D-35: Microbiological studies on Ruhuna curd

D K M P Dassanayake[1], C P Kodikara[1],
K K Pathirana[2], S Widanapathirana[1]
([1]*Dept of Microbiology, Univ of Kelaniya,* [2]*Dept of Animal Science, Faculty of Agric, Univ of Ruhuna, Kamburupitiya*)

An important factor which determined the quality and the level of contamination of curd was the quality of lactic starter cultures used in

fermentation. Curd lactic starter cultures in oura form are not available in Sri Lanka.

The objectives of the present study were to assume the level of contamination of curd and to produce a curd starter culture in pure form using isolates of lactic acid bacteria obtained from samples of curd.

Sixty samples of curd from Hambantota, Matara and Galle districts were analysed for coliforms, *E. coli, Staphylococcus aureus, Aspergillus flavus/parasiticus*, total yeast and mould count, bacterial contaminants, pH and acidity using standard methods. Lactic starter culture organisms were studied using methods given by Harrigan and McCance (1969).

The results showed the presence of coliforms and *E. coli* in the samples, indicating that the levels of faecal contamination was low. *Staphylococcus aureus* count ranging from 10-13 x 10^{10}/g was detected in 56.25% of the samples which showed that the hygienic conditions during manufacture should be improved. Yeasts and moulds were present in all the samples and the count was very high [(1-5)10^5/g] indicating that the hygienic quality of curd was low. *Aspergillus flavus/parasiticus* was present in 31.25% of the samples with colony forming units ranging from 10-12/g. pH ranged from 3.09 to 6.22 whereas the maximum recommended pH was 4.5. The predominant bacterial contaminants were *Bacillus* and *Micrococcus* sp. Lactic starter culture organisms isolated were *Lactobacillus fermentum, Lactobacillus cellbiosus, Streptococcus lactis* and *Streptococcus lactis* sub species *diacetylactis*. The results proved that the above lactic starter culture isolates were able to coagulate milk within 6 h within acceptable pH and acidity ranges. These isolates could be combined to have a curd starter culture in pure form.