

Safe and Low Stress Cattle Handling

Manual | 2021



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How is this course designed to be used?

This course has been developed as a series of stand-alone modules that allow users to select the modules that best meet their learning and training needs. This format recognizes the wide range of expertise and experience that exist within the Canadian cattle industry and is designed to help both novice and seasoned handlers gain new knowledge to add to their existing skill set.

Why do we need a course like this when good cattle handling skills are based on practice and experience with animals?

This course is not meant to replace actual hands-on training. Employers have both a legal and moral responsibility to provide workers (including employees and family members) with training where they point out all the hazards a worker could potentially encounter, provide the worker with specific information that reduces the level of risk, and ensure the worker is competent before they are asked to work with cattle.

Many farms and ranches employ a gradual and graduated training model based on “tell me, show me, watch me.” The course information can be used to provide direct instruction (tell me), demonstrate safe and low stress handling for new workers (show me) and then observe and supervise workers handling cattle to ensure they are competent (watch me).

This course gives farm and ranch owners a wide range of strategies that they could adopt to reduce the risk on their operation and is designed to supplement the hands-on training that takes place at farms, ranches, workshops and clinics.

When working directly with cattle, people are at risk of injury due to an animals’ size, speed, temperament and defence systems. Best practice when working with cattle takes into consideration both the cattle and the people who work with them to create a handling experience that is safe and successful.

Successful cattle handlers:

- Understand cattle behavior and instincts and use this knowledge to make handling easier.
- Can effectively ‘read’ cattle body language to predict behaviour.
- Know themselves well and can control their emotions when working with cattle.
- Work well with others using strong communication skills.
- Adapt existing cattle handling systems to make handling cattle easier. Constant improvements to the handling system based on use and observation will make the tasks easier and safer for people and cattle.
- Take their time when handling cattle, knowing that every interaction between cattle and humans train the animals for what to expect in the future. For example, if today’s handling session is highly stressful for the cattle, they are trained to associate handling with high stress.

This course was created in 2021 by Reg Steward (Buffalo Creek Consulting: AgSafeBC Provincial Ranch Safety Specialist & Superintendent of Field Operations) and Thea Green (Program Manager, Keystone Agricultural Producers (KAP)).



MODULE 1:

Characteristics of Cattle

MODULE 1

Understanding how cattle perceive their world is key to unlocking the secrets of their behavior.

Physical characteristics

Cattle can be described in the following ways:

- They are prey animals, which means they are constantly scanning their environment for any threat of predators and have developed strong and automatic response strategies to avoid predation including running away, charging, and kicking.
- They are herd animals, finding safety in numbers and preferring to be part of a group.
- They are large animals and cannot be controlled using human strength alone due to the difference in size between cattle and humans.

Sensory perception

Vision

Cattle, like many prey animals, have eyes on the sides of their head, allowing them a wide field of vision to watch for predators. Cattle also have a blind spot located directly behind them. Avoid approaching an animal from directly behind them, as this is how a predator often approaches.

Cattle can kick with both their front and back legs, especially into their blind spot as a defence strategy.

Although cattle can see almost 365 degrees around, they lack depth perception and the ability to detect colours. As a result, shadows on the ground or on walls can appear as dangerously gaping pits to cattle, causing them to balk when encountered. Provide cattle with time to adjust to changes in lighting and footing to decrease stress when handling and allow their eyesight to adjust.

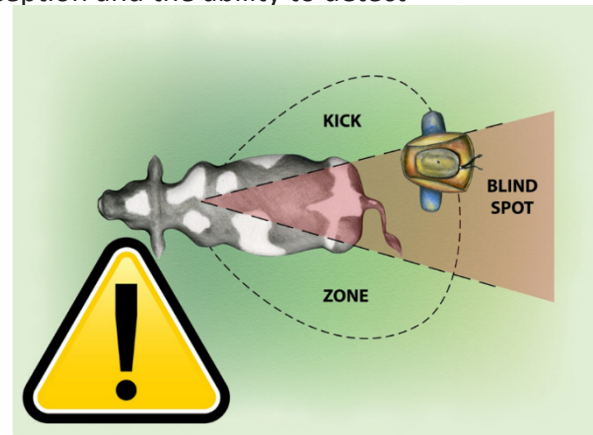
Hearing

Cattle have sensitive hearing and are agitated by sudden noises, like shouting and barking dogs. Try to remove any potential sources of loud and sudden noises when handling cattle.

Cattle become accustomed to a person's voice, so talking to cattle at all opportunities is a good thing to do as it alerts them to where you are when you are in the same space.

Memory

Every time we interact with an animal, we are training it for what to expect and how to react in future interactions. Cattle have good memories of past experiences which influences how they will react in the future.



MODULE 1

Temperament of cattle

The temperament of an animal describes the animal's personality. Some cattle are easy going and respond favourably to handling efforts, while others balk at any effort to control their movement. An animal's personality, just like human personalities, is a combination of genetics and life experience. Every person who has interacted with an animal forms part of their life experience, and every handling experience (good and bad) informs how cattle react the next time they are handled.

Cattle owners can influence the temperament of their herd by handling them often and always using low stress cattle handling strategies. This helps 'train' the animals to understand that handling is a normal and safe activity that does not require a defensive response.

Owners can also choose to cull based on animal temperament, selectively removing aggressive animals from the herd. Culling aggressive animals from the herd helps make cattle handling safer because the threat has been removed and the aggressive animal will not pass along its temperament to future offspring.

Signs of aggression in cattle

Cattle have many ways to let you know how they are feeling, all communicated using body language. To stay safe while working with cattle it is important that handlers can recognize signs of aggression and respond appropriately.

Signs of aggression in cattle include:

- Quick and erratic movements.
- Tail is raised and flicking.
- Head tossing.
- Pawing the ground.
- Raised ears.
- Snorting.

One sign of aggression in cattle that is often overlooked is when the animal turns its body sideways (to appear larger) and looks at you. This is referred to as a broadside threat.



If you notice signs of aggression in the cattle being handled, do not turn your back on the aggressive animal(s).

Keep them in your field of vision to monitor them for warning signs. If the animal uses a broadside threat, they are giving warning that they may want to remove you from your current position or are signalling to you they want more space. It is very important that you take this indicator seriously. Lower your eye contact with the animal while keeping it in your field of vision and slowly back away from the animal to remove yourself from the area. Make a note of the aggressive animal so that you can track this for culling, and/or share this information with your supervisor/manager/farm owner/family members/employees.

Unpredictability of cattle

Cattle are living creatures. Their behaviour is informed by their genetics, life experience and the current situation they find themselves in. People who work with cattle become very good at predicting cattle's response to different stimuli, but it is important to recognize that cattle can be unpredictable and respond in unanticipated ways.

By learning about cattle's instinctive behaviour handlers can better understand how cattle could potentially react to human interactions.

