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Background

- Prevention and treatment of mastitis accounts for most of the antimicrobial use (AMU) on dairy farms.
- Various stewardship programs aimed at reducing AMU in the dairy sector have emerged over the last decade.
- In Canada, collaborative efforts of various stakeholders have resulted in the 'Canadian Dairy Network of Antimicrobial Stewardship and Resistance' (CaDNetASR) initiative.
- This network encompasses 150 dairy farms in five regions and monitors antimicrobial resistance (AMR) and AMU patterns.
- Aim: Identify areas for a reduction in mastitis-related treatments.

Materials and Methods

- Structured questionnaires: current on-farm AMU practices.
- Subset of 110 farms in British Columbia, Alberta, Ontario and Nova Scotia.

Conclusion

There is variation among DCT and CM treatments. Therefore there is an opportunity for reducing AMU associated with DCT and treatment of CM on dairy farms in Canada.

Results

Of the 110 surveyed farms, 35% routinely practiced selective dry cow therapy (sDCT), and 54% practiced selective treatment of clinical mastitis (CM) (Figure 1).

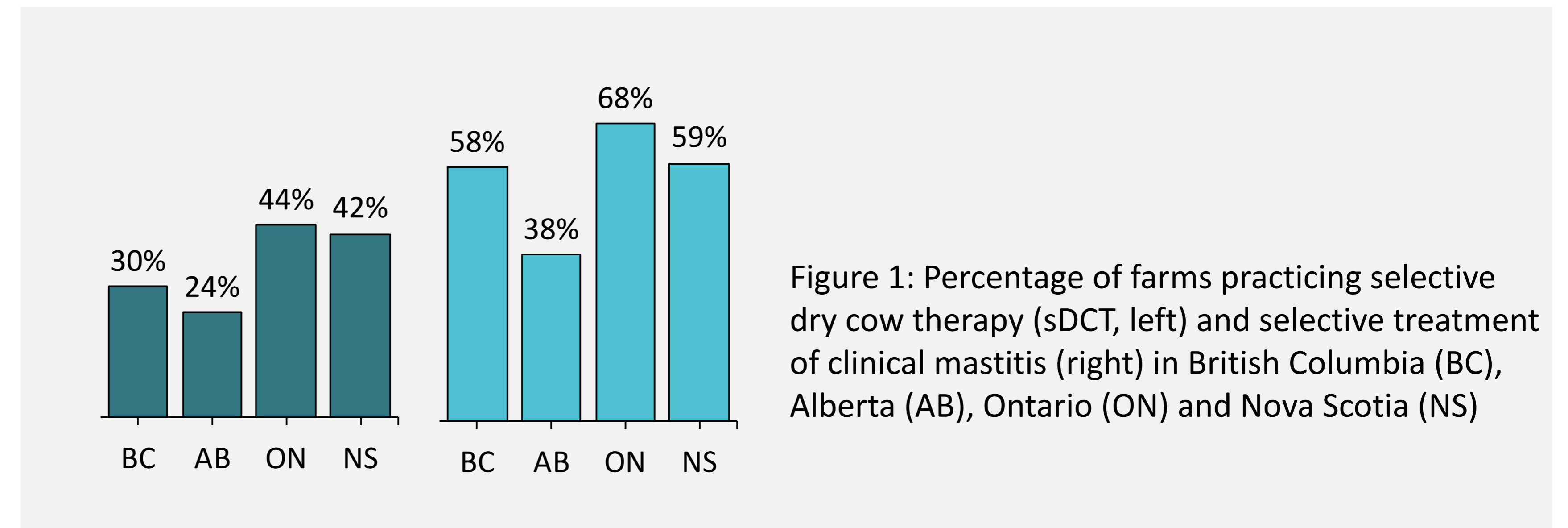


Figure 1: Percentage of farms practicing selective dry cow therapy (sDCT, left) and selective treatment of clinical mastitis (right) in British Columbia (BC), Alberta (AB), Ontario (ON) and Nova Scotia (NS)

Of the farmers practicing sDCT, 94% used somatic cell counts (SCC) to select cows for treatment (timepoint of SCC measure ranging from the last 2 weeks, to last 12 months). Median cut-off was 150,000 cells/mL (Figure 2). Time point of the previous mastitis case was used by 44% of the farmers as part of their sDCT strategy; most farmers taking the current lactation into account. 41% looked at the number of mastitis events (ranging from ranging from 1 case in her lifetime, to 4 in the same lactation).

