

The application of calcified seaweed on acid organic soils

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- **MATERIALS & METHODS**

- Soil incubations.

- Experiment 1:

- Calcified seaweed (CS) at 0.8, 1.6, 3.2 and 6.4 g CS/kg soil.

- Particle size distribution - >2 mm; <0,25 mm and lime as a control.

- 190 g OM/kg soil at 11°C x 60 days

- Experiment 2:

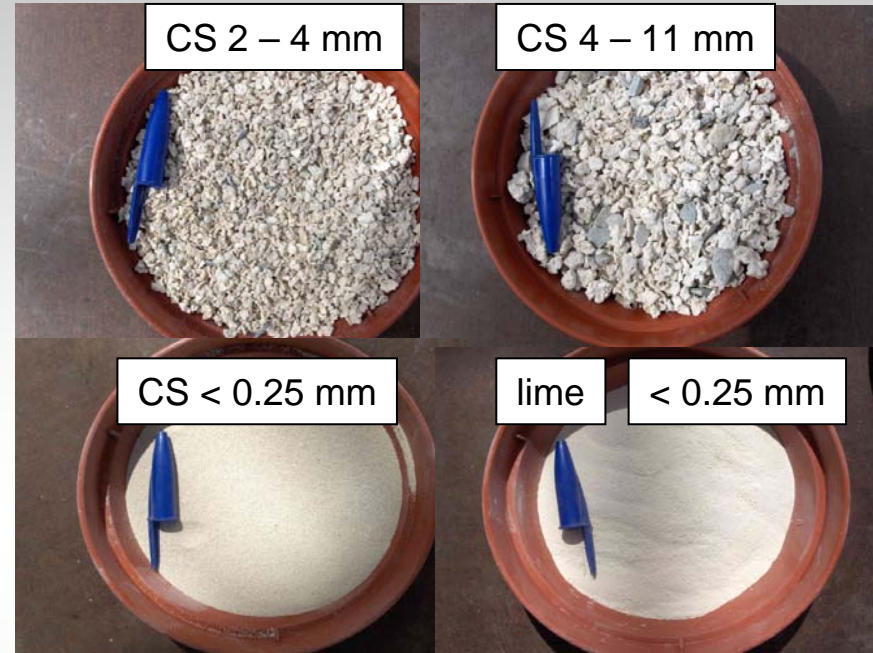
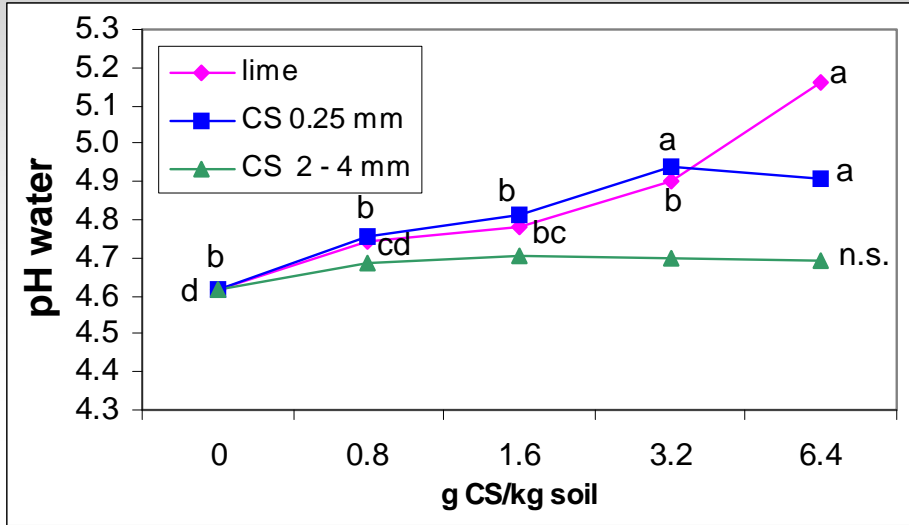
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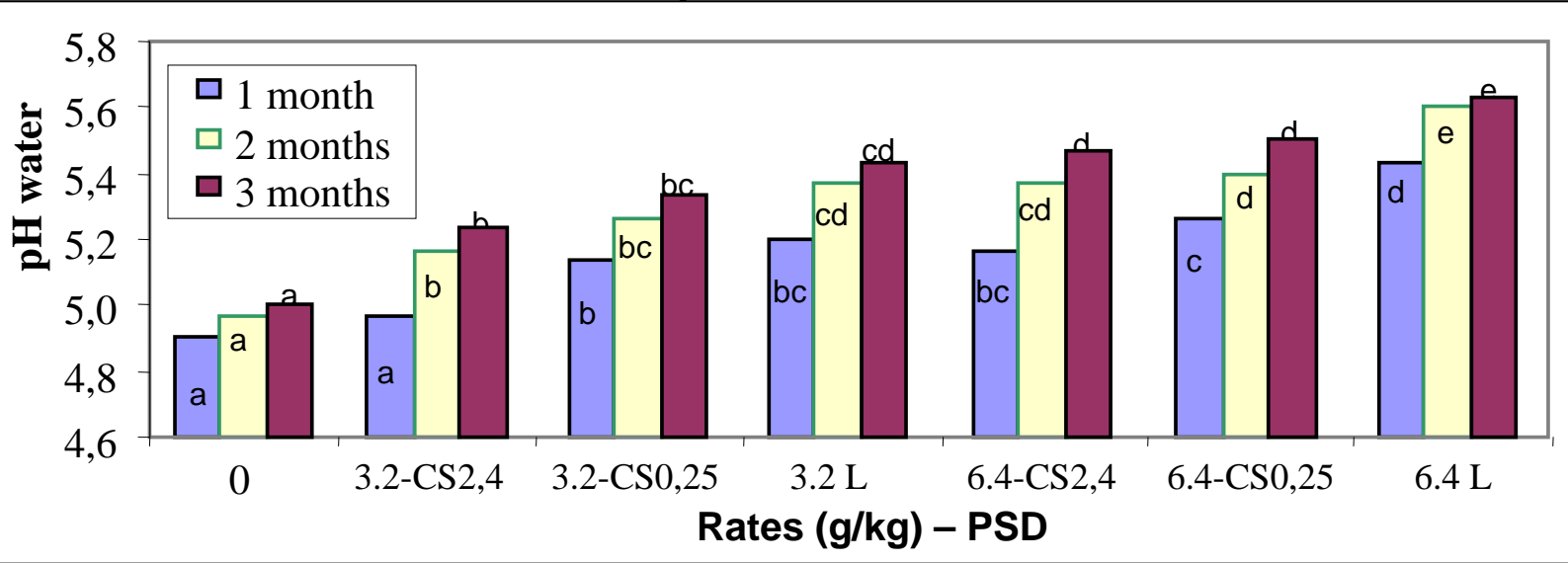
- 160 g OM/kg soil at 11°C x 90 days

