

From Atop the Corral Fence

by Jim Hartmann

Deciding what type of equipment to put into the corral.

In the last article we discussed the steps of basic corral planning as it pertains to size and site selection. Now let us take a look at what we are going to put into the working facility for equipment. I feel the first place to start is with the last piece in the working facility, that is the squeeze chute.

All parts of the corral are equally important for if one area is lacking, the whole system is hurt. The capture of the buffalo in the squeeze chute is usually the climax of the working process and if this unit fails to do its job properly the whole working operation can become time consuming and more dangerous than necessary. At the present time you have three basic choices to choose from. They are: #1 Cattle handling equipment. #2 Buffalo handling equipment. #3 Building your own.

When I designed and built my corral and chose the handling equipment to be used in it I had to choose between two different types of working design principles. They are; "The open visibility working principle," which is commonly used in designing and building of cattle corrals and handling equipment. Or "The limited visibility and the controlled light principle," which is used only in cattle handling equipment found in large commercial feedlots and in the design of the corrals of many successful buffalo operations. After discussing corral design with many of these experienced buffalo raisers, I decided on the proven working practice of limited visibility and controlled lighting as opposed to the open visibility because with buffalo, if they can see through it they think they can go through it, and they usually will try.

I have found that limited visibility and the controlled lighting will reduce the excitement of the buffalo being worked. Limiting the visibility in the corral with solid or nearly solid fencing and gates allows the buffalo to better see the gate openings when they are open. Also, when they can't see through the fence, they usually don't try to run through it. In my corral I chose the near solid fence because I work my buffalo through the corral by myself and on foot. I like being able to climb the fence should I have to get out of some bully buff's way. Controlling the amount of light and the light source and location will help reduce the buffalo's excitement and will aid in controlling the movement of the buffalo through the working equipment.

Before I built my corral I had discussed with many buffalo raisers as to what they thought was needed in the equipment for working and handling buffalo. I also experimented with equipment and modification of equipment to find out what was needed and what does and doesn't work. What I learned from others and from my own experience is that, first of all, cattle handling equipment is not designed for handling and working buffalo. Even after you go to the expense of modifying and adding the things that are lacking, it is still nothing more than modified cattle equipment. I feel that a squeeze chute for working buffalo should meet the following specification:

Size: The squeeze chute should be large enough to handle the largest herd bulls but be

able to easily adjust down narrow enough to work small calves. I found that the interior dimensions should be seven feet, from the head stanchion to the tailgate; from the floor to the top inside the height dimension should be six feet. For good chute stability the chute should be approximately two thirds as wide at the base as it is tall.

Strength and frame design: The frame is extremely important because when those rather unhappy herd bulls enter the squeeze chute, they will give the frame the maximum strength test. I have found that using high strength square and rectangular tubing provides the maximum strength for the weight of the material. Channel shapes provide their structural strength in basically two directions but they are both on the same plane. Angle shapes provide their strength in two directions, one way horizontally and one way vertically. Square tubing provides strength in all directions much like round tubing. (SEE ILLUSTRATION) Round tubing is good too, but you must be careful as there are two types of round tubing. One is high strength like the square and rectangular tubing which is good, but the other is the old standard pipe. Pipe is much weaker and is brittle. When placed under a load it will bend easily and break. The floor should be incorporated into the frame work. In my opinion a formed plate steel floor with a welded center re-enforcement running length-ways, steel cleats welded to the top and the floor welded on both ends to the base supports, is the best.

The frame should be fully welded in the corners and braced with either a gusset or block braces. Any time that the frame is not continuous the pieces should be over-lapping and fully welded. Avoid squeeze chute frames that are bolted together; the bolts will loosen and the holes will wear. The frame will become even looser with age, and the holes will tear out or the bolts can break with wear and pressure.

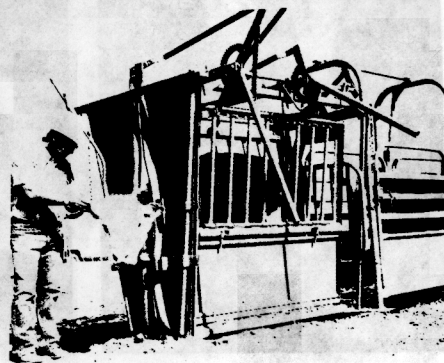
I prefer a solid sheet metal insert the full length of the top of the chute. It doesn't appear to the buffalo to be open as does a top that only has a few straps or bars across it. Those straps and bars only stop a buffalo from climbing out over the top. They don't reduce the attempts at jumping out and they do make a good place for breaking off horns.

