I prefer:

□ ORAL presentation

X POSTER presentation

Quality evaluation of cow milk in tank with the use of the CMT and somatic cell counter® test.

Castañeda Vázquez H.1\*, Bucio Galindo A.2, Izquierdo Reyes F.2, Castañeda Vázquez M. A.1, Salas Castañeda E.P., Castañeda Farías E. 1

1Universidad de Guadalajara, Laboratorio de Mastitis y diagnóstico Molecular. División de Ciencias Veterinarias, Guadalajara, México. [hcastane@cucba.udg.mx](mailto:hcastane@cucba.udg.mx), Camino Ramón Padilla Sánchez #2100 Nextipac, 45200, Zapopan, Jalisco, México, tel. 37771150 ext.33177.

2 Colegio de Postgraduados, Campus Tabasco. km 3.5 Periférico Carlos A. Molina S/N, C.P. 86500, H. Cárdenas, Tabasco. México.

**Abstract:**

Objective: evaluate whether California mastitis test (CMT) values for bulk milk depend on its somatic cell content. Evaluate if the composition of the milk changes as a function of the number of somatic cells.

Methodology/approach: 48 samples of bulk milk from different dairy farms and cheese factories in Tabasco, Mexico were taken randomly. Measured parameters were: California Mastitis Test (CMT), the somatic cell count (CCS), fat, protein, non-fat solids, lactose. The values of CCS were grouped in 3 intervals: (≤500,000), (≥500,000-1,000,000),

((≥1,000,000) to be compared with qualitative data of CMT (0, 1, 2) in a two-way contingency table. Milk samples were also grouped in 4 categories according to their number of somatic cells A (0-250,000), B (≥ 251,000-500,000), C (≥ 500,000-

750,000) y D (≥ 750,000) to compare fat, protein, non-fat solids, lactose by one-way ANOVA and Tukey test at a 5% confidence level.

Results: the CMT values were dependent on its somatic cells content intervals; (x2=88.1,

p ≤ 0.05). A lower amount of non-fat solids, lactose and protein was observed in the group D, with highest category of somatic cells (p ≤ 0.05).

Limitations on study/implications: the CMT test depend on the somatic cell content in cow’s bulk milk. Milk with high somatic cell content had less non-fat solids, and less lactose.

Conclusions: the CMT have been traditionally used to assess the udder’s health of individual cows; in this research, we validate to use CMT to assess bulk milk samples. Samples with high somatic cell content had less non-fat solids, less lactose and less protein.

Keywords: California Mastitis test, somatic cells, bulk milk, health, cows.