PROTEIN HYDROLYSIS PROFILE USING TCA-SOLUBLE PEPTIDES DETERMINATION TO EVALUATE DIGESTIBILITY OF SHRIMP FEEDS

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The use of in vitro assays is an important way for evaluation of feed quality in aquaculture. In this context, comparative protein hydrolysis profile using TCA-soluble peptides determination seems to be a simple, practical and low cost alternative. In this work crude extract of *Litopenaeus schmitti* hepatopancreas was used as enzymatic source to protein hydrolysis profile determination. Firstly, it was obtained the temporal hydrolyses profile of casein, a standard protein in many experimental diets. Afterward it was obtained the temporal profile of soybean flour (common vegetal protein source in shrimp feed) and commercial shrimp feed. During the enzymatic assay, samples (280µL) were collected and 10% trichloroacetic acid (840 µL) (TCA) was added to stop the reaction. The mixture was centrifuged at 8,000*x*g, for 5min. The TCA-soluble peptides concentration in the supernatant was monitored at 280nm. The crude extract from *L. schmitti* hepatopancreas showed specific proteolytic activity of 0.53U/mg (using azocasein as substract). Maximum hydrolysis degree and medial maximum hydrolysis time were respectively 13.7%±1.66 and 77.8±19.51 minutes for casein; 6.8%±0.98 and 150.9±36.84 minutes for soya bean flour and 3.4%±0.23 and 5.0±1.99 minutes for shrimp feed. These results show a viable new methodology and can be standardized for laboratorial applications in feed analysis.

Keywords: Digestibility; *Litopenaeus schmitti;* Shrimps feed; TCA-soluble peptides

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