Brake Gate: A feature that no squeeze chute should be without is a brake or stop gate mounted on the front of the unit. This handy device in most every case is the only way you will get the buffalo stopped and caught.

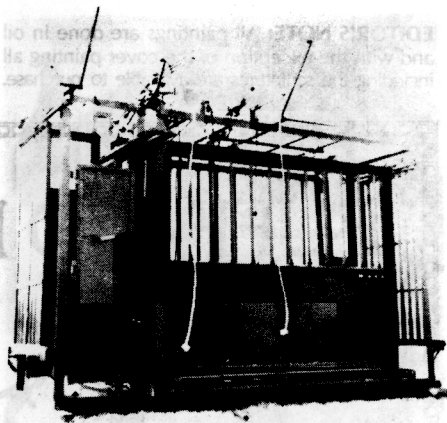
I prefer a U-shaped swinging type with a spring loaded latch; it has many advantages over the sliding or rolling type of stop gates. The advantage with a swinging type of door is that with it mounting back on the main frame of the chute it swings out of the way giving you an obstruction free working area around the head stanchion, which is not the case with a sliding or rolling type of stop gate. Also the rolling and sliding type require some type of frame work out in front of the head stanchion thus interfering with the working area around the head of the buffalo in the chute. They both require filler gates to fill the gap between the head stanchion and the stop gate. Another disadvantage of the sliding type is that the slide mechanism must fit close to prevent slop in the gate and the mechanism may be easily dama-

ged if the gate is hit just right by large bulls, or may become rusty or gummed up when not in constant use. Either may reduce the working efficiency of the unit.

Another thing to look for on the swinging type brake gate, is it should mount on either side of the head stanchion. This gives you, the operator, the option of either right or left hand operation in the same unit.



#1 Standard cattle squeeze chute.



#2 Thorson Buffalo Squeeze Chute



#3 Hartmann Buffalo Squeeze Chute

Following the limited light and visibility principle, the brake gate should be solid with a solid top. A light panel should be placed in the center of the gate so that the buffalo entering the chute can see only daylight at about eye level straight in front of him. To prevent horn damage to your buffalo, this light panel opening should be covered with an unbreakable type of plastic glass. Just bars and no glass doesn't work well; buffalo enter the chute with their heads tipped down and once they are caught they straighten up and will catch their horns in the opening.

The proper distance that the stop or brake gate should be from the head stanchion is about twelve inches; this will accommodate all sizes of buffalo. Closer than twelve inches you will have trouble with large bulls. They will not be able to get their heads far enough into the brake gate for you to be able to close the head stanchion properly on their necks. Father them twelve inches, small calves will run up into the brake gate and stand up on their hind legs. With their hind feet out in front of the head stanchion the calves may even trip and fall over backwards trying to back up into the chute.

Head stanchion: In my corral I choose to go with the scissor type operating head stanchion over the parallel or automatic catching type. With the scissor type you do not have the guide at the bottom of the head stanchion that the buffalo has to step over when he exits the chute. Even with the scissor type the buffalo still have a tendency to want to jump up as you release them. With the parallel head stanchion they either try to jump higher to get over the guide at the bottom of the head stanchion and hit their backs on the top of the head stanchion frame. Or they trip on it if they don't jump at all. I ruled out the automatic simply because the horns of a buffalo are usually the widest part and once you get them through you have to manually close down the head stanchion to catch the shoulders so that the buffalo will catch himself. So I felt that I might as well have the type of head stanchion that you work yourself.

The squeeze: Once you have the buffalo caught, you need to stop his thrashing around. You need to literally put the squeeze on him. I prefer the dual type squeeze for a couple of reasons. First, a single side squeeze only squeezes the buffalo from one side thus pushing him off balance side ways. All too many times this will cause the animal to go down in the chute. With the dual squeeze, both sides move in at the same rate squeezing the buffalo from both sides. The second reason is with all the buffalo I have worked over the past few years I have found that a percentage of them pick up all four feet as soon as they are squeezed. In the dual squeeze they will regain their footing quicker when you release the squeeze as opposed to a single side system. The top of the squeeze should have a working open width from six inches closed to thirty five inches open.

The sides need to be adjustable at the bottom so you can adjust to the proper width for the size of buffalo you are working. I prefer an adjustment guide that is built into the main frame of the chute with each end of the sides having a pin at the bottom that sets and slides inside of the guide. Attached to the guide should be a simple handle with a series of notches in it that will hood over the slide pins for the desired width. The sides should adjust from around six to fifteen inches at the bottom

With this type of adjustment there are no bolts to loosen or cumbersome wrenches or special tools to use that you can't find when you need them. You simply pick up the handle and slide the side in or out.

