

Tree Species No. TTS4

Atriplex halimus, Family Chenopodiaceae

Atriplex halimus is a short stemmed shrub that is highly drought resistant and can survive for some time without rainfall, making it suitable for introduction to arid lands. It is also tolerant of saline conditions and can excrete salt through hairs on the leaves giving it potential as a desalinisation plant, provided that material is periodically removed to prevent salt returning to the land.

Common names: Mediterranean saltbush, roghaata, cape saltbush, brakbos, brak vaalbos, soutbos, vaalbosse, vaalbrak.

Synonyms: *A. vestita*, *A. capensis*.

Distribution: The exact origin is unclear, some believe that in the past it was native to the Mediterranean and South Africa while others believe it originates from North Africa. It has now been introduced to many tropical arid countries.

Ecology

A. halimus is best suited to mediterranean climates, however it is a hardy species that is able to tolerate a variety of harsh environmental conditions.

Rainfall: 150-500 mm but has been reported to survive between one and several years without rainfall.

Soil type: It is tolerant of a wide variety of soils, and will tolerate poor shallow soils on steep sloping regosols.

Botany

Height: 1-2 m.

Diameter at breast height: 15-25 cm, depending on environmental conditions.

Crown: Spreading, sparse foliage.

Flowers: *A. halimus* is dioecious (male and female flowers appear on different plants).

Uses

Main: *A. halimus* is commonly used as a browse and forage plant but due to the greater palatability of other plants it is rarely eaten back to any great extent. In extremely saline conditions, because of the salt excreting nature of this plant salt residues can build up on leaf surfaces, so that it is necessary to provide increased water for livestock. Its drought and salt tolerance makes it an ideal plant for land and dune stabilisation projects in arid, salinised lands. Other: It has also been used as a source of fuel.

Yield: 1000-1500 feed units per hectare per year and under natural conditions can produce 1009kg dry leaves per hectare per year.

Cultural instructions

Although *A. halimus* is a salt tolerant plant in maturity, high salinity levels can reduce the germination rate considerably. It is therefore best to produce seedlings in nurseries rather than direct sowing.

Pre-treatment: To increase germination wash seeds under a running tap to remove salts from the seed surface. Studies have shown that light has little effect on germination rates however water can have a considerable influence. Pre-soaking seeds can reduce germination period to 36 hours.

Germination: Germination can be intense when flooding buries seeds.

Nursery: Seedlings should be planted out when they are 20-30cm high, after 3-6 months.

Planting out: Avoid soil compaction and do not plant seeds deeper than 5-10 cm as this may inhibit emergence from the soil.

Management: Once established pruning should take place to prevent the plants growing out of reach of livestock and also to encourage leaf production to exceed wood production, increasing the browse available. If planted on steep slopes the seedlings should be planted along contour lines to increase soil stabilisation and reduce erosion. When planted on flat land there should be sufficient room for animals to move freely around and allow maximum access to plants.

Other

Pests and diseases: The fungus *Coniothyrium atriplicinum* may result in some die back of the plants.

Limitations: Although *Atriplex halimus* is a highly salt resistant plant when mature, it is effected by saline conditions during germination and initial growth. This makes the use of nurseries preferable.

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