

PP 050: Edible gel from *Gracilaria salicornia* for health food application

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Seaweed has been utilized in traditional medicine for centuries. The objective is to develop food gels from *Gracilaria salicornia* as red seaweed is currently under-utilized in Sri Lanka. *Gracilaria salicornia* was collected from Valaipadu beach in the Northern Province. The proximate composition was determined by AOAC methods, while total carbohydrate was determined from the Dubois method. Agar gel was extracted by hot water extraction. Moreover, the antioxidant activities of dried seaweed powder were screened. The extracted agar yield, textural properties, and infra-red (FT-IR) spectrum were investigated and the results were compared with laboratory-grade agar. *Gracilaria salicornia* contained crude protein as $8.67 \pm 0.11\%$, crude lipids as $1.7367 \pm 0.12\%$ and considerably high amounts of ash as minerals $27.36 \pm 0.24\%$. The gel hardness of the gel solution (1.5%, w/v) was

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551.7 ± 46.5 g, while the commercial agar tested was 5926.7 ± 127 g. The gel viscosity at 80°C (1.5% gel solution) was 4.667 ± 1.155 CP, while the commercial agar was 14.667 ± 0.577 CP. The FT-IR spectrum is almost similar with commercial agar. The gel strength and viscosity of the yielded gels were significantly different ($p \leq 0.05$) and lower than the commercial agar gel. The seaweed examined in this work has appreciable protein, mineral and low total lipid content, and it can be used as ingredients for health foods including food gels for diabetics.

Keywords: seaweeds, *Gracilaria salicornia*, health foods, gels, nutraceuticals