

Use RP-HPLC To Investigate Factors Influencing Sorghum Protein Extraction

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Abstract : Sorghum (*Sorghum bicolor* (L.) Moench) is an important cereal crop grown in the semi-arid tropics of Africa and Asia due to its drought tolerance. Sorghum grain has protein content varying from 6 to 18%, with an average of 11%. Sorghum proteins can be broadly classified into prolamin and non-prolamin proteins. Kafirins, the major storage proteins, are classified as prolamins, and as such, they contain high levels of proline and glutamine and are soluble in non-polar solvents such as aqueous alcohols. Kafirins account for 77 to 82% of the protein in the endosperm, whereas non-prolamin proteins (namely, albumins, globulins, and glutelins) make up about 30% of the proteins. To optimize the extraction of sorghum proteins, several variables were examined: detergent type and concentration, reducing agent type and concentration, and buffer pH and concentration. Samples were quantified and characterized by RP-HPLC.

Keywords : sorghum, protein extraction, detergent, food science

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