

Comparative study of the effects of sodium sulphate and sodium acetate on some functional properties of some melon seed flours: protein solubility profile and water absorption capacity

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Sulphates and sodium acetate are used in the food and pharmaceutical industries as additives. The use of sodium sulphate (Na_2SO_4) and sodium acetate (CH_3COONa) in this capacity may affect some functional properties of food. Therefore, the Protein solubility (PS) of some melon seed flours were determined as a function of Na_2SO_4 and CH_3COONa ionic concentrations. The PS of the seeds are least at 0.50% Na_2SO_4 concentration and are highest at 2.00 to 10.00% Na_2SO_4 concentration. The order of the highest protein solubility of each melon seeds with Na_2SO_4 is 84.24 (*L. siceraria* II) at 2.00% Na_2SO_4 > 83.79 (*C. colocynthis*) at 10.00% Na_2SO_4 > 66.88 (*C. vulgaris*) at 10.00% Na_2SO_4 > 62.43 (*L. siceraria* III) at 10.00% Na_2SO_4 > 34.64 (*L. siceraria* I) at 2.00% Na_2SO_4 . Generally, PS of these seed flours are relatively lower in sodium acetate solutions than in sodium sulphate solutions with the highest protein solubility of 50.86% for *Citrullus vulgaris* seed flour at 10.00 (g/g%) CH_3COONa concentration. Na_2SO_4 therefore favors the protein solubility of these melon seed flours at different concentrations than CH_3COONa . The water absorption capacity (WAC) of the seed flours is generally highest at 0.50% Na_2SO_4 and least at 10.00% Na_2SO_4 .

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