

# Working and Feeding Facilities



Facilities and equipment for working and feeding cattle are required for the proper management and care of cattle on the farm. No one should enter into a cattle operation without the proper facilities and equipment to care for and manage the herd.

## Working Facilities

Well-planned working facilities and well-designed equipment will immediately start to pay for itself in the following ways: (1) fewer injuries to cattle and people, (2) less stress on cattle and people, (3) an ease of working that will prevent cattle working from becoming a dreaded job and (4) a total cattle management program can be easily carried out on the herd. Points to consider for working facilities are location and design of pens, gates, chutes, alleys and restraint equipment.

### Location

Working facilities should be located in an area that is near to the cattle and where several pastures meet. If the cattle operation is on several different farms or on a very large farm and spread out, then additional working areas should be considered. The working area should be located along fencelines so cattle can be more easily driven into the pens. The working area should be located where trucks can reach the pens to deliver cattle and haul cattle out. The working area should be well drained and designed for expansion if needed.

### Pens

Pens are needed to hold cattle for working. The main points to consider with pens are the number of pens, the size of the pens, the height of pen fences and the arrangement of pens for sorting and holding cattle. The number and size of pens should be related to herd size. Several small pens to hold the herd in groups are more desirable than one big pen for the whole herd. Cattle are more easily driven out of a small rectangular pen than a large pen or pasture lot. Also, when the herd is sorted for various reasons, several small pens will be more workable than one or two large pens.

Pens need to hold cattle. Gentle or docile cattle can be held with 4½- to 5-foot high fences. Hard-to-work or excitable cattle may need fences 6 feet high to hold them.

Pens should be arranged along a central alley or in a cluster so the herd can be sorted off into groups and held as groups. One or more pens should have a water trough to serve as a holding pen, a hospital pen or quarantine pen.

### Gates

Gates in the working facilities should be designed and installed with some of the following points in mind. Gates should be of sturdy construction with anchor post set well into the ground to prevent sagging and to handle heavy use. Gates should be located in pen corners and along fencelines leading into the working facilities for ease of cattle movement. Gates should be hung so that they close behind cattle as they are moved into and through the working facilities. Gates should be the same height as pen fences (4½ to 5 feet for docile cattle, 6 feet for hard-to-work cattle). Alleys should be sized to the gates. If 12-foot gates are used, then alleys should be 12 feet wide. With this arrangement, gates can be used to cross off alleys, or they can be swung completely around to let cattle pass the gate and go up the alley or down the alley. Gates and gate hinges should be designed and hung so that the gate will swing in the proper direction and swing far enough into the pen or alley so that cattle can pass. Some extra gates can be built into the facilities. These gates can go between pens to move cattle from pen to pen without using the alley. Some man gates (3- to 4-foot wide) can be added for people to enter the working area – especially near the squeeze chute.

### Crowding Pen

The crowding pen is set at the end of the alley and is used to crowd cattle into the working chute and onto the squeeze chute. Older designs use a square or funnel-shaped pen with a swing gate or several swing gates to crowd cattle into the working chute. Newer designs use a circular-shaped pen with

a swing gate to crowd the cattle. Circular pens take advantage of cattle's tendency to move in circles when crowded, and there are no corners for them to jam up in. The swing gate in the crowding pen should be solid (not open planks) and be designed to latch at several positions as it is closed down and cattle are moved into the working chute. Besides the swing gate being solid, the crowding pen should have solid sides. Solid sides will prevent cattle from seeing out and balking because of activities or movement around the working area. Several companies manufacture crowding pens and refer to them as sweep tubs.

## Bud Box

A Bud Box is a facility design that allows the handler to be positioned correctly to facilitate cattle flow out of the box into either the crowd alley leading to a chute or to a trailer load out. Always keep in mind that the box is a flow-through part of the facility. Cattle should never be stored in the box waiting to be sent into the crowd alley or to a trailer. Bring them in and let them flow back out immediately.

Dimensions are important to the successful use of a box but not as critical as handler position in relation to the stock leaving the box (Table 11-1). Without proper position and attention to detail, a box will only confuse the stock and frustrate the handler.

The box should be large enough to accommodate a volume of cattle to fill the crowd alley or fill a trailer compartment. A crowd alley to a squeeze chute should hold a minimum of 4 cows and might need to hold 20 head depending on the speed of processing. Crowd alleys on cow-calf operations will typically hold 5 to 6 cows. Facilities working calves or yearlings routinely need crowd alleys for 12 to 20 head of cattle.

