Putting Science into Animal Science Projects

Area: Handling Livestock Safely

Activity: Moving Livestock Using Animal Behavior

Goal: Prepare members to use animal behavior (blind spot, flight zone, point of balance) to move livestock safely.

How to do the activity:

Use the attached information and activities to teach members about using animal behavior to safely move livestock.

This lesson is divided into four sections:

1. Background
    - Activity – None
2. Blind Spot
    - Activity – Where is Your Blind Spot?
        - Materials needed: Roll of masking tape; and a 10 foot piece of rope or string marked at 3 foot intervals
3. Flight Zone
    - Activity – Get Out of My Space!
        - Materials needed: None
4. Point of Balance
    - Activity – I Can Get You There
        - Materials needed: None
5. Putting it All Together
    - Activity – Putting Theory into Action
        - Materials needed: Project animal in an enclosure

Conclusion:

By completing this activity, 4-H members have been able to explore some concepts of science. They have asked questions, answered questions, gained some factual knowledge, and have hopefully been prompted/encouraged to ask more questions. *How else might this _____? What if _____ were done? Why did I get these results?* As they grow/expand their knowledge with Inquiry Based Learning, they are learning life skills that they will use again and again as capable adults.

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Moving Livestock Using Animal Behavior

1. Background:

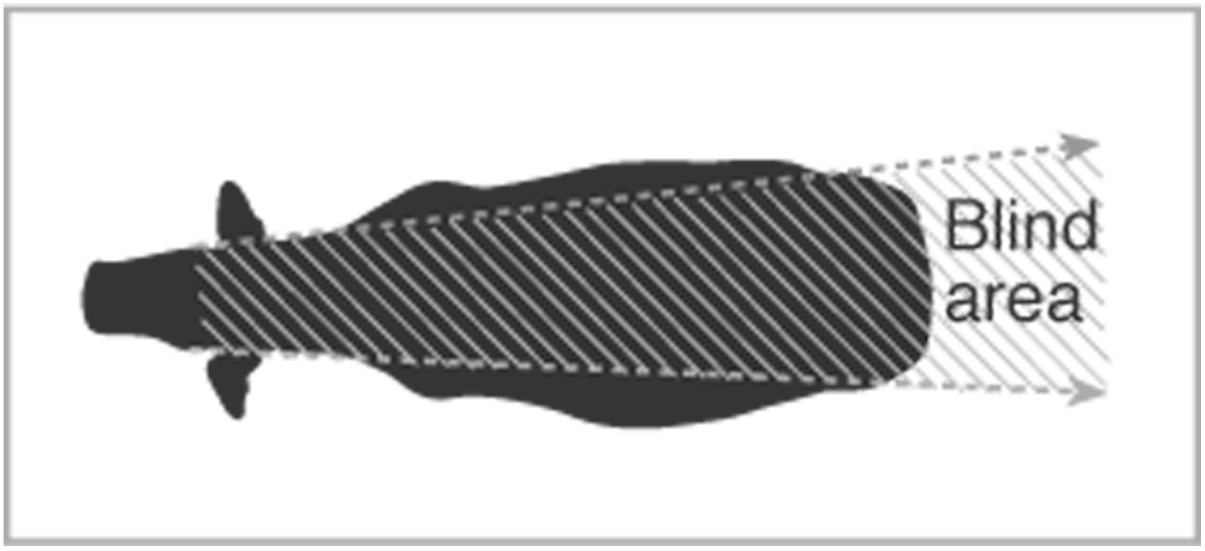
Understanding animal behavior can help prevent injury, undue stress and physical exertion for both animals and their handlers. Animals have natural instincts which may be used to one's advantage when they need to be moved.

A key to moving livestock safely is being aware of and utilizing an animal's blind spot, flight zone and point of balance.

2. Blind Spot

All animals have a limited field of vision; they cannot see everything around them. Consider an animal standing in a circle, looking straight ahead. The portion of the circle that they cannot see is considered their blind spot or blind area (see figure 1).

