

# Data shows **breeding is key to udder health**

The UK herd average SCC is still improving, overall, despite a recent blip in the figures. And much of this is down to breeding for better udder health.

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**B**reeding has had a significant impact when it comes to improving udder health in UK herd and there's more progress to be made – thanks to the continued use of the SCC index and the more recent addition of the mastitis index. Figures show that since 2008, when the average somatic cell count peaked, there's been a sustained and significant reduction.

"Looking at the analysis for SCC, there's definitely a downward genetic trend," says AHDB's Marco Winters.

"We saw a steep drop in 2012/2013," says Mr Winters. "More than we expected from genetics alone, so there are always some environmental and management factors at play. But selection for udder health – be that using the SCC index or the mastitis

index – has made, and continues to make, a big difference here."

The past two years (2017/2018 and 2018/2019) AHDB figures have shown a surprising blip – particularly in 2018/2019. NMR figures paint a similar picture, according to NMR's Karen Bond.

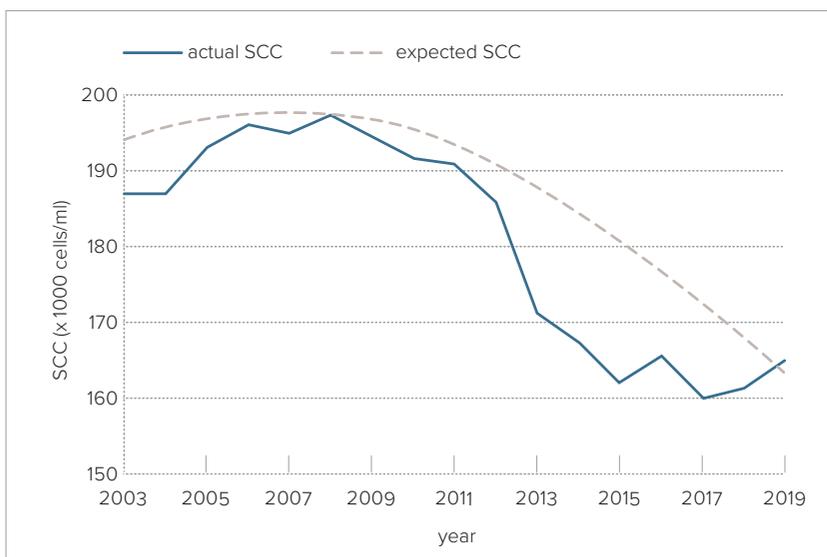
"The downward trend looks to have slowed, but we also saw a rapid improvement in SCC across dairy herds annually, from 2013 to 2016. During the past three years we have seen a small increase and now the levels have reached a plateau," she says, adding that the UK average is still a respectable 173,000 cells/ml (April 2019 to April 2020 data).

"Like any aspect of dairy management, there will be producers who are 'on it' when it comes to SCC and udder health. And there will be those that are less so. And the latter will always, to some extent, push up the average figure."

## Expected level

She adds that some producers may have lost cows to diseases, such as bTB, during the past three years and, as a result, have made fewer voluntary culls due to high SCC. "And the weather may have also played a role. We've seen a few years of extremely wet and then hot and humid conditions, which will impact on udder health and SCC."

Figure 1: Expected (based on cows' average genetic merit for SCC) and actual average UK herd somatic cell counts since 2003



“Overall, the UK herd average SCC is still at the expected level,” agrees Mr Winters.

“I suspect that the anomalies we’ve seen during the past two years were down to management and environmental factors. Perhaps producers were not culling high SCC cows so hard, since their herd average has fallen to a more acceptable level?” says Mr Winters. “It’s something to keep an eye on. Breeding for good udder health – reduced SCC and fewer mastitis cases – will go a long way and the potential is there for the average to continue to fall. But management has a key role to play.

From a genetic point of view, SCC can never be too low. But there is still a perception and a real concern that SCC can be too low and render cows defenceless against udder infection. “There is a belief that if a herd is ‘too clean’ and it’s then exposed to a mastitis causing pathogen that this could create a lot of udder health issues. But we’re a way off reaching that level with breeding.”

### Too low?

Mrs Bond says that producers shouldn’t be concerned about low SCC cows. “It’s an age-old question – is there such a thing as ‘too low’ when it comes to SCC?

“I don’t believe that there is. Even low SCC cows – some can be down to 10,000 cells/ml or fewer – should be more than capable of fighting off udder infection. It’s about how quickly the cow’s immune system can direct the white blood cells to the site of infection when needed, rather than the number that are there in the first place.” And she believes that there’s still plenty more progress to be made in UK herds. “The average, through breeding and careful udder health management, could still be significantly reduced.

“Let’s get to a place where we can actually start to have those debates about how low we should go with SCC. That’d be a huge achievement and also entirely possible. That said, most herds will always have one or two cows



## Marco Winters: “Selection for udder health has made – and is making – a huge impact”

that will pull up their average – regardless of breeding or management.”

Back to breeding and Mr Winter’s says that looking at the best and worst sires, ranked on SCC and mastitis index, during the past 30 years is an eye opener (see Table 1) and serves to highlight just how far dairy breeding has progressed in terms of tackling udder health issues.

Around 7.3% of daughters by the top five sires, ranked on SCC and mastitis index, saw a raised SCC in their first lactation, compared to 18.3% incidence in daughters of the worst five sires.

“The probability of daughters by the worst sires developing udder health problems in their first lactation was double that of the best sires. And this gap widens in subsequent lactations. Some of the daughters of the worst ranking sires probably don’t even make it to a second or third lactation.”

The good news is that the sires used in this example are ‘old’ sires and no longer in use.

“Things have moved on a lot since the 1990s – these lower-end sires would be unmarketable today. SCC index are used by most – if not all – producers. And awareness of the mastitis index is also growing.

“More producers could be making use of it, if they’re looking at individual sire PTAs and specifically want to select for better udder health.

“SCC and mastitis index are now included in £PLI so, by default, if producers are selecting on £PLI they’re also selecting for improved udder health.” |

Table 1: Proportion of heifers and cows with a SCC test greater than 200,000 cells/ml, by sires ranked on SCC and Mastitis Index

lactation	top five sires	bottom five sires
1st	7.3%	18.3%
2nd	8.9%	24.9%
3rd	12.6%	32.4%
4th	16.1%	38.0%
5th	19.7%	41.5%

Table 2: Top SCC and Mastitis Index sires from CRV Avoncroft

sire	SCC index	mastitis index
Starmaker	-30	-3
Podcast	-18	-1
Fisherman	-16	-2
Wirdum	-20	-3
Abundant P	-21	-3
Bouncer	-30	-3
Skyline	-8	-1

