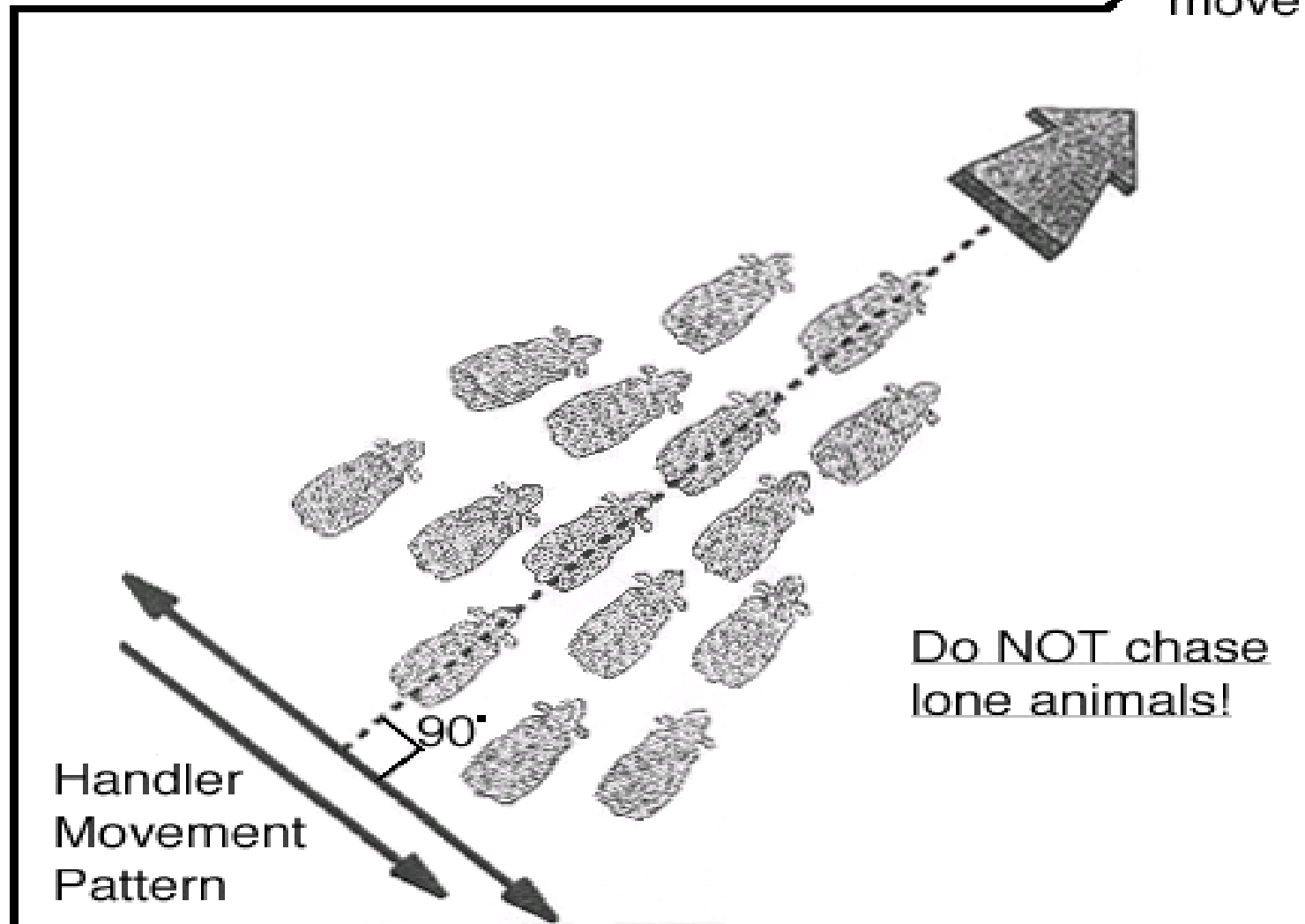
If the handler is on this side of the animal's shoulder, the animal should move forward

