

DAIRY ENTRY

Carefully designed, well-built and maintained holding yards and dairy entrances can produce many benefits. These include:

- improved cow flow;
- less frustration for the milker by not having to leave the pit as often;
- better milk let-down;
- reduced injuries to cows;
- less manure in yards and entrance; and
- less time required for cleaning.

There are a number of key factors that affect the ease and efficiency with which a cow will walk into the dairy. This chapter contains ideas to consider on the following areas:

- **Holding yards** p67
Holding yard design – yard size, yard shape, yard width, yard surface, slope of yard, yard drainage system, holding yard fencing, shade and cooling, related facilities, yard space reduction options, sweep gates, backing gates, electrified backing gates.
- **Dairy entrance** p79
Dairy entrance design – footing in the entrance, dairy entrance lighting, entrance width, restrictions and distractions, entry race, stray voltage.
- **CowTime Cost Cutters** p83

Information in this chapter will help create a system that encourages good cow-flow.

Key principles to keep in mind ...

It is important to keep key principles of cow behaviour in mind when considering how to improve this part of the milk harvesting process.

Calm, consistent routine

Cows are creatures of habit. A calm and consistent routine as the cows enter the dairy will result in:

- good let-down and shorter milking duration; and
- less-frequent dunging and urination.



Quick Note 1.3 – Calm, consistent milking routines.

Positive interactions

The interaction between the milker and the cows is critical to good cow-flow. A high number of negative interactions at this stage will make cows hesitant to walk into the dairy.

- Avoid slaps and hits and loud noises such as yelling or whistling.
- A high number of positive interactions, such as patting, talking and slow, deliberate movement, will encourage smooth cow-flow.

One study found cows milked with 'pleasant handling' took just over half the time to enter the dairy than those milked with 'aversive handling'.



Pleasant handling will help create a good people-cow relationship and cows will be less fearful of entering the dairy with a milker present.



Quick Note 1.2 – Cow handling.

Learned associations

Cows learn to associate unpleasant experiences with the places where they experienced them in the past. Unpleasant activities will teach cows to be fearful when they approach and cow-flow will be compromised.

- Poor milker behaviour, poor machine performance or nuisances such as flies or stray voltage are all conditions in the dairy that may make cows hesitant to enter.
- If possible, carry out activities such as injections or pregnancy testing away from the dairy, to reduce apprehension about entering next time.

When performing potentially upsetting procedures, some stockhandlers wear different coloured clothing than the colour of the clothing worn when milking, to minimise the impact of learned associations.



Fear of conditions in the dairy will slow cows at the entrance.

Training heifers to enter the dairy

There are almost as many ways to train heifers to enter the dairy for the first time as there are farmers. Methods vary because of differences in entry design and circumstance, but there are several overriding principles that can be used to ensure that training heifers is a safe and less-stressful time for all concerned.

Heifers need:

- to be well grown out to compete successfully with herd mates;
- time to become familiar with the new environment;
- positive experiences associated with the new environment;
- a consistent sequence of events leading up to entering the dairy for milking; and
- a comfortable milking environment.

First steps

To ensure the successful introduction of heifers into the herd, consider the following suggestions.

- Let heifers get to know the dairy environment and routine prior to their first milking with the main herd.
- Training gates can be used to introduce the heifers together (but separate to the main herd).
- Heifers need about 3-7 introductions before they begin to feel comfortable with a new environment – it takes about 2 weeks to establish a quiet, reliable response to milking.

Letting the heifers wander into the dairy for a feed at their own pace prior to calving has been used successfully on some farms and has been shown in research to improve subsequent behaviour at milking (Bremner 1997).



Minimising milker interactions that could induce fear is very important during this introductory training period. It is also important to rapidly treat painful udder conditions, such as udder oedema ('flag'), so that any pain associated with milking is minimised.

Entering the main herd

Once with the main herd, it is important to minimise bullying by more dominant cows in the yard, at the dairy entrance and inside.

- Heifers will generally be at the bottom of the pecking order and are physically smaller than older cows.
- Minimise bullying by reducing crowding and engineer out competitive situations – for example by using entry races and individual feed bins.
- If bullying is minimised, feeding is a powerful incentive to enter the dairy environment and can help heifers associate positively with the new experience.

