

Low-stress cattle handling in dairy environments

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Low-stress animal handling methods contribute to the well being of the animals and also increase their productivity. This translates to lower rates of illness and mortality and improved profitability. Low-stress animal handling uses the natural adaptive characteristics of the cow to induce and direct movement. These techniques look passive to the untrained professional because they use slow movements to control the herd. Unfortunately, many people believe getting the job done faster is more efficient and profitable. The methods they use to speed up cattle movement can cause the animals unnecessary stress and these methods usually take more time in the long run. Moving cattle slowly is best. Ideally, animals should walk from pasture or pens to the handling facilities or milking parlor and walk into and out of holding devices.

The cow's perception of the world

While humans use their powers of reasoning to understand the world, animals think and process memories in the form of images. Their concept of the world is based on what they see, hear, taste and feel. Cattle see in only two colors and the world appears to them as shadows and bright areas. This is why dairy cows can be frightened by bright spots in the pen or shadows in the milking parlor.

The dairy cow also lacks depth perception. A person approaching her looks close regardless of the real distance between them. The eyes of dairy cows are similar to those of other grazing animals. They have good peripheral vision from the grazing posture, but don't see as well when viewing objects above the horizontal plane. Objects hanging above them (like a jacket hanging from a fence) can create confusion in pens. Never leave objects hanging in alleyways unless they are positioned to reduce the speed of walking animals.



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A cow's vision limitations explain the head bobbing that occurs when she is walking, since moving the head up and down allows her to see objects better. The dairy cow sees very well almost all the way around except directly behind her. This is why the cow sometimes turns her head completely around to look at someone walking up behind her.

The dairy cow has very sensitive hearing and moves each ear independently of the other. This allows her to listen to several sources of sound simultaneously. The dairy cow differentiates between sound directed at her and the sound of equipment or machines around her. Screaming in an animal's ear creates a level of stress equivalent to the jolt of an electric prod. Yelling and whistling at cattle increases their heart rate more than the sound of a slamming gate. The dairy cow also associates positive and negative experiences with specific sounds. For example, she links the sound of the tractor bringing feed with the positive experience of being fed. She may tie some sounds to pain or fear.

Moving cattle

Unlike other types of cattle, the dairy cow becomes accustomed to human contact very early in life. When managing young stock, it is important to remember that dairy cattle maintain memories associated with positive and negative experiences. Herdsmen must create trust between themselves and their animals.

Cattle have natural behavior patterns that enable them to avoid predators. These instinctual behavior patterns are

- herd formation
- facing and flight zone
- point of balance
- loose bunching

- milling
- circling

By studying and understanding these behaviors we improve our ability to gather and drive dairy cattle while minimizing handling stress.

Herd or flock formation. In the wild, cattle naturally live in herds. This improves their chances of survival. The herd formation allows a few members of the herd to maintain a constant vigil while the rest graze. You can capitalize on this instinctive behavior when moving cattle by always moving them in groups, if possible.

Facing and flight zone. The flight zone is the point at which a cow no longer tolerates the approach of a person or other animal and moves away. When a person or animal is detected, the dairy cow turns and faces the potential threat. If the person or animal enters the cow's flight zone, the cow will turn away. The flight zone response is a learned behavior and can be modified. A cow's tolerance to being approached depends on the frequency of contact with the handler (the more contact an animal has, the shorter the flight zone gets), her previous experiences with the handler (calmer handling reduces the flight zone), and the genetics of the particular animal (some animals are more sensitive to being approached than others). Tame animals have little or no flight zone. Usually the best way to move very tame animals is to train them to follow a person or vehicle.

Working at the edge of the flight zone makes moving livestock easy. The idea is to create pressure and release until movement occurs. If cows in a pen turn and look at you, you are outside the collective flight zone. They turn to you in an attempt to determine whether you are a potential threat. When you penetrate the flight zone,

the animals turn away. Your goal is to be close enough to make the animals move but not so close as to cause the animals to panic and flee. Panic must always be avoided. If cattle start moving too fast, back off and get out of their flight zone. When they slow, move forward into the edge of their flight zone to maintain their movement.

Collective point of balance. When a grazing animal moves in a group, it positions itself just behind the point of balance at the shoulders of the animal in front of it. A person moving inside the collective flight zone of the group in the opposite direction of the desired movement speeds up the cattle's movement. A person moving in the same direction as the cattle just outside the collective flight zone slows herd movement. Do not stand behind animals where they are unable to see you, since this slows the movement of the group. Never apply pressure to the flight zone from directly behind the animals.

