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Prepared for:

A LIGHTER TOUCH®

Advisor's Training Needs Analysis

Preliminary report

July 2024

Summary and possible future directions

A Lighter Touch is a seven-year, $27 million research and innovation programme focused on developing sustainable, agroecological crop protection approaches for New Zealand's horticultural and arable sectors. The programme addresses the challenge of helping growers and producers transition to agroecological crop protection, ensuring the long-term sustainability, economic viability, and global competitiveness of New Zealand's agricultural sectors.

The *Awareness and integration of biologicals in Integrated Pest Management (IPM)* project has been developed to provide accessible and practical resources – through collaboration with *A Lighter Touch* partners – to build confidence and increase the uptake of biologicals. One component of this project is a **Training Needs Analysis (TNA)**, a structured process for identifying the gap between the current skills and capacities of a group and their ideal state and determining what is needed to bridge that gap. The TNA outputs help pinpoint areas for improvement – including specific gaps in skills, knowledge, understanding, and capacity among advisors – and support the development of clear training priorities.

Data collection for the TNA involved two components: an **online survey** and **two focus groups**. A summary of the results is presented below.

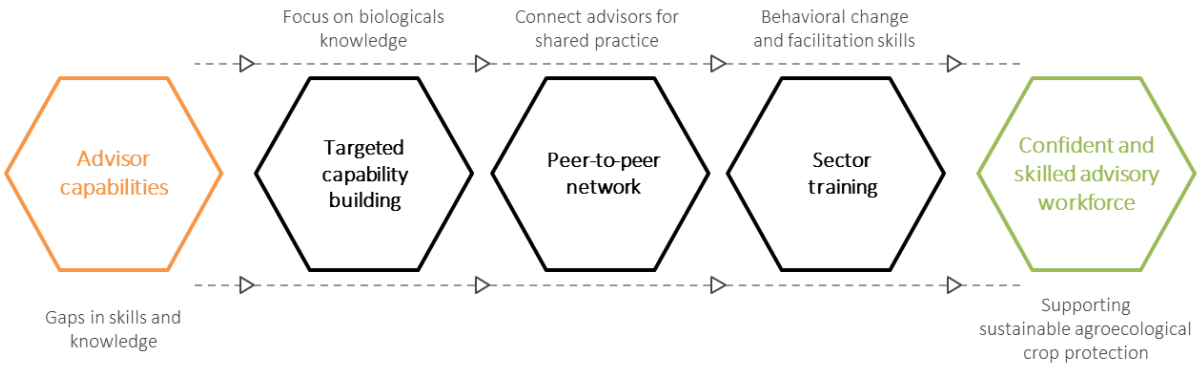
Characteristic	Online survey respondents	Focus group participants
Capacity	Felt they had sufficient time individually to meet the advisory needs of their role Product group capacity unclear	Could manage client load, but had limited capacity to stay current with industry trends Felt product group capacity could be limited
Capability	Capability gaps in designing or delivering extension that supports long-term change	Little formal training in extension or facilitation; learned primarily on the job
Professional development	Unaware of relevant opportunities	Suggested a certification scheme and the development of an extension network
Delivering extension for biologicals	Felt confident	Felt confidence might be overstated, especially with complex ecological approaches

The findings reveal that while most advisors felt they have the time and basic resources to carry out their roles, many product groups have limited capacity to plan and deliver extension activities, revealing a systemic gap in the ability to extend new biological products to growers. In addition, **significant capability gaps exist**—particularly in behavioural change, facilitation, and systems thinking. Many reported learning extension skills on the job, with limited access to formal training or peer-learning opportunities. Although confidence in delivering traditional extension formats (e.g., field days) was high, understanding of extension theory and change models was low. Additionally, while most advisors felt confident in their knowledge of biologicals, focus group discussions indicated that this confidence may be overstated, especially when it comes to more complex ecological systems.

Advisors also identified **structural challenges** within the current system. The commercial model—where advice is often tied to product sales—can limit support for broader, system-level change, such as

growers moving to agroecological crop protection. Shifting crop protection practices from reliance on synthetic chemistry to an agroecological approach requires an understanding and integration of multiple tools and techniques. While synthetic chemistry is useful, reliance on this can lead to the development of resistance amongst pests and diseases. In addition, there are fewer new synthetic chemicals becoming available and there is increasing regulation on those being used. ALT was initiated to support the move towards an agroecological approach. However, these results suggest that extension capacity and capability to support this change is limited, given that current advisory and extension services are part of the product sales system.

