

Designing or Reworking Your Cattle-handling Facilities: A Checklist for Success

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Cattle-handling facilities should be designed to match the management goals of the operation. The safety of workers and cattle should be the highest priority when designing or reworking a handling facility. A well-designed facility will make working cattle faster, safer, less labor intensive, and less frustrating. UK Cooperative Extension publications *Cattle Handling Facilities: Planning, Components, and Layouts* (AEN-82), *The Kentucky Beef Book* (ID-108), and *Beef Cattle Corrals and Handling Facilities* (ID-13) can guide you with the design and construction of facilities. These publications focus on components and specific layouts. Reach out to your county office to get copies of these publications and for assistance with planning. You can also download them from <http://www2.ca.uky.edu/agcomm/pubs.asp>.

This publication assists with initial planning and site considerations for a new or reworked cattle-handling facility. It provides a checklist of considerations at the end of the publication that you can print out and use as a planning document. Thinking through these questions prior to designing or reworking a handling facility should improve both the facility's location and design. Many producers have discussions with their county agent, vendors selling cattle equipment, and other producers in order to develop a new or reworked design; having considered the questions on this checklist first will improve these important early discussions.

Accessibility

One of the first things to be cognizant of is the number of acres under pasture and if they are continuous (all pastures are adjoining and touch other pastures). If the farm is extremely large or if there is no route to move the animals to the handling facility, a portable handling facility could be warranted. The handling facility

should be accessible from all pastures through some pathways, and it would be ideal for the handling site to be accessible from multiple pastures directly. However, this may not be practical on all farms. Ideally, the access point for cattle to enter the handling facility should be flat or slightly uphill. Any steep hills will make pushing cattle into the handling facility more difficult. Planning for vehicle access is also critical. Situating the facility near an existing drive and providing all-weather access for trucks and trailers would be advantageous. The size of the vehicle access way will depend upon the number of cattle being loaded out.

Site Considerations

Another consideration is whether the preferred site is under roof, as many producers will place their facility near an existing barn or within an underutilized barn. This provides more protection during inclement weather such as rain, heat, wind, ice, and snow, all of which are common weather occurrences in Kentucky. The challenge with having a facility under roof is that it tends to create shadows, which impede cattle movement. For this reason, you should determine the availability of electricity in order to provide lighting. Keep in mind electricity can be run if it is not available, but it would add an additional cost. Generators could be used to power lights; however, they are noisy and do require maintenance.

The site also needs to drain well. A site in which the ground tends to stay wet can make cattle movement slower and more difficult. It can also make it challenging for the farmer to push the cattle; potentially creating safety concerns if the farmer is not able to move efficiently.

Handling facilities should be designed to match the number of cattle worked at one time. Most producers typically work cows and feeder calves separately. Accurately forecasting the number of animals

in each group will help you correctly size the facility, specifically, the holding and sorting pens. For example, a farmer might have 200 head of cows managed in four groups of 50. This farmer would work 50 cow-calf pairs at a time, but might have 100+ weaned calves coming into the facility just after weaning or in a feeder group. Planning for potential herd expansions minimizes any future challenges of working larger groups of cattle. It is only necessary to plan for future expansion; while construction does not need to be completed space must be allocated.

Materials

The temperament of the cattle will dictate how the handling facility will be built, including the height of walls and robustness (heaviness) of gates. More excitable cattle require more robust facilities. The checklist uses a 1-6 scale, with 1 being "docile" and 6 being "very aggressive." For backgrounding operations that purchase cattle through a stockyard, the producer should assume the worst-case temperament based upon typical cattle received. If a typical load of cattle delivered includes a few cattle having a temperament score of "6", the producer will need robust facilities with taller walls and heavier gates.

Labor

Finding qualified and skilled individuals to work cattle can sometimes be difficult. Labor-saving devices such as backstops, slam latches, self-head catches, and adjustable/slanted sided allies can offset some the challenges due to being shorthanded. Regardless of the design, it is recommended that at least two people work cattle as there are inherent risks.

Facility Use

Certain activities will be more common depending upon the management goals of the operation. Projecting how

the facility will be used is critical because, with each activity performed in the handling facility, certain components are necessary. For instance, a seedstock operation would place higher focus upon AI and pregnancy checking due to the high value genetic potential of the calves, whereas a commercial backgrounding operation would place more value upon sorting capacity and ease of remedial treatment. Handling facilities are built of numerous components; the common components of a handling facility are described in AEN-82. Certain components are more useful to specific or typical handling activities. Most operations will need a 20 ft long single-lane alley to load and queue cattle prior to capture in the headcatch, a method to crowd the cattle into single lane (funnel, tub, or bud box), and properly sized holding/sorting pens. Table 1 shows common handling activities and components that make these activities safer and easier to complete. From a component standpoint, a seedstock

operation may place higher emphasis on a palpation cage than a commercial backgrounding operation. Considering these components based upon the activities conducted upon your farm will clarify your priorities and needs. The list can then be reorganized based upon the expected importance of each activity. For instance, if most or all of the calves on a cow-calf operation have to be dehorned but that is the only activity that requires head restraint, head restraint might still be a higher priority than having water available.

Design Considerations

Before moving ahead with a design, the size of the facility needs to be considered. To determine the overall footprint or area required, the producer or facility planner must take into account the number and size of the cattle being worked and, based on those figures, determine the square footage necessary in these holding/sorting pens. As long as

the targeted site for the handling facility has enough space to accommodate all of the required components (headcatch, single-lane alley, crowding area, push alley, and holding/sorting pens), the site is a viable option for building a handling facility. The producer can feel confident with proceeding to develop a full design for the intended handling facility.