Figure 1 – Blind Spot or Blind Area



Activity: Where is Your Blind Spot?

Materials needed:

- Roll of masking tape
- 10 foot piece of rope or string marked at 3 feet, 6 feet and 9 feet

Procedure:

- Put an 18" piece of masking tape on the floor in an open area.
- Have a volunteer hold one end of the string and stand on tape. This volunteer is the "livestock".

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- Have another volunteer take the other end of the string and step back until the string is taut, positioned directly in front of the livestock, then let go of the string. The "livestock" is to keep their eyes focused straight ahead at the volunteer's nose.
- A third volunteer, the livestock handler, stands in front of the livestock and holds the string at the3 foot mark. They point their index finger at the livestock's nose and begin walking around the livestock, while continuing to point and keep the string taut.
- The livestock continues to look at the first volunteer, but keeps track of the livestock handler. The livestock tells the handler when they can no longer see their finger.
- A fourth volunteer, with the masking tape roll, starts a piece of tape on the floor where the finger of the handler moved out of sight.
- The handler returns to stand in front of the livestock, holding the string at the 6 foot mark and repeats the procedure.
- The fourth volunteer rolls out the masking tape to the second vanishing point.
- Repeat again at the 9 foot mark.
- Repeat on the other side of the livestock.

Things to think about:

- Humans typically have larger blind spots than animals.
- Different species of livestock have different blind spots, depending on the location of their eyes in their head. Most livestock have a panoramic field of vision, which means they can see everything around them except what is immediately behind them.
- Approaching from the front or side (out of the blind spot) can be less startling to an animal than approaching from behind.
- Animals that are startled from behind will often kick, resulting in injury to the person approaching them in the blind spot.

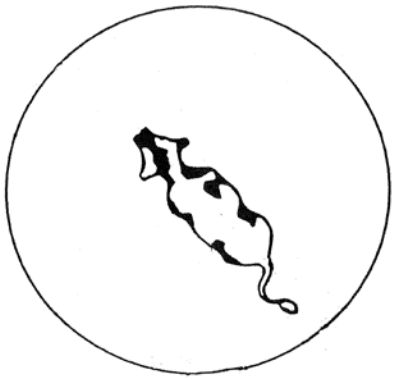
Leading questions:

- How do you react when someone sneaks up behind you and then pops out into your field of vision?
- Do you think your animal could be startled in the same way? How would you expect your animal to react when it is startled?
- How should you approach your animal to avoid being in its blind spot and startling it?
- How can understanding that animals have a blind area be useful when moving livestock?

3. Flight Zone

Flight zone is the distance you are from an animal before it moves away. It is similar to what humans call "personal space". If someone enters your personal space, you tend to move away far enough to feel comfortable again. The same is true of livestock. If you enter the animal's flight zone, it will move away from you until it feels safe. If you step out of the animal's flight zone it will usually stop moving away (see figure 2).

Figure 2 – Flight Zone



Activity: Get Out of My Space!

Materials needed: None

Procedure:

- Divide the room into pairs who are unfamiliar with each other.
- Have each pair stand facing each other about 15 feet apart.
- Each person takes one step toward the other and stops.
- Discuss if they feel comfortable at that distance apart.
- Take another step and discuss again.
- Repeat until one of the pair feels uncomfortable, then stop and remain in that position.
- When all pairs have stopped, select some pairs with varying amounts of space between them to report.
    - How much space (approximately) was between them?
    - How did they feel at that distance?
    - Did both members of the team feel uncomfortable at the same separation distance?
- Repeat activity, but take steps rapidly toward each other without pausing.
- When all pairs have stopped, select some pairs to report.
    - Were you closer together or farther apart this time?
    - Why do you think there was a difference?
    - What did you want to do when you felt your personal space being invaded?

