

Akephun Sornsuy 2013: Dairy Production Efficiency of the Members of Muak Lek Dairy Cooperative Limited. Master of Science (Animal Science), Major Field: Animal Science, Department of Animal Science. Thesis Advisor: Assistant Professor Skorn Koonawootrittriron, Ph.D. 109 pages.

The study had 2 parts. The first part was to evaluate the quality of milk produced by farmers who were the member of the Muak Lek Dairy Cooperative Limited (MLDC). Milk quality at farm level consisted of fat, protein, lactose, solid not fat, total solid and somatic cell count evaluated from milk sampled every 15 days, during January 2010 to December 2011, from bulk tank of each farmer. These data were statistically analyzed and tested for the effect of year-month of milk sampling, milk collecting center (Mitrapap and Klongsai) and farmer group (G1 - the farmers who joined the dairy promotion project; G2 – the other farmers who did not joined the dairy promotion project). The results showed that the farmers of the MDLC produced milk quality passed the assessment criteria for all traits, excepted for total solid and somatic cell count. Year-month, milk collecting center and farmer group affected all traits ($P < 0.05$). Milk produced by Klongsai farmers had lower somatic cell count and protein than those produced by Mitrapap farmers ($P < 0.05$). Considering the difference between quality of milk and the assessment criteria of the particular year determined by the Cooperative Promotion Department, the results revealed that year-month, milk collecting center and farmer group affected ($P < 0.05$) the difference on fat (D-Fat), protein (D-Pro), lactose (D-Lac), solid not fat (D-SNF), total solid (D-TS), and somatic cell count (D-SCC). The second part was to characterize factors affecting the successiveness to produce good quality milk of the farmers participated with the dairy promotion project. The dataset of milk quality that different from the assessment criteria were considered with the questionnaire dataset. Chi square test was used to consider association of the factors. The farmers were classified into 3 groups based on milk quality, 1) lower than, 2) passed and 3) better than the assessment criteria. Most farmers (80%) produced milk with the quality passed the assessment criteria for all considered traits, excepted for D-TS and D-SCC. The difference in pasture management of the farmers had effect on D-TS in 2010 ($P < 0.05$). Furthermore, the early diagnosis for mastitis before milking affected D-SCC in 2011 ($P < 0.05$). These results stressed the need to promote the appropriate knowledge of farm management to the dairy farmers continuously.

Student's signature

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