CHAPTER 8
Feeding in stock containment areas

This chapter covers why and when to use stock containment areas. It also provides information on how to design and construct a stock containment area and how to manage stock during containment.

Key messages

- **It is important to remove stock from paddocks while around 70% ground cover remains.**
- **Stock containment areas can be part of a farm management system outside of droughts.**
- **Containing stock helps to protect vegetative cover on pastures or failed crops and allows pastures to recover rapidly after the break.**
- **It is important to consider your own site and method of operation in designing a containment area.**
- **Soil type, slope and proximity to other handling facilities are important considerations.**
- **Animals in containment need to be provided with 100% of their diet, including roughage, energy requirements and minerals. They require regular monitoring.**

Why use stock containment areas

A stock containment area (SCA) is a carefully selected, fenced section of the property that is set up to intensively hold, feed and water livestock to protect soil and pasture resources during adverse seasons. This may be following a fire, during drought or late autumn breaks, or for other farm management activities, such as quarantining new stock and holding stock ready for other handling tasks.

Feeding in stock containment areas should be considered:

- to protect vegetative cover on pastures or failed crops, and to allow pastures to recover rapidly after the break
- where weeds in brought-in feed are a concern
- to protect areas vulnerable to erosion
- where stock are losing weight on full drought rations in paddocks
- to facilitate stock feeding, watering, monitoring and handling.

Lot feeding for production is a separate issue and is not covered in this chapter. If you are considering feedlotting, seek specialist advice from your local stock adviser. Feedlots must meet local government planning requirements and the Australian Animal Welfare Standards and Guidelines for Cattle.

Stock containment areas are for short term use during adverse seasons when seasonal conditions restrict or prevent the animals from grazing.

When to use a stock containment area

During a drought there is a high risk of losing valuable soil as pasture cover reduces. It is important to remove stock while around 70% ground cover remains. If pasture cover drops below about 70%, wind will start to blow away soil particles, causing erosion and loss of valuable nutrients and topsoil. Bare areas will also be more prone to washing, when rain does come. Refer to Figures 8.1, 8.2 and 8.3 for how to identify the amount of groundcover.

Before deciding when to remove stock from pastures, consider the factors that will affect potential pasture loss and erosion, such as slope and soil type. Allow for the fact that once stock have been removed, ground cover is likely to decrease further as a result of wind erosion, particularly in pastures dominated by annual species.

Improved pastures - established at considerable cost in money and time - are easily lost if continuously overgrazed. They should be among the first paddocks to consider destocking.

Figure 8.1: About 50% groundcover. A paddock that has been grazed this low is prone to considerable topsoil losses through wind and water erosion.

Figure 8.2: About 70% groundcover. Bare patches are quite large and start to join up, creating opportunities for soil movement.

Figure 8.3: About 85% groundcover.

Site selection

The location of the containment area is important and it should be set up as a permanent structure, like cattle yards, for future emergencies (drought, fire or flood) or other management opportunities. The site should be accessible all year round. Avoid sites adjacent to public roads (particularly high traffic roads) or close to property boundary fences.

The site should:

- have a moderate slope and well-drained, stable soil such as a clay or clay loam
- be easily monitored
- contain no important remnant vegetation
- have shade, shelter and good drainage
- have access to good quality water and clean facilities
- minimise problems with noise and smell that will cause concern to you or your neighbours.

Yards should be constructed across the slope and aligned with the natural contour of the land to avoid yard-to-yard drainage. Shade and shelter must be provided. If possible site yards adjacent to existing shelter belts or vegetation.

Dust can be an issue, so consider shelter from prevailing winds.

Stock need to be checked daily, so the site should be easy to reach to save time. Proximity to other stock-handling facilities is helpful.

No more than 20% of the site should contain remnant vegetation. Any existing trees in the containment yard/s should be fenced at least one metre around the tree. This will prevent animals ringbarking the trees and reduce the impact of compaction and nutrient loads (if native trees). Existing trees are valuable in providing shade; you don't want to lose them.

Consider water quality in terms of runoff. The stock containment area should be set back from watercourses and water storages to protect against risk of nutrient run-off. A nutrient filter should be established on the down slope side of the site to prevent runoff into farm water storages and watercourses if applicable. The filter may be provided by a vegetation buffer strip or by constructing sediment traps from wire netting or straw bales.