Things to think about:

- The actual flight zone of an animal varies.
- Animals that are not used to people will have a much larger flight zone than animals which have been handled, unless they have been mistreated or handled roughly, then the flight zone increases.
- The size of the zone also increases as an animal becomes excited or stressed.
- Animals which have been extensively handled may not have a flight zone when they are calm. These animals are more easily led where they need to go.

Leading questions:

- How can we relate this activity to the flight zone of our animals?
- Do you think your animal's flight zone is larger or smaller than you and your partners? Why?
- Is the flight zone the same for all animals of the same species? Why or why not?
- How can understanding flight zones be useful when moving livestock?

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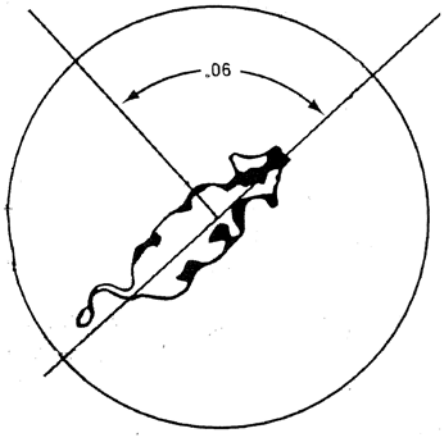
4. Point of Balance

The point of balance is the position in the flight zone where the animal switches the direction it moves as you cross the line. The point of balance can vary, but it is generally near an animal's shoulder. If you penetrate the flight zone in front of the point of balance, it will move backward. Approaching from behind the point of balance (but out of the blind area) makes the animal move forward.

Figure 3 – Point of Balance



Activity: I Can Get You There

Materials needed: None

Procedure:

- Have a pair of volunteers demonstrate the concept of point of balance.
- One volunteer is an animal. He/she stands with arms outstretched. The arms mark their point of balance.
- The other volunteer is the handler.
- The handler stands at the point of balance.
- When the handler steps in front of the animal's point of balance and in the flight zone, the animal backs up.
- When the handler moves to the point of balance the animal stops.
- When the handler moves behind the point of balance, while in the flight zone, the animal moves forward.

Things to think about:

- The point of balance is directly related to an animal's flight zone.
- Entering the flight zone in front of or behind the point of balance triggers the animal to move away from you.
- Many handlers make the mistake of standing in front of the point of balance while attempting to make an animal move forward.

