

# Mastitis in dairy cows and its impact on reproductive parameters

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The aim of the work was to evaluate the incidence and etiology of mastitis and its impact on reproductive parameters of dairy cows.

## Material and methodology:

- Cattle breeding (mainly Holstein type)
- 112 dairy cows that were 10 days post-calving with a history of intramammary infection in the previous lactation.
- dairy cows that had a positive CMT test and an elevated SCC value in the last three months before drying off CMT test (indirect diagnostic test)
- Bacteriological examination was performed according to the methodology of Malinowski and Kłossowska (2006) with identification of *Staphylococcus* spp., *Streptococcus* spp. and *Enterobacteriaceae* spp. using STAPHY-test, STREPTO-test or ENTERO-test and identified using TNW Pro 7.0 software (Erba-Lachema, CZ)
- insemination interval, insemination index, intercalation period, service period and lactation length were obtained from the databases of the given breeding



## Results:

Table 1, Overview of CMT test evaluation and bacterial findings

CMT-test		Bacteriological findings			
n	Negative	Positive	n	Negative	Positive
448	381 (85 %)	67 (15 %)	112	62 (55 %)	50 (45 %)

Note: n - number of milk samples

Table 2, Overview of isolated pathogens from milk samples

Isolated pathogens	n
<i>Staphylococcus aureus</i>	16 (32 %)
<i>Escherichia coli</i>	2 (4%)
<i>Aerococcus viridans</i>	12 (24 %)
<i>Coagulase-negative staphylococci</i> ( <i>Staph. xylosus</i> , <i>Staph. chromogenes</i> , <i>Staph. warneri</i> )	20 (40%)
Summary:	50

Table 3, Evaluation of reproductive parameters in dairy cows with subclinical and clinical mastitis

Reproduction parameter	Reproductive parameter value		Dairy cows with unsatisfactory reproductive parameter values		
	V [pcs/%]	N [pcs/%]	SKM [pcs/%]	KM [pcs/%]	Negative [pcs/%]
<b>Insemination interval (55-80 days)</b>	86 (77%)	26 (23%)	2 (8%)	4 (15%)	20 (77%)
<b>Insemination index (1,2-2 )</b>	66 (59%)	46 (41%)	7 (15%)	6 (13%)	33 (72%)
<b>Servis period (60 -110 days )</b>	99 (88%)	13 (12%)	4 (31%)	3 (23%)	6 (46%)
<b>Intercalation period (365-400 days)</b>	46 (41%)	12 (11%)	1 (8%)	1 (8%)	10 (84%)
<b>Lactation lenght (240-305 days)</b>	86 (77%)	26 (23%)	4 (15%)	7 (27%)	15 (58%)

Note: V – satisfactory, N – unsatisfactory, SKM – subclinical mastitis, KM – clinical mastitis

## Conclusion :

In mixed milk samples, *Staphylococcus* and coagulase-negative staphylococci (*Staphylococcus xylosus*, *Staphylococcus wernerii*, *Staphylococcus wernerii*), *Aerococcus viridans* and *Escherichia coli* were detected in both forms of mastitis. Compared to optimal reproductive indicators, the results showed unsatisfactory reproductive values, especially in dairy cows with a clinical form of fatty value.



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