

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. Figure 29 shows the layout of a complete set of working facilities.

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 fence lines 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 should be 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 4 1/2- 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 as a quarantine pen.

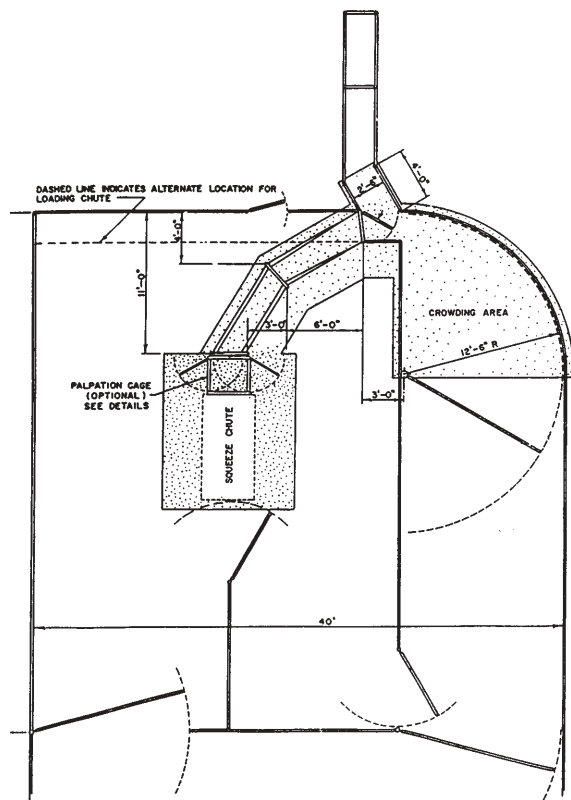
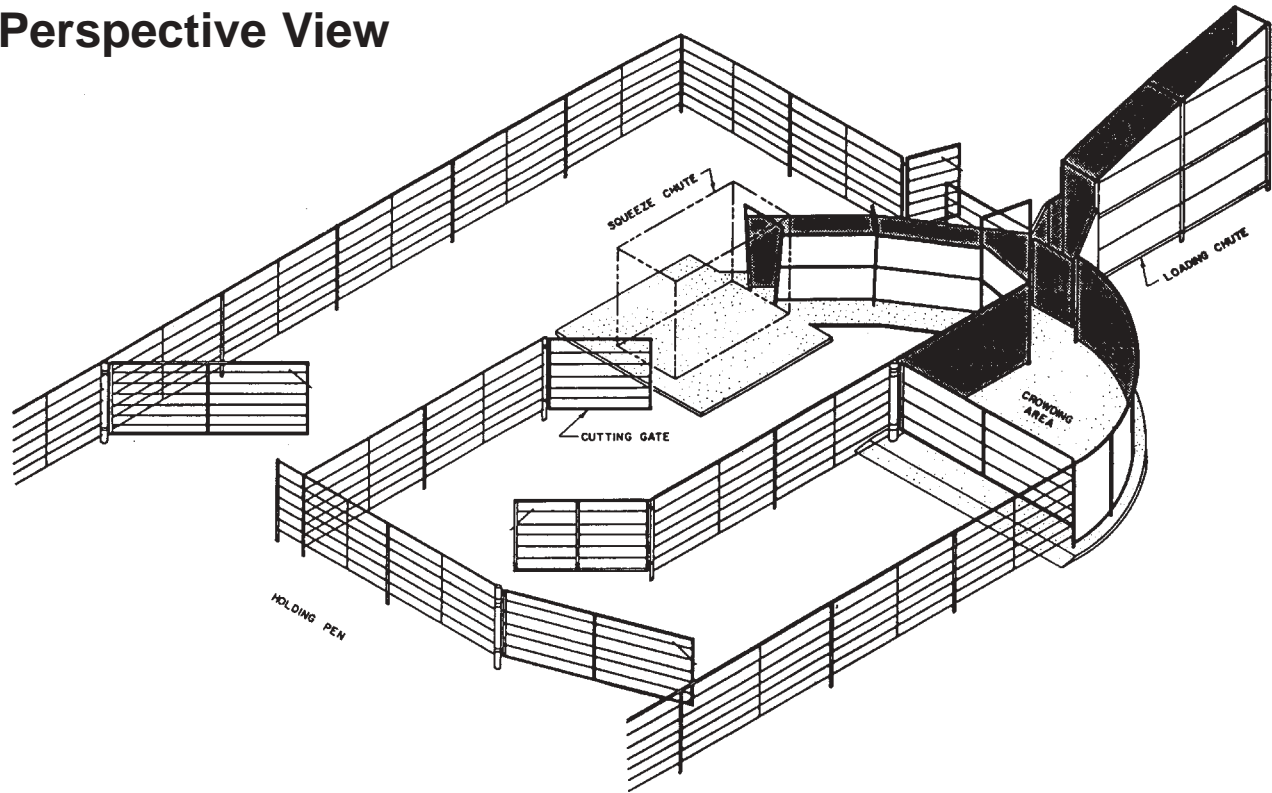
Gates

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 fence lines 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 (4 1/2 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.

