

# SGSL TRIAL SITE SUMMARY #13



## IMPROVING PASTURE PRODUCTIVITY ON SALINE SEEPAGE AREAS

### Tungkillo Landcare Group, Mt Lofty Ranges, SA

#### Research Objectives

To determine appropriate management practices to boost the production of strawberry clover on hills' saltland (localised saline seeps).

To establish and evaluate a range of pasture species to determine their value for saltland in the Mt Lofty Ranges.

- Tall fescue (cv. Advance, Resolute) [30 kg/ha total];
  - Victorian perennial ryegrass (12 kg/ha); and
  - Phalaris (cv. Sirosa) [6 kg/ha].
- Treatments were sown with a 6 row sponge drive seed drill, with no prior cultivation. Five replicate blocks, each containing the 7 treatments were sown.
  - Species sown were monitored for performance.

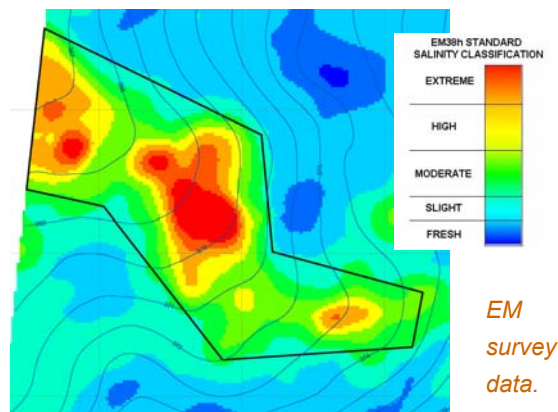
#### The Trial

##### Established strawberry clover

- In established strawberry clover, scotch thistle weeds were sprayed, however impacts to the strawberry clover have prevented further work on this aspect of the trial.
- Trial work was to investigate responses to a range of management changes (see 'Where to from here?').

##### Trialling additional pasture species

- Unfavourable seasonal conditions prevented sowing until mid July 2006. At this time a range of species with varying salt-tolerance were sown into seepage areas. There were 7 treatments in all:
  - Control (no seed);
  - Puccinellia (6 kg/ha);
  - Balansa clover (1 kg/ha);
  - Barrel medic (cv. Parragio, Sephi, Parabinga) [12 kg/ha total];



#### Fast Facts

**Location:** Tungkillo, Mt Lofty Ranges, SA

**Soil Type:** Sandy loams becoming more clayey with depth and grading to a weathering basement schist within 70cm

**Rainfall:** 600mm

**Pasture Base:** strawberry clover (in saline seepage areas)

**Landscape:** Localised seeps within hilly terrain

## Results

- A series of unfortunate events has delayed progress with this trial.

### **Established strawberry clover**

- Spraying to control scotch thistle weeds in the established strawberry clover (using Tordon®) has decimated the clover pasture. Strawberry clover will need to be re-established before additional work can be undertaken.

### **Trialling additional pasture species**

- Sowing was delayed due to a lack of rain in 2004 and too much rain in 2005.
- When the site was sown in the week of 18<sup>th</sup> Jul 2006, it was still quite wet, however the machinery was able to get on.
- Only 2 pasture species have emerged:
  - Victorian perennial ryegrass, and
  - Sirosa phalaris.
- It appears that waterlogging conditions in the saline seepage areas have prevented germination of the other species.
- Dry conditions in the latter months of 2006 have caused poor growth of the ryegrass and phalaris.

### **Where to from here?**

- Despite the setbacks, future trials will be undertaken with the aim of improving productivity from saline seepage areas.
- A repeat of the 7 treatment pasture variety trial is planned.
- Once strawberry clover has been re-established, trial work will investigate optimum conditions for this productive species. This will include examining responses to:
  - Fertiliser,
  - Lime (if necessary),
  - Controlled grazing, and

- Sowing into areas beyond where it has previously established.
- Any future work will depend on favourable seasonal conditions.
- It is likely that seeding will be done earlier in the season, or even dry sown, to avoid a repeat of the waterlogging problems experienced thus far.



*Saline seepage areas are localised but can add up to significant problem areas in parts of the Mt Lofty Ranges.*

### **Want to know more?**

#### **Participating Host Farmer:**

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