Instinctual Behaviour

Fight or flight response to stressors

Cattle will run away or charge/attack when they feel threatened. The response they choose is based on the circumstances and their previous experiences. For example, if an animal is feeling threatened in a small pen, they may choose to attack when there is no option to run away. Threatened or stressed cattle may attempt to jump or climb gates or fences that they would not normally attempt, this can cause harm to the animal, to people trying to stop them and the facilities.

Herd instinct

Cattle feel safest when they are with other cattle. As a result, cattle being handled as groups are easier to work with than individuals. If an animal must be separated from the herd, keep the herd nearby and limit the amount of time the animal is isolated from the herd. To make it easy to tend to an individual animal, keep the individual with a small group and then sort back those that you do not want to isolate the desired animal.

Breeding season

Females reach sexual maturity at around 14 months old. They have an estrus cycle of 21 days where they are fertile for several of those. During this period of fertility, females will exhibit behaviour to alert potential mates, including increased vocalization and attempts to mount other cattle.

Bulls and cows are kept separately throughout most of the year and are purposely placed in the same area for breeding season. During this time bulls become more territorial and aggressive and extreme care needs to be taken when working with cattle during their breeding season.

Bulls are known to seek out fertile females outside of breeding season and may escape their enclosures to mate. Well fenced bull enclosures help to keep bulls in place and prevent handlers from having to separate bulls from cows when they would prefer to be together.

Maternal instinct

Cows are very protective of their offspring and maternal instincts may cause increased levels of aggression towards any perceived threats. When handling calves it is very important to keep close tabs on where the mother is and what her body language is telling you. Ideally handling calves is done in a safe environment where the mother can see her calf but not enter the area. On many farms and ranches this is not possible. When possible, plan for safety by ensuring two people are present when handling calves (one to handle the calf, the other to watch and distract the mother), handle calves in close proximity to an escape route, and/or have a barrier to hide behind if the mother becomes aggressive. Fence lines, wind breaks, ATVs and other potential barriers will offer protection if the mother becomes aggressive.

MODULE 1

Territorial instinct

Cattle may protect their territory from intruders, including human handlers. Cows with calves can be more territorial in an effort to protect their offspring.

Habitual instinct

Cattle love routines. They enjoy regular feeding times and the predictability of knowing what to expect. Handlers can build on this love of routines by making handling experiences predictable so the animals understand the expectations and outcomes.

Aggressive cattle are usually easier to handle if you stick to a routine, but anything that deviates from the normal procedures can create uncertainty and a unique response. For example, if the cattle always exit a corral or pen through one particular gate, and you then open a different gate that leads into the same field, you may be creating a confusing situation. Give the cattle time to adapt to the change and use limited pressure as you wait for them to adapt to the new situation.



Not all cattle react in the same ways to the same pressure

Applying pressure is the act of moving towards an animal and into their personal space to encourage movement. In the next module we will learn about where to position yourself and what to do to cause cattle to move, but it is important to note that these helpful yet generalized concepts don't work the same with every animal. Most cattle behave predictably, but others do not. Various stresses and environmental changes can cause cattle to behave differently and unpredictably.

For example, some individual cattle become so familiar with their handlers that they don't move at all even if you walk right up to them and pet them. Others have such an enormous "personal space" that they will attack because you walk into their field. For example, some cows will literally run the full length of a field to threaten a person who has entered their space. It is important to understand the full range of different behaviours and responses that you will experience when working with cattle to keep yourself safe. Always stay alert when in the same space with cattle; never presume behaviour or cattle responses will be the same.

Weather conditions can also change the behaviour of animals. Even quiet cattle may react unpredictably when an electrical storm is brewing which can result in dangerous stampeding, circling, etc. Monitor the weather and adjust plans as needed to make handling the animals safe and keep stress levels low.



MODULE 2:

Principles of low stress cattle handling

Why use low stress handling on your farm or ranch?

The short answer is because it works.

The long answer is that using low stress cattle handling is effective and efficient. When animals are handled calmly and quietly, the end goal can be accomplished in a timely way. When the whole handling team is trained in low stress handling, they enjoy lower personal stress as they work with cattle. This can help improve relationships between family and/or coworkers, especially if cattle handling causes friction among team members.


Low stress cattle handling is safer for cattle and their handlers because we are asking the cattle to move in ways that are natural to them. Research has demonstrated that low stress handling improves productivity; once cattle are agitated, it takes 20 to 30 minutes for them to calm down. Taking a break to allow the cattle to settle if agitated will ensure safer and more efficient handling once you resume.

And finally, the controlled and deliberate movement of animals reflects well on our industry and is an important component of public trust in the livestock sector.

What is low stress handling?

Low stress handling is a process where handlers take the time to understand an animal's behaviour so that they can better predict their actions. One of the first things you will note when working with cattle is that they respond to your energy. If you show up with high stress (nervous, rushed, angry) cattle will pick up on your mood and handling becomes more difficult. In comparison, having a patient, calm and quiet way of working with animals helps handling task go more smoothly.

Beyond the handler's mood, cattle will also note and respond to their movement, posture, volume and tone of their voice. It is important to be aware of what we are thinking, feeling and doing when we work with cattle.

 **EVERY TIME** you handle cattle you are training them for what to expect and how to respond. Working with cattle when you are in a poor mood or under time constraints may not only cause an issue on that day, but cattle remember the high stress levels involved and bring this memory forward for their next human interaction.

The only way to become effective at low stress cattle handling is through practice and hands on experience. You will know if you are effective at low stress handling when the cattle are moving at a walk or a slow trot while being handled (no running), if they eat soon after being handled and if calves can find their mothers shortly after being handled.

