

Special Issue

Microalgae for the Food Industry: From Biochemical Composition to the Development of Functional Foods

Message from the Guest Editors

Microalgae—single-cell photosynthetic organisms rich in high-value bioactive compounds—hold significant promise for food applications. Species such as *Spirulina*, *Chlorella*, and other species contain 30–70% high-quality protein, omega-3 fatty acids, carotenoids, and vitamins. Their unique polysaccharides exhibit immunomodulatory properties, while pigments like phycocyanin demonstrate antioxidant activity. Functional food development leverages microalgae through three primary approaches: (1) direct use as nutrient fortifiers (2) extraction of bioactive ingredients; and (3) novel alternative protein products, such as microalgae-based plant meat or dairy analogs. Commercial examples include DHA-fortified infant formula and algae-derived plant-based eggs. Technical challenges revolve around cost-effective large-scale cultivation, enhancing cell wall disruption efficiency, and improving flavor profiles. Future priorities include advancing genetic engineering techniques to develop high-yield strains and establishing food-grade safety standards.

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Message from the Editor-in-Chief

Foods (ISSN 2304-8158) is an open access and peer reviewed scientific journal that publishes original articles, critical reviews, case reports, and short communications on food science. Articles are released monthly online, with unlimited free access. Currently, *Foods* has been indexed by the Science Citation Index Expanded (SCIE - Web of Science), PubMed, and Scopus. Our aim is to encourage scientists, researchers, and other food professionals to publish their experimental and theoretical results as much detail as possible. We therefore invite you to be one of our authors, and in doing so share your important research findings with the global food science community.

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