Figure 8.4: Nutrient filter to prevent contamination of watercourses or storages.

Design

Size

Adult cows, yearlings and early-weaned calves should all be yarded and fed separately because of their different feed requirements. Allow 10-15 m^2/head. Stocking heavier rather than lighter has the advantage of increasing soil compaction in the containment area to reduce dust, particularly on lighter soils.

For optimal animal welfare and husbandry, the maximum desirable mob size is 160 head.

Layout

It is important to consider your own site and method of operation in designing a containment area, including the number of containment yards you require.

A number of different layouts have been used successfully, including yards with adjacent laneways for feeding and stock movement.

One feeding yard (with separate holding yards) can be used for the different classes of stock if they can be fed at different times. This can reduce the need for extra feeding troughs.

A separate yard for grain feeding troughs will allow you to mix feeds and additives before stock start to eat. Also consider vehicle access, ease of filling feed troughs, water and ease of cleaning. Avoid driving into the yard while animals are present.

Make sure you provide adequate subdivision to enable different classes of stock to be separated, including shy feeders or sick animals. If you are considering containing more than one group, you will need good subdivisional fencing as well as containment site boundary fencing.

Feed troughs or feeders (including hay) should be located on the opposite side of the yard to water troughs to minimise the contamination of the water source from food carried by the animals.

Consider your preferred method of feeding grain – trail feeding, lick feeders or self-feeders. Lick feeders and self-feeders can be installed in the yard, but consider locating them on the boundary to enable filling from outside.

If using a feeding laneway the use of iron, purlins, raised feeders, rubber or raised shade cloth troughs for feeding grain are options – do not feed directly onto the soil.