Even once they have joined the main herd, most heifers will need some encouragement to enter the dairy.

- Interactions with the milkers at this time can have a major impact on the heifers' subsequent behaviour at milking for many months – heifers have good long-term memories.



These initial experiences can mean the difference between a stressed cow that is dangerous to handle and milks poorly, and a calm cow that takes a bit longer initially but will be a well-integrated member of the herd.

Encouraging cows to enter

Apart from positive stock handling and cow-friendly practices, there are a number of other ways to encourage cows to enter the dairy willingly without relying on milkers leaving the pit.

Feeding in the bail

Many farmers have found that grain feeding in the dairy speeds up cow entry.

- Feeding in the bail can present problems such as bullying and an unwillingness to leave the platform after milking is finished.
- Problems associated with feeding in the bail can be overcome by using an entry race, stall gates or individual feeding stalls on the milking platform.
- Do not reward badly behaved individuals by feeding them more to settle them down.



Feeding in the bail should not be the sole means of encouraging cows into the dairy as there may be times when grain is not offered in the bail – try to make milking a pleasant experience in itself.

Backing gates

Backing gates can assist with cow-flow into the dairy. They need to be well designed and used correctly.

- Backing gates work by reducing yard size as the number of cows reduces – this keeps cows close to the dairy entrance.
- Backing gates **are not** designed to physically push cows into the dairy. Cows should be able to move quickly and freely into the dairy of their own accord.
- Audible alerts (such as a bell) can be used to warn cows the backing gate is advancing.
- Position audible alerts behind the cows at the rear of the yard – it should be audible but not loud.
- Sirens or air horns are too loud and will frighten the cows.



Backing gates are not essential for good cow-flow. Many farmers have achieved good cow-flow into the dairy using less-expensive options, like sweep gates or tape.



Backing gates, p76.

Holding yards

The order cows enter the yard has a large effect on how they flow into the dairy. The cows sort themselves into pecking order groups as they leave the paddock. Disturbing this order means the cows need to sort themselves out again, causing unnecessary milling in the yard.

Holding yard design

Cows spend a large proportion of their milk harvesting time standing in the holding yard. Good design will help ensure cows remain calm and willingly enter the dairy.

- Narrow laneway gates or a laneway-yard entry too close to the dairy will cause cows to mix.
- The best entries to yards are through the back or back corner of the yard.

Yard size

There are two aspects to consider when sizing a holding yard – the average size of cows in the herd and herd size.

- Small cows require 1.2 m² per cow and large cows will require 1.5 m² per cow.
- Multiply average cow size by the maximum number of cows that need yarding at one time. This may be the entire herd or a sub-group, depending on management techniques.
- When running multiple groups, allow about 30% more space than is required by the largest group. This allows flexibility to bring in subsequent groups without blocking exit laneways.
- Having cows jammed in a yard does not mean they will move through the dairy quicker – it makes them stressed.



Cows raise their heads above the pack if they are too crowded. This is not a normal, comfortable position for a cow. Crowded cows are stressed cows – this can influence milk let-down and yield.



Leave narrow vertical gaps in the fencing to allow easy access and escape for people.

Yard shape

Both circular and rectangular yards have advantages and drawbacks. Consider the points below.

Table 4.1: Features of rectangular and circular yards.

Rectangular yards	Circular yards
<ul style="list-style-type: none"> ⌘ Easier to build ⌘ Can be extended easily ⌘ Promotes good cow-flow if cows enter from the rear ⌘ Can support flood wash systems ⌘ Separating cows is facilitated by careful placement of swing gates ⌘ Can slope evenly up towards dairy entrance 	<ul style="list-style-type: none"> ⌘ More complex to build ⌘ Difficult to enlarge ⌘ Promotes good cow-flow ⌘ Easy to clean with central hose ⌘ Can support automatic backing gate cleaning flushing system ⌘ Good for separating groups and cutting out cows ⌘ If yard is a full circle, can put a second herd onto same yard without having to move backing gate

Source: National Milk Harvesting Centre.



There is no 'best' yard shape – with either yard design, it is important that cows can enter the yard maintaining their social order.

Yard width

The holding yard should provide a clear entry into the milking area. The yard is often built to the full width of the dairy.