**TABLE 11-1. Bud Box Dimensions.**

Handler	Width	Depth*
Always on foot	12 feet	Minimum 20 feet
Afoot and horseback	14 feet	20 to 30 feet
Always horseback	16 feet	Maximum 30 feet

\*Dictated by size of groups handled

## Working Chute

The working chute is used to move cattle to the squeeze chute in single file and in an orderly manner. Working chutes should be at least 18 to 20 feet long to hold several head of cattle in line for working. Several

blocking gates or back stops should be placed in the working chute to control movement of cattle in the chute. Newer designs use a circular shape for the same reasons as circular crowding pens are being used. Solid walls in working chutes provide for easier movement of cattle. The major problem with many working chutes is they are too wide. This allows some cattle to turn around which stops the orderly flow through the chute. Working chutes should be 18 to 28 inches wide. The narrower widths (18 to 22 inches) are suitable for operations that basically handle calves (weaners to 1,200 pounds). The wider widths (26 to 28 inches) are for cow-calf operations. Herds with very large cows and bulls may want to add another 2 or 4 inches to their chute width. Smaller calves will turn around in the wider chutes. In these wider chutes, placing plywood panels mounted on 2x4's or 2x6's into the chute when working calves will make it narrower and prevent turnarounds. Newer designs use sloped or V-shaped sides. With sloped sides (16 inches at ground level, 28 inches at 4 foot height), the problem of smaller animals turning around in the working chute is eliminated. Some working chutes have been built with removable sections. These can be removed to get at downed animals in the working chute.

As with crowding pens, several companies manufacture working chutes. These are available in straight and curved designs and can be purchased with solid sides or open pipe sides. Most working chutes can be adjusted for width to suit the size cattle being worked.

## Squeeze Chute and Headgates

The squeeze chute and headgate are vital to the working facilities because essentially all work done on cattle is done in the squeeze chute and headgate. The sole purpose of the squeeze chute and headgate is to restrain the animal so that any desired management practice can be safely conducted on the animal. Safety is essential for both cattle and operator.

In designing working facilities, the squeeze chute and headgate should not open into a pasture. The squeeze chute and headgate should be enclosed in a pen. With this setup, a group of worked cattle can be turned out together or they can be moved back to a holding pen. More importantly, with an enclosed working area, an animal that gets out of the squeeze chute without being worked is not loose in the pasture and can easily be maneuvered back to the chute.

There are a number of manufactures that build outstanding squeeze chutes (Power River, Pearson Livestock Equipment, Priefert Manufacturing, W-W Livestock Systems, etc.). Squeeze chutes (headgate) come with many options and features (manual, hydraulic, sizes, portable vs. stationary, etc.),

and the best one depends upon personal preference. Money spent on a good squeeze chute and headgate is often one of the best investments made in the cattle operation.

Before purchasing a squeeze chute and headgate, check with different manufacturers to determine design features, construction and any special features. In addition to checking with manufacturers, check with people in the area that have commercial equipment. Find out what they like and dislike about their equipment. Major design features to consider when purchasing a squeeze chute and headgate are the latching system, protruding handles and levers, squeeze system, side exit, general or overall construction, options and headgate style. Many of today's squeeze chutes have convenient doors and latches to administer animal health products according to Beef Quality Assurance Guidelines.

When looking at a squeeze chute, check for protruding handles and levers. All squeeze chutes and headgates have one or more handles or levers that are needed to operate the equipment. Handles and levers should be placed and operated in a manner that will not hit and possibly injure the operator or bystanders. Handles and levers that are most likely to cause problems are those that are located at head and shoulder height and those subject to sudden movement. As with all equipment, learn how to properly operate the squeeze chute and headgate. Some chutes place the headgate controls on the front for a one-man operation (Figure 11-1).

Side exits are available on many squeeze chute models and can be quite useful. With proper arrangement of fences and pens, a side exit can be used to sort or cut out cattle when they reach the squeeze chute. In addition, the side exit can be used as an emergency exit or release on downed cattle in the squeeze chute.

There are options available with squeeze chutes. One option is a brisket bar that keeps cows from kneeling and keeps cows standing (Figure 11-2). Almost all chutes have side panels that drop down (Figure 11-3) so feet and legs can be examined or bulls can be BSE tested. Some chutes even have blinders to prevent visual distraction allowing cattle to enter the chute without baulking (Figure 11-4).

Oftentimes a palpation cage can be purchased with the squeeze chute. The palpation cage allows someone to step in behind the animal in the squeeze chute. The palpation cage is basically designed for pregnancy testing and artificial insemination work, but will serve well any time access to the rear end of the animal is needed.



**FIGURE 11-1. All controls are on the front of the chute for one-man operation.**



**FIGURE 11-2. Brisket bar keeps cows from kneeling and keeps cows standing.**



**FIGURE 11-3. Lower panels can be removed to access the cattle's feet and legs.**



**FIGURE 11-4.** Flexible poly blinders to help funnel cattle into the headgate by reducing visual distractions from outside the chute.

