AAT 31022 Animal Breeding Technology

Restraining Farm Animals

Department of Biosystems Technology

Faculty of Technology

South Eastern University of Sri Lanka

Major body parts of cattle

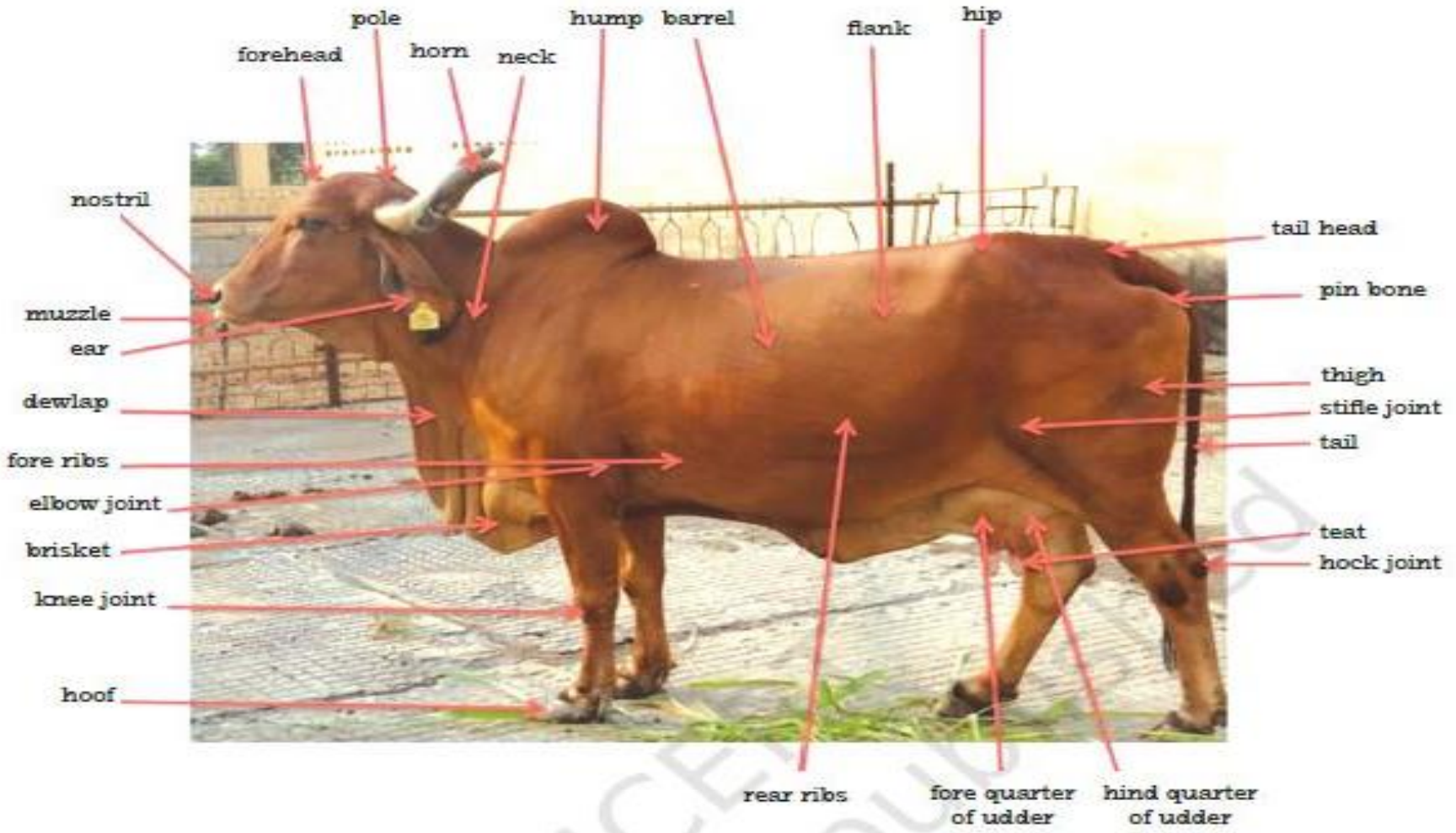


Fig. 1.1: Body parts of cattle

Purposes of handling the Farm Animals

- Physical examination of animals
- Administration of medicine and vaccines
- For carrying out operation like dehorning, castration, etc.

General principles of Animal Handling

- A general principle of animal handling is to avoid getting the animal excited and thus, maintaining safety of the animal handler
- Working in close contact with dairy cattle is a necessary part of most of the dairy operations
- A good animal handler not only understands the psychology of his animals for better animal handling but also ensures his/her own safety

Herd instinct

- Farm animals have a tendency to stay together in herds and this is called their herd instinct
- Therefore, farm animals become agitated when they are isolated from the herd
- If an isolated animal becomes overexcited, it is allowed to go back to the herd



Herd instinct in cattle, buffaloes and young calves respectively

Basics of Animal Behaviour in Relation to Handling

Fundamental animal instincts:

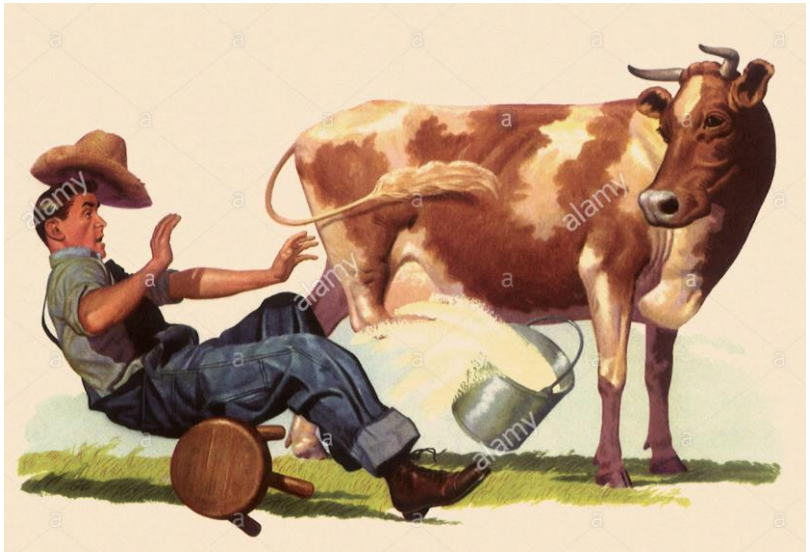
- Animals experience hunger, thirst, fear, sickness, injury and strong maternal instincts
- They also develop individual behaviour patterns such as kicking or biting
- A good animal handler knows about such animal behaviour and takes necessary safety precautions, including use of personal protective equipment

