

MESSINA

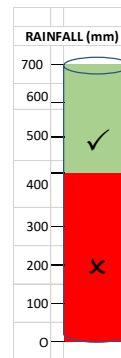
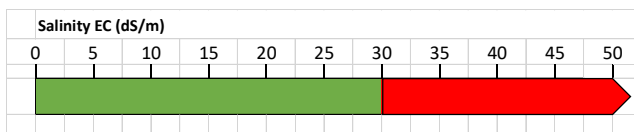
DRYLAND SALINITY NOW SERIES PRODUCED BY THE COORONG TATIARA LOCAL ACTION PLAN

Background

Messina (*Melilotus siculis*) is an annual legume that is adapted to winter waterlogging and has moderate salinity tolerance (EC_e 8-30). It is best utilized in grazing systems as part of a saltland pasture mix where the additional benefits of nitrogen fixation can be utilized.

Site Suitability

- >400mm annual rainfall¹⁷
- Neutral soils (pH >5.5)
- Salinity levels up to 30 dS/m
- Winter waterlogging tolerant



PROJECT DETAILS

Responding to Dryland Salinity NOW
Recommendations for a new audience

Funding Body

This project is supported by the National Landcare Program – Smart Farms Program, an Australian Government Initiative



Establishment

Messina is best established in late autumn – early winter; after the natural rainfall has flushed the salts through the profile (to 20-30cms) but before cold, waterlogged conditions occur.

Seeding rates

- Single species – sow at 10kg/ha
- Pasture mix – sow at 5kg/ha

*Seed must be inoculated with a salt tolerant rhizobia developed specifically for Messina – SRDI554.

Apron may assist in the establishment by reducing the incidence of root rot in seedling plants – particularly in wetter environments so should be considered in these situations. Like most annual legumes, good insecticide control is necessary; particularly to control damage from Red Legged Earth Mite.



Fig 1. Seedling Messina, Coomandook, 2018

Fig 2. 2nd year Messina in waterlogged conditions, Coomandook, 2017

Nutrition / Fertiliser Requirements

- Soil pH:
 - o Soil pH should be greater than pH 5.5 (CaCl₂) when establishing Messina. If the pH is lower than this, then lime should be applied the year before establishment to ensure that the soil acidity issue is addressed.
- Phosphorous and Potassium:
 - o Messina being an annual legume will respond to both phosphorous and potassium applications. Ensure that levels are adequate prior to planting and if low, address with a suitable fertilizer application.

Grazing Management

Messina should not be grazed until it is established and will not pull out when grazing occurs. It also has longer hypocotyls and the first leaves are higher off of the ground when compared to other legume species¹² therefore should only graze to 7cms – particularly in the first year to ensure that grazing doesn't affect the growing point.

Reduce grazing pressure at flowering; particularly in the establishment year to allow adequate seed set and ensure good regeneration¹⁶.

Light grazing at the end of summer will assist in knocking seeds onto the ground for the next season.



Fig 3. Messina seeds on ground after grazing in summer

Fodder quality

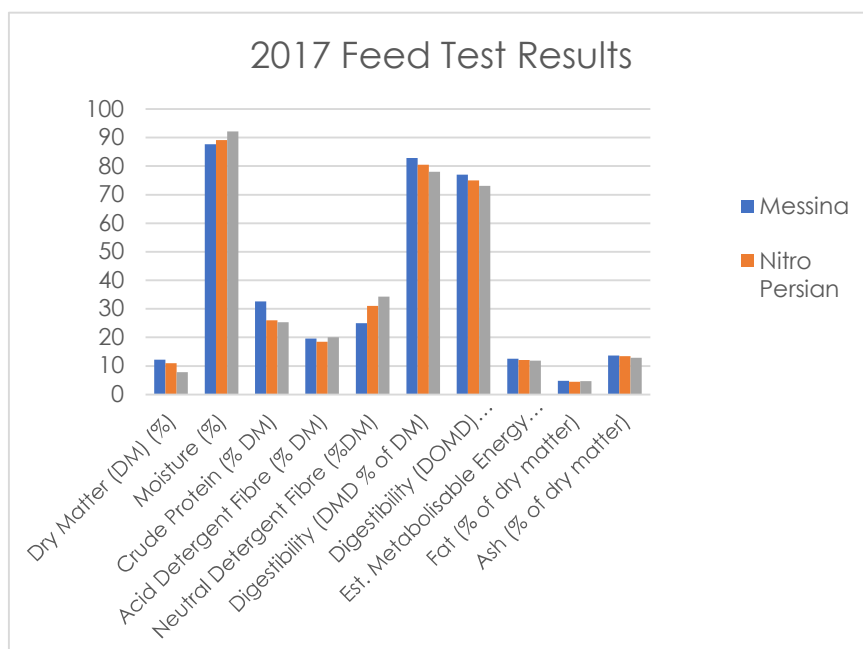


Fig 4. 2017 Feed Test Results at Cooke Plains

The fodder quality of Messina is comparable with other legume species, however the palatability appears to be less than other species so liveweight gain of stock may be limited if Messina is the sole fodder source^{15,16}.

Work conducted by the CTLAP in conjunction with Elders in 2017 supported this, with the Messina showing very good pasture quality when compared to Nitro Persian Clover and Balansa. This data is summarized in Figure 4.