Following the reduced light and visibility principle I went with solid sides in the squeeze chute. This keeps the buffalo heading straight through the chute and prevents him from trying to dive out through the sides of the chute as he enters it. I have also found that the instant that I catch him by the neck in the head stanchion, he has all four feet stuck out the sides in four different directions. The solid sides should be constructed in such a manner that all or any portion of the side may be opened to gain access to any part of the buffalo once he is securely restrained. Ideally the upper portion of the side should be a series of small panels that pivot on a horizontal frame and catch at the top. The lower panel should be full length, hinged at the bottom and held close at the top on both ends. The solid sided feature also provides a smooth interior which helps to prevent horn damage.

Another feature that should be present on the sides of the chute is a filler or deflector panel. This filler or deflector is on the back edge of both sides. It serves to fill the space between the sides and the main frame of the chute when the sides are slid in for working smaller buffalo. It prevents the little fellows attempting to come out through that opening.

Any squeeze chute that you consider should, by all means, have an emergency side exit or side release of some type. Should you ever have a buffalo go down or get over on his back, you have to get him out and back on his feet. This type of feature will naturally be on the non-operator side of the unit. Some chutes are designed with side exit feature that can be operated from the control side of the unit. The problem with this is, it may be accidentally tripped by either someone operating the chute or in some cases by the animal shaking the chute. I personally prefer the type of side exit that is designed for emergency use only. It should be designed to be opened

from the same side that it is on. It also should have a security latch that keeps the main latch from opening accidentally.

Controls, setup and installation: For myself I like to keep it simple, when it comes to the control and I want to have leverage. I'm not the biggest guy in the world, so when I pull or push on the controls I expect results. Short handles may be nice to work around but they will not give you the leverage on the head stanchion and the center squeeze that you need to restrain that big herd bull. Ropes just get tangled; they break and you can even end up pulling the wrong one, if you don't hang yourself first. Give me a four foot long handle any day.

While we are looking at the controls, an important part of those controls is the type of catch that holds the head stanchion and squeeze. Having been working with handling equipment since the mid 1970's I have worked with just about every type of catch mechanism possible. The one I prefer overall is the cast steel ratchet and spring loaded dog type. It is the most positive catch possible but has its drawbacks. They will wear out if they are not properly greased. They are a fixed position catch, meaning that you have certain stops and at times they may not quite fit the animals that are being worked. But overall I still feel that they are the safest catch available.

Another thing to consider in the controls is the setup. Do you need a right or left hand controlled chute? Meaning do the controls need to be on the right or left hand side of the chute? Many chute builders build them either one way or the other. A few only build them one way. That allows you to setup the chute for either right or left hand operation. In other words it's "reversible." With a reversible chute, your chute is never obsolete, should you ever redesign your corral system and you need the opposite of what you have. I prefer the reversible design because you never have to make a second investment in another chute to change to the control to either right or left.

Installation of the chute is also very important. Mine is setting on a concrete pad and is bolted down on all four corners. When those



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big herd bulls are forced to stop at the brake gate, as they are trying to go on through the chute, they may move it several inches if it isn't securely fastened down, so be sure to bolt them down.

Tail Gate: I feel that a tail gate or cutoff gate is necessary at the tail of the squeeze chute. If the alley leading into the chute doesn't have a cutoff gate of this kind, the squeeze chute should be equipped with one. There are three types of cutoff gates: there is the swinging or pendulum gate, which is a lever operated cutoff gate that swings either toward you or away from you when it is opened. It may be either a solid or a bar type gate. Usually it is a bar type because if it is solid it becomes harder to operate unless a counter balance weight is added. The swing gate usually can not be opened by an animal in the alley. Unless a gate of this type is solid, it doesn't work well for buffalo.

The second type is the guillotine or drop gate which slides up and down in a track. This type of gate is operated by a pull rope. It may be either a solid or a bar type. And again it becomes harder to operate when it is a solid gate because of the weight. A solid guillotine gate that is heavy enough to withstand the big buffalo could easily either injure or kill a smaller animal if it is accidentally dropped on the neck or back. This type of gate is harder to latch and may be easily lifted by an animal in the alley if he can get either his horns or his head under the edge of it.

The third type of gate, the one I prefer, is the rolling cutoff. I like it because you have a gate that is very easy to control. You either push or pull it to open or close it. It rolls easily on a guided track and locks in the closed position. I prefer the combination of a steel frame and a wood insert; you have a strong gate with the sound deadening of wood, and again you have controlled visibility.

