

Kunhi, A.A.M., Venkateshwaran, G and Joseph, R. 1987. Transformation of yeasts – standardization of procedures. VII Indian Convention of Association of Food Scientists and Technologists (India), 27th Feb-1st March, 1987, Mysore, India

BAS31 TRANSFORMATION OF YEAST - STANDARDIZATION OF PROCEDURE, A A M Kunhi, G Venkateswaran and R Joseph, Microbiology & Sanitation Discipline, Central Food Technological Research Institute, Mysore - 570 013

Conditions for the molecular cloning of genes of *Rhodotorula gracilis* in lipid biosynthesis were studied by using the shuttle vector, YEp 13. DNA isolation from *R. gracilis* was attempted by enzymatic lysis of the cell wall or by freezing in liquid nitrogen. Although the latter method gave a purer preparation, the DNA was sheared extensively as seen in agarose gel electrophoresis. Different methods of isolation and purification of plasmic YEp 13 from *E. coli* RR 1 were tested, of which the alkali lysis procedure, modified by Keizer, proved most efficient. Attempts were made to transform *S. cerevisiae* A2 (a-leu2-3,112.his3-11,15) by making protoplasts. A commercial preparation of yeast cell wall degrading enzyme, Novozym-234 gave better results in yielding protoplasts which also regenerated efficiently, when compared with the cell wall lysing enzymes prepared from fungal cultures isolated at CFTRI. Transformation of yeast in general was less efficient than that of *E. coli* strain by YEp 13.

Attempts were also made to isolate various mutants of *R. gracilis* affected in lipogenesis. Color variants with apparent impairment in lipid production were isolated. These mutants will be employed in cloning genes of the enzymes missing or altered in the respective variants.

BAS32 EFFECT OF CURING SALTS AND SUGAR ON THE THERMAL RESISTANCE OF BACILLUS LICHENIFORMIS SPORES, Smita H Pendurkar and P R Kulkarni, Food and Fermentation Technology Division, Department of Chemical Technology, University of Bombay, Bombay - 400 019

Bacillus licheniformis, is a common cause of spoilage of pasteurised products like bacon, luncheon meat and tomato puree.

Although a lot of information is available on the heat resistance of *Bacillus* spores at elevated temperatures, no data were as yet reported on the heat resistance of these spores at pasteurisation temperatures.

Hence in the present work, the heat resistance of *B. licheniformis* spores was studied in the presence of common curing salts like NaCl, NaNO₂, and sugars like Glucose and Sucrose in the temperature range of 50 to 80°C. It was observed that the thermal resistance of *B. licheniformis* spores increased in the presence of all these ingredients.

BAS33 EFFECT OF FEEDING GREEN LEAFY VEGETABLES ON GROWTH AND BLOOD PARAMETERS IN RAT, Kaushlaya Gupta, G K Barat* and D S Wagle, Department of Chemistry and Biochemistry, Haryana Agricultural University, Hisar-125 004; *Division of Biochemistry, Indian Agricultural Research Institute, New Delhi - 110 012

Amaranth (D1), Colocasia (D2), Drumstick (D3), Fenugreek (D4), Neem (D5), Pumpkin (D6), Wheat (7% protein) + Milk (3% protein) (D7) and Milk (skimmed milk protein 10%) (D8) and again each diet consisting of three treatments, viz., T1 (10% leaf protein), T2 (2% leaf protein) + 3% milk protein + 5% wheat protein, T3 (fresh vegetables along with D7 diet) were fed to different groups of rats. A significant difference ($p < 0.01$) in weight gain, food intake, protein consumed and protein efficiency ratio (PER) of rats in treatments (T1, T2 and T3) was observed, while no significant difference was observed due to sex. The PER ranged from 1.42 for T1 to 2.82 for T3.