Evaluating a Design

Several additional considerations listed in the checklist at the end of this publication are necessary for evaluating a completed design. If the facility is being reworked based upon an existing design, these questions are particularly useful in determining if additional redesign might be necessary. Again, obtaining additional feedback on the design from extension specialists, agriculture and natural resource agents, vendors, and other producers prior to purchasing components and beginning a build can be valuable.

Table 1. Useful Components for Typical Handling Activity.

| | Headcatch | Squeeze | Injection Door | Accessible Slide Panels | Head Restraint | Palpation Cage | Electricity | Water | Scale |
|-------------------------|-----------|---------|----------------|-------------------------|----------------|----------------|-------------|-------|-------|
| Deworming | x | x | | | | | | | x |
| Vaccinating | x | x | x | | | | | | |
| Antibiotics | x | x | x | | | | | | x |
| Foot Treatment | x | x | | x | | | x | x | |
| Pink Eye Patch | x | x | x | | x | | | | |
| Dystocia | x | x | | | | x | | x | |
| Lactation Challenges | x | x | | x | | | | | |
| AI/Pregnancy Check | x | x | x | | | x | | x | |
| Tagging | x | x | | | x | | | | |
| Implanting | x | x | | | x | | | | |
| Castrating | x | x | | | | x | | | |
| Dehorning | x | x | | | x | | x | | |
| Weighing | | | | | | | | | x |
| Embryo Transfer | x | x | x | | | x | | | |
| Breeding Soundness Exam | x | x | x | | | x | x | | |
| Loading/Unloading | | | | | | | | x | |
| Sorting | | | | | | | | | x |

Cattle-handling Facility Planning Checklist

_____ **How many acres are in pasture?**
 Yes / No

_____ **Are the pasture acres contiguous?**
 Yes / No If not, do you plan for part or all of the handling system to be portable?

Central / Adjacent / In Proximity / No **Is the preferred handling site central to, adjacent to, or in proximity of the pastures?**

Yes / No **Do cattle have fairly flat access to the handling facility?**

Yes / No **Is the preferred handling site accessible by vehicle and trailer?**

Yes / Partially / No / Maybe in the Future **Is the preferred site under roof?**

Yes / No If "yes," "partially," or "maybe," is there electricity available nearby?

Yes / No **Is the site going to drain well?**

_____ **How many animals do you expect to work at one time?**

- _____ • Cows
- _____ • Feeders (600-900 lb)
- _____ • Cows Calf Pairs
- _____ • Calves (<600 lb)

_____ **If you plan to expand in the next 5-10 years, what are the projected group sizes?**

- _____ • Cows
- _____ • Feeders (600-900 lb)
- _____ • Cows Calf Pairs
- _____ • Calves (<600 lb)

_____ **From 1 to 6, how would you describe the temperament of your cattle (1 = very docile and 6 = very aggressive)?**

_____ **How many people are available to help when working cattle?**

_____ **Labor-saving opportunities to consider:**

- Slam latches
- Additional backstops
- Self-headcatch
- Adjustable/slanted side alley

_____ **What handling and management activities do you expect to be performing in your facility? Select all that apply.**

| | |
|---|--|
| <p>Preventative cattle health</p> <p><input type="checkbox"/> Deworming</p> <p><input type="checkbox"/> Vaccinating</p> <p>Remedial treatment</p> <p><input type="checkbox"/> Antibiotics</p> <p><input type="checkbox"/> Foot treatment</p> <p><input type="checkbox"/> Pink eye patch</p> <p><input type="checkbox"/> Dystocia</p> <p><input type="checkbox"/> Lactation challenges</p> | <p>Production</p> <p><input type="checkbox"/> AI/pregnancy check</p> <p><input type="checkbox"/> Tagging</p> <p><input type="checkbox"/> Implanting</p> <p><input type="checkbox"/> Castration</p> <p><input type="checkbox"/> Dehorning</p> <p>Marketing</p> <p><input type="checkbox"/> Weighing</p> <p><input type="checkbox"/> Embryo transfer</p> <p><input type="checkbox"/> Breeding soundness exam</p> <p><input type="checkbox"/> Loading/unloading</p> <p><input type="checkbox"/> Sorting</p> |
|---|--|

In descending order of use, list "useful components" from Table 1.

- 1 _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____
- 6 _____
- 7 _____
- 8 _____
- 9 _____

Adjust list based upon importance of certain activities (i.e., if you dehorn all your cattle, but that is the only activity you have selected with head restraint, head restraint may still rise on your list).

- 1 _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____
- 6 _____
- 7 _____
- 8 _____
- 9 _____

| Calculate required holding area(s) | Total area (number of animals*sq ft requirement) |
|------------------------------------|--|
| • Cows | _____ (20 sq ft per animal) |
| • Feeders (600-1000 lb) | _____ (17 sq ft per animal) |
| • Cows Calf Pairs | _____ (20 sq ft per cow + 14 sq ft per calf) |
| • Calves (<600 lb) | _____ (14 sq ft per animal) |

Yes / No

Does the preferred handling site have enough space for the holding area, push alley, crowding area, single-lane alley, and headcatch?

If "yes," begin your design. Keep in mind your dimensions will expand slightly when post and board/guardrail dimensions are added.

Checklist after You Finish a Design

Evaluate your design. If you answer "no" to any of the following, consider redesigning.

- Yes / No Do you have a single-lane alley leading to your chute that is 20 ft long?
- Yes / No Do you have enough holding space for all the animals that will be worked at one time?
- Yes / No Can you recapture an animal if it needs further treatment or you don't successfully catch it?
- Yes / No Do the gates swing without impairing cattle flow?
- Yes / No Do you have enough holding/sorting pens to separate animals as desired?
- Yes / No Is your access or push alley 12 ft wide or narrower?
- Yes / No Do you have a way to load out your cattle?
- Yes / No Does the design avoid sharp turns and edges?