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Production of agar from algal sea weeds from coastal sites of Karachi

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Pakistan is the country rich in many natural resources out of these; seaweeds are one of the them. The luxuriant natural occurring algal resources can be utilized to produce compounds which are been imported in huge amount. This raw material along with proper extraction and purification serve the purpose in a crude manner. The study is based to produce agar and agarose compounds extracted from local red algal species like Gracilaria corticate, Gelidium pusilum. The coastal region has over sixty species of seaweed out of which red algal species are abundant. The species Gracilaria corticate was seasonal in from 1989, 1990, 2000, and 2012. It highest biomass was recorded in the month of April. The biomass ranges from 5 to 60 g.m2. The study aims to optimize the procedure for the production of agar. The samples should be clean on site of collection to detached shells, sand and other algae. Dry the sample as soon as possible to prevent deterioration. Weigh the sample and calculate the impurities and then dry it. After drying the samples will be bleached with lime and alkali treatment. The polysaccharides in Gracilaria species are agaroids and low in gel strength, it is treated with aqueous sodium hydroxide solution to remove the sulfate and the strength of gel increases by 10 folds which are better than Gelidium species. The one kg sample will be treated with 20% NaOH for 3 days and washed properly to remove traces and dried again, this product alkali treated seaweed is exported from Taiwan and Chile. This process is summarized in the flow chart. The small scale production can be further taken up to large scale production and farming of the red algal, to strengthen blue economy in the country.

Biography

Noureen Arif is a Ph.D student at Bahria University, Karachi ,Pakistan

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