

## RESEARCH TITLE

# NUTRITIONAL VALUE AND FUNCTIONAL PROPERTIES OF ALGAE PROTEINS

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## Abstract

Microalgae are a large diverse group of microorganisms comprising photoautotrophic protists and prokaryotic cyanobacteria—also called as blue-green algae. These microalgae form the source of the food chain for more than 70% of the world's biomass. It contains higher nutritional values, with rapid growth characteristics. Microalgae are autotrophic organisms and extensively desired for use in nutraceuticals and as supplement in diet. Many microalgae species are documented for health benefits, by strengthening immune system and by increasing the nutritional constitution of body. Many countries have been experienced an increase in protein consumption over the last decades due to the population growth and adoption of protein-rich dietaries. Unfortunately, conventional-based protein agroindustry is associated with environmental impacts that might aggravate as the humankind increase. Thus, screening for novel protein sources that are environmentally friendly may contribute to conventional agriculture to provide food and feed in a more sustainable manner. In this context, microalgae farming are a promising alternative to couple the anthropic emissions with the production of food and feed. Some strains show protein contents two times higher than conventional protein sources produced from animals and plants. The use of whole microalgae biomass as a protein source in food and feed is simple and well-established. Conversely, the production of microalgae protein supplements and isolates requires the development of feasible and robust processes able to fractionate the microalgae biomass in different value-added products.

**Key Words:** Microalgae, Functional properties food, Nutritional value