

Discussion Document: Enhancing Horticulture and Plant Production Extension in New Zealand

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Summary

This paper is intended to encourage discussion and seek support for an extension-led research and education model in New Zealand's horticulture and plants industries. The aim is to improve knowledge transfer, foster collaboration between researchers and practitioners, and accelerate innovation. The proposed model draws from successful overseas extension systems and envisions a Centre of Excellence hosted at Lincoln University as its core.

The proposed model is made up of key components, including extension-led research, regional Centres of Expertise, and incorporates education. It encourages industry-driven initiatives and facilitates open knowledge sharing and dissemination. The regional Centres of Expertise act as localised hubs for innovation, research, and capacity building, tailored to meet the specific needs of producers in different sectors and regions.

The HortPartners Agreement

The HortPartners Agreement is a collaboration between Lincoln University, Vegetables NZ, Onions NZ, Potatoes NZ and NZ Plant Producers Inc. Its purpose is to support the design and development of a research led extension framework in the horticulture and plants industries.

We encourage government agencies, industry groups and businesses to join the HortPartners agreement and to participate in building a research led extension system in New Zealand.

Identifying the Challenges

Industry feedback shows that many of our plants-based sectors are falling behind their global counterparts in terms of their productivity and access to research and knowledge. Once world leading, our existing model for horticulture and plants research and education is no longer effective, impacting innovation, skills, and productivity improvements.

This is happening at a time when horticulture and the wider plants industries are projected to grow in their scales and sophistication. This is driven by sector strategies such as Fit for a Better World, Aotearoa Horticulture, native and exotic afforestation, riparian plantings, green infrastructure and urban development. The scope of the proposed model encompasses research and extension across all of these priorities.

We propose to contribute to addressing this through a model of extension-led research, following the successful models in place in Europe, United States and Australia.

The Proposed Solution

To address these challenges, we propose establishing an internationally proven university-based extension-led research model that bridges the gap between researchers, educators, growers and producers. A Centre of Excellence, based at Lincoln University (our land based university), will be at the centre of this model, coordinating and facilitating extension programs and activities at a national level. This approach will connect a network of regional hubs, ensuring accessibility to producers and learners in their local regions and communities. The model seeks to engage horticulture education at vocational and tertiary levels, building the deeper, broader horticulture and technology skills needed now and in the future.

The Structure

The proposed extension system will have three primary levels:

1. A Centre of Excellence: This is a virtual centre based at Lincoln University, acting as the centre for leadership, planning and coordination for regional activities.
2. Regional Centres of Expertise, coordinated from the Centre of Excellence at Lincoln, will focus on localised or sector-specific innovation, extension, research, and education. It is proposed that Centres of Expertise will be located in key horticulture regions, such as Auckland, Hawkes Bay, and Canterbury, ideally aligned to existing education centres and research facilities.
3. Field Laboratories will form the core of the model, ensuring that local producers can access and interact with researchers and their peers locally, promoting relevant and practical solutions. These may be based in any region where there is a need or desire to run research and extension projects. These may be located on a growers property, in a local research centre, a polytechnic, etc.

Extension Led Research

Worldwide, extension led research plays a pivotal role in bridging the gap between researchers, educators and producers in the primary industries, sharing knowledge and encouraging its uptake. In this proposed model, extension is driven by a two-way transfer of information between practitioners and researchers that aligns with the broader objectives of industries and specific local issues. Face-to-face interactions and social engagement are highly valued, fostering strong relationships between researchers and producers.

Extension led research is not necessarily peer reviewed or published in academic journals. It is practical, cost effective, fast and with real-life practical results. It encourages open access and participation, creating an agile, efficient, system with faster results and better uptake.

Extension led research does not replace the need for academic research, rather it is an opportunity to enhance and share it.

The Education Framework

An essential component of the model involves education including offering innovative programs like Apprenticeship Degrees and co-locating training hubs within regional Centres of Expertise. This approach can improve the quality of learning and may help to reverse the long decline in horticulture education. Engaging students with broader and deeper horticulture knowledge, accessing technology and the experience of industry experts will encourage a greater interest in learning and a network of learners, helping to improve horticulture programmes and increasing student participation, enhancing the emerging Muka Tangata model.

Benefits

- **Improved Productivity:** The extension system will enable better knowledge transfer and uptake, leading to improved productivity in the horticulture and plants industries. Studies from successful overseas models suggest productivity gains of up to 20%, within sectors such as nurseries, within the first few years.
- **Knowledge Sharing:** The proposed model fosters a culture of knowledge seeking and sharing, leading to a more informed and innovative industry. This will result in enhanced problem-solving capabilities and adaptability.
- **Enhanced Education:** Co-locating training hubs within regional Centres of Expertise will improve access for students to gain practical experience and exposure to the latest technology, creating a skilled workforce that contributes to industry growth.
- **Collaboration and Scale:** The extension system's collaborative nature and wider participation will enable critical scale, engaging national and international networks, leading to increased research opportunities and higher visibility.

Resources and Capability

As we progress over the next 1-2 years, the work programs would ideally be resourced jointly by the industry, businesses and Lincoln University. Lincoln University is currently investing in new facilities to support horticulture and plants research and education, including field research and demonstration areas, modern glasshouse and nursery facilities.

However, government and industry support is needed to upgrade these facilities to accommodate modern research and teaching requirements. An ongoing investment plan, together with contributions from businesses and government co-investment, will ensure the development of high-quality facilities, giving students and graduates access to state-of-the-art equipment and technology.

Case Study:

The success of Wageningen University and Research (WUR) www.wur.nl in the Netherlands exemplifies the potential of collaboration between universities and industries, aligning with our proposed model. WUR's focus on field-based research provides practical solutions and innovations in crop production, animal welfare, and the environment. Its strong collaboration with farmers and growers reinforces the benefits of open collaboration & partnerships.

Conclusion:

The proposed extension-led research and education model is an opportunity to accelerate productivity and profitability improvement in New Zealand's horticulture and plants industries. This will benefit food availability, horticulture exports, native afforestation, rural and urban development and green infrastructure. We encourage government and industry to participate in this work by supporting the HortPartners Agreement and contributing to the design and implementation of the proposed extension system.