

Making the best of what you've got!

Strategies for handling cattle in suboptimal facilities

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Abstract

Cattle, herd animals who live in extensive environments surrounded by herd mates, can present a significant challenge to handlers tasked with sending the cattle through confined processing facilities, which often resemble an obstacle course. There are design elements that are cattle friendly, and those that are not cattle friendly which significantly impacts the technique and skill required to successfully move cattle through these processing facilities. Assessment tools and critical control point use allow handlers to create a strategy for successful movement of cattle through processing facilities.

Key words: bovine low stress cattle handling, processing cattle, cattle facility design

Introduction

Processing cattle is a production event that occurs multiple times in the life of production bovines, and takes place on a daily basis for many handlers responsible for the care of our bovine food animals. Sending cattle through processing facilities (the equivalent of a bovine obstacle course) can be accomplished with ease or met with resistance and fright from the cattle, which often leads to inefficiency and safety hazard for handlers and cattle. Understanding and implementing proper cattle handling techniques is the best way to insure that processing production events are accomplished safely and efficiently for both the handlers and the cattle.

The characterization of suboptimal facilities often differs between the author and others in the cattle industry. In a literal sense, suboptimal facilities are those that structurally cannot withstand cattle moving through them or are not safe for cattle to move through them due to protruding nails, sharp sheet metal edges, protruding gate latches, rotten wooden boards, etc. Suboptimal facilities are simply structural wrecks. It is the opinion of the author that suboptimal facilities can also be characterized by design elements that do not facilitate cattle movement, hence are not cattle friendly. All production events require movement. When it is necessary to apply a protocol to a single animal, that animal is stopped and held in place by a chute. Design elements that slow, stall or stop the flow of cattle movement inherently produce inefficiency during production events. Since inefficiency is never welcome and cattle personnel often have more work to accomplish than they comfortably have time for, cattle that move slow or

stall often end up experiencing the electric prod, movement by force. Stall resolution through the application of force by the handlers is common. Force application often leads to subsequent and long-term inefficiency during processing events, which perpetuates handler misbehavior.

This abbreviated presentation will provide basic assessment tools helpful for facilitating safe, efficient processing. The critical control points of processing will be explained with the goal of developing a strategy for successfully (safely and efficiently) sending cattle through processing facilities. When cattle are properly sent through processing facilities, especially during their initial trip(s), their subsequent trips through processing facilities are generally smooth and easy since the cattle learn what to do, and do so readily and without fear.

Assessment Tools

Previous Handling

General handling practices that cattle experience will have an impact on how cattle respond to handlers.

Handlers that implement proper cattle handling technique are generally rewarded with cattle who follow handler guidance since there is mutual communication, i.e., a common understanding between the cattle and their handlers.

Cattle that are handled or mishandled by people who have little or no knowledge of proper cattle handling techniques end up with a variety of cattle behaviors and cattle responses to attempts at moving cattle through processing facilities. Completely non-predictable behavior is inefficient and often perpetuates handler misbehavior.

Cattle with very little handling or very sensitive cattle or cattle that display fearful behaviors often attempt to flee from the handlers, and can be easily chased through processing facilities. This is undesirable because cattle movement is not calm and continuous and cattle don't learn how to calmly travel through facilities for the current or subsequent processing production events.

Cattle that are markedly desensitized generally don't move well in response to handlers and end up being forced through most processing facilities. Forced movement is also undesirable since force generally frightens cattle, and they become resistant during subsequent processing events.

Cattle that have been moved through processing facilities using proper low stress handling techniques learn how to calmly move through facilities, and do so easily during

subsequent processing production events. Cattle learn! Teach in a manner that improves the confidence and understanding of the facilities by the cattle.

Staff/Handler Skill

Just because people have years of cattle experience, it doesn't mean they have loads of good, helpful experience. When handlers understand and use appropriate cattle handling techniques the cattle become easier to handle. When handlers do not use appropriate techniques, cattle become more difficult to handle. When handlers do not use appropriate techniques they struggle putting cattle through any type of facility because they are not communicating effectively with the cattle, and generally default to forcing them through the processing facility. The use of force is inefficient, it can exacerbate stalls, and is a safety risk as well as being inhumane. The human team leader needs to facilitate the understanding of exactly what technique/s need to be used and thoroughly explain proper technique/s for their successful implementation.

Emptying the Pen or Gathering the Pasture

When emptying the pen or pasture is done properly, using appropriate cattle handling techniques, such as appropriate use of the driveline, appropriate approach to the gate, T to the gate technique, proper driving, etc., the cattle are in a good frame of mind (on the day of processing) and are prepared to then move smoothly through the bovine obstacle course. If the gather or pen emptying is accompanied by chaos and misunderstanding, cattle are generally in the frame of mind to flee the handlers instead of allowing the handlers to guide them through the processing facility. This may be remedied with a pre-processing roll.

