

KALAYA PRODUCTS RESEARCH & DEVELOPMENT CONSORTIUM

*KALAYA: THE BROWN KELP USED AS AN IODINE SUPPLEMENT *"NATURES ANSWER TO IODINE DEFICIENCY"*

No: 36

Laminaria is a type of brown seaweed that is native to Japan. Laminaria contains iodine, an element that the body needs to make [thyroid](#) hormones. It is also a rich source of iron and [potassium](#). Despite serious safety concerns about laminaria, some people use laminaria as medicine.

Laminaria is also used for [weight loss](#), [high blood pressure](#), as a bulk [laxative](#) for [constipation](#), and for treating [radiation sickness](#). It is also used for preventing [cancer](#).

Sometimes [healthcare](#) providers use laminaria to expand the [cervix](#), the [mouth](#) of the uterus, before certain medical procedures. They place a layer of laminaria directly inside the [cervix](#), the "neck" of the uterus. This layer of laminaria is sometimes called a "tent." The purpose of the tent is to enlarge the cervix before "D&C," also known as [dilation and curettage](#) (scraping of the uterus); removal of a medical device that is in the uterus; diagnostic procedures; placement of radium for [cancer treatment](#); and other gynecological procedures. Laminaria tents are also used in [pregnant](#) women to "ripen" (expand) the cervix to make [labor and delivery](#) easier, and also to cause [abortions](#) during the first three months of pregnancy.

How does it work?

Laminaria seems to be able to form a thick, sticky gel when it comes into contact with water. This allows laminaria to work as a bulk laxative. It also allows laminaria "tents" that have been placed inside the cervix to expand the cervix for procedures or to "ripen" the cervix and speed up the onset of labor. These laminaria tents absorb water, gradually swelling to a diameter of 1/2 inch over 4-6 hours. This swelling causes the cervix to expand, and that can bring on labor.

Laminaria can be consumed by adding it to the food like soups, salads and stir-fries. Laminaria is also available in capsule and powder form which can be had like a nutritional supplement. It is also a big part of cuisines like Japanese where nori sheets are regularly used.

There have been no reported adverse reactions on Laminaria and is being used a lot in alternate therapies. There are complete spa treatments dedicated to the use of Laminaria. As research is still being done, you should eat Laminaria carefully and if possible, get advice from a specialist.

Laminaria contains iodine and fucoidan. Iodine helps metabolise cells normally. Fucoidan helps increase immunity in the body. Laminaria also contains a whole slew of vitamins like vitamins A1, B1, B2, B6, B12, C, E, K, along with pantothenic acid, folic acid, and niacin.

Laminaria is also very high in minerals especially in the important ones like sodium, potassium, calcium, phosphorus, iron, zinc, magnesium and manganese. Seaweed is, in fact, considered one of the magic foods for the sheer number of nutritional properties it has.

Health Benefits and Therapeutic Uses

Laminaria helps in conditions like fatigue, menstrual symptoms, hypothyroidism, cough, asthma, haemorrhoids, headaches and stomach ailments.

Laminaria also helps prevent goitre which is also a malfunction of the thyroid gland because of the high iodine content.

The B12 in seaweed is quite rare in vegetables and this makes it an important addition in the diet of vegetarian people who usually have to take supplements for B12.

Though there is little scientific evidence to prove it, brown seaweed has also shown cancer preventive properties. Ingesting bladderwrack or brown seaweed has shown some results in reducing oestrogen-related cancers.

This form of seaweed with fucoidan also has shown to reduce inflammation. There have been some reports that fucoidan also can prevent breast cancer.

Brown seaweed has also shown blood-thinning properties. Anti-coagulant properties of fucoidan can really help. There is no record of it being used in treatments as yet though.

Laminaria has also shown promise in removing toxins from the body and improving the health of the digestive tract.

This plant is also used in topical lotions for obesity, cellulite and rheumatism. Taking a bath and rubbing the body down with fresh seaweed has been known to have a slimming effect.

Laminaria is known as an "anti-fat herb". Seaweed even works very well with other herbs in cellulite treatments.

The minerals in the seaweed also act as a diuretic and help draw out extra liquids from the body.

It helps deal with conditions like psoriasis and eczema.

It is also an energy booster and improves mental alertness.

A Source of Iodine, Helpful for Thyroid Function

Iodine is a particularly important micronutrient essential for healthy thyroid function and its hormone production. Because iodine is not naturally produced by the body, it needs to be consumed through dietary sources. Seaweeds can be excellent whole food choices for iodine supplementation and can help to protect the thyroid gland and its primary role in regulating metabolism.

All kelps are classes of brown seaweeds that are known to be predominantly efficient at absorbing iodine from oceanic environments. In a study published by the National Academy of Sciences it was emphasised that, "Brown algae of the Laminariales (kelps) are the strongest accumulators of iodine among living organisms."

For the average person, consuming kelp in foods or as an encapsulated powder can provide an easy way to meet essential iodine requirements necessary for maintaining proper metabolic functions and is especially appropriate when mineral deficiency is an issue.

While we feel that adding some kind of seaweed, to the diet on a frequent basis can be beneficial by delivering a well-balanced ratio of minerals and nutrients, some varieties may be more suitable for some people than for others.

It is important to note that on rare occasions some individuals may be sensitive to the higher amounts of iodine found in kelp and may wish to consume other sea vegetables (like [nori](#) or [dulse](#)) instead, as a way to prevent potential iodine overdose.

WHY WE MAY NEED MORE IODINE

Although the amount of iodine humans require daily is largely debated by many health professionals, the dose currently recommended by the U.S. RDA is 150 micrograms (0.15 milligrams) per day in adults who are not pregnant or lactating.

