VALUE ADDITION OF RECOVERED EDIBLE FISH PORTIONS OF *Decapterus russelli* BY ALGAEINCORPORATED FISH PASTE

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Product development using fish processing waste reduces disposal of waste while valuable edible portions are used in fish processing. This study reports the proximate composition and the shelf life of the fish paste prepared using recovered edible parts of *Decapterus russelli* and *Gracilaria edulis*. Four levels of *G.edulis* 0%, 2.5%, 5.0% and 7.5% (w/w of raw fish weight basis) were incorporated and the best level was determined using a sensory evaluation. The most acceptable product was then subjected to nutrient analysis (moisture, dry matter, crude protein, crude fat, crude fibre, salt, ash) and shelf life study (sensory evaluation, peroxide value, pH, water activity and solubility) was performed. Friedman test revealed the significant ($\chi^2(5) = 30.571$, ($p=0.000$) effect of *G.edulis* on sensory attributes of the products. Wilcoxon signed rank test revealed 2.5% (w/w) *G.edulis* incorporated fish paste was significantly (0g: z= -2.915, p=0.004; 5g: z = -2.879, p=0.004, 7.5g: z = -3.176, p=0.001) superior to other products. In the shelf life study sensory evaluation showed there was no significant ($p<0.05$) deterioration in the sensory properties of the product up to 14 days. On the 20th day, Total Plate Count (TPC) was 3.34 x 10^6 CFU/g exceeded the acceptable TPC limit (10^6). Even though, there has been a significant ($p<0.05$) increase in peroxide value, the level was well below the maximum acceptable limit (10). There was a notable significant ($p<0.05$) reduction in solubility of the product. There was no significant ($p<0.05$) change in pH and water activity of fish paste. Complying with the above results the shelf life of 2.5% (w/w) *G.edulis* incorporated fish paste was estimated to be 14 days. The study concludes that value added sensory acceptable shelf stable fish paste can be prepared from recoverable edible portions of *D. russelli* with incorporation of *G. edulis*.

Keywords: *Decapterus russelli*, Edible waste, Fish paste, *Gracilaria edulis*, Resource recovery