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EFFECT OF DIFFERENT TYPES AND CONCENTRATIONS OF HYDROCOLLOIDS ON PASTING, HYDRATION AND SURFACE ACTIVE PROPERTIES OF PIGEON PEA FLOUR

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ABSTRACT

Present investigation was intended to find the effect of different hydrocolloids on the functionality of pigeon pea flour. Different hydrocolloids viz. guar gum, xanthan gum, pectin, alginate and carrageenan were added in pigeon pea flour at 1%, 2 % and 3 % and their influence on the pasting, hydration and surface active properties was evaluated. Pasting temperature increased in case of guar gum, carrageenan and alginate and it was contrary in case of xanthan gum and pectin. Peak viscosity increased in case of guar gum and xanthan gum and decreased with the addition of pectin, alginate and carrageenan. Similar trend was observed for hold, final, breakdown and setback viscosity as well. Water absorption capacity increased and water solubility index decreased with the increase in the inclusion of hydrocolloids except for the gaur gum which showed contrary results. All hydrocolloids decreased the oil absorption capacity of pigeon pea flour. Swelling capacity of pigeon pea flour increased linearly with the addition of all hydrocolloids. Inclusion of hydrocolloids resulted in improving the foaming properties of the blends whereas no effect on emulsification capacity was observed with decrease in the emulsion stability.