- The width of individual yard compartments should not exceed 8 m or problems with cow-flow may be experienced.
- If total yard width is more than 8 m many farmers divide it into sections with no single section wider than 8 m. The split need not be 50:50.
- Tapering-in to the platform entrance aids cow-flow (see Figure 4.1 and 4.2).



Tapering-in the yard towards the dairy entrance eliminates dead corners and cows are spaced for smooth entry to the dairy.

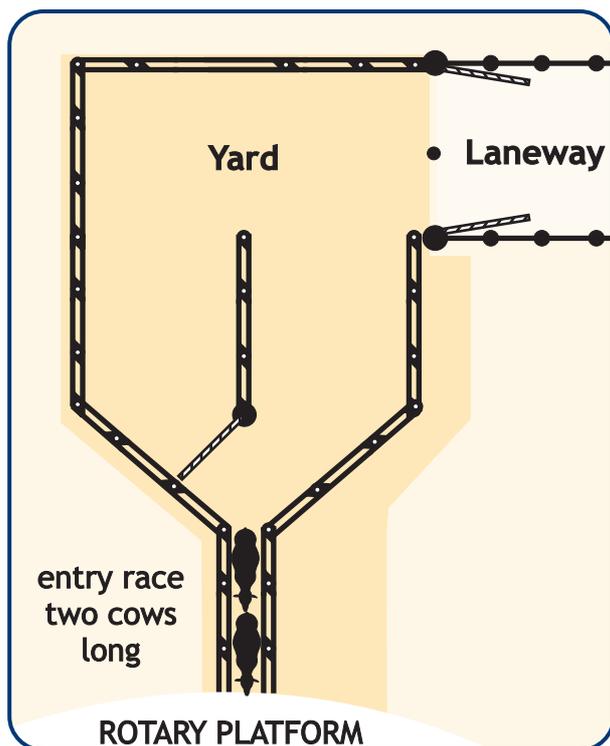


Figure 4.1: Example of a rotary holding yard with streamlined entry into the dairy.
Source: National Milk Harvesting Centre.



Yard entry, p60; yard gates, p61.

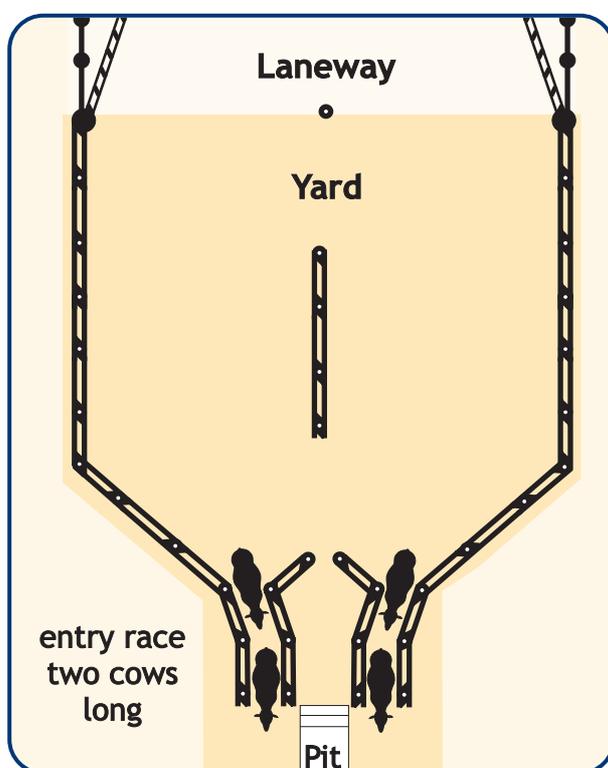


Figure 4.2: Example of a herringbone holding yard with streamlined entry into the dairy.
Source: National Milk Harvesting Centre.

Yard surface

The yard surface should provide confident footing for the cows in all conditions.

Keep in mind:

- Excessive abrasiveness causes hoof wear and is a recognised cause of lameness.
- Providing cushioning on areas where cows turn is effective in reducing hoof wear.
- Reclaimed rubber belting is not ideal for use in holding yards – the surface becomes slippery when wet.
- Grooving of the belting can help, but keep it clean and handle cows carefully.

Some farmers have used pieces of old carpet placed over turning areas as a short-term solution to footing problems. The carpet wears out quickly and creates difficulties when cleaning the yard, but is cheap to replace.