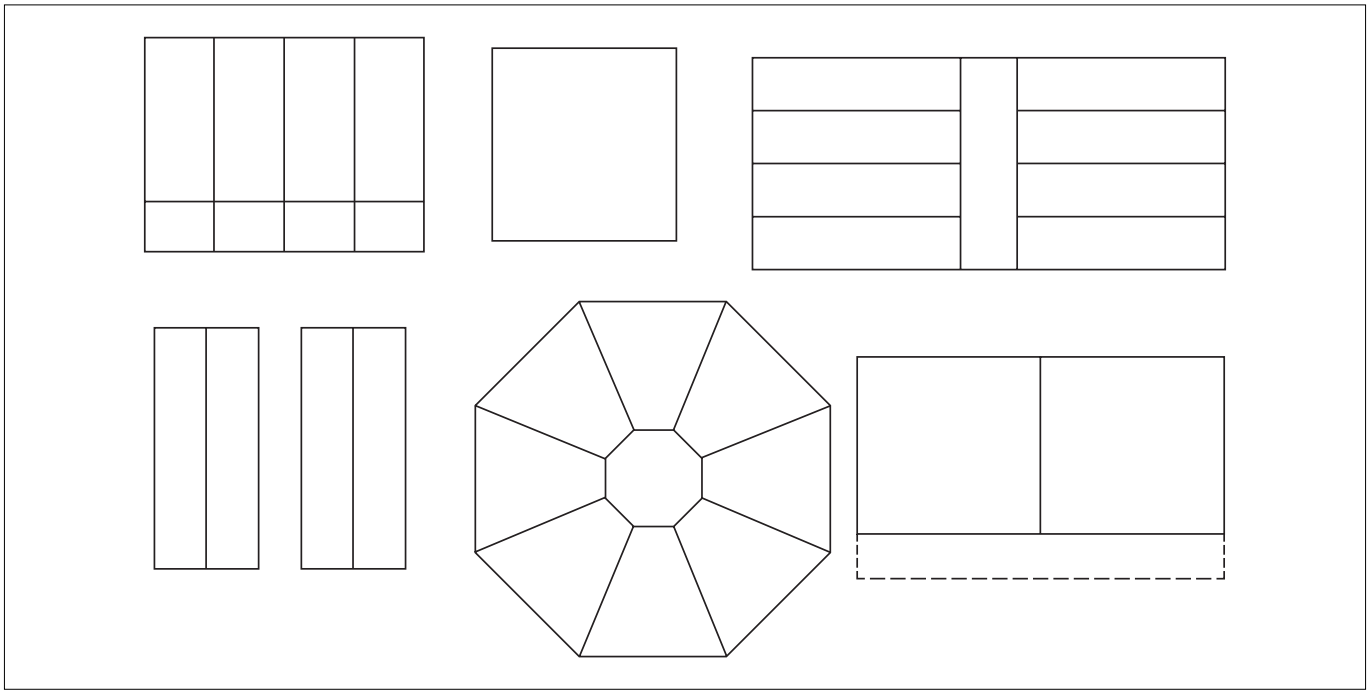

Figure 8.4: SCA design suggestions.

Shade and shelter

Heat and cold stress both increase an animal's energy requirements. Shade and shelter should be provided to minimise exposure to the extremes of heat and cold and to reduce exposure to mid-summer radiation. However, shade structures should not impede the drying of the yard surface or ventilation beneath the structure. There is currently no minimum shade requirement for cattle.

Plan to plant shade trees outside the containment area for long-term protection. Consider prevailing winds and locate shade in the western half of the pen – angle shade structures to the north-west to maximise the shade provided during the hottest part of the day.

Unprotected trees within containment yards will die. If there are trees in the area you propose to use, protect them with guards to stop ringbarking. All existing trees should be protected at a minimum of one metre around the tree using the same standard of fencing as the boundary fences.

If there are no trees to provide shade, construct your own. Shade cloth, stacked hay bales (secured and fenced), galvanised sheeting and sheds are all options that have been used.

Access and safety

Personal safety is of the utmost importance. Design and construct facilities to minimise the risk of injury.

Vehicle and trailer access to feeders or troughs is easier when using feeding pens or laneways. Ensure a vehicle can access the yards (when stock are absent) to allow for cleaning and maintenance.

Also consider the ease of moving stock in and out of containment from paddocks or into feeding laneways.

Construction

Containment yards should be constructed as permanent long-term facilities. Seven horizontal wires and a plain top and bottom wire is recommended. Fences should not contain any barbed wire. Posts should be no more than five metres apart and strainers should be stayed. The use of metal or concrete strainers and posts is recommended due to fire resistance and longevity.

Keep in mind that stock are likely to push up against fencing or run into it – ensure it is constructed to withstand this treatment.

Water

A good, reliable water supply is essential in stock containment areas. Generally, stock will be fed diets with very low water content and must be supplied with water at all times.

Maximum desirable salt and magnesium levels for stock water are given in Table 2.2.

Bore water should also be tested for minerals that can be toxic at higher levels, such as magnesium.

Plan for a daily water consumption of 55 litres/head/day for weaners and up to 100 litres/head/day for lactating cows. Trough space is less important than flow rate. Water trough allowances do not need to be more than required in a paddock – cattle will adjust and take turns to drink at the trough. A good rule of thumb is that the flow rate should pump enough water for the herd in 2-3 hours.

Troughs need to be checked daily and cleaned regularly.

Good quality water is critical – stock perform better when they have access to fresh, clean and cool water. Water should be low in salt, low in organic matter, low in suspended clay and free of other toxic substances such as blue-green algae (see Chapter 2).

Feed

Allow 400-600 mm of trough space per animal.

Feed troughs can be bought or made cheaply from materials like tractor tyres cut in half or 200 litre drums split down the middle. Two rows of logs can be placed on the ground about 450-600 mm apart and joined with old corrugated iron as the flooring.

Table 6.5 lists quantities for full hand feeding (kg/head/day) for common classes of stock.

As stock will not have access to any pasture, it is important to include roughage. Ideally, 30% hay should be included but, as hay can be very expensive and often simply not available during droughts, the proportion can be reduced to an absolute minimum of 20%. Hay in the diet will reduce the risk of grain poisoning, especially with grains of low fibre content, such as wheat and barley. Oats has about 29% Neutral Detergent Fibre (NDF) compared with barley at 14% NDF and wheat at only 11% NDF.

Hay is the safest way to increase energy quickly in cold or wet conditions.

As outlined in Chapter 7, the deficiencies likely to occur with high grain diets during drought or lot feeding are sodium, calcium, fibre and Vitamin A.

