



## Dairy Farmer

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### ON FARM

Extracting the fibre from slurry for cubicle bedding may sound a strange idea, but on one Scottish farm it has greatly reduced mastitis levels. Jennifer MacKenzie reports.

# Green bedding helps keep mastitis in check

**C**ow comfort, welfare and cleanliness are a priority for Dumfriesshire producer John Jamieson.

Yields for the 300-cow pedigree Holstein Annan herd – 260 of which are in milk – are producing an average 12,000kg from three-times-a-day milking at the 450-acre Woodhead Farm, Annan.

All cattle sheds have rubber matting to help prevent lameness and slipping, concrete yards are grooved and the cubicles are fitted with cow mattresses.

It was in January 2012 when visiting a Holstein show in Lausanne, Switzerland, John saw the Green Bedding system, from slurry handling specialist Bauer, which produces bedding material for cubicles.

"I am always looking for more comfort for the cows without the hassle of sand. Cleanliness and cow comfort are a priority," says John. "I see the system very much as a cow comfort system, not a sawdust or sand substitute, but it obviously also has huge cost benefits."



As well as offering comfort for the cows green bedding brings huge cost benefits, says John Jamieson.

The de-watering separator developed by the Austrian company's German subsidiary, FAN Separator, was only officially launched onto the UK market earlier this year (2013), so John was shown the system on similar farms to his own in the east of Germany by UK and Ireland sales manager Adrian Tindall.

"I had quite a few misgivings about the hygienic side of using slurry to produce bedding. However, my mind was put to rest when I was visited last summer by

a group of Dutch Holstein breeders, three of whom were using the system, and they were all totally sold on it," says John.

#### Sawdust

"The bugs are already in the herd and it's keeping that balance. Even sanitised bedding is contaminated within four to 12 hours," says Adrian.

"Sawdust itself is one of the main challenges with different bugs, and often after a new load of sawdust producers see a peak in cow cell

counts," he adds.

The separator was installed on a gantry in a purpose-built shed between the cubicle house and the main slurry store in October last year, and John noticed an almost immediate decrease in the number of mastitis cases as well as a drop in cell counts.

"We bedded 25 cubicles for the first fortnight to see how we got on. These were occupied by newly-calved cows which are usually the most susceptible to bacteria because their teats tend to

**Ration**

► The current milking cow ration is 0.4kg fat, 0.5 straw, 2kg oats, 3.5kg barley, 3.5kg Vitagold, 1kg molasses, 7kg blend, 4kg whole crop and 34kg grass silage.



Bauer UK sales manager Adrian Tindall, left, with John Jamieson and some freshly-produced green bedding.

be more open, but we had no problems at all and started bedding all the cattle housing after that," says John.

"Our cell count used to average 200,000 but it could go higher and there was always a chance that the milk would go out of Band A. Now it is running at

150,000. We have two-thirds fewer mastitis cases - we used to average two a week but now we probably don't see one a fortnight - which, at DairyCo's costing of £190 a case, means we have saved around £3500 in four months alone," he says.

"It's not just the cost, it is the hassle of mastitis. If you have a cow which is giving 50kg a day and she gets mastitis, even after she has been successfully treated, her yields drop back."

Cattle are housed all year round and all the slurry is

processed by the separator on a daily basis. The machine is able to achieve significantly higher dry matters than screw separators commonly used to improve slurry management. Material is typically up to 36% dry matter but it needs to be used daily.

Liquor produced by the separator is stored in the main 800,000-gallon slurry store for use on the farm's grassland. All the first cut silage ground was given an application of the liquor in early March at a rate of 3000 gallons to the acre.

Because the liquor has less fibrous material, the nutrient available to the grass-

Powermix Pro Diet Feeder	Cubicle Bedder	Powerspread
		
<ul style="list-style-type: none"> <li>Models from 9m to 25m</li> <li>Mix and chop</li> <li>Versatile elevator systems</li> </ul>	<ul style="list-style-type: none"> <li>3 Models</li> <li>3pt or loader mounted</li> <li>Spreads all materials</li> </ul>	<ul style="list-style-type: none"> <li>Models from 1600 to 3200 gallons</li> <li>Spreads solid &amp; liquid material up to 20m</li> <li>Spreads and chops</li> </ul>
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The Butler feed pusher in action, and this runs 13 times a day.



The bedding is encouraging cows to lie down for longer.

land is up to 95%, and John is expecting savings ultimately on his fertiliser bill with the liquor providing 28 units per 1000 gallons of the 84 units of nitrogen per acre required.

Any surplus fibrous material is stored and used on the farm's arable land.

Previously, John was using kiln-dried bagged sawdust for the bedding. The separator system cost £40,000 and he reckons pay-back on bedding savings alone will be three years. The new building cost a further £10,000 and an AG dispenser was purchased for £1500 to disperse the bedding into the cubicles.

The separator runs for

eight hours from 4.30am to produce enough bedding the 300 cubicles at a cost of about £10 a day in electricity.

#### Comfort

Because the bedding does not have to be purchased it is liberally dispensed into the cubicles. The comfort is encouraging cows to lie down longer and John is expecting less hock damage – and, hopefully, higher yields and longer lived cows.

Cows, and their udders in particular, are also cleaner.

All cows are fed the same total TMR which includes spring wheat and barley grown for wholecrop.

Not shy of innovation, John installed a Wasser-

bauer Butler feed pusher four years ago to maximise forage intakes.

The Butler runs around the shed on a rail 13 times a day pushing up feed. Twice a day, at milking, the robot just pushes up feed, the other 11 times the machine also scatters concentrate on top.

“We still feed a total of 6.5kg of blend a cow a day, but 1kg of this is now fed through the Butler rather than mixed in the TMR. However, cows are now eating 3-4kg DM of forage more than they were before,” says John.

Until last year with the arrival of German manufacturer BvL's dairy feeder sys-

tem, he relied on manually producing feed charts with the information supplied by his nutritionist. These had then to be interpreted by the mixer wagon operator to make a mix.

#### Mobile phone

Now, using a combination of Bluetooth and mobile phone technology, feeding data is transferred from the mixing wagon, during loading and unloading, to the user's account in real time, saving time re-writing rations if a cow group changes or if the ration is altered.

The exact amount of each ingredient loaded is recorded for each fill and any variations identified.

#### How the separator works

►► Slurry enters from above through an inlet, where an oscillator unit transmits pressure pulses to the slurry to maintain its fluidity.

As liquid drains through a stainless steel wire screen, a plug of fibrous

material is continuously formed and itself forms a filter to capture smaller particles. Tight tolerances ensure the screen is repeatedly cleaned by the screw to maintain free liquid flow.

Friction between the

plug of solids and cylindrical outlet, together with the weighted flaps at the outlet, create counter-pressure for forced dewatering. This process can be fine-tuned by adjusting the weights.

The screen housing is made from cast iron, while the 1mm screen itself and other major components are made from stainless steel; the screw flights are hard-coated for low wear and durability.