

A study on dairy cow management and the related bulk tank milk bacteria in Kerman County during cold and hot seasons

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Received: 18.10.2020

Accepted: 17.02.2021

Abstract

Several factors affect the quality of raw milk including the health of livestock, the milking style, and the hygiene and status of milking equipment. This study aimed to evaluate the indicator-bacteria related to the bulk tank milk management of dairy farms in Kerman County. The results will help in planning and performing good farm management practices. The bulk tank milk samples of 15 dairy farms were collected aseptically on the ice during cold and hot seasons. Total bacterial count (TBC), coliform count (CC), laboratory pasteurized count (LPC), *Staphylococcus aureus* count (SC), and somatic cell count (SCC) of the samples were assessed on every day of sampling. The questionnaires were also completed by the researchers at the farms. A mixed-design ANOVA with a significant level of 0.05 was performed to assess the interactions between different levels of management factors, laboratory results, and the seasons. During the cold season, LPCs, CCs, and SCCs were lower than in the hot season. The TBC of bulk tank milk in farms with a dirt floor was lower than other farms using concrete or roughcast ($P < 0.05$). Employing milking unit workers from the farmer's family significantly reduced the CCs of the bulk tank milk. The TBC of bulk tank milk in farms that performed the teat dipping procedure before or after milking tended to reduction (despite non-statistical significance). Application of management factors such as teat drying by disposable paper towel, teat post-dipping, and dry cow therapy by long-act intramammary antibiotic ointment is considered seriously in more than 50% of the farms. Scientific education of management tips to stockmen and employment of committed workers will be very effective in the simultaneous implementation of all basic hygienic actions and therefore increasing the quality of the produced milk.

Key words: Bulk tank analysis, coliform, *S. aureus*, SCC, management

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