The single file line. Dairy cattle usually form a single line and follow the leader. If moved calmly, they will follow the leader when walking to the milking parlor or changing pens. You can use this behavior to your advantage when moving animals into an alley and through a chute. Try to maintain the single-file line when moving cattle.

Loose bunching. Cows must be gathered into a loose bunch before you can move them. Use a stalking technique by moving back and forth on the edge of the herd's collective flight zone. This triggers the animals' instinct to form a loose bunch. Do not apply too much pressure, as this causes the cows to scatter. The right amount of pressure on the outside of the flight zone makes the animals group loosely without

causing them to move. It usually takes 5 to 20 minutes for cattle to form a loose bunch. Do not chase after stragglers. Their natural herding instinct will make them move back into the group. Stalking cattle to create a loose bunch is probably stressful to them the first time, but they soon recognize that you are not going to apply too much pressure by invading their flight zone too deeply.

Directing cattle movement. Once cattle are gathered, you can enter the collective flight zone to make the animals move and retreat from the collective flight zone to prevent them from moving too quickly. To prevent a herd from running, never apply continuous pressure to the collective flight zone. The group should move no faster than a walk or slow trot, and you should always move among the herd at normal walking speed. When moving cattle, remain quiet, move slowly and steadily, and refrain from waving your arms.

When the cattle are moving, use the pressure and release method to keep them moving.

You can control where the herd goes because the herd moves away from the direction of pressure. Encourage the leaders to move in the desired direction by using the pressure and release method. Walk at a slight angle toward the animals to increase pressure on the flight zone. Walking in the opposite direction of the desired movement increases the pace of the herd, while walking in the same direction slows down the herd.

With practice, cattle learn that pressure on the flight zone is relieved when they move in the desired direction. It is important to recognize the collective flight zone of the herd and then make adjustments to suit the temperament of the animals. Animals with genetics that make them

flighty have a larger collective flight zone than animals with calm genetics. Cattle used to being handled have a smaller collective flight zone.

The handler should be in control of livestock movement at all times. It is important for the animals to understand that you are in charge. Never allow them to run wildly.

Moving through a gate. To direct cattle through a gate, move in an arc that, while applying pressure to the cows, forms a fan pattern. Create the arc by walking a zig-zag pattern behind the cattle without moving forward toward the exit. Your movement should be continuous to avoid distracting the animals. Make sure the arc moves enough to the side so lead animals can see you. It is important to take your time. Smaller spaces require smaller arcs and wider spaces require wider arcs.

Turning an animal. It is possible to direct an animal by applying pressure at different parts of its body. If pressure (approach) is applied on the front side of the cow (in front of her shoulder) the animal turns away from the pressure. If pressure is applied behind her shoulder the cow's hind end turns away from the pressure and she turns toward the pressure.

Moving cows in milking areas. When moving cattle into confined spaces, such as the milking parlor, consider the importance of the flight zone, point of balance and blind spots. Remember that cows are herd animals. If a group of animals balks at a smell or a shadow up ahead, be patient and wait for the leader to proceed. The rest of the animals will then follow. Never try to cut off an escaping animal. About 17 percent of farm injuries occur when animals are trying to escape.

If cows are trained to use the parlor by prodding them in, they will associate the prodding with entering the parlor and may become so conditioned that they will wait in the holding area until they are prodded. If they are allowed to enter the parlor on their own, where they are properly milked and handled gently, they will associate entering the parlor with feeling a relief of pressure on the udder. This positive association with the parlor will decrease parlor entrance time and increase throughput.

Benefits of low-stress handling

Proper cow handling contributes to good milkability and can directly affect production. Contact between cows and handlers can be either pleasant or unpleasant. Cows have a pleasant reaction to patting, stroking and touching, particularly on the head area and around the ears. They have an unpleasant reaction to being slapped around the head and nose or hit with a stick or hose. They like being talked to in a calm voice and dislike loud noises. Unpleasant experiences cause stress and stress lowers milk production. In fact, studies show that milk yield increases about 15 percent when cows are handled properly. Because cows are creatures of habit, they should be handled consistently during each milking so they will associate milking with a pleasant experience.

Using low-stress animal handling methods can greatly increase the efficiency of moving animals throughout the farm, which saves time and money, improves animal health, and makes the farm safer for animals and workers.

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Issued in furtherance of Cooperative Extension Work in Agriculture and Home Economics, Acts of Congress of May 8, 1914, as amended, and June 30, 1914, in cooperation with the United States Department of Agriculture. Edward G. Smith, Director, Texas AgriLife Extension Service, The Texas A&M University System.
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