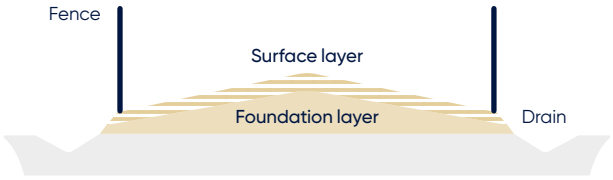
Dairy Australia

BUILDING BLOCKS FOR GOOD LANEWAYS

Now's a great time to review your annual maintenance plan which might include some plans for laneway construction or renovation or repair work around the farm – some practical tips are outlined below.



Laneway construction

The foundation and surface layers of a laneway each require the use of materials that will withstand the threat posed by water and constant use.

Paying more for good quality materials may save money in the long run once you have factored in costs of lameness and mastitis, extra maintenance or laneway replacement.

Materials Foundation layer

Topsoil and grass should be removed before laying the foundation layer. Topsoil is not suitable for use in the foundation layer. The material removed from the table drains may be used provided it is not topsoil. Moist sub-surface soil is usually suitable unless you are in an area which has dispersive sub-soils which are unstable when wet.

If not required for dam construction, the material dug out to make effluent ponds may also suitable for laneway foundations. Soft clay is unsuitable for use in foundations unless stabilised with other materials.

Hydrated lime, evenly spread and uniformly incorporated to a depth of 125mm, will allow a soft clay to become stable once compacted. Cement can also be used as a stabiliser in foundation layers.

If the material available does not create a satisfactory foundation it is possible to use a geotextile, an industrial fabric used in earthworks to cover the shaped base layer before adding the top layer. While porous and allowing the water to pass through, geotextiles hold soil and rock in place and will prevent the surface layer from being pushed into the foundation layer, particularly from wheeled traffic. The geotextile will distribute applied loads over a wide area. However, be aware that this could be an expensive option.

Materials Surface layer

Surface materials must form an impenetrable barrier to water and not be harmful to cows' hooves. The ideal material includes a mixture of gravel, clay (15–30%) and sand. The fine particles fill the gaps between the larger particles, binding the material together. It also gives the surface a long wearing and smooth finish. Correctly crowned, this material will shed water and protect the foundation. Incorporating 0.3–1% cement into the clay capping mixture can help stabilise the surface and prolong its life.

Well rounded gravel less than 25mm in diameter is preferable to large stones they can be kicked aside, leaving the surface susceptible to water penetration and damage. Crushed limestone can make a suitable material for surfacing. It is generally spread as a 50–100mm layer, but needs firm compaction. Sand alone does not make an ideal surface it is abrasive on cows' feet and washes away too readily.

A temporary fix for rough or muddy areas includes using materials like woodchips or sawdust. Woodchips are used in many laneways in South Australia to provide a softer surface for the cows to walk on.

Maintenance

Regular laneway maintenance also helps to prevent problems such as lameness and costly, major repairs. Any maintenance program should have two focuses – keeping the surfaces repaired and maintaining effective drainage.

Ongoing repairs

Potholes should be filled and compacted as they occur. It's also a good idea to deal with drain blockages quickly.

Annual tasks

Surfaces should be graded annually. Tractors on laneways cause the surfaces to lift and rut quite quickly, as does regularly holding stock on laneways. Use a tractor blade to clean out the edges and drains, as a build up of grass and manure can affect drainage. Prune or remove trees near laneways – they block sun and wind and keep laneways from drying out.

Acknowledgements

This information was provided by Darold Klindworth at Ellinbank, and was taken from *How now Gippy Cow* April 2008, Issue 112.

FOR FURTHER INFORMATION

Watch video on laneway design **here**

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