For additional information on working facilities, contact your local county Extension office.

### Other Facility Design Considerations

1. Enclose the squeeze chute and headgate area in a pen. If an animal is missed or accidentally gets out of the headgate, it is still confined to the working area and can be put back through the chute. If the headgate opens out into a pasture, then the animal is missed.
2. Provide solid footing in the squeeze chute and headgate area. The next most important area for solid footing is the crowding pen.
3. A shed built over the squeeze chute and extending back over the working chute enables the cattleman to work cattle under adverse weather conditions. The shed should be high enough for slide-up gates to clear and for people to clear rafters if they are on a catwalk or climbing over the chutes.
4. Consider running an electric line and possibly water lines into the facilities. This provides power for lights and other equipment that may be needed while working cattle.
5. A catwalk built alongside the working chute helps move cattle through that chute.
6. A set of scales built into the working chute can be useful for performance work or monitoring calf gains in stocker operations.
7. Loading chutes for many operations have gone by the wayside since bumper and gooseneck-type trailers have become common farm equipment. With these trailers, cattle can be loaded through the working chute. Unloading involves backing into a pen and opening the back gate. For some large operators, plans are available for loading chutes.

	<b>Calves to 600 lbs</b>	<b>Calves 600-1,200 lbs</b>	<b>Cow-Calf and Cattle Over 1,200 lbs</b>
Holding area, sq ft/hd	14	18	20
Crowding pen, sq ft/hd	6	10	12
Working chute, straight sides			
Width	18"	22"	26"
Length (min)	20'	20'	20'
Working chute, sloped sides			
Width, inside bottom	15"	15"	16"
Width, inside at 4' height	20"	24"	28"
Length (min)	20'	20'	20'
Working chute fence			
Posts			
Depth in ground <sup>1</sup>	36"-48"	36"-48"	36"-48"
Clearance above ground for cross-beams	7'	7'	7'
Fence			
Height, solid wall	54"-60"	54"-60"	60"
Top rail, gentle cattle	54"-60"	60"	60"
Top rail, hard-to-work and wild cattle	60"-72"	60"-72"	72"
Corral fence			
Posts			
Depth in ground <sup>1</sup>	36"-48"	36"-48"	36"-48"
Height above ground			
Gentle cattle	60"	60"	60"
Large cattle, wild cattle	60"-72"	60"-72"	72"
Loading chute			
Width	26"	26"	26"-30"
Length	12'	12'	12'
Rise in/ft (max)	3 1/2"	3 1/2"	3 1/2"
Ramp height			
Trailer	15"		
Pickup	28"		
Large truck	40"		
Tractor-trailer	48"		

<sup>1</sup> Chute and corral post depth will depend on the soil's ability to hold posts. Posts need to hold tight under heavy use. Posts set in concrete will be more stable.

## Feeding Equipment

Feeding equipment for cow-calf and stocker operators will be fairly simple. For feeding hay, many producers have gone to round bales which should be fed in a bale feeder to minimize hay losses. Bale feeders and hay rings are fairly inexpensive, and some very good ones are homemade. Some companies have hay feeding systems that involve bale unrollers, hay wagons, tub grinders, etc., that may be suitable for some farm management programs.

With most farms using round bales, some consideration must be given to hay storage. Round bales and stacks stored outside should be in a well-drained area and placed so they do not touch each other. Hay quality can be better maintained if round bales are stored under cover. A pole barn provides excellent protection for round bales. Pole barns should be built high enough so round bales can be stacked several high and be easily moved about. Be careful not to exceed the ability of your equipment to stack round bales in a barn. The cost of the pole barn can probably be justified over the long run by limiting the amount of hay that is wasted or lost to weathering.

Feed troughs should be part of the feed equipment on most cattle operations. The main use of feed troughs is feeding grain and protein supplements to cattle. Certain times of the year stocker operators have to feed supplemental rations. Growing heifers and bulls need some supplemental feed, and this is best fed in a trough. Troughs can be homemade or purchased. Some self-feeders are on the market that handle several tons of bulk feed and a large number of cattle at one time.

Mineral feeders are needed. There are good manufactured and homemade mineral feeders on farms. Mineral feeders can be portable or stationary. These feeders should be sturdy and covered to protect mineral supplements from the elements. Plan on having enough mineral feeders so that all pastures with cattle have a feeder.

Feed bins are an item not often seen on many cattle operations. The use of feed bins and purchasing some feeds or supplements in bulk (not sacked) should be investigated by many cattlemen. Purchasing in bulk or in larger quantities (1 ton, 3 tons, truckload, etc.) can yield big savings on the feed bill.