

Beef's big bottleneck: Chute safety and efficiency

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Abstract

The bottleneck of a production system is the area of work that receives too many requests for work than can be processed at its maximum throughput capacity. An example of a bottleneck on a dairy is the milking parlor. The farm can only milk as many cows as the parlor can throughput. Within the milking parlor, there may be smaller bottlenecks that exist and can be addressed through cattle handling, personnel training or facility remodel to remedy the bottlenecks and maximize the efficiency of the milking parlor. On a beef operation, whether it be a beef feedlot, growyard or cow-calf operation, the bottleneck for many is the processing chute. Identifying and exploring the main challenges surrounding this bottleneck can help veterinarians to better advise and consult clients. The main challenges this paper will explore include safety for the animal and human safety as well as biosecurity, and efficiency.

Key words: animal handling, equipment, management, safety, efficiency

Introduction

The simple definition of a bottleneck is a point of narrow congestion. Referencing the processing chute as a bottleneck is apropos, but it should also be considered as so, because of the potential delays across the production phase that it can cause. In a 50,000 head feedlot operation that turns over the population of cattle 2 times per year and processes cattle through the chute approximately 2.5 times per head, assuming that the processing barn is open 6 days per week and is in operation 48 hours during that week, this equates to just over 4,800 head needing to run through that chute every week or 100 head every hour. With respect to proper cattle handling techniques being utilized, some operations need guidance on how to handle this potential bottleneck, the processing chute. In a cow-calf operation, this looks very different. You might be identifying a working event as a bottleneck and how the purchase of a processing chute or working facility would help alleviate said bottleneck.

Safety

Animal safety

Proper inspection of cattle handling facilities is necessary before a processing event so that animal safety is ensured. Pay special attention to loose sheet metal or rods that can cause injury to cattle. Inspect flooring leading up to the chute and exiting the chute so that proper footing is provided.¹

The chute should be safely operated so as not to harm the animal, but to properly restrain the animal for the tasks needed to be performed.

Quiet handling of cattle prior to the entrance into the processing chute will reduce stress and injury while inside the processing chute. Cattle must be calm when entering the chute to remain calm in the chute.² According to BQA cattle handling

standards, cattle should walk on entrance and exit of a chute with specific concentration on reduced vocalizing, jumping, running or falling when exiting the chute. Much of this is accomplished by smoothly operating the chute in a manner that allows for the animal to not slam into the headgate. This is accomplished by squeezing the panels in after the animal has passed through the open tailgate and heads toward the headgate that is only open to the width of an animal's shoulder until the head of the animal crosses into the headgate and the headgate is closed to catch the animal. The squeeze panels should remain closed; the tailgate is closed and the processing tasks can be performed. When the processing tasks are completed, the headgate is opened first, followed by the squeeze panels being released and cattle will more willingly exit the chute. Always utilize 2 hands when operating a hydraulic processing chute to increase smoothness. Hydraulic chutes should be inspected for proper pressure, and that setting will often vary depending on the chute manufacturer. A good rule of thumb is the squeeze pressure of the panels putting 600 lbs (272 kgs) of pressure between the 2 panels, right at the point of the panel drop gates.^{3,4}

Human safety

The veterinarian must advocate for their personal safety when working around the processing chute. In many instances, you are potentially in harm's way and it is your responsibility to make sure your safety is paramount. Utilizing the design of a cattle processing chute with a palpation cage is not the apex of safety, as many cattle producers tend to tout.

Always inspect processing chutes prior to beginning the working event. Look for defects in the hydraulic system and address them. Inspect all moveable chute parts to make sure nothing is damaged and is working properly. Coordinate with all people surrounding the processing chute and establishing communication can help with both efficiency of the working event and safety during the event. Do not wear loose clothing and tie back long hair when near a processing chute. Utilize proper footwear, eye, ear and head protection. Notice the crush points in the chute and avoid entering them with any body part of yours.

Remember that habits govern your daily behavior. Safe people have safe habits. Develop safe habits early in your career so that you are physically able to perform in the later stages of your career.

Biosecurity

Biological risk management is essential for the veterinarian to consider for the overall well-being of the farm or ranch that is being served. The processing chute is an important point in production to employ high biosecurity standards. The principles of biosecurity are exclusion, separation, cleaning and disinfection.⁵ Think about how these principles apply to a processing chute and the processing event you are performing in the chute. It is important to employ these principles where they are applicable and ensure your clients have this advice.

Conclusion

Designing and utilizing proper protocols surrounding the processing chute in a beef operation can be an important area of veterinary consultation. Whether it is a cow-calf, growyard or feedyard stage, the processing chute should be considered and addressed with clients so that the safety and efficiency of this important tool for a veterinarian and producer. The veterinarian can help to address biosecurity as well as human and animal safety surrounding the operation of a processing chute.

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