

COMPARISON OF LACTIC ACID PRODUCTION BY COMMERCIALY AVAILABLE AND LOCALLY ISOLATED STRAINS

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A strain of *Lactobacillus sp* isolated from soured milk was compared with industrially used *Lactobacillus delbrueckii*. Both strains were cultured at room temperature in static culture. When *Lactobacillus sp* and *L.delbrueckii* were grown in milk (total sugar 60g l⁻¹) the rate of lactic acid production was 1.25gl⁻¹h⁻¹ and 0.58g l⁻¹h⁻¹ respectively, while the efficiency of lactic acid production was 59.4% and 76%. When *Lactobacillus sp* and *L.delbrueckii* were cultivated in whey (total sugar 30g l⁻¹) at 60h 14.5g l⁻¹ and 21g l⁻¹ lactic acid was produced which corresponds to 42.8% and 86.7% efficiencies respectively, while rate of lactic acid production was same as above. However when *Lactobacillus sp* and *L.delbrueckii* were grown in synthetic medium [(g l⁻¹) glucose 30; yeast extract 10; K₂HPO₄ 0.5; KH₂PO₄ 0.5; sodium citrate 1; salt solution 1ml (salt solution gl⁻¹ MgSO₄.7H₂O 50; MnSO₄.H₂O 3.1; FeSO₄.7H₂O and ascorbic acid 5)] the lactic acid produced at 60h was 5g l⁻¹ and 25g l⁻¹ which corresponds to 10.3% and 92.5% lactic acid production efficiencies. Thus the lactic acid production rates by *Lactobacillus sp* in natural media were higher than that of *L. delbrueckii*, whereas *L. delbrueckii* performed better in synthetic medium. However the *L. delbrueckii* was efficient in producing lactic acid than *Lactobacillus sp*.
