

## **Extractions, physicochemical characterizations and sensory quality of chicken feet gelatin**

### **Abstract**

This study was carried out to determine the percentage of gelatin yield (w/w) extracted from chicken feet (CFG), and to compare the physicochemical properties and sensory qualities of CFG with bovine commercial gelatins (CBG). CFG extraction was based on gelatin type B method through three alkaline treatments by soaking in 4% HCl, 10% NaOH then 60°C thermal hydrolysis for 5 hours. A higher percentage of CFG powder was obtained at 18% w/w, and texture profile analysis showed correlation ( $r^2=0.98$ ) between bloom strength and the gel hardness. Proximate analysis has shown that the powder of CFG extracted meets the standard as regulated in Food Act 1983 and Food Regulations 1985 with 6.43% humidity, 1.54% ash, 67.40% protein and 0.42% fat. There were no significant differences ( $p \geq 0.05$ ) in ash and fat percentage of CFG and CBG as the values are  $1.56 \pm 0.01$  and  $1.36 \pm 0.14$  for ash, also  $0.32 \pm 0.01$  and  $0.19 \pm 0.03$  for fat respectively. Significant differences ( $p \leq 0.05$ ) existed in water and protein percentage of the CFG and CBG with values of  $6.64 \pm 0.20$  and  $8.03 \pm 0.16$  for water, also  $67.40 \pm 0.82$  and  $88.18 \pm 1.90$  for protein. Sensory evaluations showed CFG was less acceptable ( $n=20$ ) compared to CBG for colour, aroma and texture attributes. The score mean value for overall acceptance of CFG compared to CBG is  $5.95 \pm 0.39$  and  $6.65 \pm 0.49$  respectively.