

Physico-Chemical Characterization of Edible Gums Obtained from *Anogeissus Latifolia* And *Abelmoschus Esculentus*: Promising Food Additive for Novel Drug Delivery

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Background: This paper defines the fluid-dried gum extracted from the fresh fruit of the Okra Gum (*Abelmoschus Esculentus*) and refined Gum Ghatti (*Anogeissus Latifolia*) vine to advance practices of characterization.

Introduction: It outlines a systematic study of the physicochemical properties of gums in response to a European Union request for a thorough review of the quality of gums as food additives.

Methods: Ash percent, acid insoluble ash percent, cold-water-soluble percent, pH, acidity (as HCl) percent by mass, viscosity, elemental and heavy metals analysis, and FT-IR are the parameters tested following traditional procedures and current analytical instruments. This study aimed to determine the key functional characteristics of commercially important natural gums. These included flow, solubility, angle of repose, and bulk and true density.

Results: The angle of repose of okra gum was found to be very high (45.66°), which means that Okra Gum has more adhesive properties than 38.13° Gum Ghatti. Okra powder was shown to be sparingly soluble in water and insoluble in acetone, ethanol, and chloroform. Gum Ghatti was found to be water-soluble but practically insoluble in ethanol, acetone, and chloroform. The compressibility index and repose angle of Okra gum are 32.96 percent and 38.13, respectively

Conclusion: The results of this study established the basic characteristics of gums and demonstrated their potential applications in the fields of novel drug delivery, cosmetics, and other pharmaceutical industries.

Keywords: Okra gum, gum ghatti, novel drug delivery, food additive, physico-chemical properties, edible gum.