Texturing concrete

Texturing of concrete can be done by the addition of carborundum, stamping or cutting.

- Carborundum is applied to concrete and creates an extremely hard wearing surface – it is not recommended for use on yards as it increases the wear on cows' feet.
- Stamping, trowelling or rolling patterns into green concrete needs to be done at the correct time.
- Stamping or rolling patterns into wet concrete squeezes concrete out of the groove and can result in bumps in the surface between grooves.
- Use experienced concrete contractors to achieve the best result.
- Cutting grooves in cured concrete is more expensive than stamping but is more flexible in timing.
- Both existing and new yards can have grooves cut into their surface.

Research suggests a hexagonal pattern provides the best traction, but a diamond pattern is easier to construct while providing similar traction.

Diamond grooving

Correctly sized diamond grooving in holding yard concrete has been shown to reduce slips and falls by cows. Groove sizes and formation are suggested below:

- 12 mm wide and 12 mm deep on 75 mm to 100 mm centres.
- The long points of the diamond should point up and down the slope to help with washing.

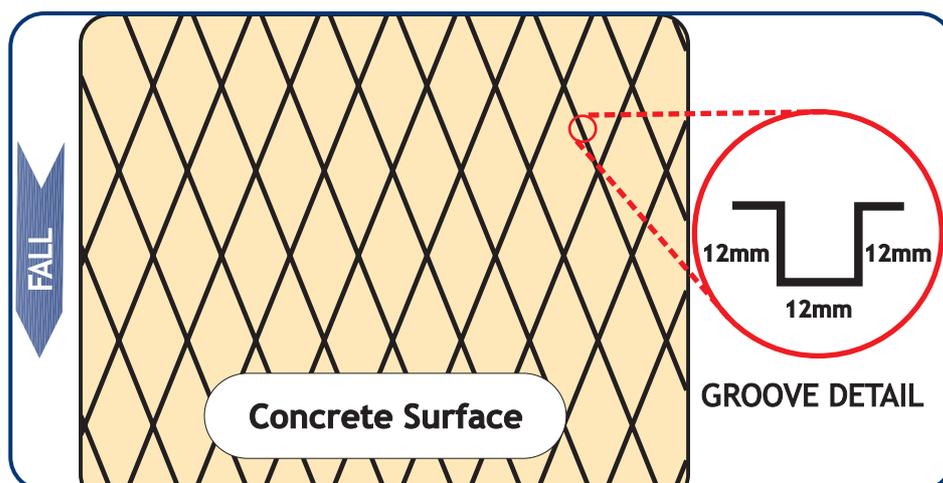


Figure 4.3: Diamond grooving for concrete surface of holding yard.

Source: National Milk Harvesting Centre.

Removing roughness

Initial roughness needs to be removed from a yard before cows use it.

- A heavy concrete block dragged across the yard several times, followed by thorough washing, should be sufficient.
- Walking on the yard in bare feet is a good way to determine if the yard is too rough for cows' feet.

Concrete strength

The suggested strength for concrete used in holding yards is between 25 MPa and 32 MPa.

- Some dairy builders find that 25 MPa concrete does not become slippery as it wears due to the action of the cows' feet.
- Concrete at 32 MPa may become slippery as the cows wear away the rough surface layer and create a smooth, polished finish.



Clean concrete after each milking and allow it to dry to reduce slippery build-ups.



Use non-slip finishing for concrete in cow and people traffic areas.

Slope of yard

The degree of slope in a holding yard can effect cow-flow and cow comfort in the yards. The slope of a yard also has an impact on cleaning and drainage.

- Upwards slopes of 3% to 4% (1 in 30 to 1 in 25) towards the dairy have been found to encourage the cows to face the dairy and are adequate for cleaning.
- Cows are often reluctant to go down slopes exceeding 5% (1 in 20).

- Slopes greater than 4% (1 in 25) lead to increased wear at the yard-platform junction – this means increased slips and falls as the concrete wears smooth.
- Excessive upwards slopes must not be used – this causes weight to be transferred from the cows' front to rear legs.



Steps are not recommended – they have been associated with an increase in the incidence of lameness.

