

Are we looking at the right groups of cows to reduce somatic cell counts?

Home truths on cell counts

A vet-led investigation involving nearly half a million NMR cow records, provides some clear links between the overall herd cell count (SCC) and the percentage of cows falling into defined categories of cell counts, such as repeat high counts and 'fresh' infections. Armed with this information, which is readily available for each herd, producers and their vets can monitor and improve cell count control.

text **Karen Wright**

Starting with a survey among his own dairy clients, Chris Watson from the Gloucester-based Wood Veterinary Group, looked at the links between individual cell counts and the overall herd average. Several trends emerged and he extended his work, with James Hanks from Reading University's Veterinary Epidemiology Unit, to using nearly half a million cows on the NMR database.

And by using NMR's web-based Herd Companion, it was easy to categorise cows with cell counts above 200,000/ml into these groups:

- new infections – those with a 'first' cell count above 200,000/ml,
- repeat infections – cows with a second

or more cell count above 200,000 but not in consecutive recordings

- chronic infections where cows have two or more consecutive scores of 200,000/ml or more.

A key point from the NMR data analysis showed that if the group of cows with cell counts above 200,000/ml at consecutive recordings, known as chronically infected cows, is kept below 10% then the overall herd SCC will almost certainly be below 200,000/ml, as shown in Figure 1.

"But if this percentage of chronically infected cows rises above 15% then it becomes almost impossible to keep the herd SCC below the 200,000 threshold," says Mr Watson.



Chris Watson

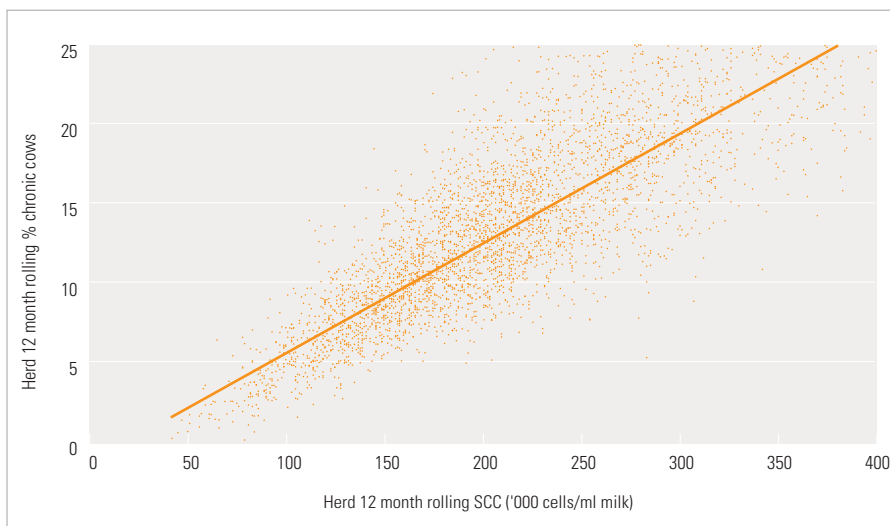
"This is a useful benchmark to apply when comparing herds. We also concluded that if the level of chronic cows is reduced by just 2% then the average reduction in herd cell count will be 29,000/ml.

Chronic links

"Herd SCC and the level of chronic cows are very strongly linked. If you struggle to control your herd SCC then reducing the level of chronics is a very logical place to start.

"By using Herd Companion we can manage individual figures to indicate meaningful dynamic changes in her SCC trends. This is what really matters. A one-off reading on an individual, while

Figure 1: Herd somatic cell count by % cows with chronic infections in 4,000 NMR milk recorded herds



useful to rank cows at that moment, can be misleading because of the behaviour of infections. It is important to group these SCC changes into categories that are related to herd performance.”

Mr Watson investigated when infections were occurring during a lactation and looked carefully at the proportion of high SCC cows (that is cows with SCC's above 200,000/ml) at the first milk recording after calving. The aim was to use these trends to produce meaningful groups of cows to reflect herd infection.

He also found a strong relationship between the number of cows acquiring new infections above 200,000 cells/ml and the average herd cell count. And by grouping the Herd Companion categories of new, first and repeat together into 'fresh' infections Mr Watson found that at herd level these were also strongly correlated to the herd SCC. "If these fresh infections were reduced by 2% it would result in an average herd SCC reduction of 67,000/ml."

This work shows how important it is to know the levels of each infection category within a herd. NMR customers can get this information that is updated after each recording, free of charge through Herd Companion.

'Lurking' dangers

"This large-scale data study confirmed our thinking," adds Mr Watson, "that using clearly defined groups of SCC results for individuals can indicate the possible mastitis 'infection' trend in

Mastitis handbook 2010

Start the new decade with NMR's new mastitis handbook. Published this month, this up-to-date, practical guide to mastitis control is produced by NMR in conjunction with leading mastitis guru and Devon-based vet Andy Biggs.

Designed for today's busy producer, it looks at housing, nutrition, disease control and parlour routine.

"Many producers might be able to put a tick by many of the points, but there will be at least a few suggestions that will make everyone pause for thought," says report author Catherine Smith.

"Also included are the latest mastitis control tools and recording systems that contribute not only to reducing mastitis but to identifying trends. It is by no means an exhaustive list and advice should always be sought from



your vet, but it is a great up-to-date practical guide."

Copies are available free of charge from NMR Customer Services, 0844 7255567.

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the herd. Obviously the starting point is those 'lurking' infections that are having an impact on the herd average – the chronic infections.

"While it's very tempting to focus just on the top cell count cows, there's a large number of cows further down the list that we should be looking at – 60% of the cows with chronic infections will have average cell counts between 200 and 500,000/ml so not excessively high.

A large scale project of this type has also helped to generate benchmarks.

"Although we are discussing SCC levels, the inference is that this will also indicate possible herd infections and this is vital information for any herd.

"But what is really important to recognise is that the data is already on the NMR Herd Companion web site and these SCC groups can be set up very easily. With correct interpretation and using the links between these groups and herd SCC we can open a new door to improved cell count management within our herds." |

60% of chronically infected cows will have a cellcount under 500,000/ml