Succession planning was another concern, with many current advisors nearing retirement and few structured entry pathways for those new to advisory and extension roles. There was a strong desire for **greater connection, shared practice, and a clearer professional identity** among those working in crop protection advisory and extension.



These findings highlight the need to develop a **structured extension training pathway**, including:

- Targeted capability building in biologicals as this is a major area of growth within ecological crop protection
- A peer-to-peer learning network that supports the move towards ecological crop protection, and
- Cross-sector training in behavioural change and facilitation that will keep improving the support for ecological crop protection being provided by the extension and advisory system.

Such investments will help build a **more confident, connected advisory workforce.** This is critical for supporting growers and producers in New Zealand's horticultural and arable sectors transition to agroecological crop protection, the long-term, sustainable change required.

As A Lighter Touch continues to evolve, advisory capability and practice will play an increasingly central role in supporting the shift toward agroecological practices. Continued collaboration between research institutions, industry bodies, and advisors—working together with growers—will be essential for the successful transition to agroecological crop protection.

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Context

Background

A Lighter Touch (ALT) is a $27 million, seven-year programme jointly funded by government (through the Ministry for Primary Industries Sustainable Food and Fibre Futures Programme) and industry. The programme addresses the challenge of helping growers and producers transition to agroecological crop protection, ensuring the long-term sustainability, economic viability, and global competitiveness of New Zealand's agricultural sectors.

The *Awareness and integration of biologicals in Integrated Pest Management (IPM)* project has been developed to provide accessible and usable resources through collaboration with ALT partners, to build confidence and increase uptake of biologicals. The project has three streams of work:

1. **Initial extension support** tailored for each product group, with an effort to understand current extension efforts and develop resources and material as required
2. A **retrospective case study** on successful commercialisations of biologicals in integrated pest management
3. An **extension capability needs map** to understand the current capability and capacity of advisors and extension practitioners and identify areas for improvement and priorities for training.

A key gap identified in the ALT mid-term review was a lack of analysis of product group extension capabilities and needs. The purpose of the third workstream, the extension capability needs map, was to map current skills and gaps of the ALT extension advisory system and provide a training pathway. The development of a more confident and skilled group of advisors within ALT projects would help both growers and advisors move towards the broader goal of increasing agroecological protection.

The first stage of this workstream is a Training Needs Analysis (TNA). A TNA is a systematic process for identifying the gap between the current skill set and capacity of a group and their ideal state and determining what is needed to bridge that gap. The outputs help identify areas for improvement—including specific gaps in skills, knowledge, understanding, and capacity among advisors—and support the development of clear training priorities.

Methodology

Data collection for this work involved two stages: an anonymous online survey which captured a range of quantitative and qualitative data, and two focus groups to help interpret the data and develop practical solutions.

Survey

The online survey was created using SurveyMonkey and was active from 14 March to 15 May 2025. It was co-developed by the project team, with feedback provided by the Industry Stakeholder Advisory Group (ISAG). Once finalised, the survey was distributed via direct email, the ALT newsletter, and a LinkedIn post. Many of the directly emailed participants were identified by ISAG, and several responses were received after the newsletter and LinkedIn post were published. The survey was anonymous. However, participants could opt into a follow-up focus group by providing their email address. In total, 51 responses were received, though not all respondents answered every question.

The survey included 26 quantitative and qualitative questions, organised into five sections:

- **Demographics**: Captured where advisors primarily work, the product groups they support, their role, qualifications, and career stage. This section ensured the sample was representative.
- **Capacity**: Focused on advisors' capacity to perform their roles, with capacity referring to the time and resources available to do the job effectively.
- **Capability:** Explored advisors' extension capabilities, defined here as the skills, knowledge, and abilities needed to deliver effective extension services.
- **Professional development:** Explored respondent's participation in professional development activities, the barriers to doing so, and what would be most helpful.
- **Biological pest management**: Investigated advisors' experience and challenges in delivering extension services related to the biological and ecological components of integrated pest management.

The *Findings* section of this report will be organised into the five categories listed above, and the full list of survey questions can be found in the Appendix (page 20).

