

# PROPAGATION PROTOCOL

*Lotus azoricus* FABACEAE



Secretaria Regional do  
Ambiente e Alterações  
Climáticas



**Last Update:** 24/05/2019

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

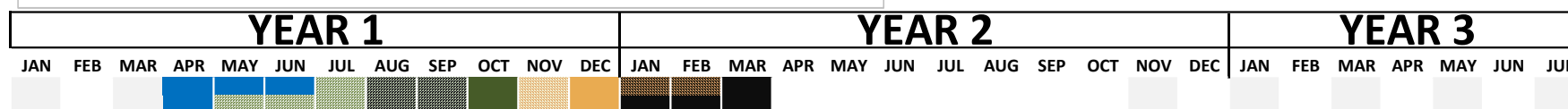
**Propagation method:** seed germination in Petri dishes and transplanted in trays.

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

**Material:**

- Sandpaper of very fine grit size (P150);
- Germination chamber;
- Petri dishes;
- Trays of germination 60cm<sup>3</sup> (350x251x87 mm);
- Distilled water;
- Germination substrate.
- **Duration:** 5 months.

- 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



**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 60cm<sup>3</sup> (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.

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