

Flexiseeder & Lincoln University

Student and Staff Research and Education
Outreach Support Programme



A Private – Public Sector Philanthropic Initiative

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T. Ryan-Salter⁵, H. Alizadeh⁶



Industry Interface Support Initiative

Professor John Hampton



Lincoln University Seed Research Centre

- The Lincoln University Seed Research Centre conducts research related to seed production, quality and biocontrol as well as being an active contributor to addressing seed industry problems.



- Training and Mentoring of:
 - technicians, - under-graduates,
 - graduates, and Post Graduates



² **Professor of Seed Technology** Director,
Lincoln University Seed Research Centre, NZ.



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Areas of Research

Seed production and seed quality

Research for forage, vegetable and arable species.

Biocontrol of plant pests and diseases

Through biocontrol agents carried on or in seeds.

Solving New Zealand seed industry problems

Particularly those related to seed quality, through extension and research.

Assisting resource poor farmers

In developing economies through achieving seed security.

Projects:

Improving Nepal's food security through seed security



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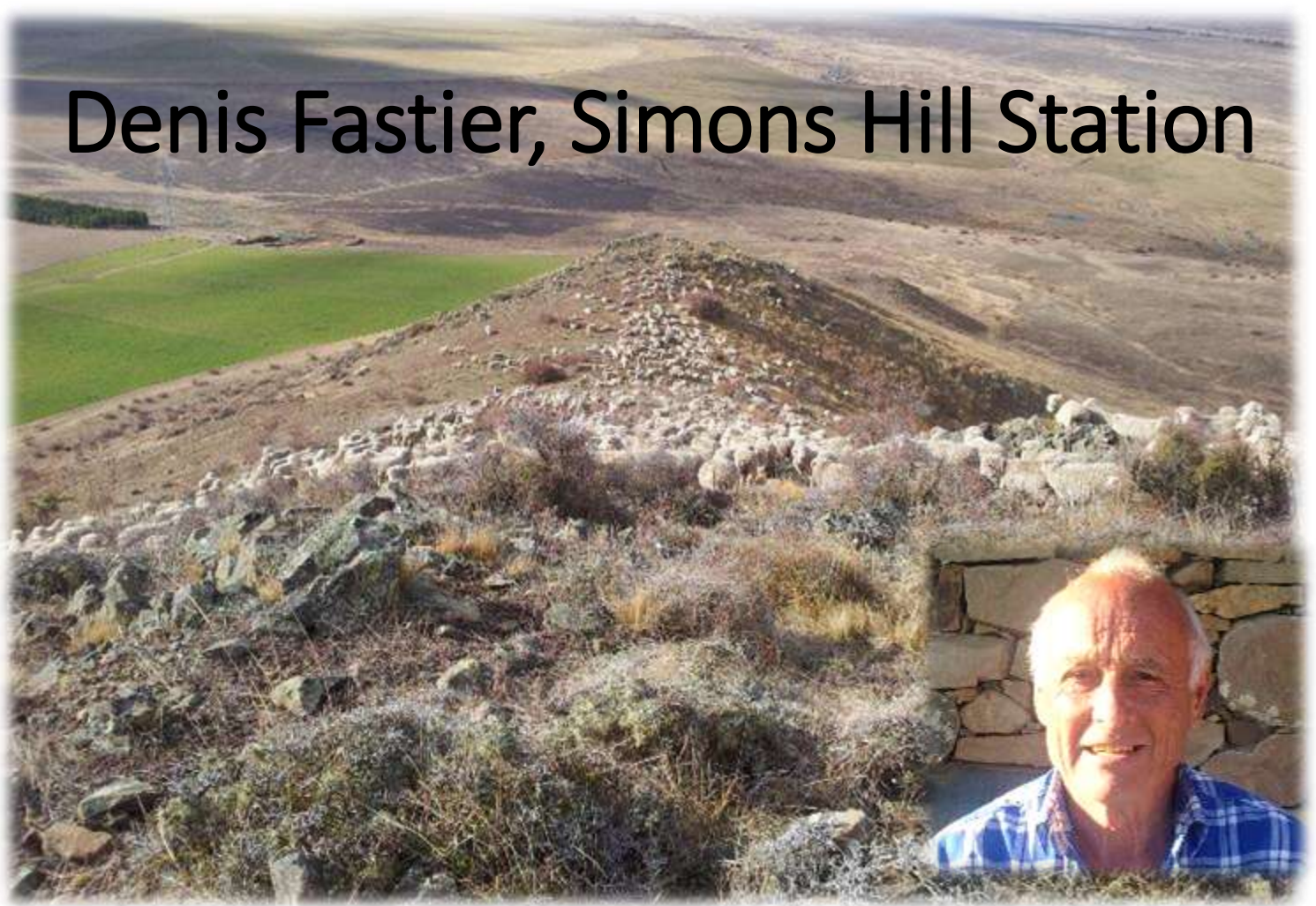
Professor Derrick Moot