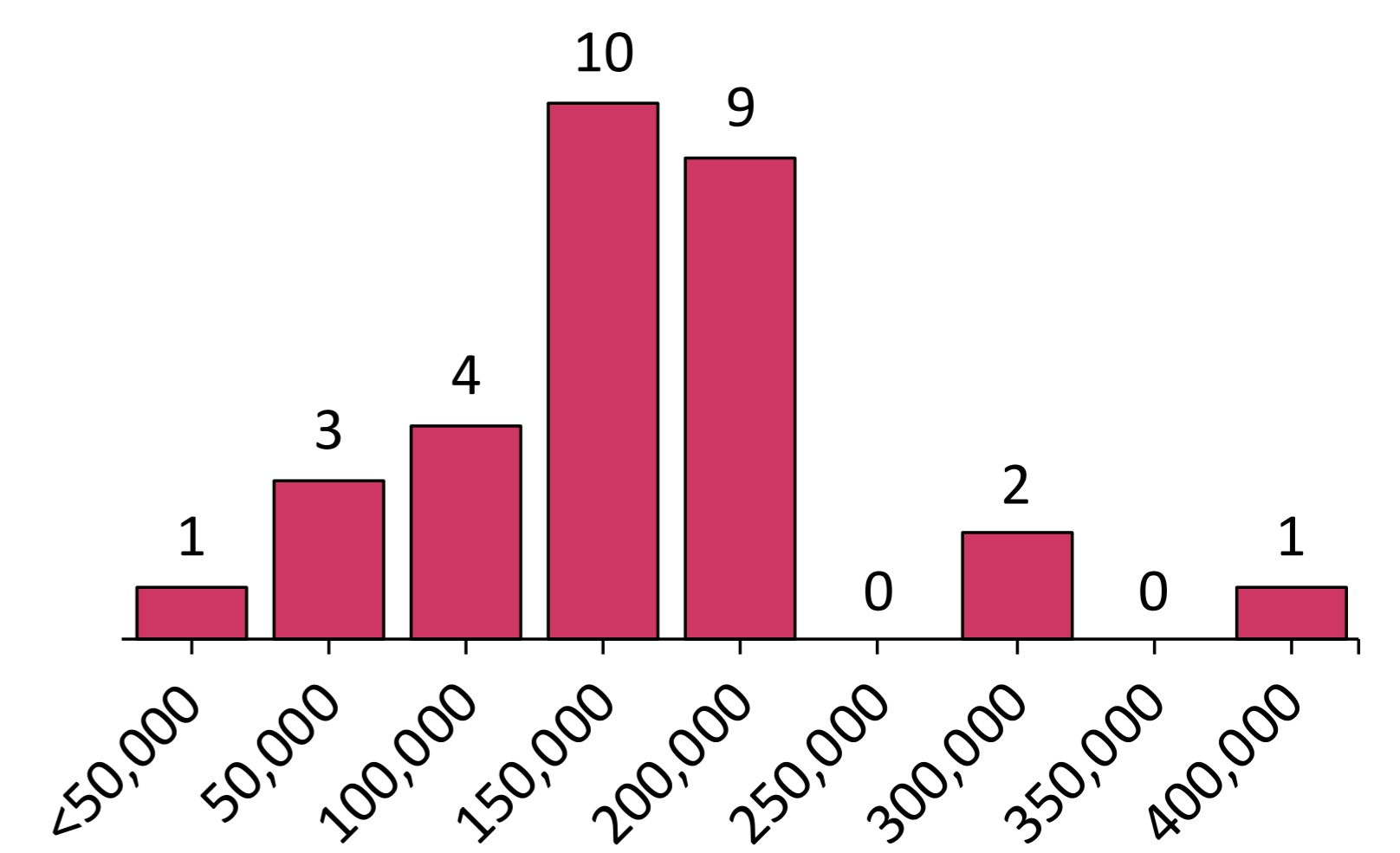


Figure 2: Number of farms per SCC cut-off (cells/mL) for selecting cows for dry cow therapy

