PRESERVATION OF PALMYRAH TODDY SEDIMENTS AS A LEAVING AGENT FOR BAKERY PRODUCTS

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ABSTRACT

Palmyrah is botanically termed as *Borassus flabellifer,* linn. Palmyrah toddy is unique and generates more income to Palmyrah dependents. During the bottled toddy production, yeast sediment contains plenty of yeast cells and spore is wasted. The left-out yeast sediment should have to be converted to be an economic product. Fresh sediments are perishable, it could be used by rural folk for domestic scale food preservation. This study was undertaken to raise economy of toddy manufacturing, with aim of preservation of yeast sediment and possible utilization of it in bakery product as a leavening agent. Pooled palmyrah toddy obtained from palm development corporative societies was used for isolation of yeast. Best yeast was selected based on the Leavening Index (LI). Among the 13 yeast strains commercial yeast (IY), mixed yeast (MY) and isolated yeast (N10) were selected and they showed Leavening Index (LI) of 1.3, 1.2 and 1.2 respectively. It also didn't produce killer toxin as it wasn't shown a clear zone in yeast extract peptone dextrose methylene blue agar plate. Mixed yeast culture showed growth at 45° C, pH 5 to 6, tolerate alcohol (5-10%) and salt (4-8%). Medium optimization was carried by using general full factorial design and treatment having yeast extract (2 gl^{-1}), peptone (1 gl^{-1}) and glucose (1 gl^{-1}). It was selected as the best and it showed 0.857 optical density at 5^{th} day of fermentation. Yeast was dried at different treatments such as sundry, shade dry and oven dry at 50, 55 and 60° C. 55° C was selected as best and showed the corresponding LI, dry weight (g/100ml) and viability (%) were 18.45(±0.46), 1.6 and 98.85(± 0.85) respectively. Wheat flour (1.4) was selected for the bun preparation based on the LI and added with mixed yeast culture. Bun prepared by using MY, IY and N10 showed significantly ($p<0.05$) different in sensory and characteristics, while in nutritional characteristics of MY didn't show significant difference between IY bun in percentage of moisture (6.7), fat (3.8), protein (0.9), ash (1.1) and total sugar (73.2). So, yeast obtained from the palmyrah toddy could be used for the production of bakery product.

Key words: Palmyrah toddy, Yeast, Leavening index, oven drying and bun