

Handling Facilities

Tom Ryan, Teagasc, Kildalton

Good handling facilities are essential. Routine handling is necessary for dosing, vaccination, condition scoring, herd testing, etc.

An efficient, carefully planned handling unit will:

- Reduce labour requirements
- Improve working conditions
- Reduce the risk of injury to both stock and the farmer

Siting:

The handling unit should be sited in a convenient location in relation to farm buildings, roads and fields. Effluent or slurry from the handling unit must be collected, stored and properly disposed of. Handling facilities in or adjacent to buildings make control of effluent and slurry much easier by making cleaning easier and minimising the rainwater falling on soiled areas.

A satisfactory layout should include:

- **collecting pen**
- **forcing pen**
- **race or chute**
- **crush**
- **holding/dispersal pen**

Figure 1 shows a typical crush layout with all the elements of a satisfactory system. The layout shown is self-contained but can easily be modified to be used in conjunction with a slatted unit or milking parlour.

Collecting Pen

Where the handling facilities are located independent of buildings the collecting pen should ideally be able to hold a number of cattle that fits in with group sizes within the herd. Where handling facilities are located in or adjacent to e.g. a slatted unit the pens in the slatted unit should be used for collecting and holding animals.

The floor area required per animal will vary depending on size. As a general guide allow;

Young Cattle:	0.9 to 1.1 m ²
Finishing Cattle:	1.4 to 1.7 m ²
Suckler Cows with Calves:	2.3 to 2.75 m ²

It is easier to control and move cattle in a long narrow pen rather than wide square ones. Pen widths of 4.5 to 6 m (15 to 20 ft.) are recommended (depending on herd size). The entrance to it should be at least 3 m (10 ft.) wide to allow easy access.

Forcing Pen:

The forcing pen leads from the collecting pen to the race. The forcing pen should be funnel shaped as it approaches the mouth of a race. Figure 2 shows good and bad funnel arrangements. One side of the funnel must be straight. The angle of the funnel is critical and should not exceed 30°. If the angles are wider, cattle may block or turn at the mouth of the race or two cattle may become jammed at the race entrance. The widest point of the pen should approximately be 3 to 4 m. The forcing pen should hold enough cattle to fill the race.

Race:

- Length: The race or chute should be 3.6m minimum and preferably over 5m (16ft). A race of 9m (30 ft) will hold 5 to 6 cattle. Long races (e.g. handling over 12 cattle) are not recommended.
- Width: the internal width of the race will depend on the size and type of the largest cattle using it. As a general guideline, allow: adult stock 650-700mm clear internal width. Exceptionally large stock (e.g. pedigree) may require facilities up to 900 mm wide. Young stock require an internal race width of approximately 500 mm. Very wide races may have to be altered temporarily for young stock e.g. fitting panels/planks to the side.
- Height: 1.4-1.5m above floor level. All surfaces must be smooth. Avoid protruding objects. Uprights should be spaced about 2m apart. Side bars are normally spaced 350-400mm apart.
- Floor: Non slip concrete surface.
- Tailbar: It should be possible to use a tailbar at various points along the race to prevent stock reversing out.

Cat Walk:

A catwalk running outside the race:

- Reduces risk of injury to the operator
- Improves access and reach when handling stock
- Prevents cattle's feet slipping out under the bottom rail

Catwalks should normally be 300-450mm high and approximately 375-450mm wide. The width of the working area along by the catwalk should be wide enough for a safe and efficient working area. The width should not be less than 1.2m (4ft.).

Crush with foot hoisting facilities:

The crush may be part of the race or a separate facility at the end of the race. A well designed crush should incorporate the following features:

- Quick release restraining gate
- Have a tailbar/gate to prevent and control backward movement
- All round access to the animal, including at the rear. A secure gate to hold back animals in the race is essential when accessing the rear of an animal. The animal in the crush must also be prevented from backward movement.
- Removable side bars/gate for access to feet, udder, etc.
- Have equipment for hoisting and restraining limbs

- Facilitate weighing if necessary. The weighing facility can be in a separate section of the race behind the crush
- Preferably be under cover
- Free from sharp edges
- Non slip floor surface
- Facilitate access of a vehicle for loading an animal(s)

Purpose-built crushes are commercially available. A typical specification is:

Length: 1830mm (6ft)
 Width: 790mm (2'7")
 Height: 1625mm (5' 4")

Dispersal Pen:

This pen holds cattle until all cattle are treated or handled. It can facilitate the sorting of stock afterwards. Handling facilities in or near housing can use the pens in the housing for holding and dispersal.

Safety

Safety passes or personnel passes are narrow vertical openings in gates or fences. They typically provide 300 to 350mm (12 to 14 inches) of clear space for people to pass through. Locate passes wherever it is expected that people would otherwise have to climb over a fence or open a gate on a regular basis.

Have a least one safety pass in each pen and one every 7.5-8m (25-30 ft.) in animal movement and handling passageways to allow someone to exit quickly. Avoid locating passes where animal flow is directly in line with or at the pass. Excited animals may try to use the safety pass as an escape route and become trapped. Safety passes also allow someone to get in front of or behind a group of animals safely and with relative ease.

Animal behaviour

It is better to rely on animal behavioural principles instead of sheer force to restrain and control animals during handling. Fine tuning the design of animal handling facilities will enhance animal welfare and reduce stress and injuries.

Herd Instinct: Cattle prefer to remain in groups. Isolation of individual cattle from the group (unless sick) causes stress and agitation and should be avoided. Keep back a companion animal if necessary.

Vision: Cattle are poor judges of detail and distance. They dislike dark or shadowy areas. Provide good natural and artificial lighting in and around handling facilities, particularly where the crush is. Facilities are under a roof overhang will have plenty of natural light. Use extra rooflights for facilities within buildings. Use extra double fluorescent lamps for artificial lighting.

Dislikes:

- Cattle are wary of any changes in their path e.g. abrupt changes in floor material, outside visual distractions, etc.
- Cattle are less surefooted on downward slopes and prefer to move uphill. Excessive noise e.g. shouting, machinery and dogs can alarm them and cause unpredictable behaviour.