

**THE EFFECT OF CONTAMINATING WATER SOURCE  
ON MILK HYGIENE IN SMALLHOLDER DAIRY  
FARMING IN GAMPAHA DISTRICT**

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## ABSTRACT

The water used during handling and processing of milk products can be potential sources of microbial contamination with possible negative consequences on food safety. Especially, the water used in keeping the hygiene of milking and milk storage utensils is crucial to keep the quality and safety of the products. Therefore, the current study was designed to assess the bacteriological quality of water used for cleaning milking and milk storage equipment of smallholder dairy farmers in Hanwella area. For this study, petrifilm method was used instead of the conventional method to inspection total coliform counts and *E.coli* owing to ready to use and easy handling and it was used to enumerate coliform and *E.coli* in domestic water that is used by farmer. Then, conventional plating method was used to observe *E.coli* and milk sample and tryptone bile x-glucuronidase media was used for it. Around 90 of water sample (collected from the farmers) were collected from Hanwella and then milk samples were collected from same farmers who collected water sample and 80 of milk samples were collected.

There were several type of water source such as wells (80%), natural springs (4.44%), municipal supply (13.33%), "prajamula" supply (1.11%), tube-well (1.11%) and about 24.44% of samples are *E.coli* positive. Most of them *E.coli* positive were from the well and few of them were from the other water source. In this study, when decrease distance between water source and toilet pit increase the total coliform count/100 ml, in water and similarly with distance of the cattle shed. When increase the depth of the well, increase the total coliform counts/100 ml in water source. According to the result of study, contaminated water and poor hygiene practices of the farmers have effected on the raw milk in the study area. Finally chlorination, improve the hygiene practices of farmer can be suggested as a best and possible methods to overcome this problem.

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