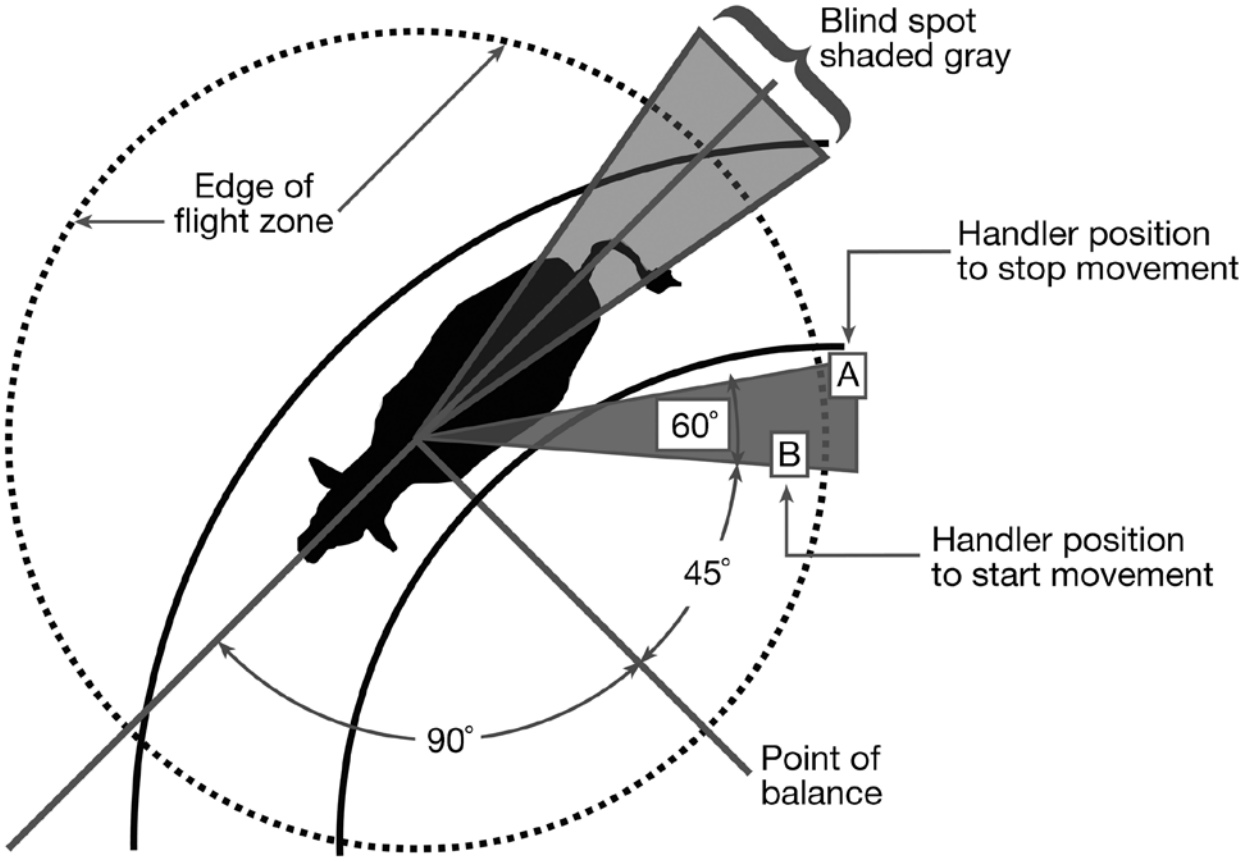
Leading questions:

- How can understanding the point of balance be useful when working with livestock?

5. Putting it All Together

Using the concepts of blind spot, flight zone and point of balance, livestock may be moved without undue stress or rough handling (see figure 4).

Figure 4



Activity: Putting Theory into Action

Materials needed: Project animal that has not been handled extensively

Procedure:

- Have the project animal in an enclosed area.
- Have the members take turns trying to make the animal go where you direct.
- Direct them to change the speed at which they are moving to see how it affects the animal.

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Things to think about (from Missouri Dept. of Agriculture, Temporary Housing and Care for Livestock and Poultry, 2008):

- Animals are generally sensitive to rapid and unexpected movements. Rapid or unexpected movement can cause animals to become agitated and excited, in some cases to the point of creating a health concern or causing them to injure themselves or the handler. Handlers must remember to move slowly, steadily and to avoid abrupt or sudden motions.
- Approaching an animal slowly gives it time to adapt to your presence. Slow approaches decrease the size of the flight zone. Rapid approaches excite the animal and increase the area of the flight zone.
- Most species of livestock are at least partially colorblind and have poor depth perception, making them extremely sensitive to contrasts. A shadow across a walkway may look like a deep hole to the animal. This is why animals often hesitate (balk) when passing through unfamiliar gates, barn door openings or chutes.
- Many species of livestock may have difficulty moving from dark places to brightly lit places and vice versa. When moving animals through changing light levels, allow them time to adjust to new light levels before moving them forward. Rushing them may cause them to balk.
- Most species of livestock have good hearing and will try to move away from the source of unfamiliar or unpleasant noise.
- Animals draw on past experiences when reacting to a situation, so animals that have been chased, slapped, kicked, hit, prodded or otherwise mistreated will have a sense of fear around humans. These animals will have a large flight zone.

Leading questions:

- Was getting the animal to go where you wanted harder or easier than you thought it would be? Why?
- How did your understanding of moving livestock using animal behavior help you accomplish your task of moving livestock?
- How will you be able to use these concepts when working with your project animals at home?

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