



POSITION DESCRIPTION

Precision Agriculture Scientist Pasture and Livestock Management

October 2015

Context

Lincoln Agritech Limited (LAL) is a leading edge research and development company with a track record for applying new and innovative engineering and science technologies to support agriculture, industry and the environment.

LAL has five areas of expertise these being:

- Smart sensor and measurement technologies utilising microwave sensing, machine vision and biosensors designed to measure and manage industrial processes;
- Ground water research to understand ground water processes and supply tools/models for effectively managing ground water quality and allocation of New Zealand's ground water resource;
- Chemical application research and training to develop best management practices, technologies and models needed to balance pesticide use, sustainable primary production and environmental protection;
- Precision Agriculture - participates in securing research and managing/executing precision agriculture projects with the farming sector, commercial companies, industry bodies and central and local government agencies, nationally and internationally.
- Irricad - a computer software system for designing all types of pressurised irrigation systems for professional and accurate designing;

LAL is a 100% subsidiary of Lincoln University and are based on campus at Lincoln University, 20 km west of Christchurch, New Zealand. The North Island office with five staff members is located on the Ruakura Research Campus in Hamilton, New Zealand.

Position and Purpose
<p>To undertake research on Precision Pasture and / or information based Livestock Management, with an initial emphasis (two years) on a major project using sensors and information systems for variable rate application of nitrogen fertilizer in grazed pastures. Develop and conduct PA-projects as part of LAL's PA team. Establish midterm a digital livestock management related focus in the PA-group.</p> <p>The position is full time and on permanent staff.</p> <p>The position offers opportunities for the candidate in continuing or developing a personal research profile and establishing yourself as a credible precision agriculture researcher in NZ.</p>

Project
<p><i>"Optimum N - Nitrogen sensing and management"</i> is a collaborative science project that deals with research and engineering in the development of sensor systems to spatially differentiate nitrogen-fertilizer on grazed pastures. The variable rate application of nitrogen shall be determined by local demands of the biomass, soil variability, yield potentials and ecological sensitivities.</p> <p>The project is funded by MBIE and works with Massey University, Lincoln University, AgResearch and University of New England as well as with other research organizations and companies in NZ.</p>
Salary
<p>To be negotiated based on skills, qualifications and experience.</p>

Key Outputs	Key Performance Indicators (KPI's)
<p>Support and manage the MBIE programme "OPTIMUM-N" and future projects</p>	<ul style="list-style-type: none"> • In conjunction with the project leader and the project partners establish and manage a science & engineering research program Support the project leader and the project partners to design the experimental work of the project at several sites in New Zealand and conduct own field work. • Determine and analyse key issues in the project, assess risks as well as their mitigation and identify opportunities for enhancing the project work. • Establish and conduct your own research in the project.
<p>Maximize Research Outcomes</p>	<ul style="list-style-type: none"> • Provide the management and monitoring of the outcomes of research from the projects, evaluate outcomes against set objectives, set standards and establish timely control and reporting mechanisms for all R&D-activities. • Work closely with external stakeholders to maximise the uptake and use of the project outputs. • Publish research findings in appropriate journals and industry publications as appropriate.

<p>Ensure effective implementation of the research</p>	<ul style="list-style-type: none"> • Ensure milestones, tasks and subcontracts in the projects are appropriately planned, implemented, evaluated and published as appropriate. • Track the work programme and subcontractors to ensure the expected tasks are completed on time and within budget. • Ensure the projects comply with all legal and ethical requirements. • Apply innovation in project management, team efforts and practical implementation of research results. • Work within the project budgets.
<p>Manage stakeholder relationships</p>	<ul style="list-style-type: none"> • Actively pursue and maintain informative and collaborative relationships with relevant research agencies and funders.. • Build relationships with public authorities and research organizations relevant for the projects to develop an understanding of their research needs.. • Assist with identifying and developing relationships with new stakeholders for opportunities to enhance the practical validation of the research work. • Public presentations / speeches at conferences and seminars will be required from time to time.
<p>Administration</p>	<ul style="list-style-type: none"> • Maintain good records of project activities, correspondence and expenditure, and complete all LAL administrative requirements accurately and on time. • Follow the administration practices and policies of the funding agency.
<p>Secure additional research funding from Industry</p>	<ul style="list-style-type: none"> • In consultation with the leader of the LAL-PA-Group implement a funding plan to support the identified research. New research should be identified and converted into project proposals and eventually into funded research programmes. • Actively participate in seeking and securing research funding from both public and private stakeholders.
<p>Other Duties</p>	<ul style="list-style-type: none"> • Perform other reasonable duties as agreed from time to time as requested by line managers. • Support the scientific development of the PA-group and assist in the PA-group planning and implementation of research. • Provide services to agreed standards. • The organisation’s common goals are achieved collaboratively.

Staff Supervised	
None at present. Available LAL staff may need to be guided to assist with research experiments. Interns and graduating students may be supervised or co-supervised as agreed.	
Key Relationships	
The appointee is expected to establish effective working relationships with:	
<i>Internal</i>	<ul style="list-style-type: none"> • Members of the project team at various places in NZ and Australia • LAL's leadership staff and other staff.
<i>External</i>	<ul style="list-style-type: none"> • MBIE, MPI, Regional Councils, private sector companies, farmers and farming groups, central and local government agencies, organisations in the dairy industry.
<i>Other institutions</i>	<ul style="list-style-type: none"> • Stakeholders and collaborators in other research institutions.
Accountability	
The appointee will be responsible to the Precision Agriculture Leader at Lincoln Agritech Limited (LAL) for the efficient discharge of the key tasks specified.	

Competencies – Qualities
<ul style="list-style-type: none"> • Communicates effectively with a range of stakeholders • A motivated self-starter • A problem solver • A positive attitude to personal development • Shows concern for others in the workplace, is self-motivated, has a high level of integrity, and demonstrates initiative and creativity • Ability to work within a diverse project team of different disciplines located in Lincoln, in NZ and sometimes overseas (e.g. Australia) • Flexibility to adapt to new challenges during a project • Ability to identify new opportunities in a project and initiate resulting research • Ability to deliver on commitment • Tidy and meticulous work habits • Excellent communication skills, oral and written • An enthusiasm to be part of a high-technology company • Maintain strictest confidentiality on work carried out within Lincoln Agritech Limited

Competencies – Skills/Experience

- Post graduate qualified in a science or an engineering discipline preferably with an agricultural major. Graduates with considerable experience and an aptitude for Precision Agriculture will also be considered.
- Experience in experimental design and execution of evidence based agricultural research.
- Experience, willingness and aptitude for experimental field work.
- Experience in coordinating collaborative and interdisciplinary research projects would be an advantage.

Recruitment Timeline

- Application closing date – mid day, 3rd November 2015, New Zealand time.
- Shortlisted Candidates selected for interview can expect to receive notification 9th November 2015
- Initial interviews, conducted in Lincoln or via video-conference (preferably Zoom), will be held over 17th – 22nd November 2015.
- Final interviews with shortlisted candidates will be conducted from 30th November – 6th December.
- We anticipate the start date for this position to be in early January 2016, or earlier.

For further information please email Yvonne de Vries: yvonne.devries@lincolnagritech.co.nz;

Or call Armin Werner: phone on +64 3 325 3727