Focus groups and interviews

At the end of the survey, participants were invited to join a focus group designed to help interpret and contextualise the survey results. Nineteen participants expressed interest, and two focus groups were held via Microsoft Teams on the 3 and 5 June 2025. Each group included six participants, representing a range of advisory roles, regions, and product groups. Two participants who were unable to join the focus groups instead had separate individual interviews covering the same material.

The focus groups had two main objectives:

1. **To sense-check the survey findings:** Participants were presented with emerging survey themes and asked to provide context, challenge assumptions, and identify any gaps or misinterpretations. Their insights helped clarify the underlying drivers of certain patterns in the data and highlighted areas that may not have been fully captured through the survey.
2. **To identify practical development needs:** Building on the findings, participants discussed what types of resources, tools, or training would be most useful in supporting their work. This provided guidance for developing suggestions for capability development such as training and resources.

Each session followed a semi-structured discussion guide, provided in the Appendix. Discussions were recorded and later thematically analysed to identify recurring themes, points of divergence, and actionable suggestions. While direct quotes from the focus groups have been used in this report, none have been attributed to specific individuals, to protect the anonymity of participants.

Findings

Demographics

Survey results

A total of 51 participants engaged with the survey, although not every participant completed every question. Every region of the country was represented, as well as a range of product groups (Figure 1 and Figure 2). Most participants worked in multiple regions with multiple product groups. On average, participants worked with 3 product groups. The regions least represented (Wellington and West Coast), had 5 participants. The smallest product groups (boysenberries, persimmons) had some representation, and those who answered 'Other' gave answers that included potatoes, avocados, hops, blueberries, Plant and Food Research, and nurseries.

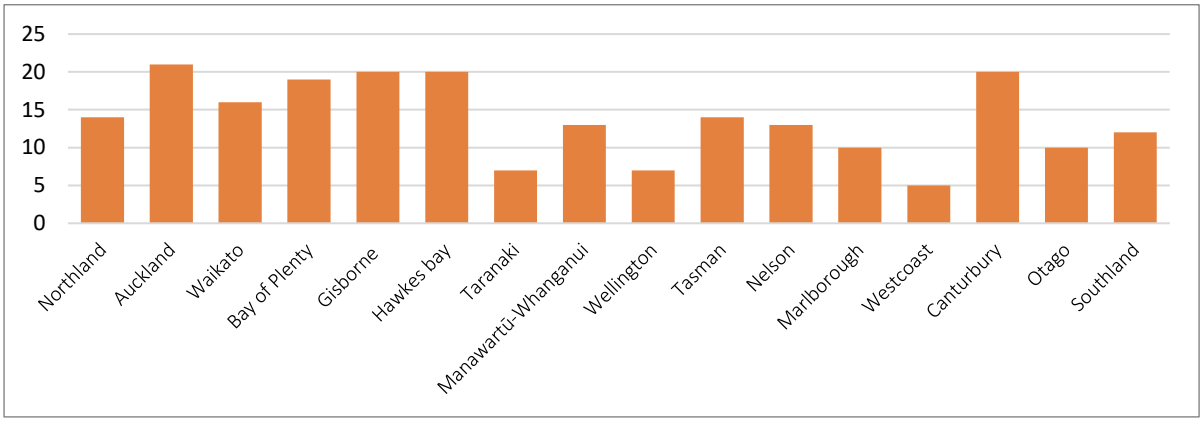

Figure 1: Regions of New Zealand respondents work across (n=52)