³ **Professor of Plant Science**, Department of Agricultural Sciences, Lincoln University, NZ.



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Denis Fastier, Simons Hill Station

⁴High Country Farmer and Student Mentor (Retired), Mackenzie Basin, NZ.



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Denis Fastier



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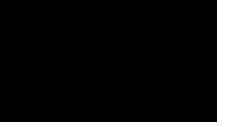


Denis Fastier



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Professor Derrick Moot



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Dr Travis Ryan Salter



Senior Research Officer, Carrfields Ltd, NZ.
Alumni of Lincoln University



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Professor Derrick Moot



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Feasibility of Development Productivity vs Input Expense

Remediation

Remove Al³⁺ toxicity with
fertiliser/lime inputs



Subsoil Lime Injection

Development of a Unique Implement



Subsoil Al³⁺ toxicity
causing lateral root
growth in lucerne



Innovation

Establish lupin pastures that
will thrive with minimal inputs



Sow Tolerant Species

L. polyphyllus as a Suitable Forage



Strips were cut every month in 2012/13



“Travis the
Grad Student”
of
Prof Moot



Initiate Nitrogen Cycling - Rebuild Soil Organic Matter - Provide High Quality Feed



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Dr Travis Ryan-Salter



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Flexiseeder modules used on Danish machines



“Giving Something Back”

My contribution to the Flexiseeder
International Fodder Oats Network
(IFON)



6 Dr Hossein Alizadeh



LINCOLN
UNIVERSITY
TE WHARE WANAKA O AORAKI



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End-user support groups (Dr Hossein Alizadeh)



To investigate environmental damage following urea application we needed different rings:

- To measure nitrous oxide emissions from soil we needed rings with an insulated metal lid to collect the green house gas from soil by a syringe.
- To measure ammonia volatilisation from soil, rings with clear lids required to trap the gas released from the soil in an acid after urea application.



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End-user support groups (Dr Hossein Alizadeh)

Flexiseeder Ltd was approached in 2016 to manufacture 42 rings and support the requirements post manufacturing.

- Other equipment needed to install the rings into the ground was also manufactured by the Company.
- Advice regarding the transportation of rings to different locations was sought from the Company.



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Experimental conduction at different locations of the country (Dr Hossein Alizadeh)



Different experiments were conducted at 10 different locations around the country and further experiments are in progress.



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Developing linkage with Korea (Dr Hossein Alizadeh)



- Two students will be called to study at Lincoln University. If funding is not available, assistance will be provided to submit research proposals to get grants.
- I am involved in the PhD thesis of Hyunwoo Jun (A Korean candidate at the Department of Pathology and Biomedical Science, University of Otago, Christchurch) to investigate a method to control *Legionella longbeachae* in potting mix.



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Our Take Home Messages

- Through our network, your everyday activities can help globally, collectively, no matter how small, in ways that you never previously thought possible on the basis of agro-ecological overlap.
- Smart technologies, no matter “how smart they may be”, are worthless, until they reach the end user, are accepted, and used, in economically viable as well as culturally and environmentally sensitive ways.



Thank you.



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