

# JakMatGeocell

The ground stabilisation mat for  
high pressure animal traffic areas



## CASE STUDY – ALBERT POWWELS DAIRY RACE 02-03-2010

**FARM OWNER:** ALBERT & KAREN POWWELS  
**CONTRACTOR;** GAVIN GRAINS GORDONTON

### Project

Dairy race stabilisation with **JakMatGeocell**

### Background

Albert Pouwels runs a 124 hectare dairy farm approximately 9 kilometres north-west of Morrinsville on which he runs 370 dairy units. Over time Albert has tried various aggregate bases to stabilise the surface of his races and the high wear access area to his milking shed. After some consultation, he decided on **JakMatGeocell** to provide a surface which would provide better retention, limit displacement, improve drainage and reduce “wet spots” and “carry over” of effluent and stones onto the milking shed concrete pad. The area concerned is a junction of two races feeding into the milking shed covering 90 square metres. The laying was completed in July 2009.

### Construction Steps

1. A digger contractor was engaged to provide laser levelling of the area to allow for base aggregate, **JakMatGeocell** and topping as well as providing adequate fall to assist drainage. This was followed by the spreading and rolling (compaction) of a 100mm layer of aggregate (GAP20).



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2. The 90 square metres of **JakMatGeocell** was laid by Albert's family and farm employees.



3. The final stages were the filling of the **JakMatGeocell** with a locally sourced Huntly "Crushed Brown Rock" and then rolling. This particular aggregate was chosen for its soft, crumbling characteristics which allowed it to compact tightly into the cells of the mat as well as be sympathetic to the cow's hooves. This layer was to approximately 20-40mm above the top of the mat on completion.



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## Summary Outcome

The **JakMatGeocell** has now been down on Albert's race for 7 months and the following the observations were made by him.

- "The drainage has been one of the big revelations of the product performance which I believe is assisted by the 100mm of aggregate base which was laid".
- "In a two week period, since the mat was laid, the farm got 120mm of rain in a two week period and we did not get the build up of mud and excrement that would have occurred before the **JakMatGeocell** was laid".
- "Since installation lameness problems have been lower". Lameness is due to stone carryover onto hard concrete of the milking shed which then drives the stone into the hooves of the animal which ultimately can lead to abscessing.
- There is a very high wear area just as the cows walk out of the cow shed, after milking, which has now worn down to the top of the JakMat. Albert said. 'I am very interested to see how this area wears in the longer term because it is the long term benefits of the matting that will be the determiner of the overall success and cost effectiveness of the product but at this stage it is standing up very well".
- "Looking back to the installation one of the great benefits was the speed at which we laid it. We started at 9.00am and finished by 1.00pm so there was no disruption to milking".



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