

SEAWEED

AS FOOD INGREDIENT



Seaweed, taxonomically classified as macroalgae, comprises multicellular marine organisms belonging to the phylum of algae.

Seaweed is categorized into three major groups based on pigmentation:

- Chlorophyta (green algae),
 - Phaeophyceae (brown algae), and
 - Rhodophyta (red algae)
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- Commercially, seaweed is utilized in various industries, including food, pharmaceuticals, cosmetics, and agriculture, owing to its rich biochemical composition, which encompasses polysaccharides, proteins, lipids, vitamins, and minerals.
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- Additionally, seaweed cultivation is gaining attention for its potential to mitigate climate change by sequestering atmospheric carbon dioxide.



Nutritional Value

- Seaweed is highly nutritious, packed with vitamins, minerals, and antioxidants. It's particularly rich in iodine, which is essential for thyroid health, as well as vitamins A, C, E, and K, and minerals like calcium, magnesium, and iron.
- Consuming seaweed may have various health benefits, including improved heart health, digestion, and immune function. Some studies suggest that the compounds found in seaweed may also have anti-inflammatory and anti-cancer properties.

Umami Flavor

- Seaweed has a unique savory flavor known as umami, which adds depth to dishes. It's often used to enhance the flavor of soups, salads, and stir-fries.

Common edible products made from algae include:

Nori:

A type of red seaweed (*Porphyra spp.*), commonly used in Japanese cuisine, especially for wrapping sushi rolls. It's also roasted and seasoned to make crispy nori sheets for snacking.

Agar-agar:

A gelatinous substance derived from red algae (*Gracilaria* or *Gelidium spp.*). It's used as a vegetarian alternative to gelatin and is commonly used as a thickening agent in desserts, candies, and aspic dishes.

Kombu:

A type of brown seaweed (*Laminaria spp.*) that is widely used in Japanese cooking, particularly for making dashi, a flavorful broth used as a base for soups and sauces. It's also used as a flavor enhancer in various dishes.

Wakame:

Type of brown seaweed (*Undaria pinnatifida*) commonly used in Japanese cuisine, particularly in soups and salads. It has a slightly sweet flavor and a tender texture when rehydrated.

Dulse:

A type of red seaweed (*Palmaria palmata*) that is harvested and dried for consumption. It has a salty flavor and a chewy texture, making it suitable as a snack or a seasoning for various dishes.

Spirulina:

A type of blue-green algae (*Arthrospira spp.*) that is often consumed as a dietary supplement due to its high protein content and nutritional value. It's also used as a natural food coloring in certain products.

Chlorella:

A single-celled green algae (*Chlorella spp.*) that is also consumed as a dietary supplement due to its high protein, vitamin, and mineral content. It's often available in powdered or tablet form.