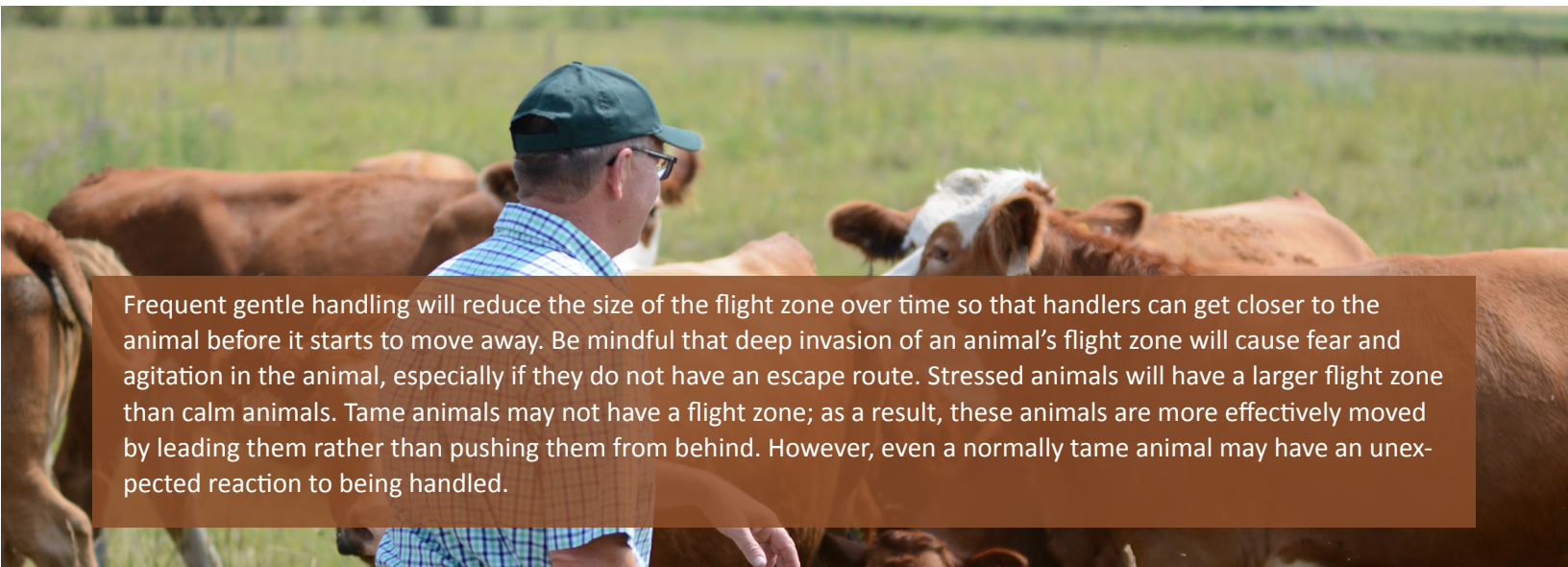
What is the flight zone and how can we use it to initiate movement?

The flight zone corresponds to how much space an animal needs between themselves and a human to feel comfortable. You can locate the edge of an animal's flight zone by approaching the animal and noting when it first reacts to you. Reactions may include when the animal stops eating, brings its head up, looks at you or points its ears at you, or otherwise indicates an awareness of your presence. Penetration into the flight zone will usually cause the animal to move away from you in the opposite direction of your approach. In many diagrams you will see the flight zone depicted as a circle or



oval-shaped bubble that surrounds the animal. Entering that bubble will cause the animal to move away, which is very useful for initiating movement.

Every animals' flight zone will be a different size and shape based on their lived experience. Some flight zones will be a round bubble around the entire animal (like the diagrams depict), while other animal's flight zones may be D-shaped (because they will take more pressure on one side than the other) or pear-shaped (because they will take more pressure on front than back). It is best to read each animal individually rather than assume an oval or circular-shaped flight zone for all cattle.

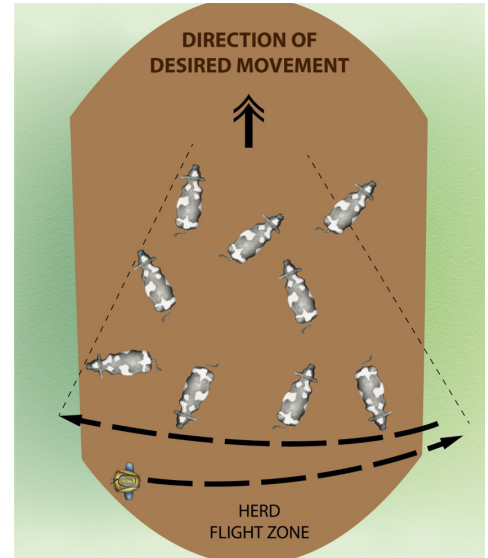


Frequent gentle handling will reduce the size of the flight zone over time so that handlers can get closer to the animal before it starts to move away. Be mindful that deep invasion of an animal's flight zone will cause fear and agitation in the animal, especially if they do not have an escape route. Stressed animals will have a larger flight zone than calm animals. Tame animals may not have a flight zone; as a result, these animals are more effectively moved by leading them rather than pushing them from behind. However, even a normally tame animal may have an unexpected reaction to being handled.

MODULE 2

Flight zones also exist in groups of cattle (called the collective flight zone) and this knowledge can influence the direction and speed of travel for a herd. The collective flight zone exists because cattle maintain eye contact with others in the herd, which allows handlers to influence the motion of the entire group.

Groupings of cattle have a collective point of balance that handlers can use to influence movement of the entire herd. Locating and making use of the collective point of balance is more complex than an individual animal's point of balance and is based on the size of the herd and group dynamics present. Notice how cattle move together as a herd naturally; there is a lead animal that all the others follow, and the herd is usually only a few animals wide. The followers will align themselves just behind the point of balance of the animal in front of them; this is also where a handler can position themselves to control herd movement.

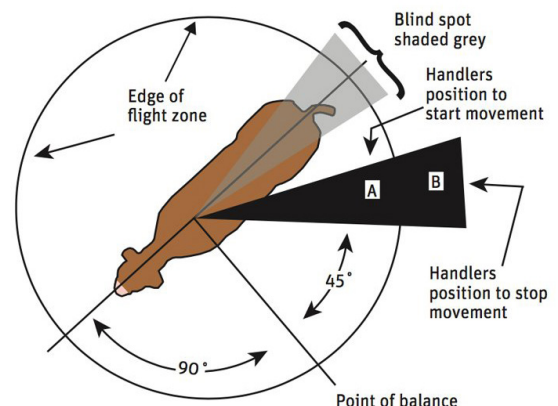


What is the point of balance and how can we use it to control the direction of cattle movement?

The point of balance is located at the individual animal's shoulder or chest area. Point of balance also exists for groups of animals. The collective point of balance can be useful when moving the herd.

The point of balance is important in moving cattle because the handler's location relative to the individual animal influences the direction the animal will move. Cattle will move in the opposite direction the handler is traveling as the handler passes the animal's point of balance. This response is clearest when cattle are in a narrow chute or alley; if you stand behind the shoulder the animal will move forward in the chute, and if you stand in front of the shoulder the animal will attempt to move backwards in the chute.

The point of balance for individual animals is used extensively when attempting to select and retain certain cattle from the larger herd. Place yourself behind the point of balance of the animals you want to vacate the pen and allow them the opportunity to leave, while remaining in front of the point of balance of the animal(s) you want to retain. Keep in mind that the herd instinct (strong desire to remain with the herd for safety) may reduce the size of an animal's flight zone in their efforts to escape being isolated from the herd.



How does applying pressure create movement in cattle?

The next step is to combine your knowledge/observations of the flight zone and the balance point to determine where and how to apply pressure to cattle to initiate and control movement. It is important to remember that these general guidelines will be helpful without being prescriptive because not every animal will react as predicted each time they are handled.

To initiate movement, the handler needs to enter an animal's flight zone to apply pressure. The handler's position relative to the animal will determine the direction the animal moves. Once you have initiated the desired movement and direction, back out of the flight zone to provide

the animal with a release (or reward) for doing what you requested. Continuous pressure can cause the cattle to run. If the animal slows down or stop, enter their flight zone again to restart movement in the desired direction. Avoid deep invasion of the flight zone as this may cause an animal to run away, turn around and/or charge you.

