

EVALUATION OF HYGIENIC PRACTICES AND QUALITY OF RAW MILK PRODUCED IN MAKANDURA, NORTHWESTERN PROVINCE, SRI LANKA

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Sri Lankan domestic dairy production has shown significant improvement in recent years but less attention is given for milk quality and hygienic management practices. The present study was focused on evaluating the common hygienic practices and the quality of raw milk produced in Makandura (NWP) area. A total of 75 raw milk samples were collected from dairy farmers from three milk collection centres (MCC), Mahayawatta (MW); n=33, Makandura (MK); n=22 and PahalaMakandura (PM); n=20, during the period from June to August 2013. All the samples were subject to physicochemical, microbiological, platform, keeping quality and determination of adulteration tests. Meanwhile all the farmers were interviewed using a pre tested questionnaire to assess hygienic practices. There was no significant difference ($p < 0.05$) in all physicochemical quality parameters except Specific Gravity (SG) and Solid Non Fat% among milk received from three MCCs. The mean titratable acidity, SG and pH values reported from all MCCs were within the acceptable range. There were significant differences ($p < 0.05$) in microbiological quality parameters among three MCCs and all of them were lower than the standards with highest counts from PahalaMakandura. Simultaneously PM had the highest percentage of abnormalities in organoleptic qualities and the highest percentage of positive results from Alcohol test (18% vs. MK,5%, MW,5%), clot on boiling test (12% vs. MK, 0%, MW,2%) and Resazurine ten minutes test (23% vs. 18%MK, 8%MW). No sample was found to be adulterated with starch, salt and hydrogen peroxide. Few farmers carried out recommended hygienic practices including post milking teat dipping (0% in all three MCCs), complete milking (MW,18%, MK,23% and PM,16%) and foremilk rejection (MW,7%, MK,23% and PM,5%). Generally cleaning milking equipment and pre milking hand washing were highly practiced in all three groups (MW, 100%, MK, 100%, PM,96% and MW,100%, MK,100%, PM,98% respectively). Standard stainless steel containers were commonly used for milk transporting (MW, 88%, MK,91% and PM,78%). Accordingly, raw milk collected in Makandura indicated poor in bacteriological quality while physicochemical quality was acceptable. Appropriate sanitary measures and hygienic management practices must be taken at all the stages of dairy production.

Keywords: Hygienic practices, Microbiological quality, Physicochemical quality, Raw milk