

Farming of the giant kelp *Macrocystis pyrifera* in southern Chile for development of novel food products

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Key words: *Macrocystis pyrifera*, farming, food products, Chile

Abstract

This study explores the potential cultivation of the giant kelp *Macrocystis pyrifera* (L.) C.A. Agardh in southern Chile, for the development of novel food products. The study demonstrates the importance of considering the collection site of the parent sporophytes for successful cultivation. This study also shows that the ropes must be seeded with 10,000 to 40,000 spores ml⁻¹, depending on the culture method used. We also demonstrated that under environmental conditions in southern Chile, the seeded ropes must be put at sea at the latest during autumn (April) in order to reach the harvesting season in December. However, several other management aspects must be considered to improve the quality of the product. Our final estimation indicates that over 14.4 kg m⁻¹ of rope (fresh weight) can be produced and from this total production, over 70% can reach the quality to produce different food products that are already being introduced in oriental countries. The remaining 30% can be used for abalone feeding and is also available for the organic fertilizer industry located in Chile.