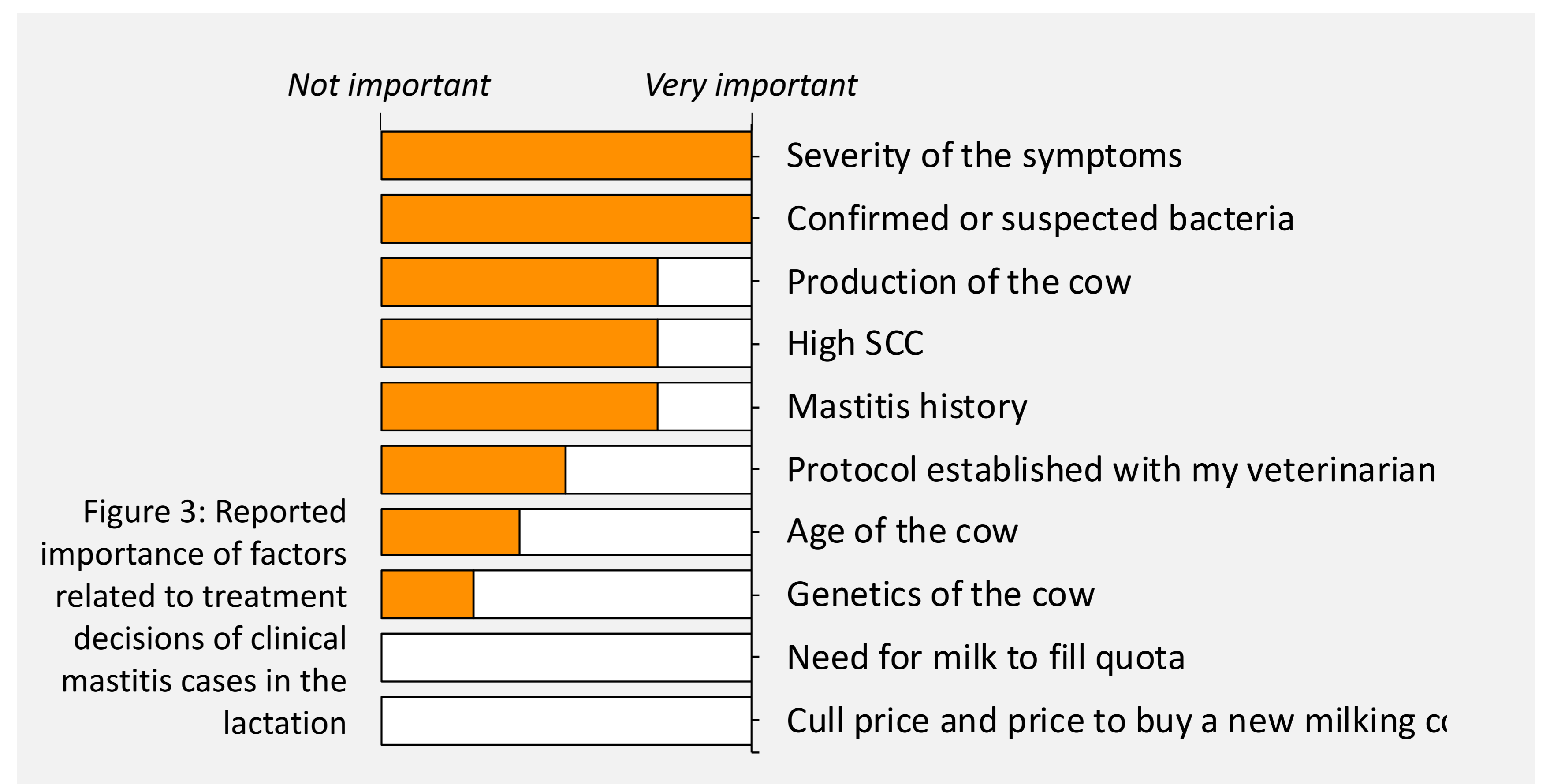


Figure 3: Reported importance of factors related to treatment decisions of clinical mastitis cases in the lactation