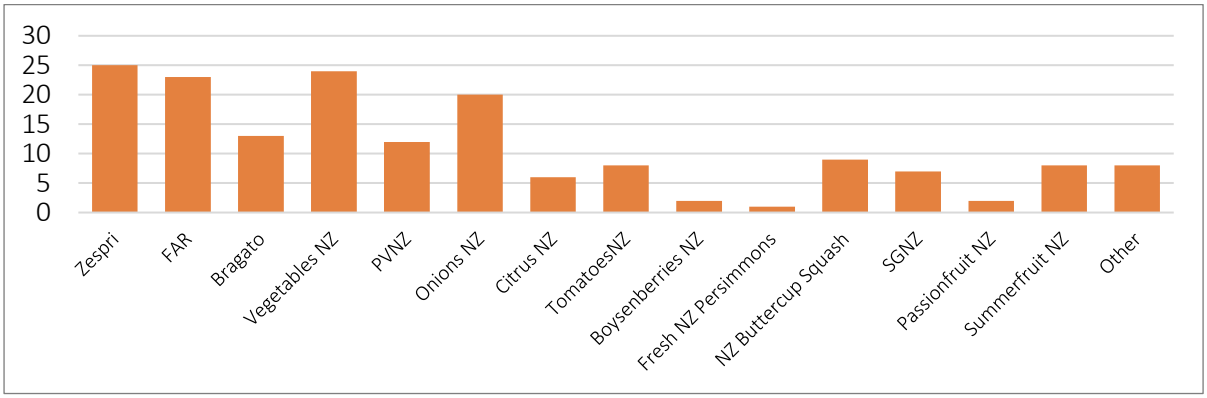

Figure 2: Product groups respondents worked with (n=52)

Most participants held some kind of formal qualifications, with 44 participants having a tertiary degree. The most common degree was a bachelor's degree with honours. Respondents were evenly split on the proportion of time each spent advising growers in their role between very little time, a moderate amount, and most of their time advising (Figure 3).

Most participants saw themselves in the same role in five years' time, whether at the same organisation or a different organisation, and 82% of respondents were at an advanced stage of their career. Only two were in their early career (see Figure 4).

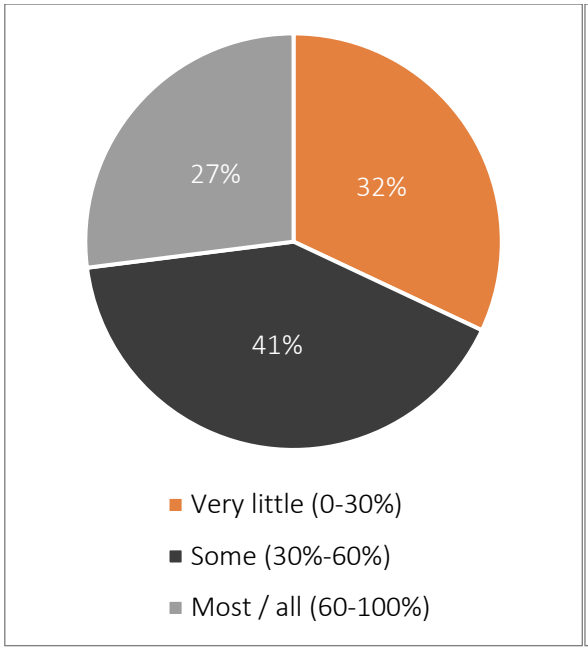

Figure 3: Proportion of the time spent advising others (n=41)

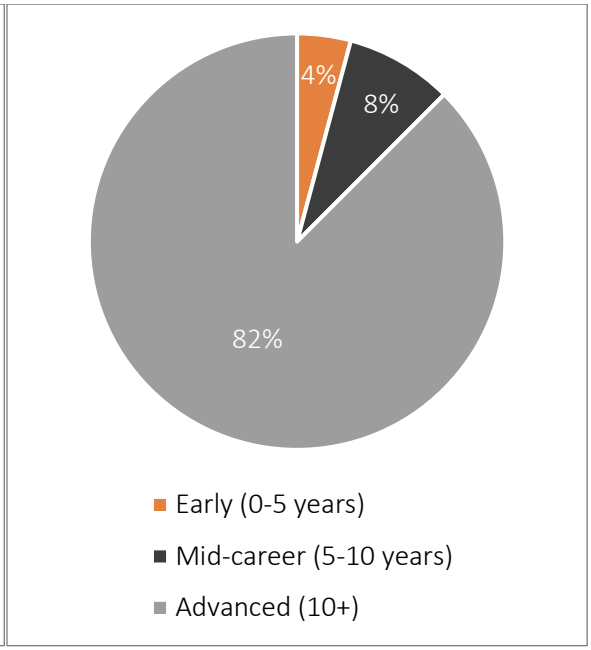

Figure 4: Stage of career (n=52)

The final demographic question asked respondents about the number of full-time staff who did advisory work in their organisation. Results showed a distribution skewed toward respondents who were from organisations that had zero (i.e., part time) or one person doing advisory work (Figure 5).