Sensitivity to contrasts:

- Cattle and swine are generally colour-blind and have poor depth perception
- This results in an extreme sensitivity to contrasts, which may cause an animal to stop at shadows or when the animal experiences sudden changes from light to dark
- Sheep are also considered colour-blind, but they do have good depth perception

Kicking habit:

- Horses and mules commonly kickout their hind-legs, while cows kick-in forward and then kick-out outwards
- Cows also have a tendency to kick sideways in case of pain, inflammation or injuries
  - For example, if a cow is suffering from Mastitis in one quarter of the udder, it should be approached from the side of the non-affected udder



Maternal instinct:

- Livestock with newly born offspring exhibit strong maternal instinct
- Such animals are usually more defensive and difficult to handle
- Wherever possible, the newly born calf should be allowed to stay close to its mother at the time of handling

Hesitation towards unfamiliar environment:

- Farm animals usually develop a very characteristic comfortable attachment to areas such as pastures and buildings, water troughs and feedlots
- Forcible removal from these areas can cause animals to react unexpectedly
- Considering these characteristics, it is easier to understand why animals often hesitate while going through unfamiliar areas
- Similar problems occur when animals are moved away from feedlots, separated from the herd or approached by an unfamiliar person

Aversion to unnecessary movements:

- Moving or flapping objects can also make the handling of animals difficult
- A cloth or coat swinging in the wind or turning fan blades can cause animals to stop abruptly

Other considerations in handling:

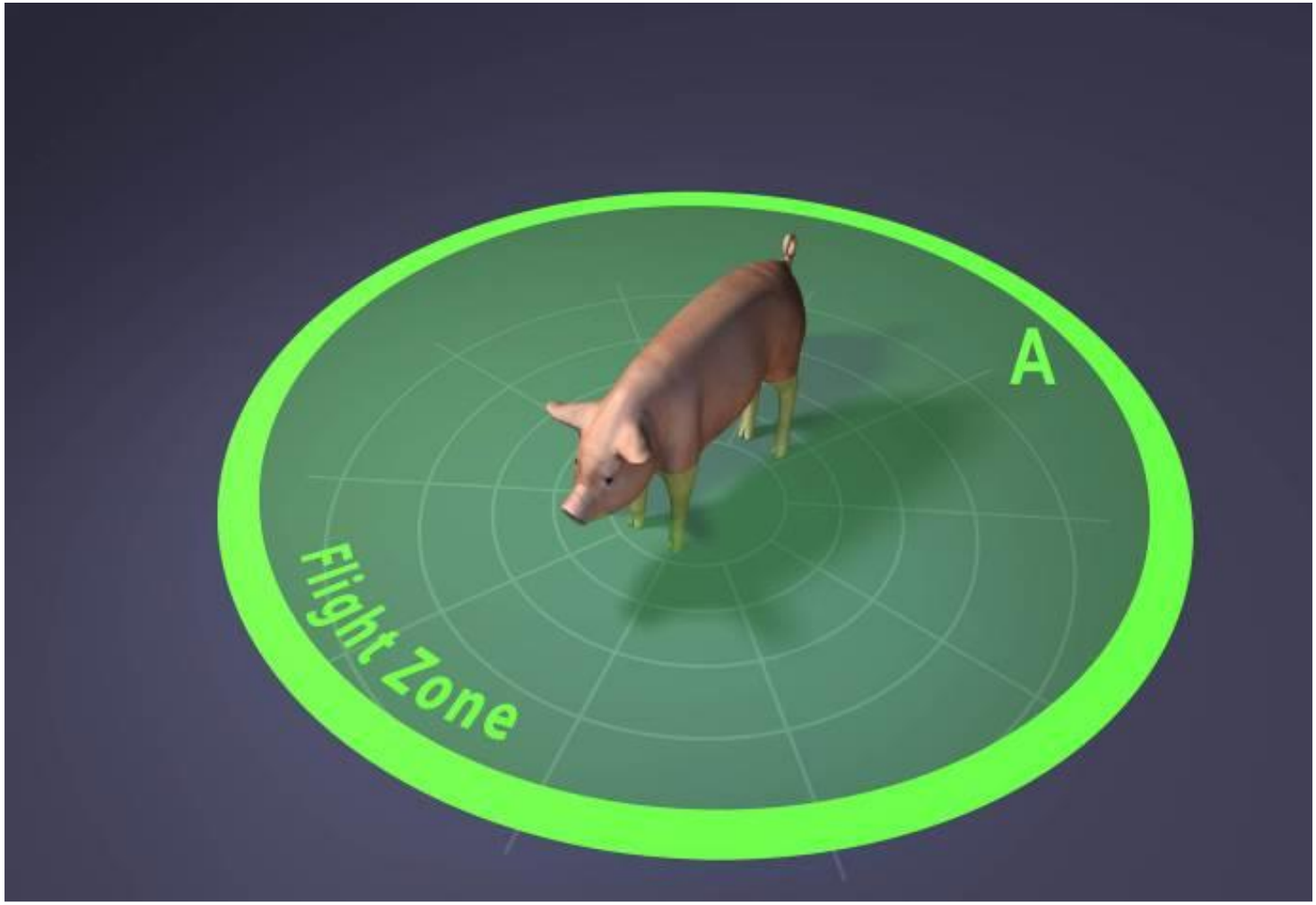
- Animals that are blind or deaf on one side need to be dealt with cautiously
- They favour that side and can suddenly swing around to investigate disturbances
- If standing too close, a person could easily be knocked down and trampled
- Animals respond to the way they are treated and draw upon past experiences when reacting to a situation
  - For example, animals that were chased, kicked, hit or frightened when young, will naturally fear being approached

