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Isolation of arabinoxylan gum from leaves of *Neolitsea cassia* as a thickening agent for sauce

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Arabinoxylan is a complex non-starchy polysaccharide classified as a dietary fiber, which consists mainly of the cell wall of the cereals. In the food industry, commercially available arabinoxylan is used as a gelling agent, thickener, stabilizer and emulsifier. Other than the cereal some specific plants also contain arabinoxylan gum. Among the native plants in Sri Lanka, *Neolitsea cassia* is used for the preparation of a specific traditional sweet called "Asmi." But there is a limited amount of research done on this specific plant until now. The aim of this study was to isolate arabinoxylan gum from leaves of *Neolitsea cassia* and evaluate the suitability of the isolated gum as a thickening agent for sauce. Water extractable method was used to isolate the gum from leaves. Ethanol was used to precipitate polysaccharides from dried leaf powder and Fehling's solution was used in the purification process. The extractable arabinoxylan content was 1.02% on a dried basis. In order to determine the suitability of the gum as a thickening agent, its functional properties were studied. According to the results, the water holding capacity and the oil holding capacity were 288.82± 0.67% and 166.67 ± 1.79%, respectively. Its solubility was 80.25 ± 1.02%. A 5% (w/v) gum solution gave 395.00 ± 2.57cp viscosity. Emulsion activity was determined using a 1%(w/v) gum solution. The latter part of the research was carried out to evaluate the suitability of the gum as a thickening agent for sauce. Different concentrations of the isolated gum (0.5%, 1%, 1.5% and 2%) was incorporated into tomato sauce, and functional properties were evaluated. According to the results, there was no significant difference (p = 0.05) between 2% arabinoxylan incorporated tomato sauce and commercially available tomato sauce. Finally, it can be concluded that arabinoxylan gum extracted from leaves of *Neolitsea cassia* can be incorporated to food models as a thickening agent.

Keywords: Arabinoxylan,arabinose, Emulsion stability, viscosity, physiochemical property, functional property.

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