Use the same strategy when working with groups of animals. Enter the collective flight zone to initiate movement and back off when you achieve the desired action from the herd. Avoid deep invasion of the herd's collective flight zone to prevent members of the herd from turning back on you.



MODULE 2

Back away from the herd if you sense the cattle may turn back. If the cattle stop or balk at something that scares them, pause and wait for the lead animal to investigate and move forward. Applying pressure to the animals at the back of the herd will not speed up this process. Know that the herd will most likely follow the leader if given space and time.

Many handlers walk in a triangle-shaped or zig-zag pattern to move in and out of the individual or herd's flight zone to apply pressure and then provide a release. Cattle tend to move in the opposite direction of the handler, so handlers will walk away from the direction they want the cattle to travel, moving past the balance point. This will cause the animal to move in the opposite direction. They will then provide a release by moving out of the flight zone and can travel in the same direction as the cattle to re-enter the flight zone, forming a triangular shape. Avoid walking in an arch as this shape is commonly used by predatory animals and can increase cattle stress.



It is important that handlers stay visible to the cattle during handling. If you are in their blind spot, you are not visible to the animals and this presents a challenge when trying to move cattle.

Cattle will protect their blind spot by kicking into it. They may also turn and look at you to see where you are located, disrupting the desired movement.



A note on applying pressure:

Not all cattle movement requires pressure being applied to 'drive' or 'push' the animals from behind and beside. In some cases, the cattle can also be led to where you want them to go using training and rewards. This could be as passive as opening the gate to the next field and giving animals 24 hours to move, where the lure of a fresh pasture will lead them to where you want them. Tamer cattle can be hard to drive and leading may be much more effective way to initiate movement. Rewarding cattle after a move with food and water will make it easier to lead them on the same move in the future.

Does the way we work with cattle impact the success of safe and low stress handling techniques? (On foot, on horseback, on quad/side-by-side/dirt bike, with the assistance of dogs, etc.)


The strategies of low stress handling apply whether you are working with cattle on foot, from horseback, in a motorized vehicle, or with the help of dogs. The flight zone may change based on how you approach the cattle, but the balance point remains the same, as does the idea of using just enough pressure to initiate and maintain the desired movement. When introducing new methods of working with the animals (a new quad, dog, horse, etc.) consider doing so in a low-risk environment to help cattle become accustomed to the change before tackling a larger move/handling event.

One issue with using dogs is ensuring they are well trained so you can control the amount of pressure that you apply. Dogs that are not readily called off or responsive to 'lay down' when told, will not enable you to decrease pressure. Dogs can raise the stress levels of the cattle, resulting in a negative handling experience.

Do the principles of safe and low stress handling change when working with aggressive cattle or rangy animals who are not used to being handled by people?

The same principles that initiate and control animal movement apply when working with cattle with limited experience interacting with humans, with a few differences. The first is the size of the flight zone and the second is the risk level for the handlers. Cattle with low/minimal experience being handled by humans, or those who have had stressful or negative experiences with humans, will have a larger flight zone and can react more severely to people entering their flight zone. Use caution when determining the flight zone of aggressive or rangy animals. Be alert, feel out the edges of the flight zone and avoid deep invasion which causes high stress levels for the cattle. Deep invasion will cause the animals to move quickly.

Just like people, cattle have a flight, fight or freeze response to stressful situations. Most of the time they will choose to run away from scary or stressful situations (flight) and are well equipped to do so! Aggressive animals, including some cows with calves and bulls in breeding season, may choose to fight instead. This could result in charging, trampling and goring. When an animal is not sure of what to do, they may freeze for a moment or longer, before deciding to flee or attack.

A photograph of two cattle in a grassy field. In the foreground, a brown cow is walking towards the right. In the background, a black cow is standing and facing right. The field is filled with tall green grass and some yellow wildflowers. In the background, there are green bushes and trees under a clear sky.

When working with aggressive or rangy animals, ensure you have a clear escape route or secure place to retreat to so you can be in a safe place if the animal's fight response kicks in.



MODULE 3:

Applying the principles of low stress cattle handling to facility design and facility enhancement

The concept of taking away space when handling cattle

Handling cattle is often an exercise in taking away space by moving the animal into progressively smaller areas. Whether you are moving cattle from the open range to their overwintering grounds, or from a pen to a crowding tub, to an alley that leads to the squeeze chute, you are moving them into smaller spaces.

When you think about your anticipated handling goal as an exercise in slowly taking away the amount of space each animal has, it is important that your handling infrastructure does the same to decrease the amount of work involved for the handlers and stress for the animals.



Consider how your cattle handling infrastructure (pastures, pens, gates, alleys, squeeze chutes, etc.) mimics the idea of slowly taking away space as cattle move towards the intended target. For example, alleys should become progressively narrower and eventually be reduced to single file as the animal gets close to the squeeze chute. This helps minimize the amount of work you must do as the handler. Once you have decreased the space available, DO NOT expand the amount of space for the animal or you will have to work twice as hard to reduce the space a second time.

The importance of well-designed and maintained pens or corrals

Lots of cattle handling scenarios take place in various sized pens or corrals. An ideal pen for working with cattle has the following attributes:

- a) The size and shape are well suited for the handling activities it is being used for and allows for various handling situations.
- b) It is well maintained, all boards are in place, no nails are sticking out and strong enough to handle cattle.
- c) Human escape routes are built in and available to the handlers. This may include horizontal footboards on pens with closed sides, horizontal rails that can be climbed on pens with open sides and/or secure spots that people can fit behind and cattle can't reach.
- d) Gates are well located within the pens to reduce human coverage needed when sorting (using the gate to let some animals through while retaining others.)

