

Factors affecting acid hydrolysis of blood protein were studied by varying the 4 M. HCl at 3,4 and 5% by weight ; the reaction time at 2,4 and 6 hours ; and the temperature at 30°C and 40°C. The degree of hydrolysis (DH) and water stability of giant tiger prawn feed produced by using 2.5% of the resulting hydrolysate as binder , were used as indicator to select the most appropriate condition. The highest DH of 90.18 % and the water stability of 87.84% were obtained in sample produced with 5% HCl, at 30 °C, for 6 hours.

The study of enzyme hydrolysis of blood protein was carried out by varying the quantity of alcalase (0.06 unit/g) at 0.5, 1.0 and 1.5 % by volume and the reaction time at 5,10,15 and 20 minutes . By using the same criteria as the acid hydrolysis, it was found that the highest DH of 96.08% and the water stability of 86.75 % were obtained when using 1.5 % alcalase and hydrolysing at 50°C for 20 minutes.

Drying of the hydrolysate was carried out by the air and vacuum oven methods. For both methods, the temperature was varied at 60°C,70°C and 80°C. The products were dried to 10% and 20 % final moisture contents. The best condition found for both methods was 80°C drying to the 10% moisture content. The water stability of feeds produced by using air-oven-dried blood, acid hydrolysate and enzyme hydrolysate were 84.02 % , 84.84 % and 85.52 % while those dried by vacuum oven were 83.98 % , 85.72% and 87.42 % , respectively . The binding property of the enzyme hydrolysates from both drying methods were better than those of the acid hydrolysates .

Results from storage test showed that at 30°C,vacuum, the Eval film kept the product moisture to lower than 12 %, for 4 months while that of HPDE was limited to 2-3 months.