Three essential elements of animal handling

Flight zone

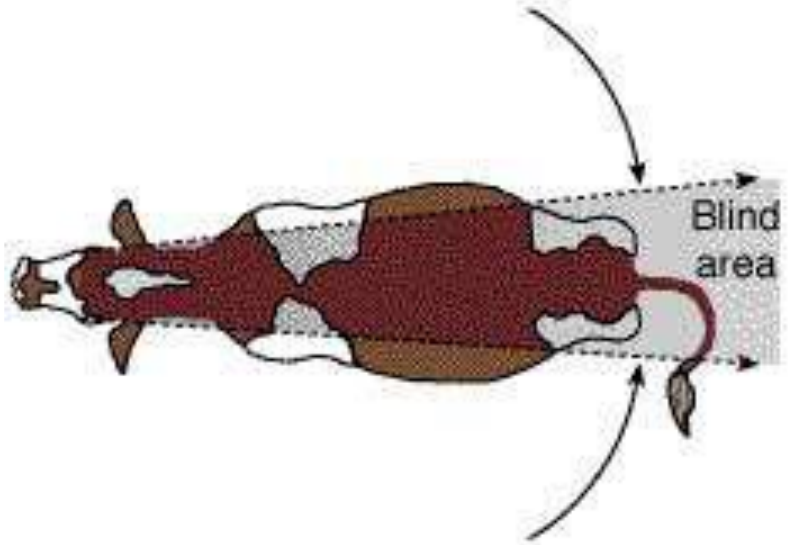
- All animals have a flight zone which is the animal's "personal space"
  - It is the space in which the animal feels comfortable
  - It is the minimum distance the animal tries to maintain between itself and any perceived threat
- The size of the flight zone varies depending on how calm or aggressive the animal is
- Cattle confined to a small space have a smaller flight zone than cattle kept in a large area
- The size of the flight zone slowly diminishes when animals receive frequent gentle handling
- An understanding of the flight zone of the animal can help the handlers to reduce stress and prevent accidents

Flight Zone



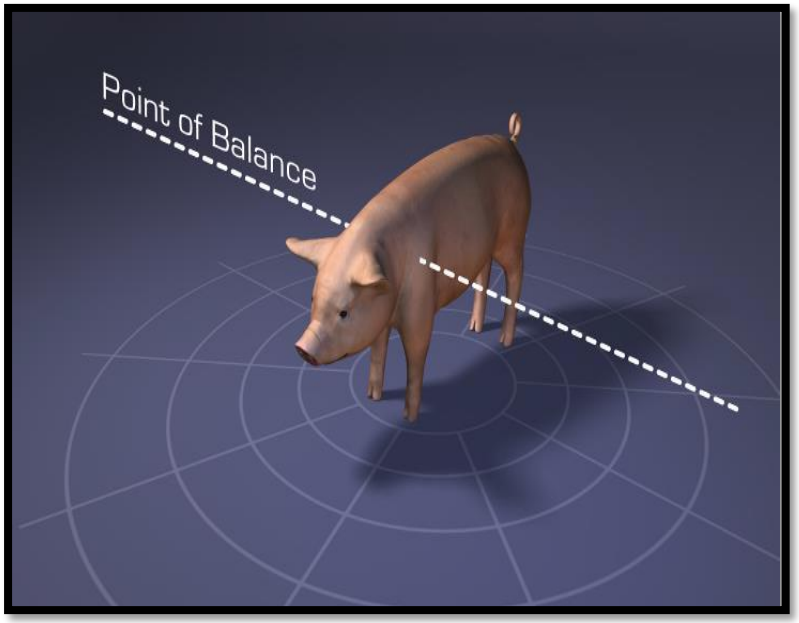
Blind spot

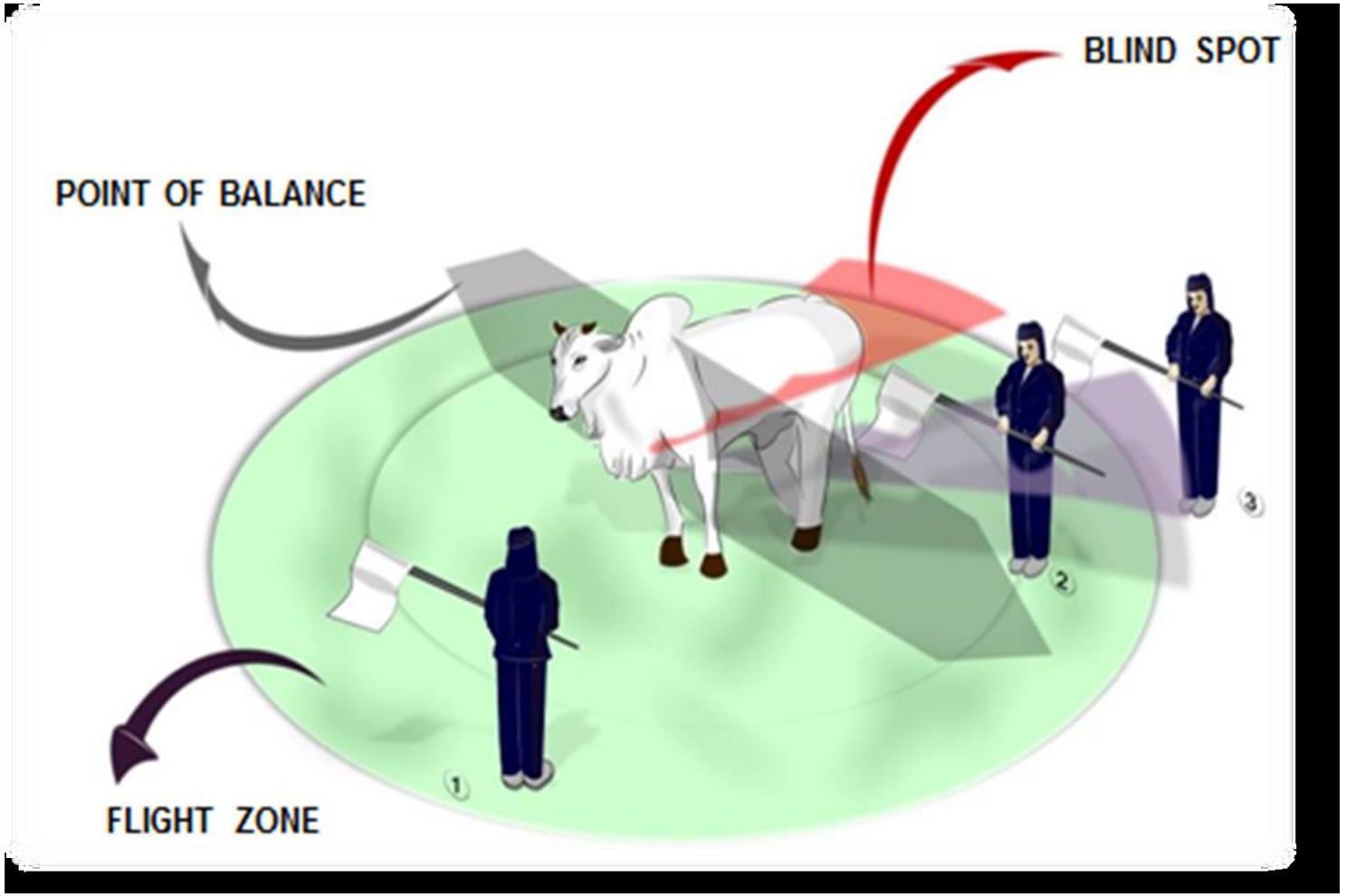
- It is necessary to remember that the area immediately behind the tail of the animals extending up to 15° on either side (i.e., total 30°) is treated as the “blind spot”, where the animal cannot perceive the handler
- An efficient handler never approaches the animal in the area of blind spot as it may get frightened and cause injury to the handler

