

**МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РФ
ТОМСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ
БИОЛОГИЧЕСКИЙ ИНСТИТУТ**

СТАРТ В НАУКУ

МАТЕРИАЛЫ

**LXX научной студенческой конференции
Биологического института**

Томск, 26–30 апреля 2021 г.

**Томск
2021**

CULINARY USE OF ALGAE

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Algae are of fundamental importance, serving as a food source to almost all aquatic organisms in exploited aquatic systems, including fish, shellfish and other invertebrates. Macroalgae have long been used by humans. Seaweed has been the basis of the diet along the coast of China since 850 BC. Seaweed is used as animal feed. Algae are collected, dried and ground into flour, which is used as a food additive. Brown algae – *Laminaria*, *Ascophyllum* are mainly used nowadays. Currently, the most important algal extracts used on an industrial scale are alginates, agar and carrageenan. They find a variety of uses.

This work is devoted to the applications of algae in culinary. During the project the research was conducted which provided the information on the nutritional value of algae-based products, their beneficial effects on human health and most relevant substances produced from different species. We have identified species that are most important for culinary and food industry: *Undaria pinnatifida*, *Caulerpa lentillifera*, genus *Saccharina*, genus *Porphyra*, genus *Chlorella* and genus *Phyllophora*. Some of them are mostly used in Asian countries, others worldwide. The use and relevance of these algae were considered in the work.

We have identified many benefits of algae in our diets. Algae contain vitamins, microelements, proteins, unsaturated fats and dietary fiber. Algae-based products are helpful in curing impairment of thyroid functions if they resulted from iodine deficiency. Seaweed is valuable in curing diabetes, cardiovascular disease, and obesity due to the high content of dietary fiber. It also supports the health of the gastrointestinal tract. But the most notable benefit from algae is making our food tastier. Japanese seaweed (*Saccharina japonica*) naturally contains high levels of glutamic acid which enhances gustatory qualities of dishes and gets appetite up. That is why many people love Japanese cuisine so much, for example, basic Japanese broth “dashi”. Gel formers and emulsifiers obtained from algae help stabilize our food and give it the right texture. Thanks to those we have industrially manufactured ice cream, sauces and condiments, jellies and beverages. Thus, algae are a great food source that can be used differently.

Academic advisor – senior lecturer E.V. Vychuzhanina