

**EVALUATION OF UMAMI TASTE ON PIGEON PEA
(*Cajanus cajan*) HYDROLYSATE PRODUCED
USING FLAVOURZYME**

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ABSTRACT

EVALUATION OF UMAMI TASTE ON PIGEON PEA (*Cajanus cajan*) HYDROLYSATES PRODUCED USING FLAVOURZYME

The umaminess of pigeon pea (*Cajanus cajan*) hydrolysate produced using flavourzyme at different enzyme-substrate (E/S) ratio (2%, 3% and 4%) were evaluated in this study. Degree of hydrolysis, sensory analysis and molecular weight were done to study the effect of different enzyme concentration used in hydrolysis on the umaminess of pigeon pea hydrolysate. Whereas, amino acid and mineral analysis were done in order to identify the compounds that contribute and enhance the umaminess of the pigeon pea hydrolysate. The results obtained showed that umaminess of hydrolysates were increase insignificantly as the flavourzyme concentration increase from 2%, 3% and 4% with the value of 4.68, 5.45 and 6.84 respectively using QDA score from 0-15 cm scale represented by from no umaminess to very strong umaminess. In term of degree of hydrolysis, it increases significantly as flavourzyme concentration increases. The highest degree of hydrolysis was at 4% E/S ratio with the value of 5.93% followed by 3% E/S and 2% E/S ratio which its values were 4.21% and 3.49% respectively. This related to SDS-PAGE, where peptide bands appeared in 2% E/S was ranged from 15 kDa to 80 kDa whereas for 3% and 4% E/S, both have same range of bands which range from 25 kDa to 40 kDa. The umaminess was intense at the medium low molecular weight which is lower than 30kDa. Minerals analysed in hydrolysate for umaminess including sodium, potassium and magnesium which were increases significantly as the flavourzyme concentration increases. It same to the glutamic acid and aspartic acid which are amino acids contributing to umaminess. The results showed that both amino acids were increases from 2% E/S to 4% E/S ratio.