

The effect of seasonal and environmental parameters to Carageenan production of seaweed *Kappaphycus alvarezii* in Sabutung Island, South Sulawesi Province

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Abstract : The quality of seaweed *Kappaphycus alvarezii* type is determined by the content of carageenan. This research is aimed to assess the relationship between season and carrageen content of *K. alvarezii* seaweed. The design of this research is explanatory research by placing the location of cultivation on four sides of the island that is carried out in two seasons, namely the rainy season that lasts between November to February and the dry season between July to October. The environmental parameters measured were nitrate, phosphate, salinity and current velocity. Parameter measurements were performed on a weekly basis during the study, while carrageen was measured at the beginning of the study, second week, fifth week and seventh week. The results of partial seasons were significant for seaweed admixture values. The influence of interaction between station and season with the partial influence of station is not significant to *K. alvarezii*. This is significant in the absence of extreme changes between stations in a given time with relatively homogenous values at the four observation stations. The average of carageenan in rainy season (40.756%) significantly differed lower compared with dry season (49.063%). The relationship between seaweed carageenan with environmental parameters follows the linear equation: $Y = -68.780 + 13.869 \text{ Nitrate} + 44.316 \text{ Phosphate} + 2.923 \text{ Salinity} + 0.87 \text{ Flow}$ ($R^2 = 0.976$). It can be concluded that the season is very influential on the production of carageenan and environmental parameters have a positive effect on carageenan. To obtain high carragenan production, it is expected that the cultivation of *K. alvarezii* will be done during dry season.

Keywords : Aquaculture of seaweed; dry and rainy season; environmental; Pangkep; quality.

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