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.

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];
  - 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.

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

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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\textsuperscript{th} Jul 2006, it was still quite wet, however the machinery was able to get on.
• Only 2 pasture species have emerged:
  o Victorian perennial ryegrass, and
  o 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:
  o Fertiliser,
  o Lime (if necessary),
  o 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: Maurice Collins
Technical Support: Jock McFarlane, Tel: (08) 8762 9100

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