

# Effects of different drying conditions on the rehydration ratio and water holding capacity properties in three different species of algae *Ulva lactuca*, *Codium vermilara* and *Codium tomentosum*

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Over the last years, algae have been increasingly used in Human food due their rich chemical and nutritional composition, particularly the high supply of essential nutrients to the human body such as protein and dietary fiber.

Dietary fiber can be divided into two different types: soluble and insoluble. The characteristics of soluble dietary fiber are related to some physical and chemical properties such as rehydration ratio and water holding capacity and are important in assigning the functional and organoleptic properties and in preventing some human pathologies such as cardiovascular disease and obesity.

The present study aimed to investigate the influence of different drying conditions on the rehydration ratio and water holding capacity of three green algae, *Codium vermilara*, *Codium tomentosum* and *Ulva lactuca*.

The methods used for the determination of water retention capacity and rehydration ratio were similar to those used in previous studies (Susuki, T. et al., 1996). The algae were processed in a tray dryer and the drying conditions were: Temperature: 30°C and 40°C; Relative Humidity: 28%-47%; air velocity 1,9 m/s.

In this work, it was concluded that higher drying temperature conditions originate lower rehydration ratio and consequent lower water holding capacity possibly due to a higher physical damage in the algae tissues. It was also observed that both *Codium* species have higher values for these two parameters than *Ulva lactuca*, under the same rehydration conditions.

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## References

Susuki, T. et al. (1996). Dietary Fiber Content, Water-holding Capacity and Binding Capacity of Seaweeds. *Fisheries Science*, 62, 454-461

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