

Cordgrasses

(*Spartina* spp. (all species and hybrids))



Family name: Poaceae (Grass family)

Common name/s: Cordgrasses, Marsh Grass



***Spartina* spp. species include:**
Spartina alterniflora Loisel – Smooth cordgrass
Spartina anglica – Common cordgrass
Spartina arundinacea - Tristan da Cunha
Spartina bakeri Merr. – Sand cordgrass
Spartina × caespitosa – Short cordgrass
Spartina cynosuroides – Big cordgrass
Spartina densiflora – Denseflower cordgrass
Spartina foliosa Trin. – California cordgrass
Spartina gracilis Trin. – Alkali cordgrass
Spartina maritima – Small cordgrass
Spartina patens – Saltmeadow cordgrass
Spartina pectinata – Prairie cordgrass
Spartina spartinae – Gulf cordgrass
Spartina × townsendii – Townsend's cordgrass
Spartina versicolor Fabre - Mediterranean, Azores

Cordgrasses (*Spartina* spp.) are salt-tolerant perennial grasses that thrive in coastal and estuarine environments. While some species are used for coastal erosion control and habitat restoration, others, such as *Spartina anglica*, are considered invasive in Ireland, where they alter salt marshes and mudflat ecosystems.

The plant spreads through seed dispersal and rhizomes, making management challenging. Control strategies include mechanical removal, herbicide application, smothering, and preventing the movement of contaminated sediments. If left unmanaged, cordgrasses can significantly impact coastal biodiversity and ecosystem dynamics.

Description - Cordgrasses are commonly found in coastal and estuarine environments. Noted for their ability to thrive in saline and brackish waters, some species and hybrids, such as *Spartina anglica* (common cordgrass), have become highly invasive, spreading rapidly and altering natural coastal ecosystems.

Key characteristics include:

Height: Typically grow to a height of 0.3 to 1.5 metres, depending on species and environmental conditions.

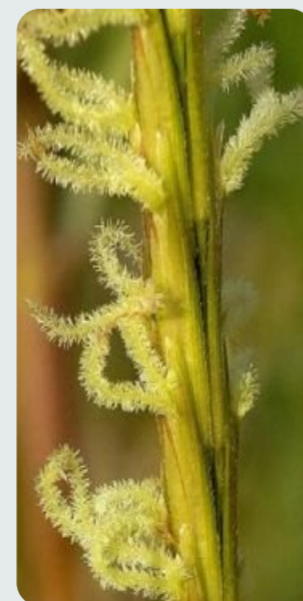
Leaves: The leaves are long, narrow, and grass-like, measuring 20-60 cm in length. They are often tapered to a fine point and can be flat or rolled.



The leaves are rough to the touch and can have a bluish-green or yellowish-green colour.

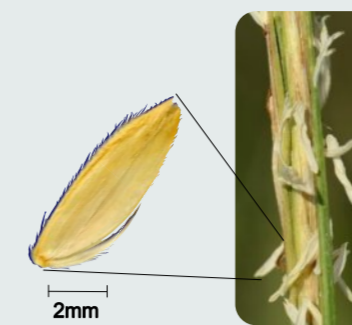
Flowers: Produces flower spikes (inflorescences) that are 5-30 cm long, depending on the species.

The flowers are small, greenish or brownish, and typically appear in late summer to autumn.



Seeds: Small and often enclosed within spikelets that form dense clusters on the plant. Each spikelet may contain a single seed or a few seeds, depending on the species.

Seeds are generally oval to oblong, with a smooth or slightly rough texture, and they are pale brown to dark brown in colour. Cordgrass seeds are adapted to disperse via water, as the plant typically grows in salt marshes and coastal areas where tidal action aids in spreading the seeds to new locations.



Stem: The stems are stiff and erect, often forming dense stands in intertidal zones.

Stems can be hollow or solid, depending on the species.