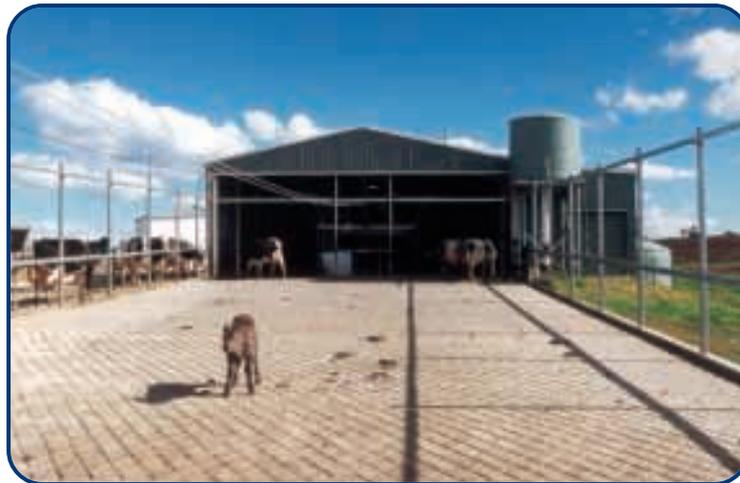


Figure 4.4: Single slope yard with grooving all running down slope.

Source: National Milk Harvesting Centre.



Chapter 6 – Yard cleaning, p122.



Worn or slippery steps are common causes of injury to both cows and people.

Single slope yard

A single, consistent slope up to the dairy will encourage cow-flow into the dairy.

- A drain positioned one third of the way from the dairy provides the same cleaning benefits as a twin slope or butterfly yard, in that most of the manure falls close to the drain (see Figure 4.5). However, crossing a grate may inhibit cow movement towards the dairy.

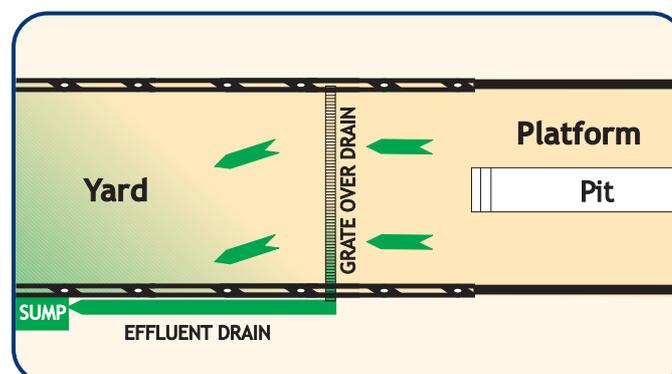


Figure 4.5: A single slope yard with drain to aid yard cleaning when a hose is used.

Source: A Complete Guide to Dairy Design, VDIA.



Make sure grates covering drains are secure at all times.

Two slope yard

Some yards have twin falls or slopes and are designed to aid cleaning and drainage.

- A butterfly yard has two converging slopes as an aid to cleaning when a hose is used. Most of the manure falls close to the drain and is quick to wash away (see Figure 4.6).
- A butterfly yard is not conducive to flood washing.

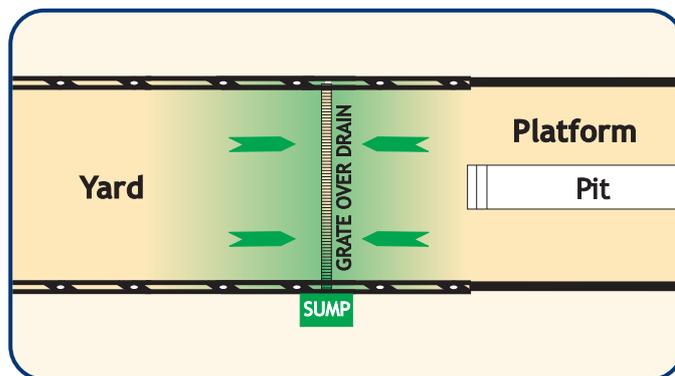


Figure 4.6: Butterfly yard with twin slopes feeding into a single drain.

Source: *A Complete Guide to Dairy Design*, VDIA.

Yard drainage system

The drainage of holding yards may be via pipes or gutter drains. Either way, the system must be sized for the volume and flow rates of water used in the cleaning of the yard.

Drainage pipes

Where pipes are used, sewer-quality PVC is recommended.

