

### **Abstract**

The purpose of this research was to develop precooked tender chicken breasts for consumption by elderly people. First, the effects on the texture of precooked chickens of three proteases (papain, bromelain and ficin) at different concentrations (0.001- 0.2 % w/v) and pressures (0, 8 and 15 psi) in the cooking steps were studied. The results found that the texture of the treated precooked chicken breasts were different from the control sample. Increasing the enzyme concentrations led to more tender chicken. However, increasing the pressure resulted in lower tenderness when papain or bromelain was used, but the effect from ficin showed the opposite result. Second, ratios of mixed enzymes were studied and a process was developed. The most suitable method comprised the injection of a solution (STPP 2.0% + NaCl 0.2% + corn flour 3.0%) until 10% solution uptake had been achieved. Then, the sample was marinated in 0.025 %w/w mixed enzyme solution (papain:bromelain:ficin = 1:98:1) and kneaded for 30 min. The sample was placed in a freezer overnight and steamed under atmospheric pressure for 13 min.. Finally, it was packed in a laminated bag under vacuum and kept in the refrigerator.

**Key words;** tenderization, pre-cooked, chicken, enzyme protease, pressure