



## Managing Wet Soils: Feedpads and Stand-off Areas

Updated: February 2008

AG0955

ISSN 1329-8062

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*This Note describes methods of containing cows to get them off wet paddocks*

### Introduction

The benefits of getting cows off wet paddocks has been well documented. There are clear advantages in reducing pasture and soil damage, better pasture utilisation, increased pasture re-growth and improved animal welfare. These strategies can take the form of simple “on/off” grazing where cows are taken off the paddock for part of the day through to cows being held off pasture for a number of weeks. However with these systems, the cows need some where to go. This is where stand-off areas are used.

### Using existing facilities

There are a number of options available if animals need to be taken off paddocks. These range from the inexpensive to the expensive.

#### Laneways

One such in expensive option is to stand cattle off on a well constructed laneway. This however should only be regarded as a short-term option. Continual use of the laneway can lead to extensive damage of the laneway surface. It is advisable to split the herd into mobs of 50 – 60, kept apart with single strands of electrified tape. This prevents the mob continually moving up and down the lane and damaging it further.

#### Dairy yard

The dairy yard can be used to hold cattle for longer periods of time; it is not unusual for dry cows to be held in dairy yards for up to 20 hours in New Zealand. To prevent lameness from standing on concrete for long hours, allow the cows to walk along a laneway halfway through the stand-off period.

Advantages of using the yard for long periods include the fact that cows are used to standing in the yard, it is existing infrastructure and it is easy to dispose of effluent.

Some of the disadvantages are:

- The yard may be too small. Cows need an area at least 2.5-3 m<sup>2</sup> per cow if standing for extended periods.

- It must be kept free of stones otherwise lameness can become an issue; and
- It is necessary to dispose of extra effluent, generated.

#### Sacrifice paddocks

The use of a “sacrifice paddock” can be a suitable low cost option on many farms. A paddock, usually with a run down pasture is selected. Cows are moved onto it for the remainder of the day as part of “on-off” grazing, during wet conditions. If used for more than a few days, the pasture will usually be severely damaged and require a full pasture renovation. After the winter, sacrifice paddocks are normally cultivated and sown to a summer fodder crop to level and restore the soil. The pasture is then re-sown the following autumn. Disadvantages include the risk of soil structure damage and possible animal health problems such as lameness and mastitis.

Where ever possible avoid using paddocks adjacent to streams or drains, to reduce the risk of soil and nutrient movement to these waterways.

#### Loafing-pads - stand-off areas

More permanent (and expensive) facilities include short-term loafing-pads or stand-off areas.

A loafing-pad is a purpose built free draining area used for holding stock off paddock during wet conditions.

#### Selecting a site

When sighting a pad, select an area facing north or northeast for maximum exposure to the sun and protection from the prevailing winds. An area of 9m<sup>2</sup> per cow, not including the feeding area is required. For ease of use try and have it close to the existing facilities. However you should check with your local shire to see if you require an intensive operation permit.

#### Effluent disposal

It is important that any waste from the pad:

- does not leave the farm
- does not create odours
- does not pollute any water course or ground water
- complies with local, regional and state regulations

Ideally the dairy and pad waste storage should be the same, as this will save on the cost, however it is important to ensure that your existing pond can hold the extra effluent that is generated from the pad.

**Construction**

Suitable covering materials for loafing-pads include rice hulls, sawdust and wood chips, depending on price and availability. Ensure that enough fill is placed in the loafing-pad. A guide is to allow 6 m<sup>3</sup> for each animal. It should be 600 – 900 mm deep or slightly less if on a gravel base. A gravel base 200 mm thick will improve drainage.

**Design of the base**

Good drainage is essential for a successful loafing-pad. To get the best drainage from the pad there are a few options that are available depending on the natural slope and soil type. Whatever type you decide on, the effluent drained from the pad must then be drained away from the pad and into an effluent system.

**Slope**

This uses the natural drainage of existing land, so it needs a site with a minimum natural fall of 1:20. Drainage can be improved by laying slotted drainage pipes 1.5 to 2 m apart. If pipes are used, the bottom layer of fill should be gravel.

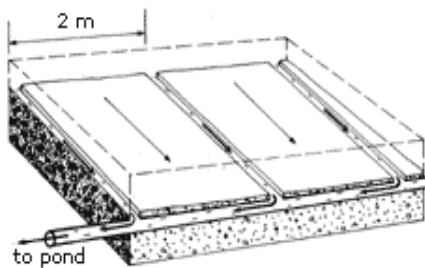


Figure 1. Slope base

**Clay dome**

On suitable soils, the site can be cleared of topsoil to expose the clay layer, which is graded to form a centre ridge with a fall to each side of the pad. The dome should be 10 m wide with a ridge of at least 500 mm higher than the edges. Drainage ditches or pipes are needed at each side of the ridge. If pipes are used, the initial fill should be gravel or rock.

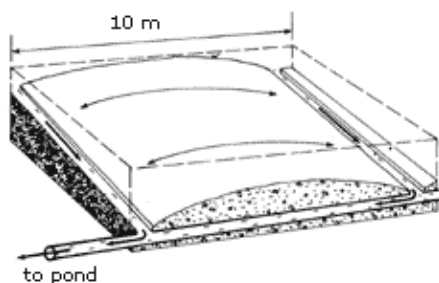


Figure 2. Clay dome base

**Hump and hollow**

This suitable for land with little natural fall. The topsoil is removed then humps and hollows are formed at 2 m intervals. Drains (eg. slotted drainage pipe) in the hollows are necessary to take effluent to a main drain away from the pad. A gravel layer of 200 mm is recommended over the top of the slotted drainage pipe.

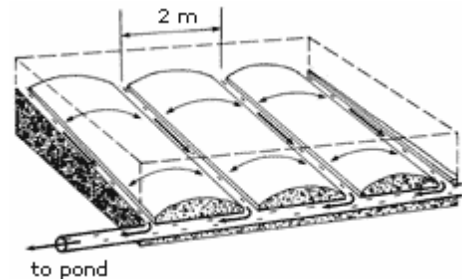


Figure 3. Hump and hollow base

**Feedpads**

A dairy feedpad is a confined yarded area that provides adequate water, space, facilities and has an effective waste removal system to allow for the regular feeding of the whole herd. It should be constructed to withstand heavy traffic and be easily cleaned.

The feeding area should be from 4 - 5 m wide to allow stock to move on and off the area and access feed.

A wall 100 - 120 mm high at the rear of the feeding area will reduce the spread of pad material on the area. The length of the feeding area will depend on the amount of access time allowed to supplements. With 24 hour access to unlimited supplements, 0.2 m per cow is needed. However if limited amount of supplement is fed, allow 0.6 m per cow to ensure that all cows can get access at the same time.

It is important to remember that milking cows require about 100 litres of water a day, so adequate water supply is a must. Troughs should be located away from the feeding area to stop bullying animals dominating both, and on concrete to reduce breakdown of the surrounding area.

**The Water Act**

The Water Act (1989) provides guidance for the management of waterways and swamps. Before considering draining a wet area you should contact your local Catchment Management Authority for advice, as a permit may be required.

Further information on pads can be obtained from the book "Feedpads Downunder".

The previous version of this note was published in February 2006.

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