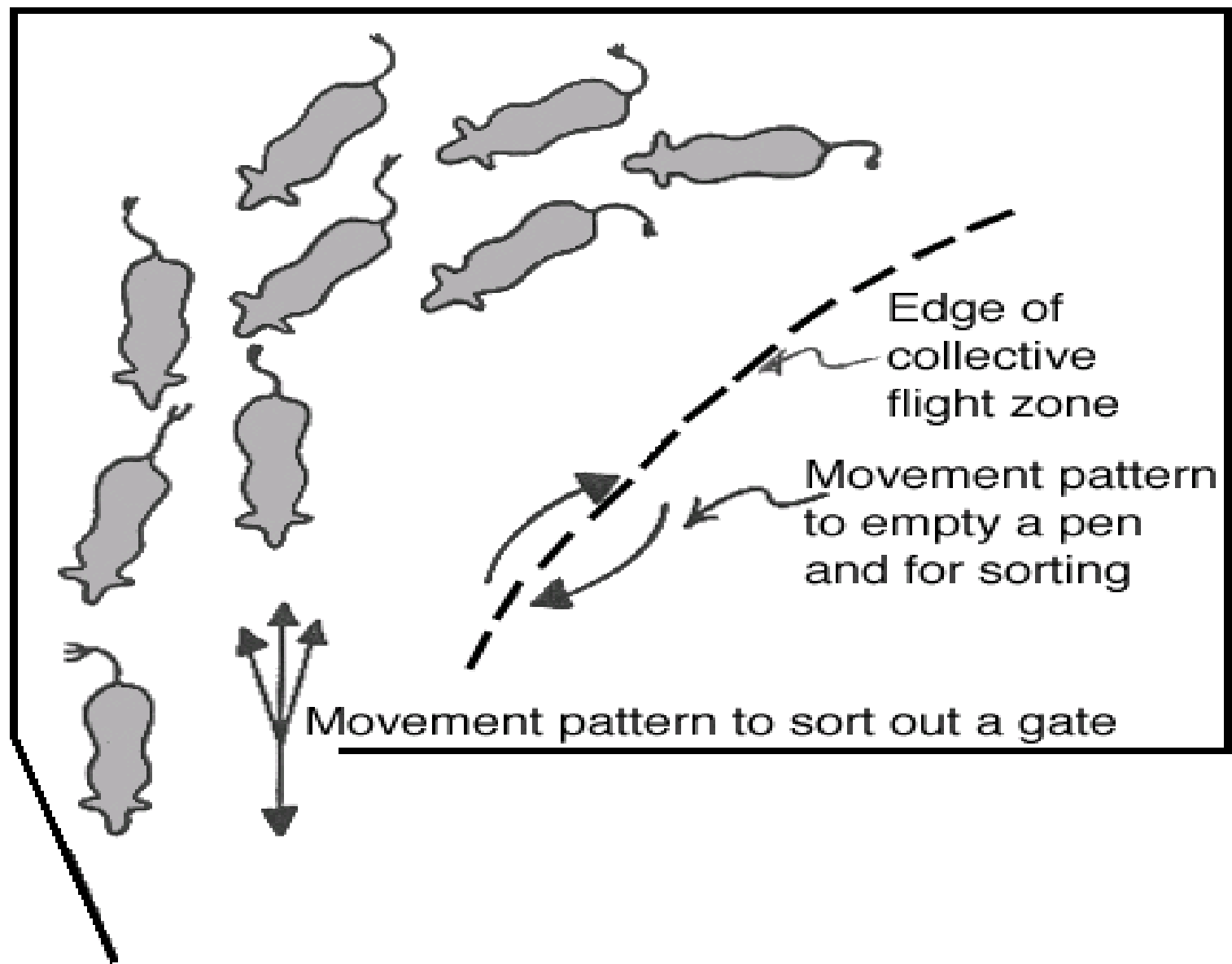
Handler

Flight Zone Boundary



Gate / Direction
of desired
movement





Cattle and Hearing

- Cattle have sensitive hearing and are frightened by excessive loud noises.
- Cattle can hear lower volume and higher frequency sounds than humans but cannot locate it as well as humans.

Cattle and Hearing

(continued)

- Cattle that are usually impaired may over compensate and are extremely sensitive to sound.
- Screaming, hollering, whistling and whip crackling are stressors.
- Loud, metal “clanging” of handling equipment also are problems

Characteristics of Bulls

- Bulls are territorial, possessive of their space and cows.
- Bulls should be respected, not necessarily feared.



Characteristics of Bulls

(continued)

- Submissive and docile bulls may become aggressive and cause injury and/or death.
- Never trust or turn back on bull or separate from herd without help.
- Previous care and rearing has effect on temperament.

Characteristics of Bulls

(Continued)

- Bulls are unpredictable.
- Mating season is a high risk time for bull attacks.
- Always be aware of the bull's location and plan an escape route.



Do Not Turn your Back to a Bull



@FDK

Cattle are responsible for most injuries caused by farm animals.

- **A 1997 study conducted by Oklahoma State University (1997) reported that among 150 cases of cattle handling – related injuries among 100 Oklahoma cow-calf operations.**
- **The study also shared that more than 50% of the injury cases resulted from human error.**



- **Cattle will return to natural instinct when:**
 - **Cattle are put in a situation or environment that they cannot calmly respond.**
 - **When stressed, cattle will go to “survival mode,” First option is to flee - - second is fright.**
 - **As stress increases, it will eventually cause panic**

- **Failure in “knowing” cattle behavior and actions that modify cattle’s behavior can cause problems.**

- **Cattle producers should take time to understand their cattle's behavior and temperament to better understand their possible reactions under different situations to become a more effective and safer cattle manager.**



**Keep the dogs, hotshots, and sunglasses at home –
slower is usually quicker.**