Autumn establishment of lucerne (Medicago sativa L.) inoculated with four different carriers of Ensifer meliloti at four sowing dates.

David Black & Derrick Moot
Note:
This presentation was made on 7 Nov 2013 in Tauranga at the New Zealand Grassland Association Annual Conference.

It is associated with the following scientific publication:

Context

• Need to inoculate legumes?
• Need to inoculate lucerne?
• Wigley *et al.* (2012) paddock had history of lucerne
• Current research, no paddock history of lucerne
The Experiment

• At Lincoln University
• Dryland, variable silt loam soil
• No history of lucerne
• Split plot design with 3 replicates
• 4 sowing dates
• 4 seed inoculant technologies used
• Bare seed control also used (no rhizobia)
Accumulated DM yield (t/ha)

- PS
- CS
- ND
- AS
- BS

Harvest date 2012

2013

Harvest date
No inoculant (bare seed)
Inoculated with peat
What a root nodule looks like

Engine room for N-fixation
K. Wigley, D.J. Moot, Q. Khumalo and A. Mills

Harvest date

N%

2012

2013

Peat seed

Bare seed

Harvest date
Accumulated N yield (kg/ha)

- Peat seed
- Bare seed

Harvest date

2012

2013

Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun

±
Key conclusions

• Lucerne was successfully established in January and February

• If no recent history of lucerne cultivation → recommend seed is inoculated

• Can do it yourself, buy inoculated seed, or sow granules at same time as seed
Dan on the tractor
Thanks

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