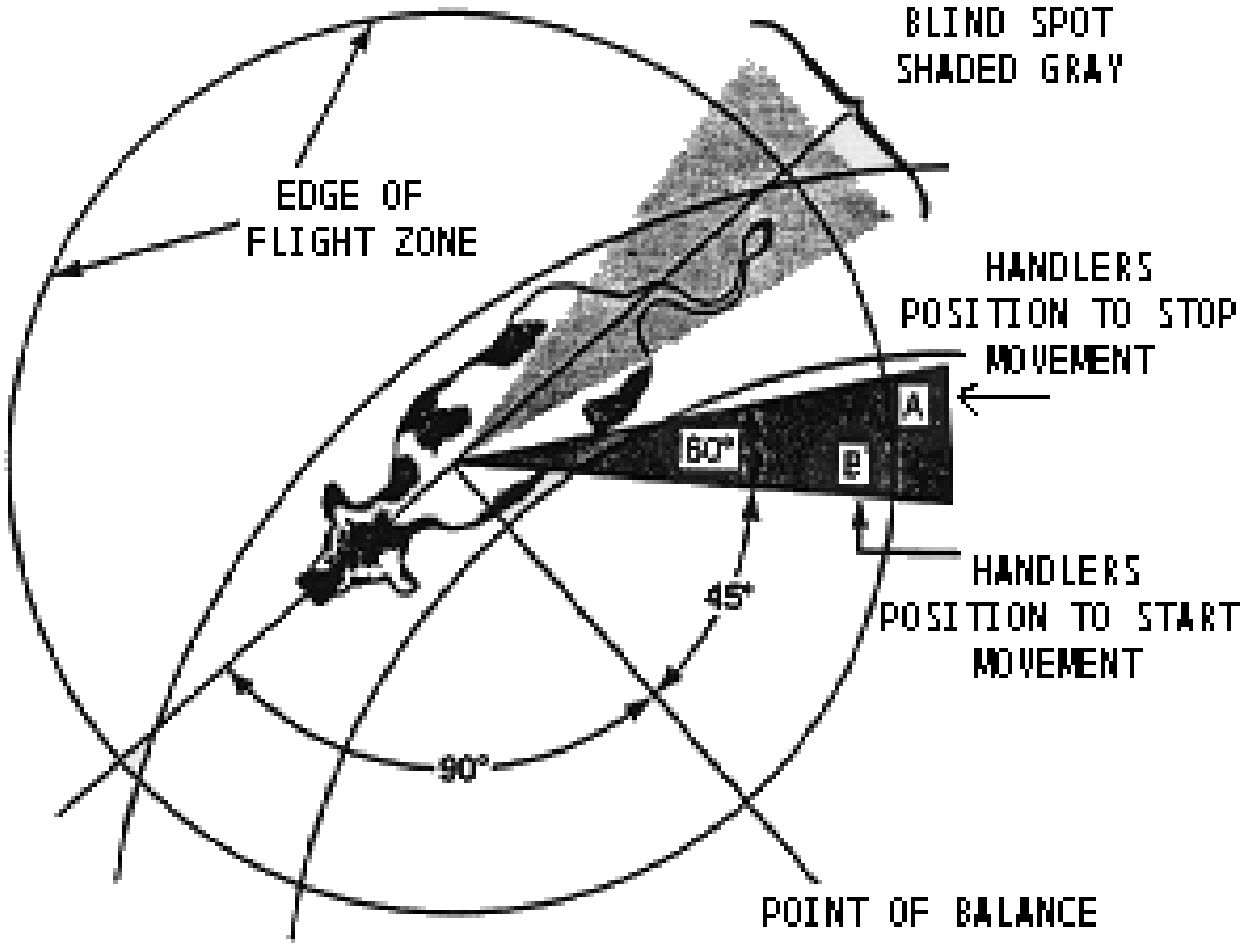


Point of balance

- This is another important concept of livestock handling
- Farm animals have a wide angle of vision. Point of balance is the imaginary point located on the animal's shoulder which divides the animal's body into two portions, i.e., front portion and rear portion
- If the handler crosses this hypothetical point in the direction of front portion, the animal generally moves




BLIND SPOT
POINT OF BALANCE
FLIGHT ZONE
1
2
3


BLIND SPOT
SHADED GRAY
EDGE OF
FLIGHT ZONE
HANDLERS
POSITION TO STOP
MOVEMENT
A
60°
B
45°
HANDLERS
POSITION TO START
MOVEMENT
90°
POINT OF BALANCE

Important aspects of livestock handling

Never handle excited animals

- Excited animals are difficult to handle. Thus, if cattle become excited, allow them at least 30 minutes to return to normalcy.

Changes in animal behaviour due to stress

- Animals express fear or alarm under stress through their behavioural symptoms.

Cattle are sensitive to contrasts

- Cattle are colour-blind and have poor depth perception. It implies that they are very sensitive to contrasts. Therefore, contrasting situations are avoided in the farm.