MODULE 3

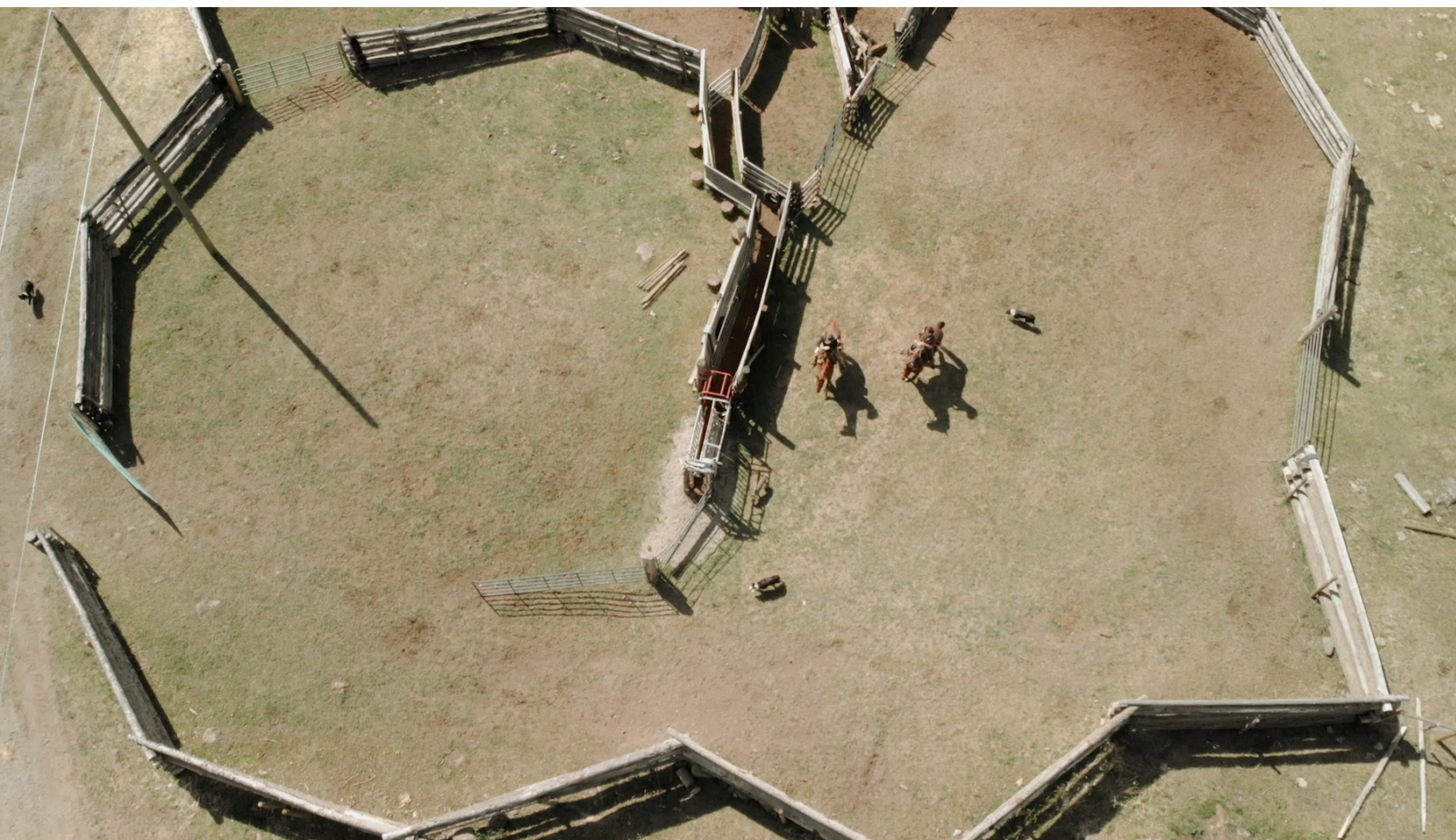
On many farms and ranches the handling facilities consist of a series of pens or corrals to house, sort and handle cattle. If your farm or ranch currently is using two pens to sort animals, consider adding a third pen (or making use of a third pen) to decrease the stress for the handlers.

For example, you are sorting cows from calves during weaning and the pairs are held in Pen A. In a two-pen system you will try to cut out the mothers from the group and send them into Pen B while keeping the calves in Pen A. If a calf gets into Pen B this is inconvenient because it takes additional time to cut the calf from the cows and drive it back to Pen A.

In a three-pen system the cow-calf pairs are in Pen A, and your goal is to move all cows into Pen C through Pen B. You will cut the cows from the herd and drive them into Pen B. When you have a small group of cows in Pen B, open the gate to move them into Pen C. Now Pen B is empty again. If a calf gets into Pen B, there are only a few cows in there at any time so you can move them all back into Pen A and start again. The three-pen technique creates a middle pen where mistakes can be made that are easy to fix; this is why some handlers will call Pen B the “Oh-oh box”. This is especially helpful if the end goal for the cows is not a pen, but the wide-open pasture as a calf escape could prove to be very frustrating and time consuming.



Do not overfill holding pens. A pen should not be more than $\frac{1}{2}$ to $\frac{3}{4}$ full so cattle be moved easily and sorted quietly.



The importance of well-placed and maintained gates

Gates must be well maintained so that they can be easily opened and closed by handlers, while strong enough to withstand the force of the cattle. Ideally, gates should be easily operated while allowing the handler to observe their surroundings for safety.

Consider the placement of gates in pens and alleys with what we know about cattle movement. Gates that are placed in the middle of a pen will be harder to use to sort animals and get animals to go through compared to gates placed towards the corner of a pen. Gates placed in the corner of a pen allows the handlers to use the natural funnel shape of the pen's corner to guide animal movement.

Where possible ensure that the person "working the gate" can stand beside the gate, not behind it. Handlers can be injured when standing behind a gate and the gate flies back due to animal impact. Always ensure that the person can get out of the way of an animal who is running at or pressuring the gate. Using a three-pen system as described above will further reduce the risk of someone being injured while working the gate.

How the width of an alley dictates its use

The width of an alley provides information about how it is best used. This applied to both straight and curved alleys. When the alley width allows for an animal to turn around AND is wide enough for the animal to safely run past a person, the alley can accommodate people working with cattle. If the alley is too narrow for the animal to turn around OR if the animal can turn around BUT there is not enough room for the animal to escape safely past the person, then the alley is not safe for humans to enter when cattle are present. People should avoid entering these narrow alleys and all efforts to move cattle should be done safely from outside the alley. Respect the size of the animal – any time you are in the same space as animals larger than you, there is inherent risk.

Some narrow alleys have catwalks installed on the outside of the alleys to make it easier to see and handle the cattle. These catwalks must be clear and well maintained to prevent handler injury.

Closed sides versus open sides on cattle handling infrastructure

When designing new handling facilities or improving older infrastructure, consider the pros and cons of closed sides versus open sides in pens, alley ways and other handling equipment. When using handling equipment with closed sides, the cattle can't see what is happening outside the alley/pen, so human movement has minimal impact on the animals. This can be a benefit when human activity may disrupt animals, but also a barrier as human movement and proximity will not influence the animal's movement. As a result, you may need to apply a physical pressure with touch when working in handling facilities with closed sides.

Height of sides/railings

Consider the height of the sides of pens and corrals. Cattle will often attempt to jump what appear to be quite high railings or gates to escape. This behaviour can result in injuries to cattle, handlers and/or handling facilities. If you have had cattle attempt to clear your barriers in the past, consider raising them to deter any future escape plans.



Strategies for Success with the Squeeze Chute

On many farms and ranches, the squeeze chute is used regularly to immobilize cattle so they are safer to handle when performing tasks like branding, weighing, castrating, tattooing, vaccinating, pregnancy testing and doctoring. The squeeze chute is usually located at the end of a narrow alley that reduces cattle to a single file line. Getting animals to enter the squeeze chute can be difficult because the person working the head gate is located within the animal's flight zone. Cattle may balk when pressure is applied to get the animal to move into the squeeze chute, making for frustrated handlers. This situation can be minimized with the following strategies:

1. Create an inexpensive blind or shield to reduce the visibility of the head gate operator for cattle entering the squeeze chute.
2. Consider installing an automatic self-catch head gate to eliminate the need for a person to be standing near the front of the chute.
3. Situate the exit of the squeeze chute to face a desirable location, like the appearance of an open field or place where other cattle are visible. This helps to get animals to move into the squeeze chute as a step towards their end goal and exit the squeeze chute quickly with minimal pressure from handlers.