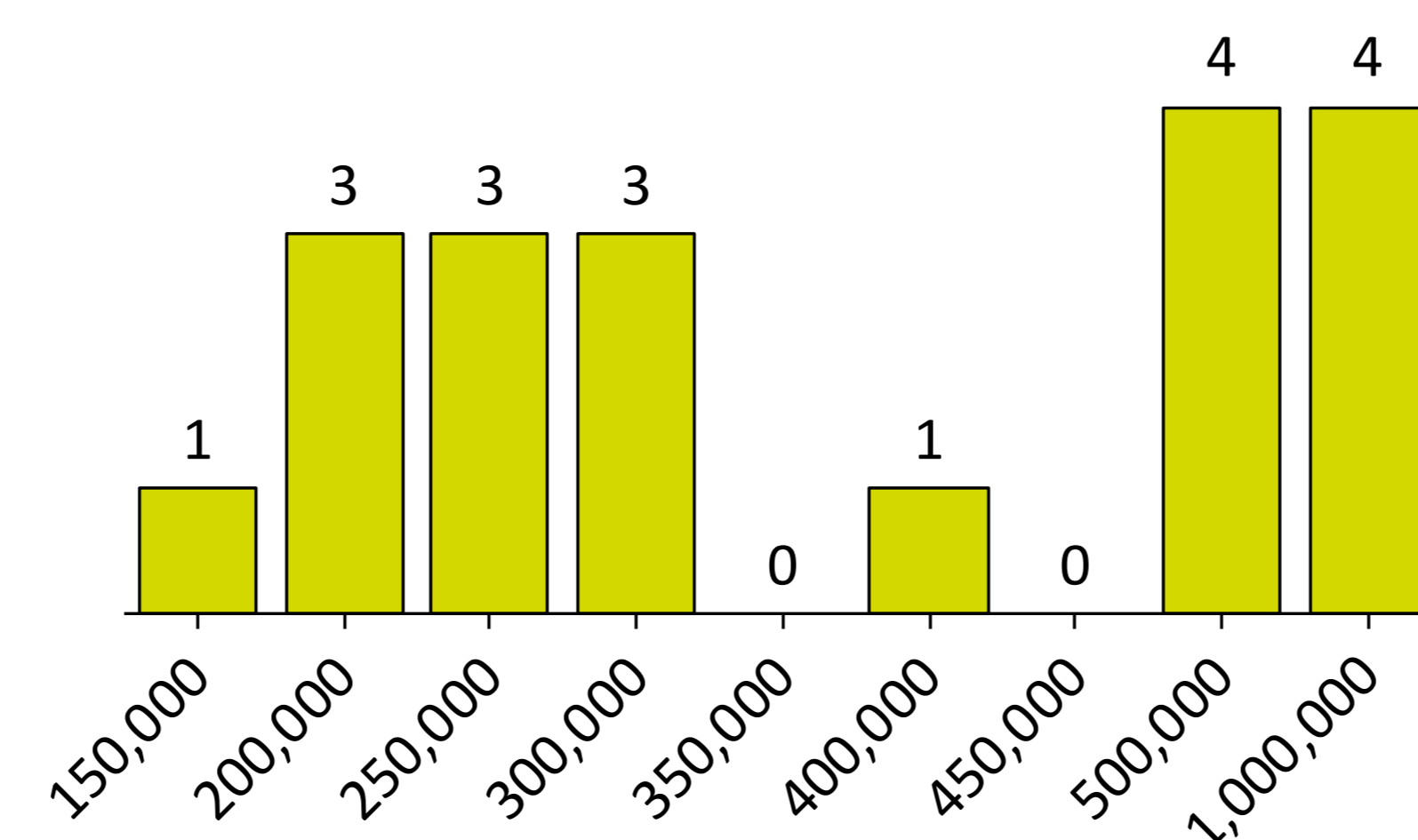


Figure 4: Number of farms per SCC cut-off (cells/mL) for selecting cows for clinical mastitis treatment.

Regarding selective treatment of CM, multiple factors played a role in the decision making of the farmers selectively treating CM (Figure 3). Severity of the symptoms and confirmed or suspected bacteria were the most important considerations, followed by SCC and mastitis history. 44% used SCC to select cows for treatment, based on either the last report, or the last three reports. Median cut-off was 300,000 cells/mL (Figure 4). With regards to mastitis history, treatment considerations were most often based on 1 or 2 mastitis cases in the same lactation.

