

# Is your 'flow' too slow?

Liners and pipe bores are key to efficient parlour function and good udder health

Is your parlour coping with the higher milk flow rates of the modern dairy cows? And how is the teat end condition of your cows? These are just two questions that producers should be asking themselves if they are having persistent problems with udder health and milk quality.

**F**aster milk flow – more than twice it was 20 years ago in many high yielding herds – is just one of the reasons why more and more producers are seeing problems with teat-end damage, rising somatic cell counts and an increased incidence of mastitis.

Parlours are not always able to cope with the improvements in genetic progress in some herds, which has resulted in increased milk flow. "Some producers see milk in the bulk tank and just assume that their parlour is working OK – it's doing its job. But there's more to it than that," says trouble shooting dairy vet James Allcock, of Cheshire-based, XL Vets member practice Lambert, Leonard and May.

He explains that many parlours that were installed back in the 1970s and 1980s can no longer cope with the higher milk flow rates of today's dairy cow. The vacuum level at the teat end is frequently not high enough to ensure adequate teat massage. "In some instances the pump simply can't move the milk away quickly enough. The vacuum 'decays' in the cluster and the liners don't squeeze the teat end properly. But sometimes improvements are possible by changing liners or altering the liner:shell combination.

"I've also seen parlours where the pipe bore is one of the limiting factors – simply changing the bore on the long milk tube, for example, can be all that's required to improve milk flow, reduce teat end damage and help solve a persistent SCC problem. The solutions are often easy and don't require much, if any, significant investment. We can 'patch' broken areas, so to speak.

It's not necessarily always a case of investing a huge amount of money and installing a new parlour." Measuring vacuum and milk flow at milking is something of an art and much of James's work, as far as parlours are concerned, is based on trial and error. "But we usually get there in the end – it's time well spent when you consider that the reward is improved teat condition, reduced SCCs and fewer cases of mastitis. And once the problem is identified and solved, it's easy to keep an eye on things."

### Liner problem

Teat-end damage was a problem for one Shropshire-based herd, which was solved with James's help. Herd manager Graham Routledge, with help from parlour technicians, had explored all the obvious avenues to find out what was causing a decline in teat-end condition in his 230-cow pedigree herd and admits he called in James as a last resort.

"We couldn't find a problem with the parlour, so I called him in for a vet's perspective on the problem, because I was worried that rising SCCs could become an issue."

James identified the liners as the root of the problem and agreed that the resulting damaged teat ends were a potential haven for environmental bacteria and that SCCs could increase as a result.

Working with Milk-Rite, he thought that triangular liners, which are set-up to different tensions, could be worth testing and Graham was willing to give them a try. So the conventional liners

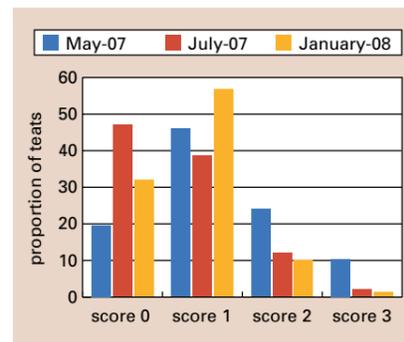


Figure 1: The changes in teat scores during the six-month liner trial period

on one side of the parlour were replaced with triangular ones.

### Teat condition

The parlour at Willey Farm, near Whitchurch, has auto ID and can recognise where cows stand, wherever they are in the parlour. On average, 70% of the herd chooses to be milked on the same side of the parlour on 70% of milking occasions.

"So we used this information to allow us to score the teat condition of cows being milked with the triangular liners, compared to those milked with conventional ones," explains Graham. After three months, the condition of the teat ends of cows milked using the triangular liners was significantly better than those being milked on the other side of the parlour.

Teat-end damage caused by problems with liners and pipes



James Allcock: "Solutions are often easy and don't require much, if any, significant investment"

A teat score of 1 is optimum in terms of preventing mastitis and new infections. In May 2007, 66% of the herd has a teat score of 1 or lower and three months later this had risen to 88%.

The conventional liners were then replaced with triangular liners with an air-bleed modification – a 0.8mm hole was situated close to the mouth of the liner. The designer thought that this would help to exert even less pressure on the teat end – and he was right. Further teat end scoring revealed that

the modified triangular liners were even better still, as far as teat end condition was concerned. In January 2008, 619 teats were scored and the average score was 0.8 (see Figure 1).

"And 18 months after the switch to these liners on both sides of the parlour, teat end condition has never been better and the herd average SCC is down to just 100,000 cells/ml, compared to 220,000 cells/ml," says Graham.

He believes that the problem with his unit's parlour could happen in any

parlour and that there's a lot that's still not known about milking machines.

"I don't think that there's a lot of science and research behind it. I think that many parlours are still designed for cows that average 6,000 litres – not today's modern high yielding cows averaging closer to 10,000 litres with faster milk flow rates.

"And I believe that more money needs to be spent on research in this area."

Rachael Porter