Train your cattle to reduce their fear of the squeeze chute by ensuring their stress levels are low each time they move through. Some farms and ranches reduce the time spent separating specific animals and choose to put most of the herd through the squeeze chute, only stopping the individuals that need treatment. Going through the squeeze chute where nothing happens can lessen the association between pain/stress and the chute for cattle.



When to use additional restraint with the squeeze chute to increase handler safety:

While the squeeze chute and correct use of the head gate greatly reduces the mobility of cattle, they can still move their head and legs, which could cause injury for people who are close enough to make contact. If you are going to be working around the head of an animal (tubing an animal, vaccinating in the neck, providing hormone injection and even tagging and tattooing restless/unsettled animals) you may want to consider using additional restraint. Investigate the new add-on systems that provide additional head and neck restraint to your existing system that help increase safety and efficiency. If you are working around the legs, think about adding additional restraints to avoid being kicked.

Tail twists and backstops when moving animals into the squeeze chute:

Tail twists are effective motivators for movement because it causes the animal pain, which the animal tries to escape by moving forward. Tail twists should only be used when

other forms of pressure are not available to the handlers. When tail twists are employed, they should be used very briefly to initiate movement and then released once the animal starts moving as a reward. Do not use a tail twist if you are within kicking range of the animal. Be aware of your arm position to ensure your arm will not be pinched or pinned between the animal and the handling facilities if the animal moves.

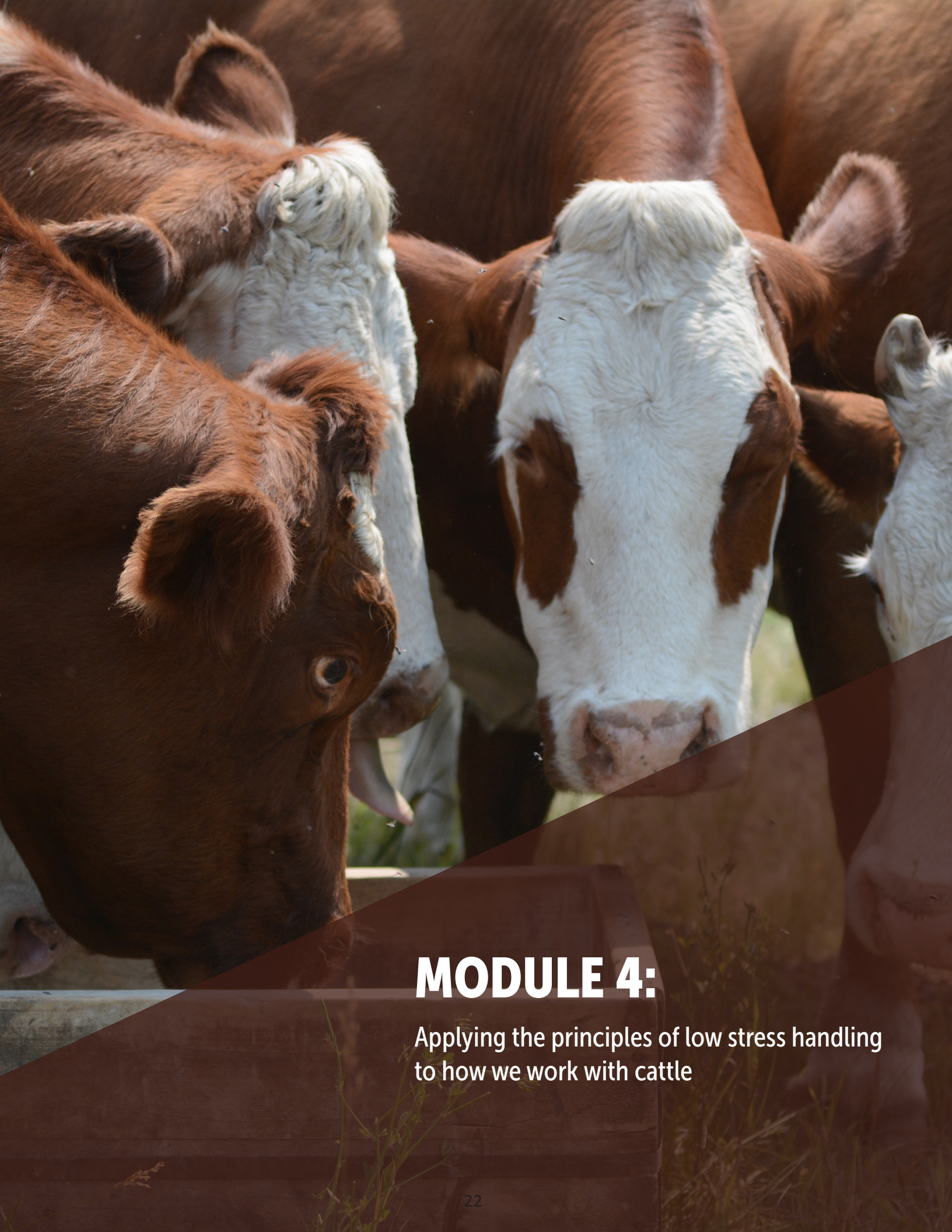
Backstops, whether they are built into the alley system or consist of using bars or pieces of wood wedged behind an animal, are used to prevent animals from backing up when single file in an alley. For overhead backstops (usually metal and built into handling system) it is important to ensure that animals will clearly see where they are going and that the backstop does not impede forward movement.

If you are sliding in bars or pieces of wood behind individual animals to prevent them from backing up, leave lots of room between the last animal and where you insert the bar behind them. If you try to do this close to the animal, it may back up as you are inserting the bar, causing a pinch between the bar and alley, or striking you with the protruding portion of the bar.



How to assess your cattle handling facilities for safety and convenience

To assess your own cattle handling facilities and learn more about how to make improvements for ease of handling and human safety, please click on the following link: <https://agsafebc.ca/beef-cattle-handling-facilities/evaluation-tool/> This tool consists of a series of questions for you to answer about your handling facilities and will provide suggestions for improvement to increase safety of workers and decrease stress of cattle based on your current design/set up.



MODULE 4:

Applying the principles of low stress handling
to how we work with cattle

Low stress versus low pressure

Low stress handling is not low-pressure handling. Low stress handling means you apply just enough pressure to get the desired response (which usually is forward motion in a specific direction). Excessive pressure causes the cattle to become agitated, and inadequate pressure won't get a response from them. Even though we are practicing low stress handling, there will be times when the pressure will be low and other times high to get the desired movement.



Because cattle are prey animals, the easiest way to get them to move is to drive or push them from behind as a predator would. To determine where you should best situate yourself to move the cattle, use your knowledge of the flight zone and point of balance to determine where you need to apply pressure to get the animals to move from their current location to the desired location.