High-pitched noises

- Animals are frightened by high-pitched noises. When cattle are moved quietly, they remain calm and are a lot easier to handle.

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Animals remember 'bad' experiences

- Cattle remember 'bad' experiences and create associations from fearful memories. For example, if a bald man caused pain to a cow, the same cow may exhibit fear towards all bald men. This emphasises the need for calm and respectful handling of animals at all times.

Direction of kicking

- Cattle usually kick in forward direction, then kick out and back in a swinging motion. The animal health worker must be aware of this kicking habit to avoid injury to self and to the animal.

Attachment with the owner

- Animals are also very observant. They learn to watch and listen to their owners, even when they may appear to be inattentive. Animals can sense the human mood by watching human behaviour.

Proper handling techniques

- Some animals take longer than others to get trained but all farm animals can be handled safely and effectively if proper techniques are used.

Signs of distress in farm animals

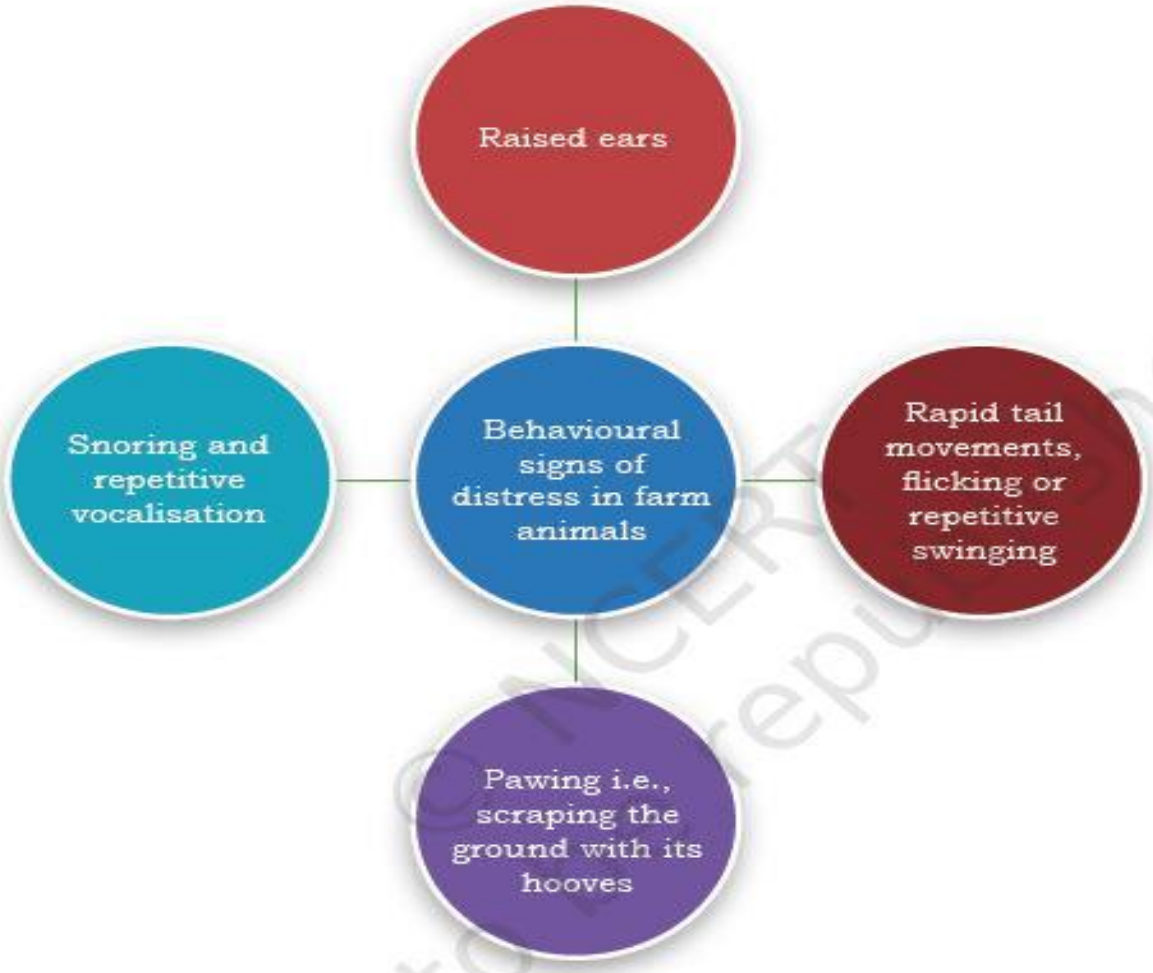


Fig. 1.6: Signs of distress in farm animals

Approaching the farm animals

1. Before approaching an animal, ask the attendant or the owner whether the animal is docile or furious
2. Never carry a stick when approaching an animal
3. If possible, call the animal by its name, and approach the animal preferably from the left side
4. Pet the animal gently by calling its name or words familiar to the animal
5. Most large animals kick in an arch beginning towards the front and moving towards the back. Avoid this kicking region while approaching the animal
6. Some of the novice farm workers feel that a good way of restraining large animals is to entice them with concentrates and jaggery
   - This is not an advisable method to follow in case of large animals

Restraining of individual cows and buffaloes

The following precautions must be kept in mind while restraining animals:

- Cows are generally more nervous than other animals. Always announce your presence when approaching a cow and gently touch it
- If a cow tends to kick, consider using a rope. Do not permit workers to talk loudly. Gentle cows can be dangerous while defending their calves and such information should be shared with the visitors and new workers
- Special care is required for handling the breeding bulls
  - The handler should never come in direct contact with a breeding bull
- Keep small children and strangers away from the animals
- Cattle can be difficult to handle if you force them to act in ways that are not natural for them

Restraining of individual cows and buffaloes

1. **Restraining particular body parts of animals**
   I. Restraining of the head Region
      - Bull nose ring
      - Bull holder
      - Bull nose leader
      - Muzzle cover
      - Mouth gags/ speculum

   II. Restraining of the foreleg

   III. Restraining of the hind leg
      - Anti-kicker and Milker's knot

   IV. Restraining the tail to divert animal's attention
2. **Restraining the whole animal**
   I. Casting of animals
      - Reuff's method
      - Burley method of casting