Facilities

Assessment tools and critical control point use are far more important for creating success in any cattle handling facility than solely relying on the facility design.

There is a lot (a lot, a lot, a lot) to be said about facilities and their use and design, however, this is an abbreviated presentation so the basics will be emphasized.

Basically, is the facility designed to be cattle friendly or not be cattle friendly? It is the opinion of the author that facilities that are not designed to be cattle friendly are suboptimal.

Cattle Friendly Design Elements (shortened list)

- Visual elements. Cattle friendly designs allow cattle to easily see where they're going, and see handlers from which they receive guidance.
- Footing. Cattle friendly designs are set up and maintained with footing that allow the cattle to feel secure while they are freely moving through the facility. Footing is maintained regularly.
- Sizing/adjustability. Cattle friendly designs have adjustable width alleys to accommodate all sizes of cattle. Alley

sides are vertical to help the cattle experience secure footing. Alleys aren't unnecessarily long. Who wants to stand in a long line? Answer: no one, especially cattle since they (as prey animals) often experience confinement fright. Backstops are adjustable so that they don't harshly bash the heads of cattle when the cattle are moving forward, exactly as the cattle are supposed to be moving! Mixed messaging does not facilitate cattle cooperation and is inefficient.

Cattle Un-Friendly Design Elements/Suboptimal Design Features (shortened list)

- Visual elements. Many contemporary cattle handling facilities have built-in bends and counter bends (some are quite severe in curvature) and very high-sided alleys that lead up to the tub. This can create the feeling of moving toward/into walls (I refer to these as "whoa walls"). Whenever humans encounter something large, immovable, and potentially solid while walking or driving, they generally at the very least slow down and they may stop. Cattle generally display the same type of response. Also, escape gates are seldom placed in this area which is a safety risk for handlers.

It is also common for cattle to enter a tub then have to make a 90 to 180 degree turn into the snake, again the perception may be of encountering another wall....especially if the snake counterbends.

Sometimes when cattle enter the tub, the chute and all its noise is directly adjacent to the snake entry, again slowing the desire of the cattle to continue moving forward. Once cattle enter the snake, it too may bend and even counter bend. This can result in cattle losing sight of the animal they were following if they stall for just a moment. High sides where the handlers have to hop up on a catwalk and guide the cattle from a physically upward position is exactly how a predator would behave. This is frightening to prey animals, and often results in them stalling and attempting to move backward toward where the cattle have come from. If flaps cover the cut out element of the snake their use also commonly creates stalls. When the cattle are moving forward and handlers "pop through" the flap to see where the cattle are (or attempt to resolve a stall) this often startles the animals in the snake which results in them stalling and often attempting to go back to where they've come, from which is perceived to be a safer place than where they're currently at.

- Footing. It is truly remarkable how slick and unfriendly cattle handling surfaces can be. It is even more remarkable how rarely this is addressed. Ice, snow, rain, urine, and manure are common elements in most processing environments. When humans suddenly hit a very slippery spot or ice patch when they're walking or driving, their focus becomes avoiding a crash. The same phenomena happens with cattle. Cattle can be calmly traveling to the desired destination and if they suddenly slip (and often fall), their focus is no longer on taking guidance from the handler and their direction of travel commonly changes. The many bends and counter bends in

contemporary facility designs creates difficulty in maintaining secure footing, hence footing is neglected and appropriate technique is difficult to achieve. The negative impact of poor footing is underestimated. Secure footing should be a priority and routinely maintained.

- **Sizing/adjustability.** The message to cattle that “moving forward is a bad idea” is accomplished when they are bashed on their heads with heavy backstops that have poor to no adjustability. Sometimes the backstop at the entry of the snake completely stops the forward movement of an entire draft of cattle moving through the tub. The message cannot be “go forward” (from the handlers) then have the cattle be punished for doing what they are supposed to be doing, but it happens every day in many, many facilities. This mixed messaging creates subsequent difficulty in sending cattle through processing facilities. Backstops can be counterbalanced or set up on pulley systems to alleviate this problem.

Solid, high sided, curvy snakes are not adjustable. Small cattle can turn around or wedge side by side or flip over, and large cattle can wedge in the snake, especially if it angles sharply inward toward the ground. The sharply angled snakes in which large cattle have a wider stance than the snake results in cattle “swimming” the sides of the snake, which does not facilitate movement through the snake. Top rails (which prevent cattle from jumping out) are often too short for the tall and heavily finished cattle, which again stalls their movement. Importantly, these solid, high-sided snakes with top rails seldom have an appropriate escape gate of any sort. Small cattle pile on top of each other, turn around or flip over when worked incorrectly. Heavy cattle may go down. Without proper escape gates there is tremendous safety risk to the cattle and the handlers that must resolve these mishaps.

