



Saccharina latissima

Common names: Sugar kelp, Sweet kombu.

Irish names: Lásaí, Rufa, Rufaí, Fruill, Ribiní, Láin, Cupóg.

Phylum: Ochrophyta
Class: Phaeophyceae
Order: Laminariales
Family: Laminariaceae
Genus: Saccharina
Species: S. latissima



Fig 1. *Saccharina latissima* exposed at low-tide.

Morphology

- A large brown kelp with a relatively short stipe (< 60 cm), and a single, elongated frilly-edged, crinkled frond, which extends tongue-like up to 5 m long.
- The yellow-brown frond is undivided, and in older specimens the surfaces are heavily pitted, often torn and heavily indented.
- The stipe is flexible, smooth, and round in cross-section.
- The holdfast is similar to all other kelps, i.e. a cluster of strong, flat, spreading, branching, root-like growths known as haptera.
- Length, width and overall fragility of the frond can vary widely for this species depending on how sheltered or deep it grows.

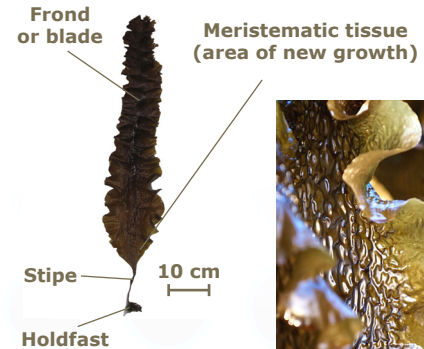


Fig 2. Morphology.

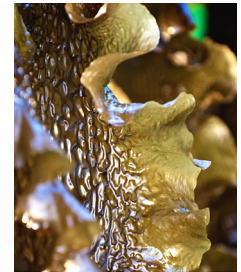


Fig 3. Close up of the blade's edges.

Reproduction

- *Saccharina latissima* sporophytes are the macroscopic phase of a two-stage life-cycle (see LC4*).
- The reproductive tissue, known as sorus, forms a long dark streak in the middle of the blade and appears as darkened raised patch.



Male and female gametes occur on separate microscopic individuals (gametophytes).



Fig 4. Detail of sorus on the blade.

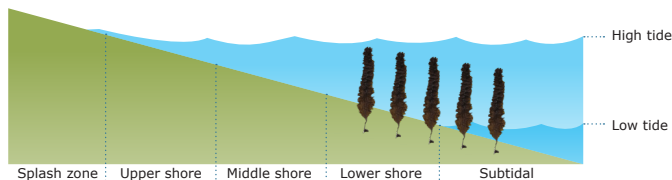
*Note: Life-cycle 4 (LC4) on page 4.



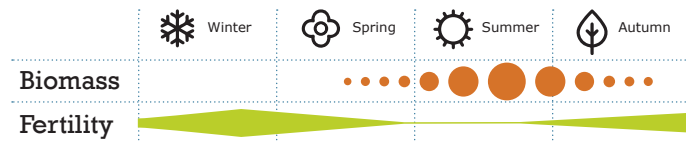
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Distribution and habitat

- *Saccharina latissima* occurs in both the N Pacific and N Atlantic.
- It grows in sheltered waters on rocks.



Seasonality



Note: These seasonal characteristics may vary slightly from year to year.

Wild resource and cultivation



interesting facts

- All kelps contain alginates which are used as for thickeners, stabilizers, and gelling agents for food: E400 – alginic acid, E401 – sodium alginate, E402 – Potassium alginate, E403 – Ammonium alginate, E404 – Calcium alginate, E405 – propylene glycol alginate (PGA).
- Adding a piece of dried sugar kelp to both the soaking water and then the cooking water of legumes (i.e. the same piece of kelp) will aid good digestion.



- Today, this kelp is the most widely cultivated in the N Atlantic and grows well on longlines.
- 1.2 billion tonnes (wet weight) of a sister species, *Saccharina japonica*, is currently grown annually in China, Korea and Japan, the largest marine aquaculture crop by weight.

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