SPSS for veterinary epidemiology

EXERCISES

María J. Vilar
Dep. of Food Hygiene and Environmental Health

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Short communication

Application of ATP bioluminescence for evaluation of surface cleanliness of milking equipment

M.J. Vilar *, J.L. Rodríguez-Otero, F.J. Diéguez, M.L. Sanjuán, E. Yus

Instituto de Investigación y Análisis Alimentarios, Facultad de Veterinaria. Universidad de Santiago de Compostela, Campus Universitario s/n. 27002, Lugo, Spain

Information: A study was carried out in 106 dairy cattle farms.

Data: use of chlorinated water, frequency of using acid detergent, and the type of milking system. Measures of relative luminescence units (LRU) are provided for teat cup rubbers, teat dip containers, milk receivers, and pipeline joints. Information about bacterial count in bulk tank milk is also provided and should be categorized in 3 classes: A (<$20x10^3$cf/ml), B (20-$100x10^3$ cfu/ml), and C(>100-$x10^3$ cfu/ml) according to a quality system.

The objectives are:

i) to investigate if LRU values on various types of milking equipment surface are influenced by the milking system and cleaning system practices;

ii) to evaluate the relationship between LRU data and bulk-tank milk bacterial count.

Exercise 2

Simulated data:

Prevalence of disease M and prevalence of disease T were evaluated in 5 groups of individuals by three different test.

The prevalence mean values of each group obtained with the different test are presented in the table.

Objective: are there differences in the prevalence values obtained with the different tests?

Group	tpMPerturbed0	tpMPerturbed1	tpMPerturbed2	tpTPerturbed0	tpTPerturbed1	tpTPerturbed2
1	0.225	0.442	0.220	0.220	0.289	0.209
2	0.307	0.307	0.489	0.113	0.113	0.33
3	0.462	0.462	0.447	0.414	0.414	0.388
4	0.189	0.419	0.192	0.275	0.379	0.265
5	0.333	0.333	0.376	0.082	0.082	0.271