

IMPORTANCE OF HEIFERS IN MASTITIS CONTROL

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Mastitis control is improving across UK farms, as shown by reducing rates of clinical mastitis and bulk SCC (Hanks & Kossaibati 2024, Leach et al 2024), though no UK studies have specifically evaluated heifer mastitis parameters. Heifers generally have lower somatic cell count (SCC), and lower rates of clinical mastitis, but new infections during the first lactation remain important as they may affect future performance and profitability (De Vliegher et al 2012). The aim of this study was to summarise udder health performance in heifers across UK farms.

The REMEDY platform collates data from more than 1,000 UK dairy farms, of which 400 have opted to receive the Mastitis Pattern Analysis Reports (Hyde et al 2016). Data from all farms going through the REMEDY platform were anonymised and benchmarked on the 31st of December 2024. Farms were excluded from clinical mastitis calculations if they had an incidence of fewer than 5 cases per 100 cows per year. Farms were excluded from subclinical mastitis calculations if they had fewer than 4 milk recordings in 2024, or if they had not had a milk recording within 2 months of the end of 2024. Key mastitis parameters in heifers were calculated using TotalVet© – 12-month averages were used to remove any seasonality.

- Clinical Mastitis Rate – incidence of clinical mastitis / 100 cows / year
- Dry Period Origin clinical mastitis (DPO) – incidence rate of index cases occurring within the first 30 days of lactation
- Lactating Period Origin clinical mastitis (LPO) – incidence rate of index cases occurring between 31 and 305 days of lactation
- Prevalence of infection (>200K) – proportion of heifers with a somatic cell count >200,000 cells/ml at each milk recording
- Prevalence of chronic infections (% chronic) – proportion of heifers that are persistently high cell count at each milk recording
- Fresh Calver Infection Rate (FCIR) – proportion of heifers with a high somatic cell count (>200,000 cells/ml) at their first milk recording ≤30 days in milk
- Lactation New Infection Rate (LNIR) – rate at which uninfected heifers at the previous milk recording cross the 200,000 cells/ml threshold i.e. become infected >30 days in milk.

Table 1 shows the proportion of herds above target for key udder health parameters. Rates of clinical mastitis were low (on the farms with records), 95.8% of farms had a rate of heifer mastitis below target. When mastitis incidence was broken down by the period in which it occurred, DPO was above target on 10.6% of farms, LO was above target on 2.6% of farms.

On most farms, the prevalence of subclinical mastitis was low, with few farms having a high proportion of heifers with chronic high cell counts. Despite this, the

fresh calver infection rate was above target in the majority of farms. New infections during lactation were better controlled, but were above target in around a third of farms.

Table 1: Key udder health parameters for first lactation heifers on UK farms				
Clinical mastitis (n=189)		Minor problem	Moderate problem	Major problem
Clinical Mastitis Rate per 100 cows per year	<i>Target</i>	<25	25-50	≥50
		181 (95.8%)	8 (4.2%)	0
DPO	<i>Target</i>	<1 cow in 12	1-2 cows in 12	≥2 cows in 12
		169 (89.4%)	16 (8.5%)	4 (2.1%)
LO	<i>Target</i>	<2 cows in 12	2-4 cows in 12	≥4 cows in 12
		184 (97.4%)	5 (2.6%)	0
Subclinical mastitis (n=370)		Minor problem	Moderate problem	Major problem
>200k	<i>Target</i>	<10%	10-20%	≥20%
		261 (70.5%)	104 (28.1%)	5 (1.4%)
>% chronic	<i>Target</i>	<5%	5-10%	≥10%
		272	85	13
FCIR n = 370	<i>Target</i>	<10%	10-20%	≥20%
		123 (33.2%)	173 (46.8%)	74 (20%)
LNIR n = 370	<i>Target</i>	<5%	5-10%	≥10%
		252 (68.1%)	109 (29.5%)	9 (2.4%)

These results show that clinical mastitis in heifers is better controlled than subclinical mastitis. Rates of new infection appear to be higher in fresh calvers, compared with the rest of lactation as shown by high DPO and FCIR. High rates of infection in early lactation don't appear to drive high prevalence of chronics, but could have a negative impact on milk production, performance and longevity (De Vliegher et al 2012).

This research demonstrates that clinical mastitis in heifers is well controlled on the majority of UK dairies. Subclinical mastitis is less well controlled, particularly new infections in the first 30 days in milk. Herds with high rates of infection in heifers are likely to benefit from targeted advice, particularly focussed on the pre-calving environment.

References

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