Adding 2% feed-grade sodium bicarbonate or sodium bentonite for the first month and 1% after that will lessen the risk of acidosis. In addition, 1% feed-grade limestone to provide calcium and 0.5% salt to provide sodium will be required.

It is better to start cattle on grain in the paddock before introducing them to a feedlot situation (two weeks). If you cannot do this, make sure that most of the diet in the first two weeks is hay and then increase the grain ration gradually. Start at 0.5 kg/head/day of grain and make up the rest of the ration with hay.

Increase the amount of grain by 0.5 kg/head/day every two days until the desired level of grain is reached. Feed your best hay first and feed hay before grain. Feed daily (see Chapter 7).

It may take a while to get the ration right and, as the cost of feed is especially high during a drought, consider weighing 20 or so cattle regularly. Over and under feeding is costly. Aim to keep older stock at a minimum fat score 2.5.

There will always be a number of cattle that do not take to a containment feeding situation. They should be identified early, removed and fed hay or sold.

Stressful weather conditions

Cold windy weather increases the cattle's need for energy-giving feed. Under such conditions, drought rations should be increased by about 20%. The increase should be made up with roughage (hay) if possible. Replace any feed wasted as a result of rain damage with new feed.

Releasing cattle

Ruminants do best when their diets are changed gradually. A sudden change from a grain diet to short green feed when a drought breaks will result in digestive upsets and weight loss as their rumen adjusts to the new feed.

If the break is accompanied by cold, wet and windy weather, this may reduce an animal's inclination to graze, which will further reduce their intake.

Release cattle from the containment area when they have a full stomach. Continue feed for a few weeks, gradually reducing the quantity.

Cows below fat score 3 with young calves have high feed requirements and may need feeding (both hay and grain) to continue until there is adequate pasture available to meet their needs.

Pastures are likely to recover faster and provide more winter feed if they are allowed to produce some leaf area before the first grazing. See Chapter 3 for information on pasture recovery after a drought.

Animal health

Health issues during droughts are outlined in Chapter 9. Experiences with stock containment areas have shown that grain poisoning is the most common cause of death. For more information on how to prevent grain poisoning refer to Chapter 7.

There have been problems with changes in batches of processed feeds and with new sources of grain. Some caution is needed when changing to a new load of feed.

One option would be to mix the new and old over a number of feeds. If this is not practical, when a new batch of grain is being introduced, cut back the quantity and gradually increase it to enable the animals to get used to it. During this process make up the remainder of the ration with hay.

Cattle should receive a booster vaccination against clostridial diseases such as enterotoxaemia (pulpy kidney) at least three weeks before entering a containment area.

Vaccines such as 5-in-1 or 7-in-1 can be used. Talk to your vet about the most appropriate vaccine for your district. Remember, cattle that have not been vaccinated before require two vaccinations four weeks apart to provide protection, then an annual booster.

They should be drenched before coming into the containment area and ideally drenched again before being released.

Stock need to be monitored daily and sick animals removed. Avoiding stress such as boggy ground, overcrowding, dust and irregular feeding will help reduce diseases such as salmonellosis, coccidiosis, pinkeye and respiratory diseases such as pneumonia.

Regular cleaning of feed and water troughs will help prevent disease.

Other considerations

Although there are benefits in reduced labour when feeding animals in a stock containment area versus the paddock, regular monitoring is still a time commitment. This can be somewhat alleviated by locating the yards in an accessible location. It may be possible to release stock if livestock managers are away for an extended period of time, providing the appropriate care is taken and enough feed is made available to the animals in the paddock.

It is important to consider your own circumstances when deciding to use containment areas, particularly whether you can access the appropriate feed, the cost of feed in relation to the cost of production for the class of stock, and whether you can regularly check on the animals during their time in containment.

Managing a stock containment area involves a transition from a broadacre manager to an intensive manager. Farmers who fed in containment areas in previous droughts reported that it was a worthwhile exercise and have now made it part of their future drought management strategies.

Feeding in a containment area means you can have better control over weight loss and gain and come out of a drought with valuable land assets and stock numbers intact.

Further information is available at agriculture.vic.gov.au/farm-management/dry-seasons-and-drought-support/managing-resources-in-a-drought