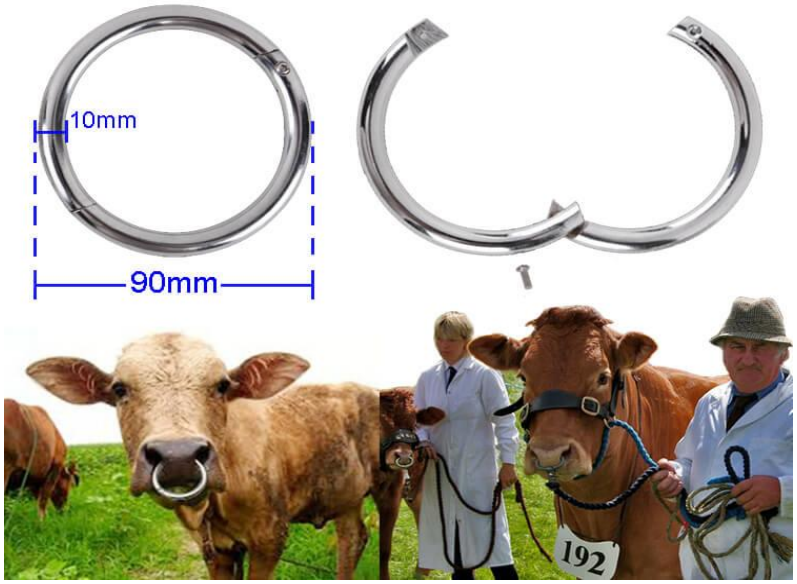
Restraining of the Head region

- To manually restrain the head region, grasp the bridge between the nostrils with thumb and forefinger of one hand and hold it firmly. With the other hand, hold the horn

Restraining of the Head region

Bull nose ring

- It is fixed to the nasal septum of bulls and used to restrain the head region of the animal
- It is made up of two semi-circular pieces of aluminium, copper or some alloy which does not rust
- Rope or bull holder is attached to the bull nose ring to control the bulls



Restraining of the Head region

Bull holder:

- It is a wooden pole fitted with metal structure which entraps the bull nose ring to control the bull

Restraining of the Head region

Bull nose leader

- It is used if examination of the animal is likely to be prolonged or if the animal is restive
- The swivel allows the animal to turn and twist its head without twisting the operator's wrist
- The ring is used as a handle. The finger-like structure can be separated and inserted into the two nostrils of a bull and then closed tight

Restraining of the Head region

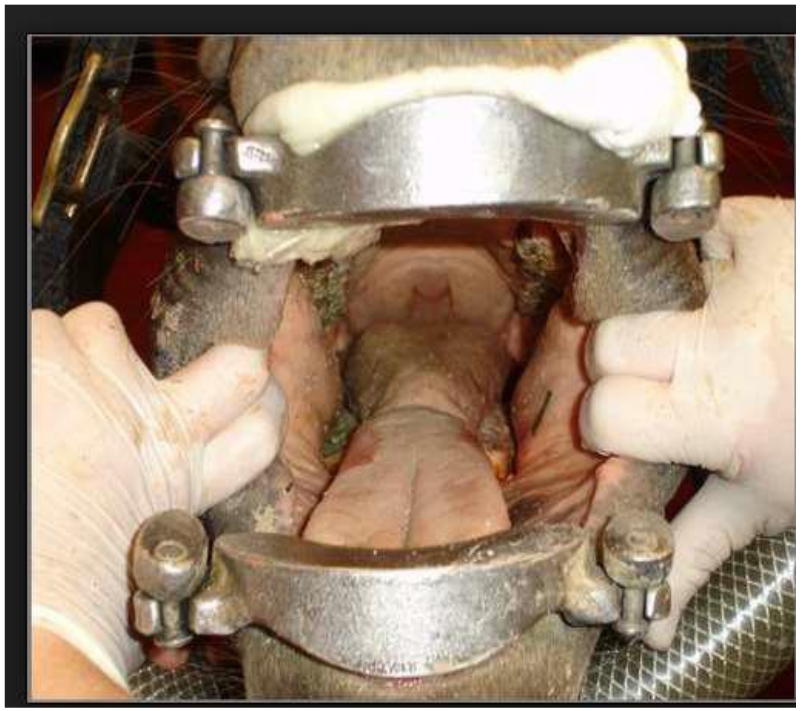
Muzzle cover

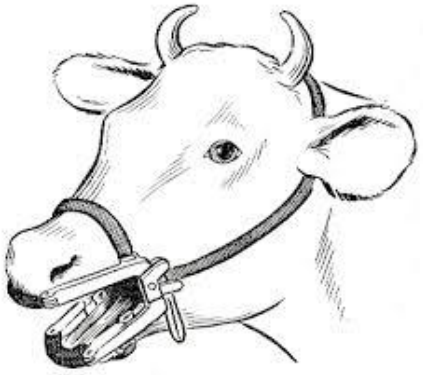
- It is made of rope, string, bamboo splits and wire netting or leather straps and used to envelope mouth of animals to prevent them from biting and overeating

Restraining of the Head region

Mouth gags/ speculum

- These are used for keeping the two jaws of cattle open for examination of the mouth. One gag is used for the right jaw and the other for the left jaw





Restraining of the foreleg

- The foreleg of the cattle is raised and held off the ground for examination or treatment
- Raising the foreleg also helps in controlling the movement of the animals and hinder their kicking with the hind leg

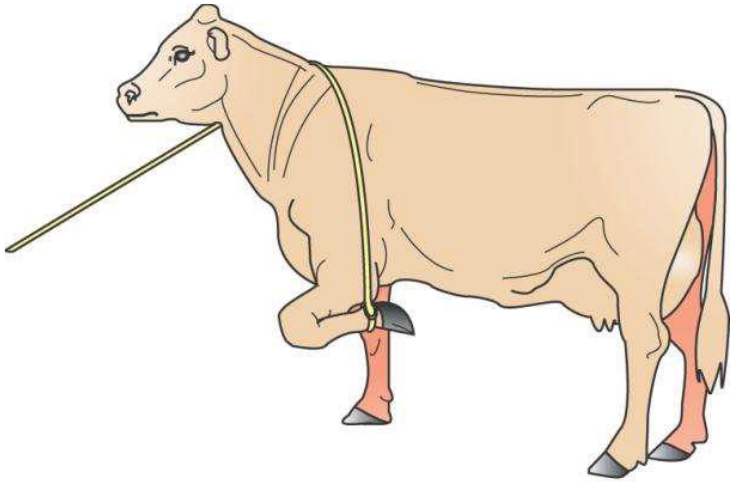


Fig. 13-10. Leg rope for elevating a front limb.

