

PROPAGATION PROTOCOL

Lotus azoricus FABACEAE



Last Update: 24/05/2019









Ecology: Coastal cliffs, usually under 50m. Perennial. Flowering period III-VI.

Propagation method: seed germination in Petri dishes and transplanted in trays.

Objective: Several true leaves, lignified and a plantable and healthy root mass.

Material:

- Sandpaper of very fine grit size (P150);
- Petri dishes;
- Distilled water;
- **Duration:** 5 months.
- Germination chamber;
- Trays of germination 60cm³ (350x251x87 mm);
- Germination substrate.

-  Flowering
-  Seed collection
-  Seed conservation
-  Establishment (Seeding, germ, emer, 1st leaves formation)
-  Rapid growth (greenhouse)
-  Rapid growth (outside the greenhouse)
-  Hardening
-  Transplantation to final location

YEAR 1

YEAR 2

YEAR 3



Seed collection: It should be done from May to July. Collect dark and dry pods before seed dispersion. If seeds are green, place them in a translucent container at direct sun light for 2 days.

Seed conservation: The seeds are removed from the pods and dehydrated at 15°C and 15% humidity, for a minimum period of 1 month. Until propagation seeds are kept at 4°C.

Germination pre-treatment: Prior to germination procedures, seeds are physically scarified with sandpaper for seed coat sharpening. Caution: do not scarify the seeds for too long, it may destroy the seeds. Seeds are well scarified if swelled before 20 minutes immersed in water.

Germination: 85%; Germination is started in Petri dishes with moisturized filter paper at 20°C/10°C and 16h of light per day (germination chamber).

Seeding: Once the cotyledons are formed, transfer immediately the seedlings to germination substrate.

Substrate: Germination substrate.

Container: Trays of germination 60cm³ (350x251x87 mm).

Place: Trays inside the greenhouse.

Establishment: Trays inside the greenhouse with frequent but not excessive irrigation. 2x10 minutes period/day. Cut irrigation for 2 days if brown algae start to appear. Not shaded place.

Rapid growth: Inside the greenhouse: Plants shall be kept in the greenhouse for about one month, maintaining the sprinkler irrigation. Plants do not need to be always moist. Outside the greenhouse: plants with about 5-10 cm are taken to a shaded area outside; the irrigation frequency is reduced to once a day. Duration: 1/ 2 months.

Hardening: Plants are taken to an area with less shade. Duration: 2/ 3 months.

Fertilizing: During the hardening phase, apply K-enriched liquid fertilizer (5-8-10) every 15 days.

Phytosanitary treatments: In May apply preventative treatment against the *Tipula* sp. larvae.

References: Pereira *et al.* (2012). 'Rapid and effective germination methods to overcome primary seed dormancy in several Azorean endemic species'. *Acta Horticulturae*, 938: 77 - 84. Freitas, CF (2016). *A conservação ex situ das plantas autóctones dos Açores no Jardim Botânico do Faial*. Master Thesis.