- PVC pipes have a smooth interior, are resistant to acid attack and easy to install.
- It is important to get the pipe slope correct. The minimum recommended slope is 1.5% (1 in 66) with a maximum of 3% (1 in 33).
- Slopes outside this 1.5% to 3% range may cause manure and other solid particles to lodge in the pipe. At low slopes, the flow velocity is insufficient to flush the material away. At high slopes, the liquid 'jumps' over the solid material.
- Individual drainage pipes should have a diameter of at least 150 mm.
- The recommended size for main drainage pipes is a diameter of 200 mm to 300 mm.

The size of holding yard drains will depend on the flow rates required and the viscosity (thickness) of the liquid to be drained away.

- When flood washing is used, sumps and drains at the bottom of the yard should be sized to cater for the highest flow rates used.
- Open drains outside of the yard should have a V-shaped bottom for better solids flow.



Yard slope and drainage, p123.



Sumps must be securely fenced or covered.

Holding yard fencing

Fencing for holding yards must provide a robust barrier, to ensure cows do not escape.

- Suitable materials include steel pipe, cables, wooden rails, conveyor belting, W-shaped road barriers or combinations of these.

Post & rail size

Table 4.2: Suggested sizes for steel posts and rails.

Post position	Suggested size – internal diameter (ID)
Corner post	76 mm ID galvanised, med. grade
Gate posts	76 mm ID galvanised, med. grade
Intermediate posts	51 mm ID galvanised, med. grade
Rails	25-32 mm ID galvanised, med. grade

Source: A Complete Guide to Dairy Design, VDIA.

Post & rail spacing

Post spacing should be between 1.8 m and 2.0 m.

- When rails are used, there should be a minimum of four – spaced 225 mm to 300 mm apart.
- A mid-rail with four cables is a suitable alternative to using rails only.

Yard fence height

Fence height will be dependent on cow size. Measure of number of cows to determine average cow size in the herd.

- 1.35 m can be used for small cows but large cows will require 1.55 m.

Other fencing options

Other fencing alternatives include:

- W-formed road barrier sections similar to that used in road barriers.
- Solid materials such as conveyor belting – conveyor belting will require support from either rails or cables.



Solid walls can reduce cow distractions and minimise manure splash outside the yard when a hydrant cleaning system is used. However, they can interfere with airflow and may not be suited to hot climates.

Shade and cooling

In some regions, it is necessary to provide relief from heat and sun to maintain cow comfort. Several cow cooling options have been trialed at Mutdapilly Research Station, Queensland and could be applied to dairy holding yards. All shade and sprinkler options tested (solid roof, shade cloth and sprinkler combinations) had net positive gains (see Figure 4.7).

- Sprinklers should be turned on before cows are brought in – this cools the concrete prior to milking.
- A large droplet size should be used if using sprinklers to wet cows. The idea is to wet the cow so that the evaporating water cools the cow directly.
- Small drops and mists evaporate in the air – this cools the air, but it increases the humidity, making it more difficult for the cows' sweating process. However, a fine mist curtain at the dairy entrance is a good fly deterrent.
- Water spraying may be continuous or intermittent.
- Alternating water and fans is far superior to continuous wetting for cooling – it also helps keep udders dry, to reduce the risk of mastitis.
- Water sprinklers should be positioned above the cows so that the water doesn't wet the cows' udders.



Figure 4.7: Shade cloth over yards to aid cooling.

Source: National Milk Harvesting Centre.



Ensure yard sprinklers do not spray electrical equipment.



Minimise fine mist from sprinklers in the work area.

Related facilities

Although not part of the entrance to the dairy, the positioning of other cow-handling facilities can impact on the flow of cows as they enter.

- Consider additional facilities during the yard design stage – this ensures the yarding system can cope with the full range of activities required.
- Use screening to prevent entering cows being distracted by drafted cows and other activities taking place.
- If correctly positioned, the race, crush and loading ramp can share space without diminishing yard performance.
- Remember to provide access for people to the facilities.



Chapter 9 – Design considerations.

Yard space reduction options

It may be necessary to reduce the amount of space available to cows in the holding yard to improve cow-flow into the dairy. Space reduction options include sweep gates and backing gates.

Sweep gates

Sweep gates can be closed as milking progresses – they are usually positioned half way up the holding yard.

