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ALKALI TREATED AKAR GELS FROM SOME SPECIES OF *GRACILARIA*

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It has been reported that agar gels from different species of *Gracilaria* are suitable for commercial purposes only after alkali treatment. Gel strength is an important parameter that determines the quality of agar gels. But improvement of gel strength by alkali treatment appears to depend on the nature of the agar present and in ceratin species of *Gracilaria* the gel strength is improved only minimally by this treatment. Alkali treatment of agar will result in the formation of 3,6-anhydrogalactose units from galactose residues with sulphate ester groups at either C-3 or C-6. It is known that galactans having a high 3,6 anhydrogalactose content yield very strong gels.

Agar was extracted from 25 g samples of sun-dried seaweeds under the usual conditions (hot water pH adjusted to 6) and also after alkali treatment. Alkali treatment involved pretreatment with 2% NaOH solution (24 h) prior to hot water extraction. The water extract was stirred with $NaBH_4$ (0.2 g) and heated with varying amounts of 50% NaOH solution. The 3,6-anhydrogalactose content was determined on the basis of the resorcinol reaction described by Yahpe and Arsenault using the method given by Leigh and Craigie.

In this paper we report the effect of alkali treatment on gel strength and 3.6-anhydrogalactose content of agar gels isolated from *Gracilaria corticata, G. fergusoni, G. salicornia* and *G. edulis*.