

Meat, Milk and Wool Technology

Research has identified technologies and management strategies for developing improved livestock production systems based on on-farm feed and fodder production combined with more efficient use of alternative feed sources and improvements in livestock nutrition, health and reproduction. However, adoption of such technologies has been slow at the farmer level. Furthermore, changes in the economic status of masses are prompting demand for foods of animal origin and the subsequent changes in relative technical input and output supplies. Development of productive and sustainable livestock-based systems in the country requires action on several fronts. So, a program of applied and adaptive research that integrates technologies and feeding management practices with research on policy and institutional alternatives needs to be implemented.

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- Evaluation of Balkhi sheep for production traits of economic importance has revealed potential as candidate breed for mutton production.
- Under National Coordinated Research and Development Project for Improvement of Wool Quality initiated in July, 2004 with 5 nationally Coordinated Units, more than 200 farmers were trained. The practical demonstration of mechanical wool shearing was done 2500 wool samples were received from different Coordinated Units at Wool Laboratory, NARC and analyzed for clean wool yield, fiber diameter, staple length, medullation and bulkiness.
- Local starter culture technology for preparation of fermented milk product (yogurt/dahi) was developed. For isolation and characterization of Lactic Acid Bacteria (LAB), out of 93 samples, 60 potential strains of indigenous origin of LAB were isolated and preserved in the Microbank, isolates of LAB were identified by using API 20Strep and API 50 CH kits (Figure 1). Out of 75 isolates, 29 have been identified by analytical profiling down to genus and species level. Propagation of these strains on special medium



Figure 1. Fermentation profile of strain 57 LD in API 20Strep system

revealed that a living biomass of 1.5-3.5 billion per ml could be produced and harvested by centrifugal concentration.

Added water is the most frequently found adulterant in the market-milk. Carbonate, followed by starch and hydrogen peroxide are major chemical adulterants. The compositional quality of market-milk was significantly poor as compared with minimally acceptable quality of cow or buffalo milk (Figure 2). Some species of bacteria were identified from yogurt/dahi and milk samples (Table).

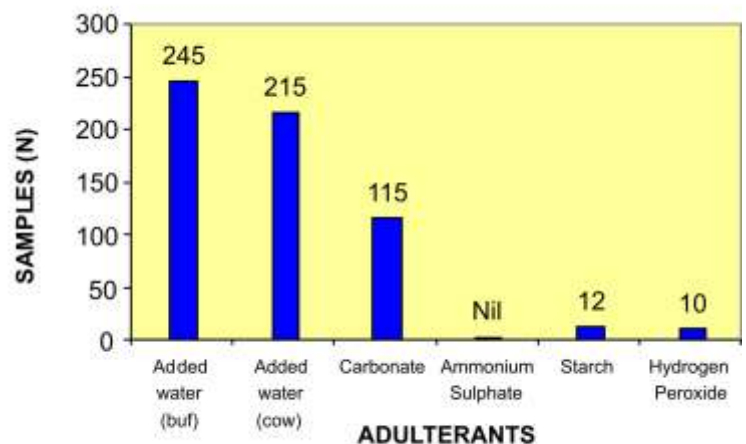


Figure 2. Frequency distribution of some adulterants found in market milk samples

Table. Strains of identified species isolated from yogurt/dahi and milk samples

Species identified	No. of Strains
<i>Streptococcus thermophilus</i>	8
<i>Lactococcus lactis ssp lactis</i>	4
<i>L. lactis ssp cremoris</i>	2
<i>Lactobacillus acidophilus</i>	2
<i>L. delbrueckii ssp. bulgaricus</i>	2
<i>L. helveticus</i>	1
<i>L. fermentum</i>	4
<i>Enterococcus faecium</i>	6
Total Strains	29