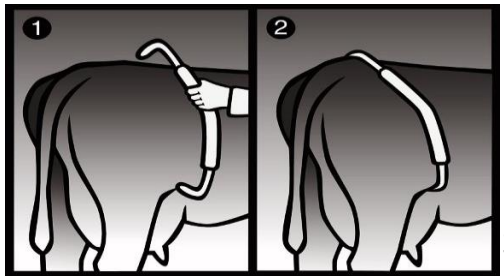
Restraining of the hind leg

- Raising of the hind leg off the ground and holding it in that position facilitates examination or treatment of the animal
- It is particularly useful for the treatment of hooves

Restraining of the hind leg

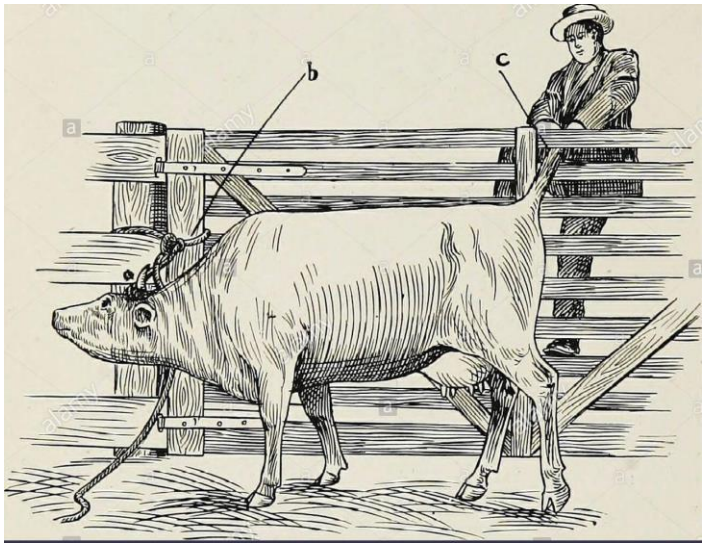
Following are the two commonly used

- ***Anti-kicker*** and ***Milker's knot*** are used to prevent the animal from kicking during examination of udder and teats while milking or examination of the hind region in case of Mastitis and udder swelling
- In an anti-kicker, two metal spring clips connected by a chain are used



Restraining the tail to divert animal's attention

- For this purpose, the animal worker stands on the side of the cow to avoid being kicked
- Animal handler keeps both the hands close to the base of the tail as much as possible
- The grip is gentle but firm. Restraining of tail is required to distract the cattle's attention from another part of its body on which some operation is being done



Restraining the whole animal

Casting of animals

- Casting of an animal means making the animal fall on the ground.
- Animals are cast for various reasons like surgical operations, hoof trimming, etc., to prevent accidents during handling
- In a large farm, a casting pit is set up to avoid injury during casting of animals.
  - Casting pit is a circular area of about 8 metres diameter which is filled with bedding materials like sand, wheat straw, saw dust
- As a precautionary measure, the animal is kept on fasting for 12 hours before casting to prevent injury to distended digestive organs
- Casting of pregnant animals must be avoided

Casting pit filled with sand as bedding

Restraining the whole animal

- *Reuff's method*

Restraining the whole animal

Reuff's method

- Make a loop around the animal's neck using a bowline knot placed as indicated in the pictures
- Throw the end of the rope over animal's back to the opposite side
- Pick the rope from under the animal, bring it around its body and near the bowline to form a half hitch just behind the shoulder
- By tossing the end over the animal's back, make another half hitch just in front of the udder or scrotum in case of male cattle
- Gently pull the rope to cast the animal

Restraining the whole animal

- *Burley method of casting*

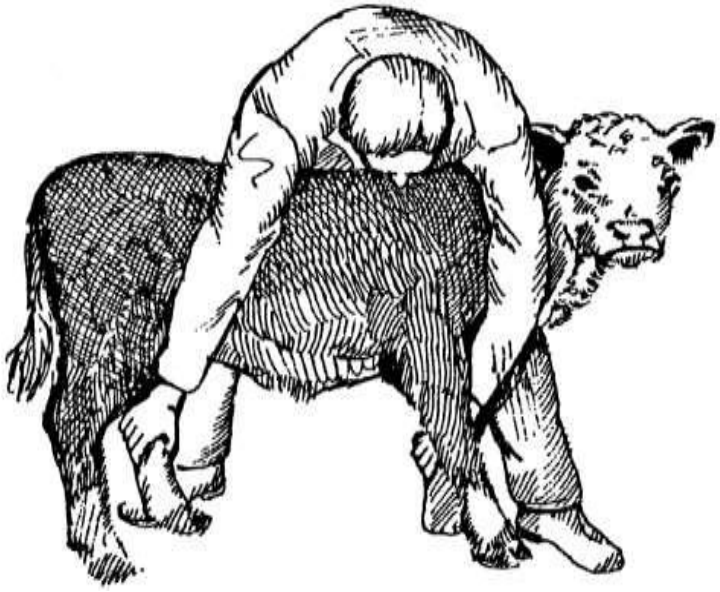
Restraining the whole animal

Burley method of casting

- The rope is divided into two equal parts
- The middle portion of the rope is placed on the upper side of the animal's neck and free ends of the rope are crossed under the neck
- Then both the free ends of the rope pass between the front legs in backward direction on either side of the animal
- Each free end of the rope then crosses over the back of the animal and subsequently passes through the area between the udder or scrotum (in case of males) and hind legs
- When the rope is pulled in the backward direction, the animal is cast to the ground

Calf restraint

- Flanking (Calves)
- Reach over calf
- Reach down flank and grasp nearest hindleg with one hand
- Reach between forelegs and grasp nearest foreleg with other hand
- Lift and slide calf to ground
- Kneel on neck and thigh
- Lift bottom foreleg from ground



Restraint techniques for sheep and goat

- Do not attempt to keep sheep or goat from moving by pulling on its head, horn or hide
- He will quickly become excited and resist

