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EXTRACTION OF AGAR FROM THE LIBYAN MARINE RED ALGAE GLACILARIA VERRUCOSAAND SCINAAIA FORCELLAIA PRESENT AT SABRATHA CITY COST

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ABSTRACT

Agar is a high content compound of polysaccharides, possesses an industrial and medical applications for human benefits, and it is derived from the cell wall of certain species of algae belong to Rhodophyta (red algae) phylum, and many Mediterranean countries have extracted it by different methods. Although the Libyan coast has a variety of marine resources, including red algae, the agar was not produced and tested in Libya, so this study was aimed to extract the agar from red Libyan algae. The red algae were collected from Sabratha/ Libya beach during two different seasons one at autumn 2017 and second at summer 2018, and isolated agar was fromtwo varieties of red algae Glacilaria Verrucosa and Scinaaia Forcellaia. The yield of agar from this isolation were 81% per 34.5 g of Glacillaria Verrucosa and 84% per 23.8g of Scinaaia Forcellaia. Prepared native agar plates were appeared transparent and smooth. The media were stable on incubation at room temperature (23-25°C) and when incubated at (30 - 37°C /72hr). The native agar medium prepared from Glacilaria Verrucosa was form a duple microbial air born colonies after 48 hours at room temperature, and 9 colonies after 72 of incubation at 37C°. Beside the characteristics (sulphat content, melting temperature and gel temperature) of isolated agar from this research were similar with standard agar. Finally, Based on the results of this study, the isolation of agar from Libyan red algae in was successful, and the characteristic of extracted agar was suitable for application in microbial culture media.

Keywords: Agar, Red Algae, Glacilaria Verrucosa, Scinaaia Forcellaia.