Results

Experiment 1

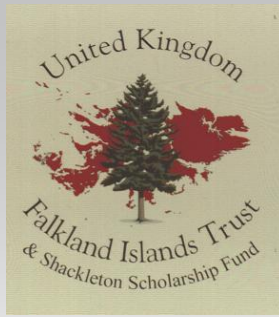


Experiment 2



Conclusions

- Application rates and particle size distribution of calcified seaweed significantly affected the release of nutrients from incubated acid soils. Finer calcified seaweed material produced a better soil reaction and released nutrients faster than coarse calcified seaweed .
- The pH in water of the soil increased with increasing rates of calcified seaweed.



Growth and nitrogen fixation of legumes in acid soils in the Falkland Islands

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- **MATERIALS & METHODS**

- Controlled environment (experiment 1).

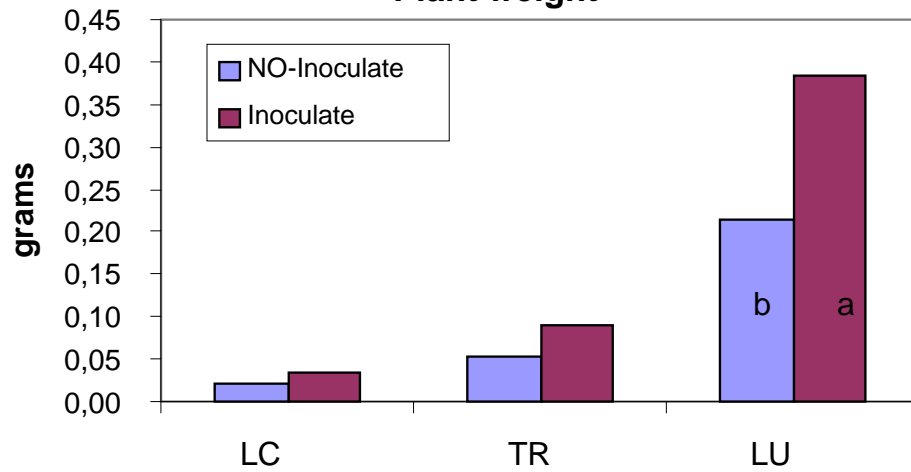
- *Lotus corniculatus*, *Lotus uliginosus* and *Trifolium repens* grown in trays (\pm inoculation) in an organic soil at 11°C x 90 days.

- Field (experiment 2).

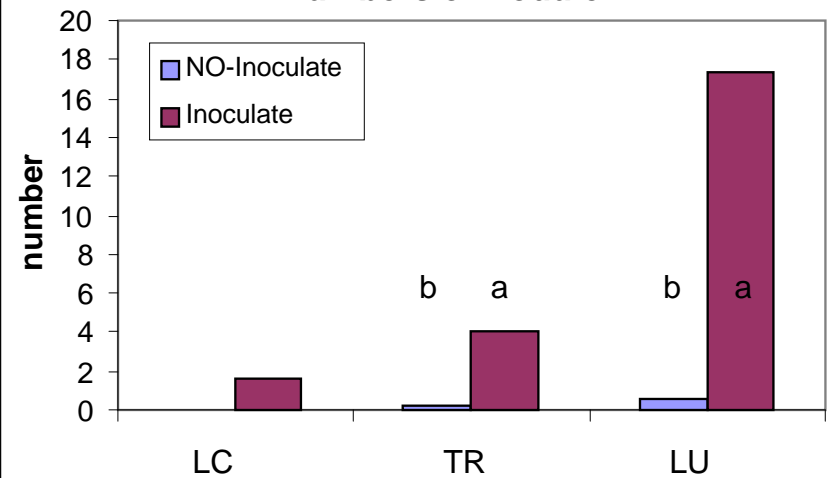
- Grazing exclusion cages used in established reseeded (on wet and dry areas on each of 4 farms).
 - Nitrogen fixation by *Trifolium repens* measured by N¹⁵.

Results

Plant weight



Numbers of Nodule



Conclusions

- Experiment 1. *Lotus uliginosus* var. Maku is potentially the best legume to use in Falkland Islands acid soils and *Trifolium repens* var. Gwenda is better than *Lotus corniculatus* var. Leo.
- Experiment 2. On dry sites nitrogen fixation rates of over 40 kg N/ha were measured. These are the first reported measurements of nitrogen fixation in the Falkland Islands. This information will encourage the sowing of forage legumes in the Falklands.