Many health experts argue that these numbers, which were originally intended to prevent goitre, do not take into account the increasing amount of goitrogens present in today's world. When accumulated, goitrogenic substances can interfere with iodine uptake in the thyroid gland.

Iodine deficiencies are known to occur from daily exposure to common chemicals like bromine, chlorine and fluoride, all of which displace iodine and prevent its proper absorption. Bromine is found in such things as computer plastics, pesticides, soft drinks, baked flour products, medical drugs and fire retardants. Chlorine and fluoride are often found in tap water.

The thyroid can also uptake radioactive iodine, like cesium 137, when there is iodine deficiency, increasing the risk of thyroid cancer. In some cases, as with the nuclear Fukushima disaster in Japan, it may also be necessary to take a high quality concentrated iodine supplement to protect the thyroid gland from exposure.

Sea Kelp: The wondrous food supplement

Laminaria digitata is the scientific name of the brown seaweed also known as Sea Kelp or Wonder Kelp. It grows at the Atlantic coast of the southern Brittany and the last years has attracted the interest of many researchers who study it extensively for its' medicinal and biological properties.

Scientists believe that this ancient sea plant is a source of elements that no longer exist in the plants that are grown in the soil and that its' chemical composition is very similar to that of the human plasma .

The Sea Kelp contains a qualitative and quantitative composition of biologically active substances like amino acids, polyunsaturated fatty acids, antioxidants, alginate, vitamins (A, C, D, B1, B2, B3, B6, B12, E, K, PP), macro- and micro-nutrients (K, Na, Ca, Mg, I, S, Si, etc.), which make it a highly effective supplement to ensure the normal functioning of the body and treat several diseases.

The history of Sea Kelp use

Based on archaeological evidence from 14,000 BC in Chile and early written scripts (for example in China, 300 A.D. and in Ireland, 600 A.D.) humans have been using algae for thousands of years, not only for food but also for their medicinal properties.

Nowadays, *Laminaria* species are mostly harvested in Scotland, Ireland, Norway, France, China, Japan and Korea. They are a very popular food in Asian countries and a very expensive raw material in Japan and Korea for the extraction of alginates, binding agents that absorb toxic heavy metals and radioactive isotopes from the body by binding with them in the gastrointestinal tract.

Many scientific studies have shown that the consumption of Sea Kelp has antibacterial and anti-inflammatory or even anti-tumour properties. For instance, fucoidan a polysaccharide present in several *Laminaria* species has been shown to have antiviral, antibacterial, antioxidant and anticancer properties.

Sea Kelp and iodine

Furthermore, the high content of Sea Kelp in iodine, especially of *Laminaria* and *Saccharina* species, links this seaweed with a long history of its consumption by humans and the reduced incidence of goitre and other thyroid disorders. Iodine is essential for thyroid hormone synthesis and its deficiency causes hypothyroidism while excess iodine uptake can induce either hyper- or hypothyroidism.

Iodine intake is also critical during pregnancy. It has been shown that many iodine deficiency disorders (IDD) may occur to the foetus due to the impaired synthesis of thyroid hormones in both the mother and the foetus. Such abnormalities include abortions, stillbirths, congenital anomalies, increased perinatal mortality, endemic cretinism, impaired mental function, retarded physical development or goitre complications.

Why iodine is important for your health?

Insufficient iodine uptake is not only a problem in developing countries, but is also characterised as a major public health problem in many countries in Europe and the Western world. According to a recent study in UK that analysed mother-child pairs from the Avon Longitudinal Study of Parents and Children (ALSPAC) cohort by measuring urinary iodine concentration in stored samples from 1040 first-trimester pregnant women, iodine deficiency in pregnant women in the UK should be treated as an important public health issue that needs attention. Finally, according to Lazarus (2014) a significant part of the population in Europe is mildly deficient in iodine and an increase in dietary iodine consumption by 50-100 µg/day would be beneficial.

Which form of iodine is the best supplement?

Given the risks of potential iodine-induced thyroid dysfunctions, the American Thyroid Association also recommends the ingestion of an iodine or kelp daily supplement containing >500 µg iodine for all individuals, except for certain medical indications. However, there are several iodine supplements available in the market. Which kind of supplement is better? Potassium iodine tablets or Sea kelp tablets? This is actually not only a question of tablet quality and purity, but also of

iodine bioavailability (i.e. how much iodine is actually assimilated in the body). In average, 100 g of the dry kelp contains 0.13–0.69 g iodine when the recommended daily nutrient intake of iodine is 90 µg (RN1a) for the age group 0–59months, 120 µg for the age group 6–12 years, 150 µg for adolescents and adults and 250 µg during pregnancy and lactation, respectively^{23, 24} .

According to scientific studies the bioavailability of natural seaweeds is lower comparing to potassium iodine tablets , as the content of iodine in the seaweed varies according to the season that was harvested and as the iodine is not in a pure form as in the tablets. Furthermore, many people support that iodine should be taken mostly by our diet. However, Sea Kelp contains not only large amounts of various micro- and macro-nutrients, but also many vitamins which correspond to a huge variety of fruits and vegetables and make it a wonderful supplement for preventing or treating numerous diseases.

By using Sea Kelp tablets, we do not only supplement our diet with iodine, but also with calcium helping our bones, antioxidant and anti-inflammatory substances, polyunsaturated fatty acids that normalise blood pressure, cholesterol, and blood sugar rates and many vitamins increasing our body resistibility to any physical and psychoemotional stress.

Gerald Hancock (2018)



DISCLAIMER

Always consult your health care professional for guidance for all medical conditions. Nothing “quoted” above by the “research scientists” and “scientific records” from ancient and recent publications should be considered as medical advice. It is information that is available in the public domain, and is for information and education purposes only.

We make no medical claims as to the benefits accruing from the use of Laminaria Kelp as a supplement.

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