

Importance of microalgae in aquaculture

Sushantika Biswal and Pankaj Meher

Department of Zoology, School of Applied Sciences, Centurion University of Technology and Management, Odisha

Email- pankaj.meher@cutm.ac.in

ABSTRACT

The review article provides a reasonable analysis on the usage of microalgae in aquaculture, focusing on their nutritional value and transferring nutrients through food chains, waste water treatment ability and improving production in aquaculture industries. The review is divided into 8 sections:

- (a) Microalgae in aquaculture
- (b) Available additive in feeding in aquaculture
- (c) Coloring and biological active compounds
- (d) Purification of water
- (e) Algal toxins
- (f) Nutritional properties
- (g) Use of algae to enrich Zooplanktons
- (h) Status or use of microalgae in future

Microalgae usage has been increased nowadays because it has been proven much better than traditional systems. As traditional system produces large amount of waste water which affects global sustainability but microalgae purifies the wastewater in a low cost. To overcome environmental and economic problems in aquaculture industry, microalgae is widely used nowadays. Microalgae rich nutrient content, it's biomass production ability, value adding quality enhances the production in aquaculture.

Microalgae is important for better yielding in aquaculture but it is as important and widely used in other industries also. It plays a very important and vital role in other industries like (1) Health and functional food, (2) Used as feed for animals and aquaculture, (3) Cosmetics and dyes, (4) Substrate for bio refineries, (5) Pharmaceuticals, (6) Fertilizers, (7) Bioenergy and biofuels and (8) Carbon dioxide and pollution control.

KEYWORDS

Microalgae, nutrient content, wastewater treatment, Chlorella, spirulina, PUFAs

INTRODUCTION

Microalgae which are otherwise called as microphytes. These are smallest size algae. They are available in fresh, brackish and marine water bodies and also in the sediment. They are made up of only one cell in which all needed functions are carried out by the organism. Microalgae is an extremely important food chain in aquaculture.

Microalgae, can be a good way for wastewater remediation as it can achieve maximum productivity by assimilating nutrients in water bodies and can increase oxygen level in it. The property of microalgae increasing the nutrients is helpful in the industries preparing food materials, improving waste agricultural water, improving waste water quality from municipal corporations and treating many more other type of water so that it could not get wasted.