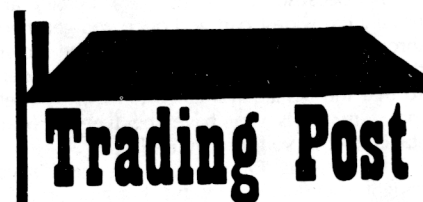
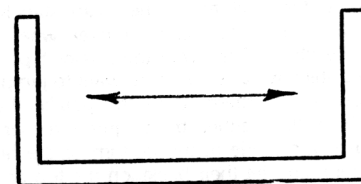
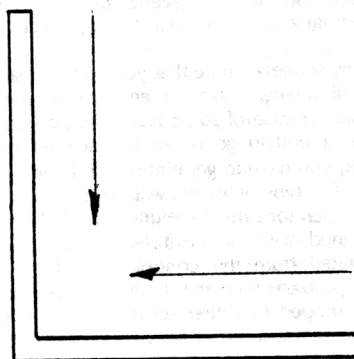
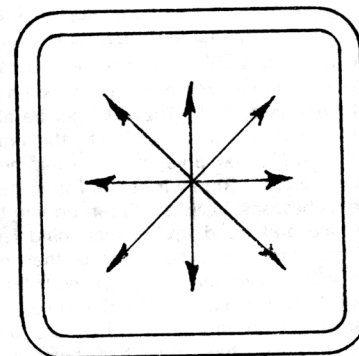
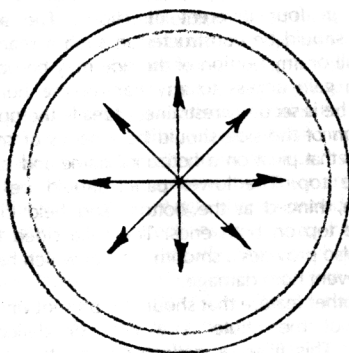
Paint finish: Last, but not by any means the "least, is the paint finish. In some areas of the country an unpainted steel squeeze chute will outlive its owner, but in our part of the coun-

try, as in many parts, moisture is a problem. Rust and corrosion will take their toll. There are steps that need to be taken before a piece of equipment is painted. It has to be cleaned by either sand blasting, or by washing with acid and rinsed with water, followed by a phosphorizer which is rinsed and neutralized with hot water. After the unit is cleaned it should be painted with an industrial primer. I like a zinc-chromate base; it is more acid resistant than zinc-oxide,

but doesn't require the special equipment and isn't as hard to apply as an epoxy. The finish coat, although it is basically there for looks, is helpful in protecting as well. I feel that it too should be the top of the line, like an industrial enamel. Brown, I have found to be the best color, for it stands up well to the weather. It holds its color and doesn't fade.

In the next article we'll take a look at the crowding or working alley leading into the squeeze chute.

Illustrations



On Trailering Buffalo

come back out. Maybe use a tight turn around. Close gates quickly. One producer backs up to a squeeze gate and lets the buffalo in one at a time. Mostly keep them moving so that the ones behind push the front ones in.

What is the best type of trailer?

Responses: Most producers indicated that enclosed is best. Covered top is necessary. Most had partly enclosed, like up to 5 feet or so, then bars to the top. In this way, there is ample ventilation, the openings are too high for the buffalo to get their horns stuck and broken off, and buffalo can't look out, and people can't look in. One producer, liked to have that space to be able to check on the animals, also leaves space to work through.

Durham solves the horn breaking problem by completely dehornig their animals, or by tipping the horns so that they are sensitive and the buffalo will be more careful. The insides of the trailer should be smooth, and if there are bars, they should be spaced so that if the buffalo do get their horns through, they won't be stuck.

The trailer should have gates to make compartments. The gates should be hinged so that they swing fast and easy, and have good latches.

Questions: Do you need any accessory equipment?

Responses: Some carried firearms, others didn't. None of these have ever had to use them. One figured that if there were an accident and the buffalo got out, a local farmer or patrolman would have a rifle handy. Tucker suggested having a cattleman's cane, with a hook, so that you can reach in and pull the compartment gates closed. Padlocks on the trailer gate or door is another suggestion, as well as wiring the gates so they won't come open accidentally.

Questions: Any other suggestions?

Responses: Most didn't worry about ventilation while traveling. Although some like to travel at night in the summer, to reduce the heat, others just started and kept on going, to get there quick. One suggestion was to take them off feed the evening before, and then water them good before you start off the next morning. They can go for up to a day or longer without food or water without any adverse effects. Durham gives their calves a shot for shipping fever to reduce stress.

Tucker recommended a low bed trailer so that there won't be any need for ramps - he just loads them right through the chute.

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