If you are working with others, space yourselves out to push a group of cattle forward. When trying to protect large areas that the cattle could turn back to, use a sweeping motion as you move from side to side (90 degrees to the direction the cattle are traveling) while continuing to apply forward pressure. This will result in you walking in a zig-zag shape behind the herd. Using available fences or any other physical barrier to guide cattle movement will make the task easier for the handlers. Walk or ride just outside the main part of the herd, advance slightly and then reverse to the opposite side. Repeat.

Applying the right amount of pressure at the right time is an important part of handling because it keeps animals moving forward and prevents animals from turning back. Too much pressure may cause them to become agitated and run/stampede forward or turn back if forward motion is impeded. If animals do turn back, take a step back to decrease your pressure, and try to deter their escape by making yourself look larger with extended limbs and/or handling tools (like a stick or flag) to turn them back to the herd or intended location. Do not put yourself in danger trying to physically stop an animal from escaping, as the size difference between people and cattle make that an impossible task.



A note about handling tools:

Many cattle handlers will choose to use flags, plastic, wooden and fibreglass handling sticks/paddles, or rattles to amplify their movement and increase the appearance of their size when working with cattle. These tools also extend the reach of the handler and allow them to contact an animal while staying safe from being kicked. Be aware of how you are using these tools and control your movement to keep the cattle's stress levels low.

Guidance on using electric prods when handling cattle from the Code of Practice for the Care and Handling of Beef Cattle (<https://www.nfacc.ca/beef-cattle-code#section4>)

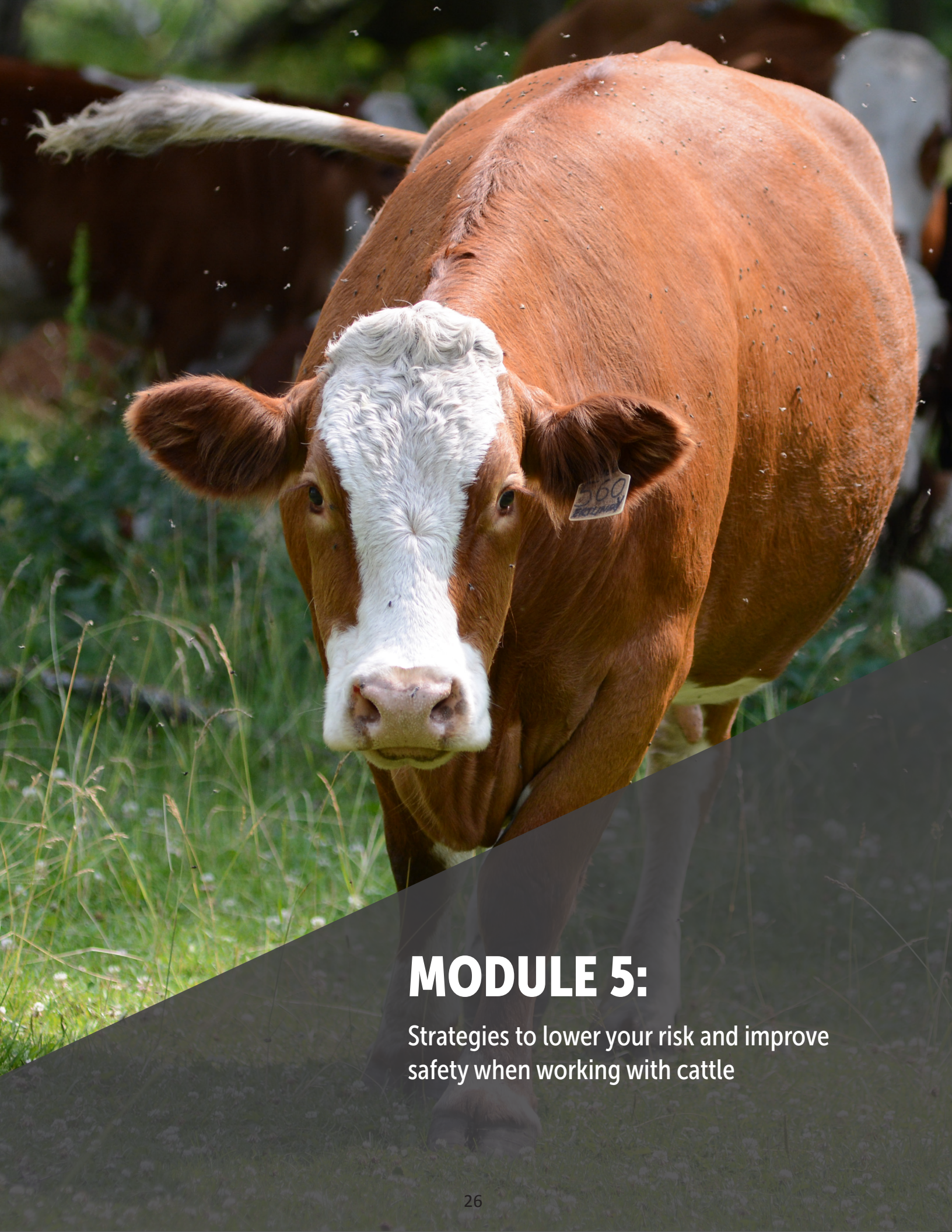
Electric prods must only be used to assist movement of cattle when animal or human safety is at risk or as a last resort when all other humane alternatives have failed and only when cattle have a clear path to move.



- Do not use electric prods repeatedly on the same animal.
- Do not use electric prods on the genitals, face, udder or anal areas.
- Do not use electric prods on calves less than three months of age that can be moved manually.

Top 10 tips to set yourself up for success when handling cattle

1. Make a plan before you begin. Ensure all handlers are aware of the goal for moving/handling cattle and steps needed to achieve the goal before working with cattle. It is best if everyone involved with the handling is included in the planning phase; this empowers people about how to respond best if the plan doesn't go according to plan because they know the desired outcome and others' responsibilities. When making and sharing the plan, questions and clarifications should be encouraged from the handling team.
2. Be on the same page with the handling team. It is crucial that all people working together have the same type of training and methods of working with animals so they can perform effectively as a team. When working with more than one handler, it is important to determine your roles and positions before moving the cattle.
3. Be self aware. Handlers need to be aware of the impact that factors like noise, movement, time constraints, ego, nervousness and anger have on our ability to move cattle safely and with low amounts of stress for both the cattle and people involved.
4. Recognize that every time you work with an animal you are training it. Animals that are handled often and gently are more enjoyable and easier to work with than those handled roughly or infrequently.
5. Plan for the worst. Ensure that all handlers know and can use a sign that indicates STOP. This could be because a person has been injured, the handling equipment needs attention, or the cattle become too agitated and would benefit from a break.
6. Well designed and maintained handling facilities that are based on the movement of cattle make any handling task more enjoyable and easier. Well thought out handling facilities don't have to cost a lot to be effective. Make it easy for cows to go where you want based on their natural instinct so you don't have to fight against this. If there is a point in your current handling facilities that always causes headaches when working with cattle, solving the problem will improve everyone's experience.
7. Reduce the stress of the gatekeeper by locating gates thoughtfully and consider making use of a third pen (also known as the "Oh-oh box") to reduce the severity of sorting mistakes.
8. Leave plenty of time when working with cattle. Murphy's law definitely applies to working with livestock! If you leave plenty of time to complete a task, it will usually be smoother and more enjoyable for all involved. If you have a set time frame, you will often feel rushed, stressed and encounter unexpected problems as a result. This can include taking time at the beginning of a move to allow cow-calf pairs to partner up to make the move much smoother and calmer for all involved.
9. Take a break when needed, such as when the handlers or cattle become visibly stressed out. Take a break when you need to regroup and make a new plan. Allowing both cattle and people 20 to 30 minutes to settle can make the process much smoother and safer once you resume.
10. Always let the cattle know where you are by remaining in their field of vision and talking softly to them.