Root: Cordgrasses have a vigorous rhizomatous root system, which allows them to spread rapidly and stabilise sediments in coastal areas.



The roots can tolerate saline conditions and help the plant anchor in muddy or sandy substrates.

Habitat - Cordgrasses are native to coastal regions of North America, Europe, and other parts of the world, with different species adapted to specific regions. They typically grow in:

- **Salt Marshes and Mudflats:** Commonly found in intertidal zones, where they thrive in brackish or saline water and can withstand periodic flooding.
- **Coastal Estuaries:** Often established in estuaries and tidal creeks, where they can stabilise mudflats and contribute to marsh formation.
- **Dredged Channels and Reclaimed Land:** Frequently used in coastal management projects for erosion control and to promote land reclamation in estuarine environments.

Cordgrasses grow best in sunny conditions and can tolerate a range of sediment types, from sandy to muddy substrates.

Status in Ireland - In Ireland, *Spartina anglica* (common cordgrass) is considered an invasive species, particularly in salt marshes, mudflats, and estuarine habitats. It was originally introduced for coastal erosion control and land reclamation, but it has since spread aggressively, outcompeting native vegetation and altering natural habitats.

Its rapid growth can lead to the conversion of mudflats to salt marsh, impacting bird species and other wildlife that rely on open intertidal areas.

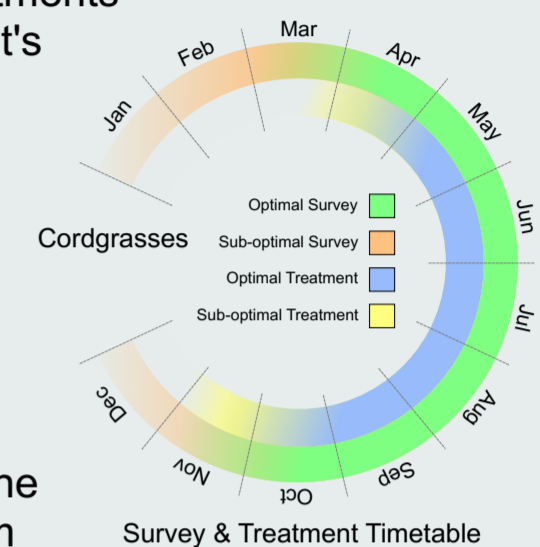
Reproduction and Spread - Cordgrasses spread through both seed production and vegetative propagation:

- **Seed Dispersal:** The seeds are dispersed by water, allowing the plant to colonise new areas along coastlines.
- **Vegetative Propagation:** The plant can also spread through rhizomes, which enable it to form dense, clonal stands.

Rhizome fragments can regenerate new plants, making it difficult to control.

Management and Control - Managing cordgrasses requires a combination of approaches due to their aggressive growth and ability to spread through both seeds and rhizomes:

- **Mechanical Control:** Digging or cutting can reduce biomass, but care must be taken to remove all root fragments to prevent regrowth. Mowing or grazing may help control growth, but this approach requires repeated efforts.
- **Chemical Control:** Herbicides approved for use in aquatic environments may be applied to control cordgrasses, though multiple treatments may be necessary due to the plant's resilience.
- **Smothering:** Covering small infestations with geotextiles or black plastic sheeting can be effective, as it blocks sunlight and reduces plant growth.
- **Preventative Measures:** Limiting the movement of soil or sediment from infested areas and monitoring coastal habitats can help reduce the risk of spread.



Ecological Impact - Cordgrasses can have significant ecological impacts, particularly in areas where they become invasive:

- **Competition with Native Species:** Forms dense stands that outcompete native salt marsh and mudflat species, reducing biodiversity.
- **Alteration of Coastal Habitats:** Converts mudflats to salt marsh, affecting bird species that rely on open intertidal zones for feeding.
- **Changes to Sediment Dynamics:** The vigorous root system traps sediments, leading to changes in hydrology and sedimentation patterns, which can impact other coastal processes.



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