Perspective View



Floor Plan

Cattle Corral	
Plan No. 875005	Cooperative Extension Service
University of Arkansas Division of Agriculture	U.S. Department of Agriculture Cooperating

FIGURE 29. Layout of working facilities.

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 is the center of the working facilities. A commercial unit of medium to heavy-duty construction should be used. Lightly constructed units may not hold up well under the wear and tear of working cattle. Very few home-made squeeze chutes and headgates will do the job they are supposed to do. Major points to consider in these units are headgate style, squeeze system, latching system and location of levers and handles. Several headgate types are shown in Figure 30.

Headgate types are self-catching, stanchion and positive. The self-catching headgate opens to the

inside and closes as the animal's shoulders contact the headgate bars. These headgates are fast and present little problem with choking cattle. Restraint of the head is not good, and some shoulder bruising is possible if animals hit the headgate at a run. Bruising is possible with all headgate styles if cattle are allowed to hit the headgate at a run. Stanchion headgates use two bars that slide in from the sides or mount at the bottom and scissor in on the animal's neck. These headgates will handle horned cattle better than the self-catching headgate and present little problem with choking. Restraint of the head is not good and more strength is required from the operator to lock down on an animal's neck. The positive headgate provides excellent head restraint and is the best style to use with horned cattle. The positive requires operator strength to lock down and presents more choking problems than the other headgates. Most headgates can be ordered with attachments such as head tables or nose bars that will provide considerable head restraint if needed.



FIGURE 30.
Headgate types.

Positive headgate (also called present or guillotine headgate) – top left; self-catching headgate – top right; scissors stanchion – bottom.

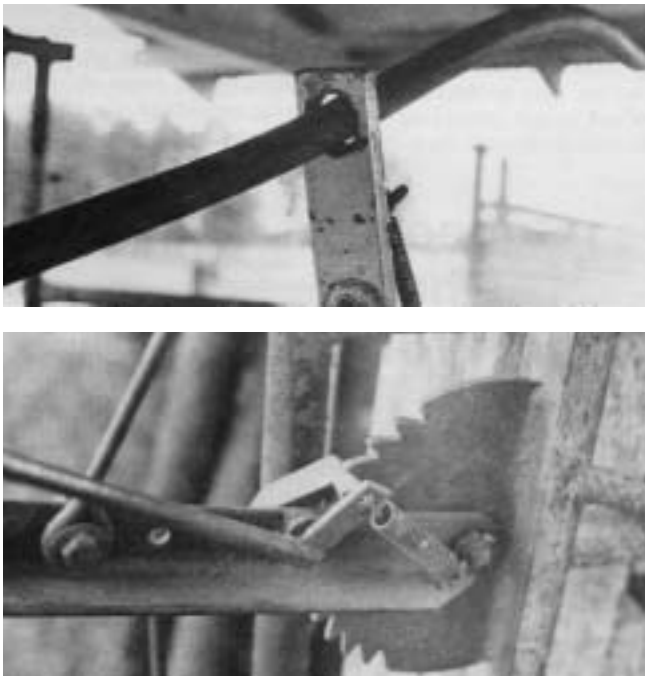


FIGURE 31. Latching systems. Steel plate and rod (note worn plate and bent rod) – top; ratchet type – bottom.

A side release or exit on the squeeze chute is an excellent option. The side exit can be used to get downed animals out of the chute and can be used as a sorting gate.

The squeeze chute should ideally squeeze from both sides and help support some of the animal's body weight. Many good chutes squeeze from one side and still are designed to support some of the animal's body weight. Latches on squeeze chutes and headgates are either the ratchet type or a combination steel bar and plate. The ratchet system provides a more positive and secure lockup. The bar and plate system works well but may fail if plate holes wear and bars become bent (Figure 31).

Working levers on a unit should be checked. Some of the safer models have levers located above head level. Also check the different operating positions of levers for safety problems. Some units with levers at or just below head level may strike and injure the operator.

When purchasing a squeeze chute, strongly consider a unit with a palpation cage. The palpation cage can be used for many management practices other than pregnancy testing the cow herd (Figure 32). Table 23 on page 56 contains information on size and space requirements for cattle working facilities.

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



FIGURE 32. Palpation cage.

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. Pour concrete in the working chute and in the working area around and under the squeeze chute and headgate area. This is a high traffic area, concrete provides better footing and prevents mud holes. The next most important area to concrete 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 into the facilities. This provides power for lights and other equipment that may be needed while working cattle.
5. A catwalk built along side 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

TABLE 23. Size and Space Requirements for Cattle Working Facilities			
	Calves to 600 lbs	Calves 600-1,200 lbs	Cow-Calf and Cattle Over 1,200 lbs
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 ¹	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 ¹	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"		
¹ 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.			

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.

Feeding Equipment

Feeding equipment for cow-calf and stocker operators will be fairly simple. For feeding hay, many producers have gone to round bales or stacks. These 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 home-made. 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. Heifers and bulls being grown out need some supplemental feed for growth, 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.