ABSTRACT

Raigam Pangrease is the Bakery product, produce by Raigam Marketing Services (Pvt) ltd. It is containing mixture of water, coconut oil, Polyglycerol Polyricinoleate-PGPR (emulsifier), Butylated hydroxy Anisole(BHA) and Sodium Benzoate. However it has major drawback associated with product is instability of the emulsion before the expected shelf life.

This research was directed to improve the stability of Pan Grease with low manufacturing cost. It will be mainly depended with appropriate emulsifier combination, optimization of emulsifier ratio, selection of cost effective water/oil ratio, quality control and evaluation the baking performance.

The experiment was done by using several mixtures of PGPR, Tween 20, Tween 60 and lecithin. It has been proved that mixtures of emulsifiers can provide better stability than pure surfactant. PGPR with Tween 60 provide better stability and stability was investigated by phase separation of emulsion under several freeze-thaw cycles. The emulsifier ratio is determined by considering the required HLB value of the oil phase. It shown that the optimum emulsifier ratio for W/O emulsion (long-term stability) was 20% of Tween 60 and 80% of PGPR. However high concentrations of Tween 60 given destructive effect on W/O emulsion stability.

It was shown the optimum water: oil is 4: 1. The use of $MgSO_4$ was improve the emulsion stability and facilitates to identify the properties of W/O emulsion. According to the results of the research 0.5% is the optimum MgSO4 concentration for stability improved pan grease. But the concentration of MgSO4 use during emulsion preparation should be lower than or equal to 1%.Because it was tendency to destabilize.

The resulted sample had low yeast and mould count and total plate count with compare to standard level due to the effect of antimicrobial agent (Sodium benzoate).

Releasing property and crust colour were determined by performing sensory analysis. The P-values obtained clearly emphasize that there is a statistically significant difference between samples as coconut oil, pan grease with $MgSO_4$, pan grease with out $MgSO_4$ and pan grease from another brand in releasing property and crust colour. Based on corresponding rank means and medians, it is possible to say that pan grease with out

$MgSO_4$ and pan grease from another brand are the best sample in releasing property and pan grease from another brand is the best sample in crust colour. It shown $MgSO_4$ has an influence on releasing property and crust colour. However the pan grease sample contains $MgSO_4$ was resulted on dark crust colour and stick with trays.