

# Fact Sheet

## Neptune messina

PRJ-009886

By Ross Ballard, South Australian Research & Development Institute

### An annual pasture legume for moderately saline waterlogged soils

**Neptune messina is an annual pasture legume adapted to moderately saline, winter-waterlogged soils. It has higher levels of combined tolerance to salinity and waterlogging than all other pasture legumes. It produces more biomass than other pasture legume options recommended for saline land; early season balansa clover and burr medic.**

It is suitable for grazing in mixtures with other pasture species and will provide the opportunity to increase stocking rate.

It can grow up to 0.8 m tall and produces clusters of bright yellow flowers.

It is an excellent seed producer. Pods are free of spines. It develops a large seed bank and re-establishes higher seedling densities compared to other salt-land legume options.

Pods are held on the plant stems at maturity and if not grazed, seed can be harvested with a grain harvester.

Messina supplies fixed nitrogen (N) to N-deficient salt-land soils and will significantly increase the production of grasses and herbs in the salt-land pasture. It must be inoculated with a special salt tolerant rhizobia.

It is best suited to grazing in salt-land mixed pastures.



### Key features

- A new pasture legume for salt-land pastures.
- Higher levels of combined tolerance to salinity and waterlogging than all other pasture legumes available in Australia.
- Best suited to winter-waterlogged salt-land areas of southern Australia.
- Good herbage production and nitrogen fixation.
- Must be inoculated with specially selected rhizobia – SRDI 554
- Recommended for grazing in mixed pastures.



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### Where it grows

#### Rainfall

- Messina is best adapted to areas with Mediterranean-type climates, similar to the areas where subterranean clover and annual medics are grown.
- Neptune messina is recommended for areas that receive > 400 mm annual average rainfall.

#### Salinity

- Best grown where summer-early autumn surface ECe levels exceed 8 dS/m, but are less than 30 dS/m.
- Messina will not grow in salt scalds.

#### Soil pH

- Neptune messina requires soil pH (measured in CaCl<sub>2</sub>) ≥ 5.5 or pH (water) ≥ 6.0.
- Messina nodulation is very sensitive to soil acidity

#### Water-logging

- Once established, messina is able to tolerate several weeks of winter waterlogging.

#### Soil type

- Messina has grown well on a range of soil textures, from sand to heavy clays, provided they meet the pH, salinity and waterlogging criteria described above.



Messina can lift the productivity of salt-land.



It is best sown and grazed as a mixed pasture.



Messina in water.



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### Establishment



- Prepare a weed-free seed bed.
- Soil test and provide fertiliser to ensure P, K and trace elements are adequate.



- Inoculate the seed with the special rhizobia for messina (SRDI 554). This rhizobia is able to survive high salt levels over summer.
- Inoculated seed should be pelleted with fine lime



- Sow enough seed. 10 kg/ha alone or 5 kg/ha in mixtures.
- Sow shallow. NO deeper than 20 mm.



- Sow into a moist seed bed.
- Sow after rains have flushed salts from the soil surface, but before paddocks become waterlogged.

### Management



- Monitor for red-legged earth mites and aphids, particularly around emergence. Control as required. Messina is susceptible to damage from native bud-worm which may reduce seed production



- No herbicides are specifically registered for use on messina. In research trials, Broadstrike and Igran have been used safely. Grass selective herbicides Verdict, Select and Factor have been used safely.



- MCPA has caused significant damage to messina and is not suitable for use. Messina is intolerant to the SU herbicide Glean.



- Delay grazing until plants are well anchored to the soil in the establishment year. Reduce grazing pressure around flowering to maximise seed set. Messina is best grazed as a mixed pasture.
- Messina is a self-regenerating pasture legume. It is a prolific seed producer. About 30% of seed produced in the previous year remains hard and contributes to the seed bank that provides the seed source for germination in future years.



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## Neptune messina

### Seed availability

Neptune messina is marketed through the Dyna-Gro Seed Brand (Seednet/Landmark).

- WA contact: david.clegg@seednet.com.au
- SA, VIC & NSW contact:  
robert.christie@seednet.com.au

### More information

Further technical information on the adaptation, establishment and management of messina is provided in the **Messina Management Package** available on the AgriFutures Australia website.

### Contact

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Messina growing well at trial sites in South Australia (top) and West Australia (bottom).

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