

Milking cows quickly, completely, but most importantly, gently

One of the inevitable effects of milking a cow with vacuum is teat congestion, which can prevent cows from milking quickly, completely and gently. We of course need some vacuum when milking, but it is excessive vacuum that becomes problematic and can cause congestion in teats and thus reduce milking speed and milk yield.

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Whichever liner you choose, a liner is inherently a compromise, irrespective of the milking equipment

being used. You can only choose a liner to suit the majority of the herd. Not only does the teat size, shape and texture vary from cow to cow, these factors also vary from teat to teat on each individual cow.

In addition, the teats also alter their size and shape during the milking. You might think that achieving an optimal liner vacuum is impossible, but there is a solution.

Treating – or rather milking – teats individually is the answer in the form of ADF's latest revolutionary product InVent. InVent controls and optimises the level of vacuum within the liner for every cow and every teat continuously during the milking process.

The intelligent venting system

comprises a valve that adjusts the vacuum level at the mouth of the liner.

The valve opens automatically if the vacuum exceeds 10kPa to allow clean air to enter the chamber and reduce the vacuum to between 10kPa and 20kPa, the so-called 'sweet spot' for gentle but effective milking.

Ian devised a comprehensive testing programme comparing ADF InVent against an unvented milking system to look for differences in post-milking teat condition – not just across the whole herd – but also looking at differences within each cow's individual teats. A summary of his report is shown below.

Evaluating the effects of InVent: An independent expert's opinion

We asked Ian Ohnstad of the Dairy Group, an internationally recognised specialist in milking technology, to conduct an independent assessment of the ADF InVent system.

Does it work?

Ian made the following conclusion: "We know that teat congestion reduces peak milk flow rate and significantly reduces cow comfort. We have been able to demonstrate that the InVent system from ADF significantly reduces teat congestion.

The effects of the ADF InVent system were evaluated using the guidelines developed by Teat Club International (TCI) for measures:

Teat ringing, teat congestion and teat discolouration.

● **Teat ringing** is seen where the teat connects to the base of the udder and we used three categories:

- Category 1: A teat that has no visible ring.
- Category 2: A teat that has a visible ring.
- Category 3: A teat with a palpable ring at the base of the teat which is hard, swollen and uncomfortable.

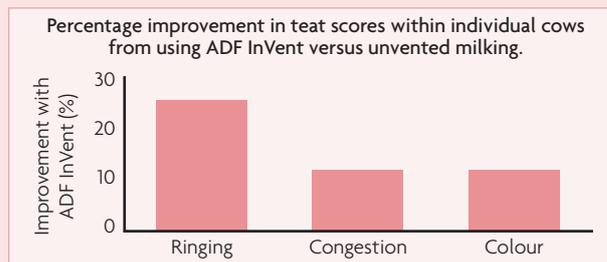
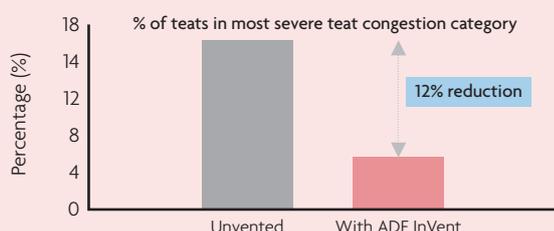
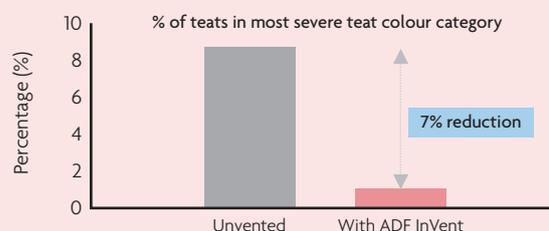
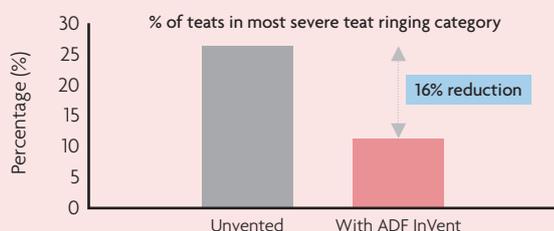
● **Teat congestion** was measured by the change in the structure of the teat. These results ranged from no congestion to severe congestion.

● **Teat colour** at the end of milking was recorded and graded as either normal, red (some concern) or blue (very concerning).

The trials were conducted at two different farms located in England. Comparing the results with ADF InVent enabled against the results with the venting functionality disabled it was observed that:

- At the herd level – teat condition was significantly better when the herds were milked with ADF InVent in all three measurements – teat ringing, teat congestion and teat colour.
- At the individual cow level – teat condition was significantly better on those teats milked with ADF InVent compared to those teats milked with the venting disabled.
- Cows evaluated as positively benefitting from ADF InVent tended to show significantly measurable benefits. This observation may be particularly relevant for cows that can be vulnerable to high mouthpiece vacuum levels such as fresh heifers.

Differences in post-milking teat conditions (ringing, congestion and colour) when using ADF InVent and unvented milking. Approximately 1200 teats were evaluated.





It is important to be able to milk cows quickly, completely and, most importantly, gently.

Not all cows or all teats will benefit from this venting, but a significant number of cows will.”

The benefits of integrating intelligent venting with automatic dipping and flushing are multifaceted: calmer cows with fewer kick-offs, more complete milk-outs and higher yields, faster milk let down and shorter milking times as well as a gentler milking.

“InVent offers milk yield, time-saving and udder-health benefits,” says James Duke, founder and director of ADF Milking.

The improvement of udder health and thus healthier teat conditions by

using the ADF system leads to the strengthening of the cows’ self-defence against infection. The system’s instantaneous teat dipping within the liner before the exposure to potential infection and the automated liner flushing reduces the risk of mastitis.

All these facts benefit the farmer in form of lower somatic cell counts, the reduction of antibiotic usage, savings on vet costs, as well as additional lactations adding to the lifetime yield of the cow.

Since its introduction to the UK market, InVent has caused quite a stir. “When I was told that ADF had

brought out the InVent system I was really excited because I thought this could be a game changer and for me I think it definitely is,” explains Mark Reed from Culverhayes Farm, Honiton, Devon.

James Lywood from Battlehurst Farm in West Sussex comments on the practical benefits:

“Since the installation of InVent milk yields have increased by an extra 0.5 litres per milking per cow. That is a litre a day and, potentially, around 300 extra litres per lactation for freshly calved cows.

“In addition to the 20 minutes shaved off by the automatic flushing

and dipping system, InVent has cut milking time by a further 10 minutes, pushing up daily time saved in the milking parlour from 40 minutes to an hour. If you look at that during the course of a year, that is a lot of hours saved.”

Implementing an intelligent-venting system combined with automatic cluster flushing and teat dipping into the milking parlour seems to be the answer to a gentler, more effective and stress-free milking routine. ■

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