

Carrageenan from *Solieria filiformis* (Kützing) P.W. Gabrielson Cultivated at Different Depths on the Brazilian Seacoast – Chemical Composition and Rheological Analysis

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Solieria filiformis (Rhodophyta) is a good source of *iota*-carrageenan (*i*-CAR), an economically important phycocolloid for food and pharmaceutical industries. The cultivation of species is being developed in collaboration with the local community (APAFG) at Fleicheiras beach, Ceará. The aim of this study was to comparatively analyze the yield, chemical composition, rheological behavior and infrared (IR) of *i*-CAR extracted from cultured *S. filiformis* on surface (Sfs) and depth (Sfd). Initially, the algae were collected from *long-line* structures located at 0.20 e 1.20 m of surface, and then cleaned in laboratory to extraction of *i*-CAR in hot water (90 °C). The yields were 37.50 and 18.71% to Sfs and Sfd, and their contents of carbohydrate and sulfate were 30.21; 29.73; 47.08 and 28.73%, respectively on same extraction conditions. Total proteins were not detected. Rheological analysis suggested that on both 2% solutions of *i*-CAR have similar characteristics when submitted to temperature and frequency ramps ($G' > G''$), showing termical hysteresis and gel-solution transition temperatures from 45 to 55 °C. In general, the FTIR spectras were similar and typical absorption peaks were present at 1250 cm^{-1} (ester sulfate), 930 cm^{-1} (3,6-anhydro-galactose), 850 cm^{-1} (D-galactose-4-sulfate) and 805 cm^{-1} from 3,6-anhydro-galactose-2-sulfate (DA2S). Therefore, these results suggest that the growth of *S. filiformis* under different depths is capable of affecting the yield in the extraction of *i*-CAR, as well as no presenting effect under its rheological and chemical characteristics. Supported: CNPq and UFC.

Key words: carrageenan, cultivation and rheology.