MODULE 5:

Strategies to lower your risk and improve safety when working with cattle

MODULE 5

Farmers and ranchers are some of the best risk managers on earth and are experts at managing the unpredictability of weather, inputs costs, market prices and livestock behaviour.

This module provides strategies to manage the risk of working with cattle with a series of progressive tips to help keep yourself, your family, your workers and your farm business safe. They are presented in order of good, better, best and the gold standard.

Think of these as four layers in a cake that is best served whole; stacking various strategies together will increase the safety of handlers. (These four levels of safety are also known as the hierarchy of control to safety professionals.)

Level 1: Good

Take steps to protect the people who work with cattle.

This includes ensuring they are wearing CSA approved safety footwear to protect their feet from crush damage if stepped on by cattle during handling. CSA approved footwear is always recognizable because of the green CSA triangle that it displays and comes in a variety of footwear choices (work boots, rubber boots, hiking boots and winter boots.)

Some farms and ranches also equip handlers with sorting sticks that can amplify the movement of handlers to get the desired response in cattle while keeping them out of the kick zone. Long pants and long-sleeved shirts are recommended when working with livestock.

Ensure people working with and around cattle are alert and focused on the job at hand. Cell phones, like radios, are useful for communication, checking in when working alone or in isolation, or in the event of an emergency, but they can, and often do, become a distraction.

Level 2: Better

Here is where we focus on the way we work with cattle as a strategy for increasing safety.

This includes:

1. Providing low stress cattle handling training for all people who work with cattle at your farm/ranch.
2. Developing procedures that require two people present when handling cattle and/or working alone procedures that include regular check-ins to ensure people are safe.
3. Creating rules that restrict the number of people who interact directly with cattle to those who have the training and designating cattle areas as off limit to all others (with rules and signage.)

Level 3: Best

It is ideal to reduce the risk of working with cattle through facility design.

Handling facilities that take into consideration the instinctive behaviour of cattle are much easier and safer for handlers to use. Well designed handling facilities guide the movement of cattle and protect workers from injury by minimizing the interactions between worker and animal. Handling facilities with escape routes are safer for workers if an animal becomes aggressive. Escape routes include pens with horizontal railings that handlers can climb if needed, built in ladders, small human gates/doors and hiding places.

Whatever handling facilities are in place, housekeeping and maintenance are key to ensuring they perform as planned. Check all the handling facilities each time before they are used to avoid issues when moving cattle. Look for possible slip, trip, snag and fall hazards and remove these before the cattle handling begins.



Level 4: The Gold Standard

The easiest way to increase the safety of those who work with cattle is to cull aggressive animals from your herd. By introducing temperament into your culling criteria, you remove the animals most likely to cause injury on your farm.

Ideally, farms would employ all four levels of the risk-reducing strategies listed above to make working with cattle as safe as possible for all involved.

Besides employing strategies that help to reduce the safety risk for cattle handlers, handlers should also be well equipped to perform on-going risk assessments. This means that they can adjust their handling techniques to the risks that are present. For example, a normally placid cow becomes aggressive after giving birth, so the handler should be much more cautious when working with and around the cow as a result.



MODULE 6:

Wellness

MODULE 6

While this course is about safe and low stress cattle handling, it is important that we see cattle handling within the bigger picture of your business and your relationships with the people you work with. Read through the following two columns and decide which one you would rather to work in?

Column A

- Blaming, fighting, yelling, swearing
- Miscommunication and anger between handlers
- Frustration and/or tears when working with cattle
- Difficulty retaining workers
- Family refuses to help with cattle handling
- Injuries
- Stressed out animals and possible production losses

Column B

- Teamwork is valued, everyone has a growth mind-set and can learn from mistakes rather than feel punished for them
- Good communication with clear goals and established roles
- Respect and confidence when working with cattle
- No labour challenges
- Family enjoys being involved with cattle handling
- No or few injuries
- Low stress cattle with high productivity



Safe and low stress cattle handling can help form a solid foundation for achieving the type of farming/ranching operation described in Column B. To create this type of environment you will need to ensure that everyone involved has received safe and low stress cattle handling training and has had opportunities to practice these concepts in safe and low-risk settings.

Having a fun practice event where docile animals are moved in various ways helps build confidence and teamwork. Taking time to plan and communicate the plan ensures everyone knows what the goal is and what their role is in the task. Monitoring your own mood and stress level and ensuring you remain calm will help to model this for everyone on your handling team. As much as possible, remove the yelling, swearing, screaming, and stress from cattle handling and create a new way of working with each other and our valued cattle.

Additional Sources of Information

- Code of Practice for the Care and handling of Beef Cattle- <https://www.nfacc.ca/beef-cattle-code#>
- AG SAFE BC's Beef Cattle Handling Facilities <https://agsafebc.ca/beef-cattle-handling-facilities/> (includes several handling facility videos, an evaluation tool to you can use to assess the safety of your cattle handling facility, and a template to document regular inspections of the handling facilities)
- Dr. Temple Grandin's website- <https://www.grandin.com/> (has a large section on cattle handling practices, including videos that demonstrate low stress cattle handling)
- Dylan Biggs Cattle Handling Clinics- <http://dylanbiggs.com/> (Dylan Biggs is from the TK Ranch in Alberta)
- Curt Pate Stockmanship- <https://curtpatestockmanship.com/> (Montana)
- Whit Hibbard's Stockmanship Journal- <https://stockmanshipjournal.com/> (Montana)
- Bud William's Stockmanship- <https://stockmanship.com/>

Photo Sources

- AG Safe BC
- Manitoba Beef Producers
- Luc Bernard
- Arron Nerbas
- bqa.org

Disclaimer: This course is designed and developed to provide guidance to people who work with cattle on how to do so safely and with minimal stress for both the people and cattle involved. It does not replace the need for hands-on training, practice sessions, and competency assessments for people working directly with animals in a safe and controlled environment. The creators and distributors of this material assume no liability for how this course is utilized or the actions of people who have taken the course.