sheep

Designing a sheep handling unit?

Edward Egan, who wrote the Teagasc book "A Guide to Designing a Sheep Handling Unit", outlines 12 key areas to be considered when building a sheep handling unit

Semi-circular forcing pen with three backing gates.

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Behaviour

Bear in mind five basic behaviours to make handling sheep easier:

Vision – Locate see-through penning so sheep can see each other or escape routes that draw them forward. Use non-see-through penning to avoid distractions.

Flocking – Sheep want to be together.

Following – Sheep are followers, so avoid stalling points.

Flight – Using the flight behaviour requires a clear escape route. That's why entrance and exit gates of the race should be see-through.

Learning – Handlers often find difficulties moving sheep through a new unit during the early attempts. Sheep will learn a route through a handling unit after three to five goes.

Location

The location must:

- Be convenient for the handler.
- Be easy to walk sheep to.
- Have vehicle access.
- Prevent pollution.
- Have water and electricity.

The two locations most often considered are:

- The farmyard beside the sheep shed. This makes vaccination, footbathing and condition scoring easier and allows sheds, yards etc to act as collecting pens.
- Central to the main grazing area. This minimises the walking distance for sheep.

Collecting pen

Allow at least enough capacity for regularly collected groups – 0.5m²/lowland ewes without lambs and 0.65m²/lowland ewe with lambs. Adjoining paddocks, sheds or roadways can act as holding pens for larger groups.

Collecting pen shape and width

Long, narrow, rectangular-shaped pens make it easier for one person to drive sheep forward. The ideal width is 3-4.6m. Any wider and sheep will retreat past the handler.

Collecting pen gates

Entrance and exit gates should be the same width as the collecting pen, so sheep don't have corners to run into. Pens should be interconnected with gates. This allows different batches of sheep to be recirculated within the unit.

Forcing pen

Its job is to let a steady flow of sheep into the race. Ideally, the forcing pen will be in line with the collecting pen. Avoid 90-degree turns from the collecting pens into the forcing pen. It should hold about 20% of the collected flock, 0.35m²/lowland ewes without lambs.

Forcing pen shape

Three options most often considered:

- **Funnel-shaped** – Cheap and easy to build. Entry angle to the race should be 30 degrees.
- **Circular forcing pen** – More expensive. Two backing gates keep sheep pushed up. A 3.6m diameter pen holds 30 ewes.
- **Semi-circular forcing pen** – Cheaper to build and easier to drive sheep into. Use three backing gates.

Drafting race

The drafting race is central to many jobs. It can be set-up to sort two, three or four ways. Most one person units prefer simple two-way sorting. Sheep can go through again for further sorting.

Drafting race location

Ideally, locate the race toward the centre of the unit. This allows drafting both left and right. Never locate it against a wall. This limits drafting to one side or to the end of the race.

Drafting race size

Should be 0.35m²/lowland ewe with-

out lambs. A 6.1m x 0.5m race holds eight unshorn ewes. Sides should be 850mm high when handling from outside the race. Having it over 850mm makes it harder to reach sheep when their heads are down. The race should be at least 6.1m long. A longer race reduces the refilling time and allows more time to assess sheep coming towards you.

Race floor
The floor of the race should be concrete. The concrete should extend at least 600mm beyond the sides of the race. This gives the handler a firm and level walkway.

Sorting gate
Locate the sorting gate at least 5m from the race entrance. Gates along the race side should be 1.2m long for easy exit and should be non-see through to reduce stalling. Sorting gates at the end of a race should be see-through to draw sheep forward.

Drafting gate handle
Handles should be at least 120mm long for a full hand grip. Handles should be 150mm back from the front of the gate and at elbow height. A plastic cover avoids handling metal during cold weather and reduces vibrations.

Footbath
A well designed footbath is key to lameness control. It must be easy to use. A permanent footbath encourages regular use. A tap close by makes filling and cleaning easier. Allow tractor and tanker access for empting and filling.

Footbath size
Bath size should be based on intervals of 250l, as most treatment products come in 25kg bags. It should hold at least the same number of sheep as the race/housing pens. Allow 0.4m²/lowland ewe.

Footbath depth
Many baths are not deep enough. The minimum solution starting depth is 5cm. Some start with a depth of 7.5cm.

Footbath location
Footbaths located in the race become soiled and size is restricted. A standalone footbath is preferred by most. They can be made bigger, allowing longer stand-in times.

Footbath shape
The ideal shape is a long and rectangular bath 1.5-3m wide. Locate it to prevent pollution. It must never flood and it must never be in the way. The after treatment standing area should hold at least four times the number of sheep as the footbath. A concrete floor is ideal.

Dip tub
Always locate and build it to prevent pollution. Dig a trial pit to check ground water. Tubs must not have a drain hole. Use manufactured one-piece units. Two options to get sheep into the tub are:
- **Side entry from race with a slide:** Popular with frequent dippers and larger flocks as less labour intensive.
- **Lifting sheep into the tub**: Popular with flocks of less than 100 ewes, or if dipping is infrequent. It's labour intensive.

Dip tub size
- 1,050-1,250l suits flocks of 100-250 ewes.
- 1,818-2,000l suits flocks of 250-500 ewes.

Dip tub cover
Unsupervised dip tubs must be covered with a locked childproof cover. Galvanised steel covers are ideal.

They last longer and are less slippy compared to timber.

Draining pen and filter
The draining pen's job is to collect and drain all dip back to the tub. Allow 0.5m²/lowland ewe in it. It should have a concrete floor sloped 1:30. A pulley-operated gate keeps handlers away from wet sheep. Draining pens should have a collection channel to divert dip back to the tub via a filter.

Handler gates
Handler gates are important for handler safety. Locate them along the pathway the handler takes through the unit. They avoid climbing and lifting over penning. Handler gates should be 500-550mm wide.

Dosing line
Dosing packs should be hung from a dosing line 1.85m above floor level. This makes dosing quicker and easier, as the handler is freed from carrying the pack and gun.

Pulleys
The use of pulleys and counterweights reduces the amount of walking and lifting the handler has to do when opening gates. Enclose counterweights so they do not come into contact with the handler or sheep.