

# JakMatDairy

The ground stabilisation mat for high pressure animal traffic areas



As seen in The Dairyman June 2014 edition:

## Brad Cockrell's Farm, Mooka Flats - Mercer

**JakMat**  
www.jakmat.co.nz

## RACE STABILISATION

FOR HIGH  
PRESSURE ANIMAL  
TRAFFIC AREAS



**"We haven't had any pitting at the high traffic area and there has been no maintenance since laying of the JakMatDairy"**

*Brad Cockrell, Mooka Flats - Mercer  
Herd of 800 cows, (775 square metres laid)*



JakMat installation



After 8 months usage

- Honeycomb design for ultimate strength and material retention

- Very low ongoing maintenance
- No more potholes and less carry over to shed

- Reduced risk of lameness
- Enhanced cow flow
- Lay between milking

### Basic Facts:

- 300 hectares
- 800 cows
- JakMat laid in June 2013
- 775m<sup>2</sup> laid with JakMatDairy

### Race Problem Issues Wanted To Solve:

- Walking onto milking shed pad ("carry over") of existing lime and associated washing down issues
- Pitting (pot holes) at entry and exit to shed causing herd stress and hoof issues
- Effluent and mud (wet area) build up at entry/exit and associated problems of added bikes, cleaning of farm workers clothing and concrete pad
- Interrupted movement of herd in and out of milking shed i.e. herd stress and productivity decreases

### Improvements Noticed in First 8 Months:

- Less "carry over" of race material on to pad with reduce wash down, therefore reduces water and time
- Elimination of pitting (pot holes) at entry and exit points to shed with herd health improvement
- Reductions in effluent build up at entry/exit therefore less carry over and washing down
- Bikes and workers cleanliness improved creating a healthier and safer working environment
- More relaxed and flowing (moving) herd
- Better drainage of rainwater and effluent to sides and through the permeable JakMat surface i.e. faster drying and less mud



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Refer to our youtube videos for the testimonials and installation sequences - 'JakMatNZ' on youtube



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As seen in The Dairyman May 2014 edition:

## James Hoogeveen's Farm, Invercargill

# JakMat

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# RACE STABILISATION

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**"JakMat is a product which actually does what it's suppose to do, very well"**

*James Hoogeveen - Invercargill (herd of 480 cows)*

**Race to Milking Shed Entry & Exit**



(after 2 1/2 years)

**Herd Home/Feed Pad Entry & Exit**



(used only in Autumn)

- Honeycomb design for ultimate strength and material retention

- Very low ongoing maintenance
- No more potholes and less carry over to shed

- Reduced risk of lameness
- Enhanced cow flow
- Lay between milking

### Basic Facts:

- 300 hectares
- 480 cows
- Laid Herd Home entry/exit November 2011
- Milking shed entry/exit November 2012
- 225m<sup>2</sup> laid with JakMatDairy

### Race Problem Issues Wanted To Solve:

- Muck building at shed entry/exit
- Scouring (removal) of existing topping aggregate off race
- Round river stones (alluvial river bed) being exposed resulting hoof bruising and lameness
- Stone "carry over" onto concrete pad causing hoof issues
- Passing tractor and truck wheel damage to race
- Cow flow issue especially at Herd Home entry/exit point

### Improvements Noticed in Two and Half Years:

- Less obvious muck (mud and excrement) build up
- Improvement in hoof health with elimination of hoof bruising from river stone exposure
- Reductions of stone "carry over" onto concrete pad and therefore hoof health issues
- Able to take tractor passing and turning without previous associated race damage
- Herd Home cow flow improved in and out due to stability of entry and exit
- Improved cowflow, fewer herd health issues and less ongoing maintenance. All adding to productivity gains



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## Case Study: Dairy Farm Albert Pouwels, Morrinsville

“Drainage has been one of the revelations of the product performance, which I believe is assisted by the 100mm of aggregate base which was laid.”



### Basic Facts:

- 124 hectare dairy farm
- 370 cows
- JakMat laid in July 2009
- 90m covered by JakMat

### Achievements:

- Reduced material displacement
- Improved drainage
- Limited 'carry over' into the milking shed, therefore less lameness
- No excrement and mud build up in rainy periods

### Main problem areas on the farm:

Races leading into and out of the milking shed

### How the JakMat was installed on Albert's farm:

- 1 The Surface area was laser levelled to allow for a base aggregate, JakMatDairy and a topping layer as well as providing adequate fall to assist drainage.
- 2 100mm base layer of GAP 20 was spread & rolled for compaction.



