

Mustard Protein Concentrate

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Abstract Mustard cake, which is obtained after extraction of oil from mustard seed, is a rich source of protein (30-40% dry basis) with balanced amino acid composition. Mustard protein may complement cereal amino acid composition to fulfil essential amino acid requirement for human nutrition. Following study was aimed to develop a simple process to extract protein in the form of Mustard Protein Concentrate (MPC) and to study its solubility pattern in varying salt concentration (0-2.5 M NaCl). For extraction, mustard cake was dispersed in 1M NaCl solution in ratio 1:10 (w/v), followed by heating, cooling and centrifugation at 5000 rpm for 20 minute. The protein precipitate was obtained by diluting the supernatant with distilled water in ratio 1:5 (v/v) and heating till 90°C. MPC was finally obtained by freeze drying of the precipitate, which was free flowing powder having light brown colour and blunt taste. The MCP had moisture 6.5% (wet basis): on dry basis it contained 82.00% protein (Nx6.25), 5.74% ash, 5.31% fat content and 6.95% carbohydrate (by difference). The solubility studies revealed that MCP was more soluble in water than in salt solution.

Keywords: Mustard Protein Concentrate (MPC), Mustard cake, Protein Solubility.