

## Growth and viability of probiotic *lactobacilli* in skim milk containing some natural sweeteners

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Four lactobacillus strains (*L. bulgaricus*, *L. gasseri*, *L. casei* and *L. acidophilus*) were cultured in skim milk at 37°C for 24 h in buffalo skim milk containing 7% (w/v) sucrose, fructose, glucose, honey, molasses and dibis. The change of pH, titratable acidity and doubling time (Td) were determined at 4, 8, and 24h during fermentation. Also, their pH, titratable acidity (TA) and viability were determined after 7, 14 and 21 days of storage at 4°C. The pH had no significant effect by using natural sweeteners and 4 lactobacillus strains while, the titratable acidity was significantly ( $P>0.05$ ) increased when grown *L. gasseri* and *L. acidophilus* with higher rate than control sample after 24 h of fermentation. The mean value of doubling time (Td) was 128.14, 145.70, 100.46 and dibis with grown *L. bulgaricus*, *L. gasseri*, *L. acidophilus* and *L. casei* respectively. After 12 d of refrigerator storage, the increased reduction rate of pH and increment rate of titratable acidity (TA) was pronounced ( $P>0.05$ ) when grown *L. gasseri*, *L. casei* and *L. acidophilus* in all treatment as compared with control. In addition, cell viability improved by 27.21%, 14.16% for *L. bulgaricus* grown in milk containing fructose and honey, 47.26 and 32.03% for *L. gasseri* in fructose and molasses, whereas was 30.41, 36.0, 46.59 and 36.63% in the presence of molasses and dibis with grown *L. casei* and *L. acidophilus* respectively as compared to control. It is recommended that use of natural sweeteners as prebiotic enhanced the probiotic bacteria to give beneficial health for human.

### Biography

Fatma A. M. Ramdan has completed her Ph.D. at the age of 30 years from Cairo University. She was a Director of Food & Nutrition department in General Administration Girl in KSA. She has published more than 23 papers in the field of dairy science and technology.

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