The goal for processing of any type is that the cattle calmly move through the system. Calm, continuous movement is safe and efficient. Whenever stalls occur, inefficiency occurs, and often chaos ensues.

After using your assessment tools you now have some idea of the context of the situation and its players. Using that understanding combined with the critical control points of processing the human leader creates a strategy for how the system is to be used. Proper use focuses on the goal of calm, continuous flow of cattle through the facility for safe, efficient processing.

Critical Control Points of Processing

Timing

When to bring cattle: There are a multitude of factors that help determine when a new draft of cattle should be brought through the system. The goal is to synchronize the chute crew with the tub/Bud Box crew. The goal is to continuously have cattle calmly moving through the processing facility with the tub or Bud Box. It should never, never, never be used for cattle storage. Storing cattle in the tub or Bud Box sends the message to the cattle to “stop moving”, just wait.....

Since cattle don't think like humans, their desire is generally to go back to where they've come from. It is generally less crowded and less frightening in a more open area (such as holding pens) than a tight tub or Bud Box. When cattle attempt to go back to where they've come from, they end up in a multidirectional mess. This creates significant challenge for the handlers to re-direct cattle to the small opening of the snake or alley. The multidirectional cattle chaos can also result in the cattle experiencing panic due to chaos, especially when the handler/s default to the use of force (through the use of an electric prod, etc.) without increasing the clarity of the message, which is, “calmly enter the snake”. The cattle may then associate fear and force with the tub, and subsequently become more difficult to work.

Simply choose a number of cattle (such as 2 head) to be behind the chute when another draft is to be brought through the tub or Bud Box. Such things as the length of the processing protocol and the distance to the holding pens will factor into developing the correct timing of when to get a new draft of cattle.

Draft Size

Number of cattle to bring through the tub or Bud Box: The entire draft should fit into the snake or alley since cattle are never to be stored in the tub or Bud Box. When proper cattle handling techniques are implemented throughout the processing production event, it is easy to maintain calm, continuous cattle flow in this manner. When the situation is less than ideal, the number of cattle that the handler can effectively handle supersedes the number that will fit in the snake/alley (as long as cattle aren't stored in the tub/Bud Box). For example, naive young cattle often feel comfortable in larger numbers (the herd effect). If the snake fits 10 small cattle and 12 insist on going in the draft, don't completely disrupt the draft and create chaos. Allow the 12 head to move together....they might tightly fit themselves into the snake/alley. If they don't just back off, the remaining 2 animals would rather go with the herd than back with the handler. If the cattle have long days on feed, are aged (resistant) cows or desensitized cattle and 6 will fit into the alley/snake but they are resistant and challenging the handler (i.e., they rapidly lose momentum prior to approaching the tub/Bud Box), choose 4 animals for the draft. It is easier to make a couple extra trips rather than struggle with a large draft of resistant cattle. Other factors such as the speed of the protocol at the chute, and the distance to the holding pens will also impact the ideal number of cattle to include in each draft. There is a unique “magic” number of cattle for each set of cattle going through the system to make processing efficient. Work diligently to find the “magic” number that keeps the system running smooth and continuous.

Momentum/Energy/Speed

The effort, momentum, energy or speed at which a draft is brought through the processing facility is important and

should be tailored to each set of cattle. Small, naive range cattle that are very sensitive often require very little presence to initiate and maintain movement. Heavy (long days on feed), desensitized cattle and older (opinionated) cows may require more persuasion to move forward. The number of arcs to the tub, degree of arc from the tub to the snake (90 degrees vs 180 degrees), the bends and counterbends, and the stall points will all have an impact on the ideal momentum required to move cattle through the system. Ultimately the state of the footing needs to be considered. Cattle must not be pressured in a manner that makes them slide or fall. This often goes counter to what the ideal momentum is to flow cattle through a facility, hence maintaining sound footing serves to help maintain cattle flow during processing. Momentum adjustment is best thought of like calm, continuous acceleration or deceleration while driving (vehicles). It is desirable to avoid punching the accelerator (abruptly forcing a wad of cattle into movement) or abruptly braking (disconnecting with the draft) when smooth, controlled movement is the goal.

Technique

Tub

A few of the downsides of contemporary processing system designs using tubs and high sided, solid, curvy, designs have previously been discussed. Seldom, however, do we get a choice as to which facility design we get to use. So, if we have a tub to work in, choose to work expertly.

