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## Viscosity of cashew kernel (*Anarcardium occidentale*) and its effectiveness as a thickening agent in a cashew based soup product

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Cashew nut (*Anarcardium occidentale*) is one of the highly nutritive and medicinally valuable edible nuts. It consists of different functional properties which are still unknown. Analysis of these properties and their utilization in food products and manufacturing processes is a current necessity in order to increase the demand as well as the production. This study was carried out to analyze the viscosity properties of cashew kernel and to examine the possibility of using cashew kernel in a soup product as a thickener. Another major objective was to optimize the utilization of cashew kernel byproducts.

The starch content of the cashew kernel (31.3%) was determined by measuring the blue-amylose iodine content at 600 nm spectrophotometrically and comparing with corn starch (23.8%).The thickening ability of cashew kernel and the effect of different treatments on the thickening ability were determined using an amylograph. The thickening properties increased in the following order. Soaked cashew flour > cashew starch > non soaked cashew powder > defatted cashew flour > roasted cashew flour = pre-gelatinized cashew flour. Soaking time, temperatures and other constituents present in cashew significantly affected the changes in thickening properties. Compared with the commercially available thickening agents, cashew was identified as a feasible product for use as a thickening agent.

In the determination of the effectiveness of utilizing cashew byproducts in a novel cashew based soup product, dehydrated raw cashew powder was used to obtain the highest thickening properties, in accordance with the results obtained by amylogarph testing and considering the operational and commercial feasibility. The best percentages of ingredients and the quality parameters were determined by viscosity analysis, sensory analysis and comparison with commercially available products. According to the Thaguchi method parameters were combined and the highest viscosity (84.0 cp) as well as the most sensorial accepted combination (65% cashew byproducts, 9.40% corn starch, dissolved in cold water and heated until boiled) was selected. The viscosity of the final product was comparable to that of the commercially available soup product used in the study.

Keywords: Cashew (*Anarcardium occidentale*), amylograph, thaguchi method, sensory evaluation

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