Holding a sheep

Restraint between legs

- Straddling the animal between the handler's legs, and squeezing the sheep shoulder between the legs

Straddling a sheep for restrain

Restraint for hoof trimming and examination

- Sheep or goat should be set up on their rump
- If they are to be vaccinated in the groin, it will be sufficient restrain to tilt him backward so that he is off balance
- Sheep or goats should be held the same way for hoof trimming Or for vaccination in the groin

Hoof examination

Hoof trimming

Restraint for poultry

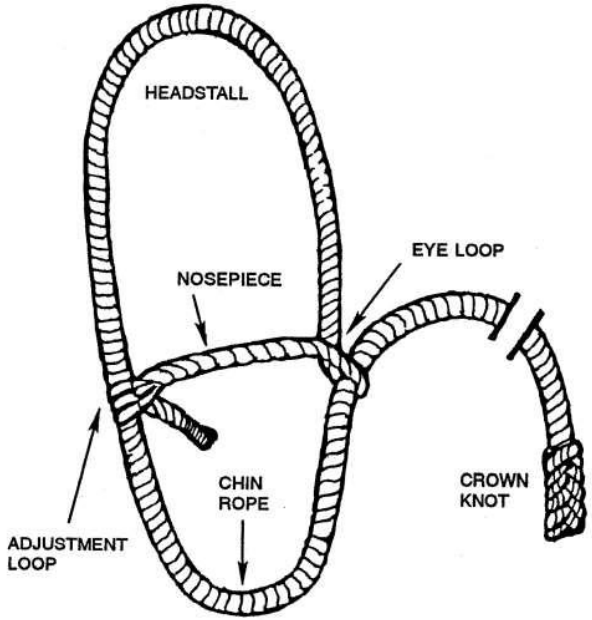
- Pass middle finger between its legs and other finger slightly spread apart to support the body, other hand can be used for examination

- Another method use to handle poultry is to place one hand under the chest of the bird and place it in between chest and arm

- Some other tools and equipment used for restraining farm animals

Halters

- Halters made of rope or leather can be used for farm animals
  - A 1.5 cm thick and 3 to 4m long rope is used for preparation of the loop



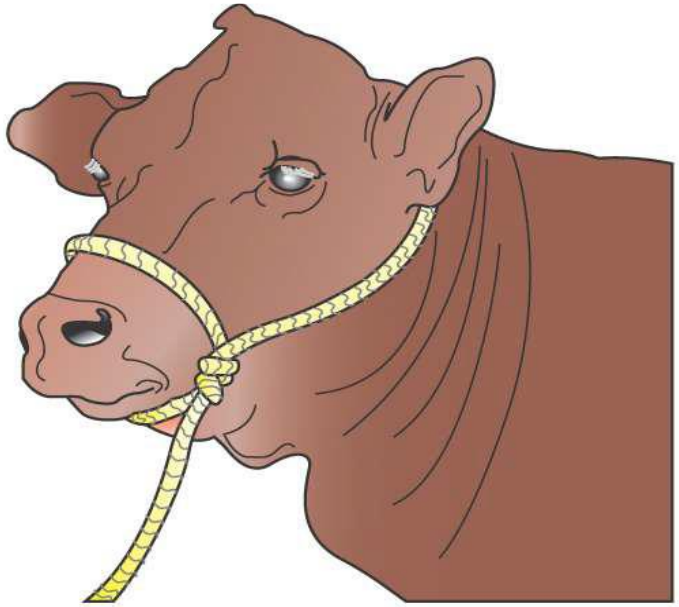


Fig. 13-2. Proper placement of a rope cattle halter.

Trevis

- Tervis is used for handling animals for longer duration
- It is a fixed structure constructed with steel pipes

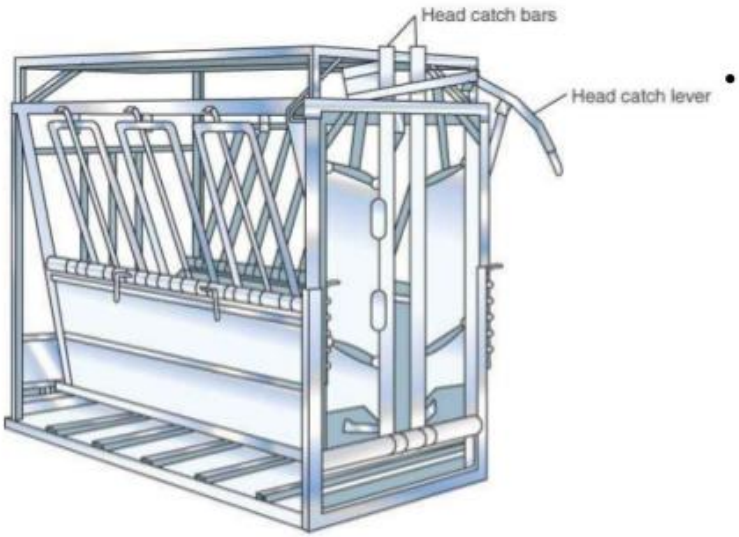


Fig. 13-1. Typical cattle squeeze chute with side bars that can be removed or lowered for access to the animal. Note the vertical head catch bars at the front of the chute.

Safe practices in animal handling

- The important protective equipment are gloves, apron, gumboots and mask. A rigid protective helmet is also worn when required
- Wear rubber gloves when working with sick and injured animals as well as other protective clothing
- It is important to wear proper gumboots when one is around livestock
  - Gumboots provide proper foot support and protection to the worker

Apron

Gloves

Mask

Gumboots

Safe practices in animal handling

- Observe personal hygiene by washing hands and face after handling the animals
- A good farm health worker is concerned about zoonotic diseases which can be transmitted from humans to animals and vice versa
  - Leptospirosis, Rabies, Brucellosis, Salmonellosis and Ringworm are some examples of zoonotic diseases
- To reduce exposure to diseases, use basic hygiene and sanitation practices
  - prompt treating or disposal of infected animals, adequate disposal of infected tissues and proper cleaning of contaminated sites
- Always handle any hazardous medical equipment such as needles or chemicals with extreme caution
  - Never throw needles away in the waste
  - Special red-coloured bio-hazard disposal boxes must be kept for this purpose on the farms