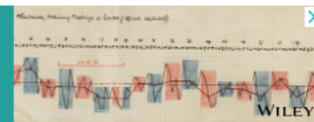




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RESEARCH ARTICLE

## Effects of enzymatic hydrolysis and ultrafiltration on physicochemical and functional properties of faba bean protein

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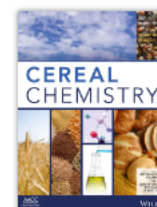
### Abstract

#### Background and objectives

Faba bean proteins isolates did not show sufficient functional properties for food applications due to poor solubility. Enzymatic treatments and ultrafiltration may improve solubility and functional properties of faba bean protein. The aim of the present work was to investigate the effect of different proteases (pepsin, trypsin, flavourzyme<sup>®</sup> 500 L, neutrase<sup>®</sup> 0.8 L), hydrolysis time and ultrafiltration technique on the physicochemical and functional characteristics of faba bean protein.

#### Findings

The protein solubility increased from 24.4% to 88.8% at pH 7 and 81.0% at pH 5 by pepsin hydrolysis (15 min). Their foaming capacity (FC) increased from 31.2% to 122.2% at pH 5 and 66.7% to 131.2% at pH 7 and the oil holding capacity (OHC) increased from 6.12 to 8.21 g/g by pepsin hydrolysis. Fraction I (Mw > 10 kDa) and II (Mw: 5–10 kDa) obtained



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