Focus on timing, draft size and momentum, then use proper technique to guide the draft into the snake entry. If the handler stays near the centerpoint of the tub gate and guides the lead animal of the draft into the snake, the handler is in a position that encourages the draft to roughly stay in a single file line and follow the lead animal into the snake. This is in stark contrast to shoving a wad of animals from the tub into a mass of chaos and hoping they find the entrance to the snake. It's as ineffective as pushing a chain to move it forward. It is the decision of the handler whether or not to use the tub gate. The foremost consideration of whether or not to use the tub gate is the safety of the handler. Naive cattle seldom require the use of a tub gate. Cattle handled properly in multiple aspects of production seldom require a tub gate. Cattle that have had negative experiences in a tub or those that rapidly turn back on the handler or don't handle the confinement well, especially with the handler in close proximity, are more safely handled when the tub gate is used. However, closing the tub gate sends a "stop" message to the cattle. When the handler (who has been guiding them with proper momentum) stops to close the tub gate, the cattle lose momentum and often stop prior to entering the snake. If the handler stays near the centerpoint position and guides the leader into the snake, occasionally there will be a stall in chute protocol or a stall in the snake, and the draft can't fully enter the snake. In this case the handler is set up to back up along the length of the gate and swing it shut. This method is

effective for handlers who work on foot or horseback.

Bud Box

The Bud Box is a design developed by the low stress cattle handling master Bud Williams. The design utilizes the tendency of cattle to go back to where they've come from and is cattle friendly. It is cattle friendly in that it is open sided (like panel fences), which facilitates cattle flow into the Bud Box. Proper use of the Bud Box is technique-specific and proper technique is counterintuitive. When used properly the Bud Box is an ideal design that can result in calm, low stress cattle handling experiences. When incorrect technique is used, the experience is less than pleasant for the cattle and their handlers. Choose to work expertly in the Bud Box. The same critical control points of processing apply to Bud Boxes just as for tub systems. When the proper number of cattle (no more than fill 50% of the Bud Box, and all fit in the alley), at the proper time, and at the proper momentum have been "flowed" into the Bud Box, the handler shuts and latches the gate (the gate latch is placed near the entry of the alley). Proper technique places the handler facing the back (non-gate end) of the Bud Box. Pressure (when necessary) is to be directed toward the back of the Bud Box, never toward the entry of the alley. When cattle experience pressure at the alley entry, the message is "don't go there". Where handlers direct their eyes is ultimately the focus of their pressure, which is why technique dictates handlers face the non-gate end of the Bud Box. Cattle enter the Bud Box, encounter the non-gate end of the Bud Box, turn around and head the direction they've entered the Bud Box. With the gate closed they get directed into the alley entry. The handler should not move more than halfway up the length of the side of the Bud Box and simply walk (a step or 2) or rock parallel to the side of the Bud Box, moving toward the back (non-gate end) of the Bud Box then toward the alley opening. This parallel movement might function to apply pressure to move the cattle from the back of the Bud Box toward the alley entry. The parallel movement of the handler might function to release pressure at the alley entry to make it a more inviting place for the cattle to travel. The parallel movement of the handler may encourage an animal that is slowing at the opening of the alley to go ahead and walk into the alley. The parallel movement of the handler may facilitate cattle movement in a relatively single file line, enabling them to easily follow the lead animal/s into the alley. Proper technique is crucial to successful use of the Bud Box.

Fine Tuning: Stall Identification and Resolution

Each set of cattle is unique in how they approach and move through processing facilities. Each set of cattle have their own experiences that shape their behaviors, including their stalling behaviors. It is the responsibility of the team leader to identify stall points and create a resolution. Stall points are where cattle slow down or stop; they may be predictable, or they may be novel. It is beyond the scope of this presentation to discuss stall points/transitions in detail.

Suffice it to say that resolving stall points can be addressed in a variety of ways. Stalls within processing facilities are often resolved by adjusting (decreasing) the number of cattle in a draft and/or increasing momentum (not pressure) slightly before encountering the stall.

It is the responsibility of the leader to use their assessment tools to evaluate and understand the context of each situation and its players, then apply the critical control points of processing to develop a strategy for successfully handling each specific set of cattle through each processing facility. Using these simple concepts one can create success in the form of efficiency, safety, and fun while processing cattle in optimal and suboptimal facilities!

Conclusions

In this presentation we discussed the following:

Assessment Tools

- Previous handling experience of cattle
- Handler skill
- Current frame of mind of cattle (Emptying the pen or pasture)
- Facilities

Friendly design elements:

- *cattle can see
- *secure footing
- *adjustability

Unfriendly design elements:

- *cattle are visually shielded
- *unsecure (slippery) footing
- *no adjustability in vision/
width/height/backstops

Critical Control Points

- Timing - when to bring cattle (start with 2 head behind chute)
- Draft size - how many cattle to bring (number that fit into the snake or alley, but not fill Bud Box >50%)
- Momentum - presence/effort/speed at which to bring the draft
- Technique
- Tub - centerpoint position guiding the leader into the snake entry
- Bud Box - pressure toward the non-gate end of the Bud Box with movement parallel to the side of the Bud Box
- Stall identification and resolution - start by decreasing the number of animals in the draft and increasing the momentum.