

ABSTRACT

Fresh noodles, called as “Hokkien” in Malaysia, is a semi processed food product widely used in Asian countries like Malaysia, China and Japan. Product contains high moisture content and hence limit its shelf life at ambient condition. Within 2-3 days it begins to swell and appears to have yeast and moulds on packaging and noodles surface. Therefore this study was carried out to identify best preservation method to extend shelf life of Hokkien noodles at ambient condition.

Experiments were initiated with a sterilizing fresh noodle processing environment and machine with hot water, chlorinated water (50ppm), pure alcohols and effectiveness was evaluated by swab method. The effect of chemical preservatives were evaluated using Sodium carbonate and potassium carbonate, Potassium sorbate, calcium propionate, Acetic, Glycine, and Lactic acid in the range of (0.6%, 0.4%, 0.1%, 0.2%, 0.2%, 0.5% and 0.1-0.5%) respectively. Additional processing step was carried out as steeping, combinations with potassium sorbate and glycine, sorbate, glycine, acetic and combination of Glycine and acetic. Chemically treated sample were vacuum packed and treated under micro wave separately. Gamma irradiation of samples at dose; in 0.2 KGy,0.4 KGy,0.6 KGy,0.8 KGy,1 KGy,2 KGy,3 KGy,4 KGy,5 KGy were carried out and UV treatment was also carried out to check its effect on shelf life extension. The preservation quality of each treatment was evaluated by physicochemical and microbiological assessment of the sample. The preliminary market survey was conducted to determine potential market for Hokkien noodles in Sri Lankan market.

Sanitation shows greater reduction in microbial load and hence reducing risk of contamination. Among chemical preservatives combination of glycine and acetic with vacuum pack and microwave sample gave the good preservative action keeping the noodles for 17 days without change on physicochemical and microbial quality.

UV treated sample had 11 days of storage period. Preliminary market survey reveals the potential demand to Hokkien noodles (91%) in the market.

Gamma irradiation was seemed to be more effective in preserving noodles at ambient temperature. Sample treated with 5KGy shows no change in physicochemical and microbial growth for 34 days storage at ambient temperature.