- 3 90m<sup>2</sup> of JakMatDairy was laid by Albert's family and farm employees.



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“A great benefit was the speed at which we laid the JakMat. We started at 9am and finished by 1pm so there was no disruption to milking.”



- 4 Locally sourced Huntly “Crushed Brown Rock” was spread as a filling for the JakMat. 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.



- 5 Once spread, the crushed Brown Rock was compacted on top of the mat. The layer above the mat was between 20-40mm high on completion. **JakMat ready for use!**



**JakMat race after 8 months use without any maintenance**



**JakMat race after 15 months use without maintenance.** Picture taken after a rainy period with close to 2 m rain within 3 months.



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**Dave Wilson,**  
Southland Farmer,  
400m<sup>2</sup> underpass, 500 cows

“Every year we had to rebuild the ramps, 5 grand a year on gravel and lime” “Now it drains really well without wear”



BEFORE



AFTER

- Honeycomb design for ultimate strength and material retention
- Very low ongoing maintenance
- No more potholes and less carry over to shed
- Reduced risk of lameness
- Enhanced cow flow
- Lay between milking



## Dave Wilson's Farm, Winton Southland

### Basic Facts:

- 180 hectares
- 500 cows
- JakMat laid in September 2011
- 400m<sup>2</sup> underpass laid with JakMat

### Main problem on the farm:

- Potholes form
- Lime stones keep loading out
- Cows have hard time walking on the race

### Achievements:

- Very easy to lay
- Recovers from rain really well
- Improved drainage
- Holds the ground together



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## Case Study: Dave Wilson's Farm, Winton Southland

### JakMat installation on Dave Wilson's farm

1



Remove overburden, apply GAP20 base aggregate and roll

2



Lay interlocking **JakMatDairy**

3



Fill the mat with Milburn Lime 20mm and compact



## Case Study: Dairy Farm Lyle & Robyn Green, Waimate

"I wish we had **JakMatDairy** when we first built the cow shed, since we put it down, we haven't had to replace lime rocks for the last 2 years!"



### Basic Facts:

- 320 hectare dairy farm
- 1100 cows
- 280 m<sup>2</sup> covered by JakMat filled with lime

### Main problem areas on the farm:

Races leading into and out of the milking shed

### Achievements:

- Integrity of the race remains sound
- Race is dry with no potholings
- Improved cow flow
- Decreased stone carry over from race to shed
- No maintenance required since JakMat installation

### After 8 months usage



Soft metal is still in place and the integrity of the surface is preserved.



Entry to the milking shed showing a smooth and pothole free transition from race to concrete.

### After 2 years usage



High integrity of lime surface is given after 2 years



Race is dry with no potholings, cows like walking on them



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## Case Study: Ryan O'Sullivan, Fairlie Canterbury

5,472,000 hoves later...

"There is no natural substance that would maintain the integrity like JakMatDairy, especially at the entry point"



(JakMats laid in Winter 2010)

### Milking productivity gains through stabilised races



Unstable and muddy races have negative effects on the operation of dairy farms.

In Ryan O'Sullivan's case (operating 1200 cows close to Fairlie) in particular, the cow flow into and out of the milking shed was interrupted.

The main problem area was the transition from concrete to race, where potholes were building in wet weather making cows reluctant to step onto the race. Due to jammed exit areas milking had to be interrupted to push the cows out of the shed, resulting in decreased milking efficiency.

This drove Ryan to lay down a geotechnical product called JakMat Dairy onto his race. This honeycomb cell provides races with additional stability and improved drainage. Ryan laid the product down together with his staff, covering 150m<sup>2</sup> in the transition zone from concrete to race.

Today, the entry and exit area of the milking shed is a maintenance free area for Ryan. What used to be a headache has now become an area that he hasn't touched for the past 18 months and one that he is not planning to touch for years to come. Compared with this, he is still spending time and money on the adjacent 60m race which he hasn't covered with JakMat. He estimates the cost for this to be around \$2,000 a year (\$1,500 on surface scraping \$500 on maintenance & material). With stabilised races Ryan's cows have become much more confident to go into and out of the milking shed, with no interruptions to milking as the cows don't need to be pushed along to keep them moving as before. This decreases stress levels of both staff and animals but also improves the cow flow and leads to higher milking efficiency.



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