- The milker must leave the pit to close the gates – this must be factored into the milking work routine.
- These gates cost less than backing gates and present fewer safety risks.



Design sweep gates so cows cannot get caught in them.

Backing gates

Backing gates are less important on farms with good dairy entrance design and cow-handling skills. Designs vary but the key attributes are similar (see Figures 4.8 and 4.9).

- Backing gates greater than 8 m wide require expensive structural engineering.
- The backing gate should only move at a speed of about 10-15 m per minute – speeds in this range allow the cows to move ahead of the gate without being ‘run over’ by it.
- Yard-washing equipment can be fitted to some backing gate designs. The yard is then washed as the backing gate is returned to its storage position.



Figure 4.8: Backing gate moving cows toward yard.

Source: National Milk Harvesting Centre.



Backing gates using the farm electric fence system to provide 'hot' tapes or rods are discouraged. These gates punish the least dominant cows at the back of the herd, while having little effect on the more dominant cows ahead of them.



Encouraging cows to enter, p66.

Safe use of backing gates

Keeping people and cows safe is paramount. A backing gate activation system must be easy to operate without the need for the milker to perch precariously to control it.

The safe use of backing gates requires careful attention to a number of issues.

- Extreme caution should be applied if considering an automatic advance mechanism on a backing gate. There is the potential for people or cows to be trapped by these automated systems. Children and inexperienced workers are especially at risk.
- Milking staff should be able to activate the backing gate from the pit.
- Controls should only move the gate while the milker is activating it – once the control is released the backing gate should stop moving.
- Backing gate movement should be observable from the control. A mirror mounted on the dairy roof above the gate control will enable milkers to see over cows in the yard.
- If fitted, these gates need an override switch located at the milking position.



Figure 4.9: Backing gate – with anti-derail feature, but no guard for the wheels.

Source: National Milk Harvesting Centre.



Large mechanical backing gates are best controlled by 'dead-man' switches.



Heavy backing gates should have anti-derail features and guards for the drive and support wheels.

Electrified backing gates

Electrified backing gates are not recommended for several reasons.

- These gates punish the least dominant cows.
- Electrified backing gates cause concern for human safety – they need an isolator switch.
- Electrified backing gates can upset other electrical equipment in the dairy.

Electrified backing gates have been banned in some European countries due to their severe impact on cow welfare.



If electrified backing gates are used, it is essential to have an isolator switch so that the gate can be disconnected from the electric fence system. Isolation will be necessary if maintenance is required or an animal becomes entangled in the gate.



Electrified backing gates need isolator switches.

Dairy entrance

Dairy entrance design

The interface between the holding yard and inside the dairy should be designed to encourage cows to enter. There are several factors that need to be considered to create a good entrance design. These include:

- footing;
- lighting levels; and
- entrance widths.

A well-designed entrance to the dairy promotes the voluntary loading of cows onto the platform.

Footing in the entrance

As cows move from the holding yard into the dairy, it is critical that their confidence and comfort is maintained. Safe, reliable footing is essential to give cows confidence to enter the dairy.

- Grooving concrete helps provide traction – make grooves consistent with the drainage direction.
- A diamond pattern with a groove size 12 mm wide and 12 mm deep on 75 mm to 100 mm centres will provide more traction than simple parallel grooves (see Figure 4.3).
- The slope of the entrances to the dairy should not exceed 4% (1 in 25).
- Steps should be avoided, if possible, but are preferable to a ramp exceeding 4% (1 in 25) slope.
- When used, steps must be at least 1.8 m long, rise no more than 150 mm on each step and the tread of each step must not have an up slope of more than 4% (1 in 25).

Dairy entrance lighting

Changes in light levels affect cow-flow. Cows moving from a brightly lit holding yard may hesitate at moving into an entrance that has a much lower level of light.

- Skylights combined with natural lighting can even out light levels.
- The milking area should be open to sunlight if possible.
- Try to avoid sharp, dark shadows in the entrance – this causes cows to pause before crossing them.



If the dairy is very dim compared to the yard, the cows will tend to shy away from the dairy rather than enter it.



See Chapter 5 – In the dairy.

Entrance width

The entrance to the milking platform should be a multiple of whole cow widths.

- A typical entry race width is 760-820 mm.
- Clear cow entrances and exits, and wide, clear platform areas, are best for good cow movement.
- Straight in and straight out cow-flow paths are the quickest and the easiest (see Figure 4.10).



