

Pathogens in milk of goats and their relationship with somatic cell count

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SUPPLEMENTARY FILE

Material and methods

Statistical analysis

Relationships among traits were analysed using Pearson correlation coefficients. Statistical analysis was performed using the GLM procedure in SAS9.2 (2009). The resulting models, based on preliminary analysis of possible sources of variability of investigated traits, are specified below:

For the evaluation of the effect of SCS on milk composition within the months 458 samples were used:

$$y_{ijkl} = \mu + M_i + C_j + P_k + e_{ijkl} \quad (1)$$

y_{ijkl} - fat, protein, lactose, dry matter and non-fat dry matter (NFDM)

μ – overall mean

M_i - fixed factor of month of measurement (two levels: June, July)

C_j - fixed factor of SCC group (five levels: $< 500 \times 10^3$, 500×10^3 to 1000×10^3 , 1000×10^3 to 2000×10^3 , $\geq 2000 \times 10^3$)

P_k fixed effect of parity (three levels: first, second, third and higher)

e_{ijkl} - random error

The serious health problem of half udders with SCC over million per ml could be considered. Therefore, for the evaluation of the effect of pathogen presence on SCS within the months only 209 samples within both SCC3 and SCC4 groups were used:

$$y_{ijk} = \mu + M_i + P_j + C_k + e_{ijk} \quad (2)$$

y_{ijk} - SCS

μ – overall mean

M_i - fixed factor of month of measurement (two levels: June, July)

C_j - fixed factor contagious pathogen (two levels: pathogen detected, pathogen not detected)

P_k - fixed effect of parity (three levels: first, second, third and higher)

e_{ijk} - random error

Results

Table & figure legends:

Table S1: Impact of months on content of milk composition and somatic cell score

Component	Month	
	June	July
Fat, %	3.87±0.07 ^a	4.34±0.07 ^b
Protein, %	3.11±0.02 ^a	2.97±0.02 ^b
Lactose, %	4.69±0.03 ^a	4.35±0.03 ^b
DM, %	12.27±0.08	12.29±0.08
NFDM, %	8.46±0.03 ^a	7.97±0.04 ^b
SCS, mL ⁻¹	6.17 ±0.09	6.18±0.08

Note: ^{a,b} LS Means and standard error within row with different letters are significantly different at $P<0.01$, DM – dry matter, NFDM – non-fat dry matter.

Table S2: The effect of parity on traits

Component	Parity		
	First	Second	Third and more
Fat, %	3.99±0.08	4.12±0.07	4.29±0.12
Protein, %	3.01±0.03	3.06±0.02	3.05±0.04
Lactose, %	4.57±0.03	4.50±0.03	4.47±0.05
DM, %	12.18±0.09	12.30±0.08	12.43±0.14
NFDM, %	8.23±0.04	8.21±0.03	8.18±0.06
SCS, mL ⁻¹	5.82±0.10 ^a	6.17±0.08 ^b	6.54±0.16 ^b

Note: ^{a,b,c} LS Means and standard error within row with different letters are significantly different at $P<0.05$, DM – dry matter, NFDM – non-fat dry matter