Figure 4.10: Good open dairy design with straight in, straight out cow movement through the dairy.
Source: National Milk Harvesting Centre.

Restrictions & distractions

Cows need to feel secure as they move from the holding yard onto the milking platform.

- Physical restrictions in the dairy entrance include poor lighting, floor surfaces, sharp turns, railings, posts and inadequate space allowances.
- Maintain the natural pecking order of the cows – if a cow is afraid of being bullied at the entrance she will stand further back, where she feels safer.
- Use the cows' natural tendency to follow one another. If the entrance design obscures the cow in front from view, the next cow will be reluctant to follow.
- The sight of milkers or cows exiting in the opposite direction may also cause a reluctance to enter – consider panelling off the entry race so that those cows coming on to the platform cannot see the milker or the exiting cows (see Figure 4.11).
- Protection from the wind and elements at the dairy entrance can aid cow-flow.



Figure 4.11: Screens hide the milker from the cow's view.

Source: National Milk Harvesting Centre.



Minimising entrance restrictions will maximise cow-flow.

Slowing entry

In some situations, it may be necessary to slow cow entry. For example, in dairies with electronic identification systems or stall gates. Slowing cow-flow for these situations is usually achieved by installing restriction gates or an entry race.

Entry race

An entry race aids cow-flow. Cows in the race cannot be bullied by other cows, so less dominant cows are more likely to enter of their own accord.

- Entry races ensure cows walk onto the platform in single file.
- Entry races also facilitate the reading of electronic identification tags (see Figure 4.12).
- Entry races that are at least two cow lengths long help the cows settle down and relax before they get onto the platform. This promotes milk let-down and good cow-flow. They also stop the first cow backing out.
- A kink in the entry race to herringbone sheds can reduce bunching and improve electronic identification reading (see Figure 4.2). Cows are less likely to back out since they reverse into the race fence. Entry races feeding from the centre of the yard appear to resolve pecking order problems.



Figure 4.12: Entry races help with electronic cow identification.

Source: National Milk Harvesting Centre.

Stray voltage

Poor cow-flow is often blamed on stray voltage. While uncommon, stray voltage is caused when two pieces in the dairy are at different voltages. Diagnosis and rectification of stray voltage is difficult so prevention is best.

- Common signs of stray voltage include the cows' reluctance to enter the dairy, high levels of dunging and urinating, and cows being unco-operative in the milking process.
- Joining all cow contact surfaces together in the dairy, including the concrete reinforcing, will prevent stray voltage problems.
- Removing non-essential electrical equipment, especially electric fence energisers and wiring, from the dairy is good practice (see Figure 4.13).



Quick Note 6.1 – Stray voltage.



Figure 4.13: Electric fence units and wires that contact dairy pipework are a common source of stray voltage.

Source: National Milk Harvesting Centre.



Cows kick more if they are uncomfortable at milking.



Stray voltage is not necessarily low voltage. Proper earthing and professional installation is the law.

Rounding up ...

The design of holding yards and the dairy entrance should promote voluntary entry into the dairy.

Cows with little fear of humans or the milking environment have better cow-flow into the dairy.

CowTime Cost Cutters

Many of the suggestions covered in this chapter can be implemented easily and for little cost. The following list contains quick and cheap changes to improve key aspects of this stage of the milk harvesting process.

- Carpet or rubber matting over the concrete can reduce wear on cows' feet at turning points.
- Concrete grooving is a low-cost option compared to the loss of cows through injury.
- Garden sprinklers work well in keeping cows cool in the yard (and help yard washing too).
- Train the cows to enter on their own to minimise having to leave the pit.
- Place a mirror on the dairy ceiling to monitor the movement of the backing gate without leaving the pit.
- Minimise variations in colour and surface in cow areas.
- Lighten the entry to the dairy by installing translucent roofing or wall panels.
- Train heifers to come into the dairy before they calve, separate from the main herd.
- Screen off distracting activities from waiting cows with shade cloth or other material.
- Reduce noise in the dairy – especially yelling and whistling.
- Move pipework that projects into cow traffic areas or reduces cow comfort on the platform.
- Avoid doing painful procedures to cows while in the dairy.



Further information ...

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