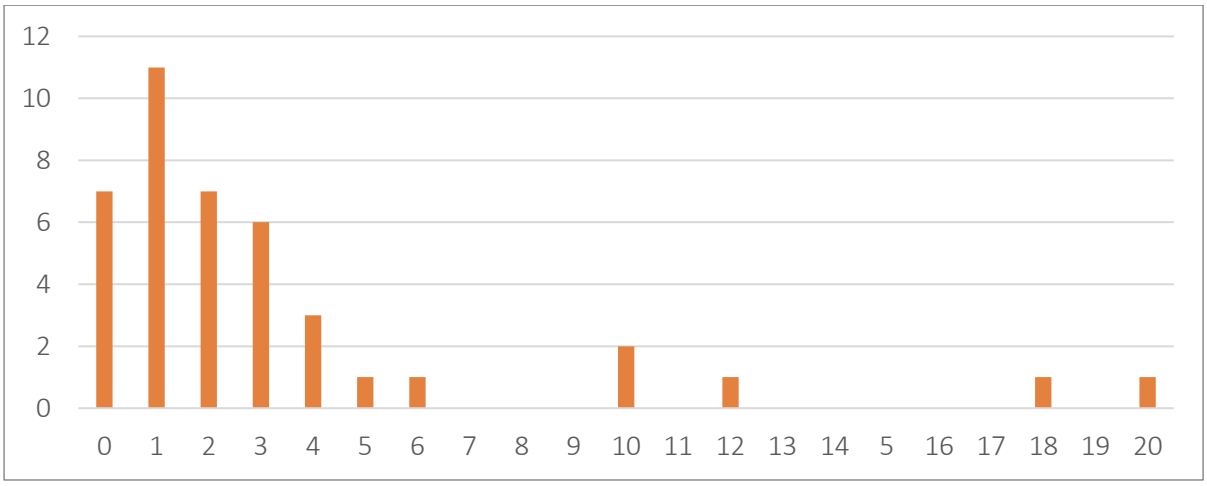

Figure 5: Number of full-time people in organisation doing advisory work (n=41)

For the remaining survey questions, we initially explored whether segmenting responses by different subgroups—such as early/mid-career vs. advanced career stages or by industry group—would reveal meaningful differences. In most cases, the sample size was too small to support this kind of analysis. However, when comparing organisations with one or fewer full-time advisory staff (which we called 'small' organisations) as opposed to organisations with more than two full-time advisory staff ('large' organisations), we did observe some differences. Analysis of responses using this split is discussed further in the following sections.

Focus group perspectives

Focus groups and one-on-one interviews confirmed there were no significant gaps in the coverage of survey respondents. They also confirmed that the higher number of respondents who were in the advanced stage of their career aligned with sector norms and was not due to sampling bias. The role of an advisor is typically not an entry-level position but one entered later in a professional career.

> *"When I was coming out of university, I shudder now to think what I'd be advising people on, and the quality of that advice – you've got to have a few grey hairs for this role."*

Participants also confirmed that it made sense to segment analysis into 'small' and 'large' organisations, with 'small' organisations resembling either consultancies, self-employed advisors, or small product groups. 'Large' organisations, on the other hand, represented groups like Zespri, FAR, and Vegetables New Zealand.

Industry succession

Although succession was not a focus of the survey, the number of advanced-career respondents prompted discussion in focus groups around whether the sector is facing a generational gap. This included discussion on whether enough young people were coming into the industry. There was broad agreement that there are fewer younger professionals are entering advisory roles:

> *"In terms of our organisation, it's just me… there's not exactly a great line-up of succession."*

There were several issues raised in relation to this question that pointed to systemic challenges in attracting and retaining a workforce:

- Limited training pathways. Some participants noted that skilled agronomists and advisors are increasingly coming from overseas—particularly from countries such as Chile and Brazil—where structured professional development pathways are more common. One participant noted that, in the United States, advisors can do a PhD in Extension and it is recognised as a profession. Similarly, in Ireland, the Teagasc advisory service provides a nationally coordinated system for advisor training, with a clear career structure and formal requirements for qualifications and continuous professional development. In New Zealand, by contrast, there are no such advanced qualifications.
- Lack of qualifications and recognition: The absence of recognised qualifications makes it difficult for employers to benchmark skills, assess experience, or determine the value of advisory work. As a result, advisors are often viewed as a cost rather than a revenue-generating asset: one participant mentioned a constant pressure from their organisation to demonstrate the value of their role.
- Variation between industries: One participant noted that there were differences between industries in the number of young advisors coming through, due to the perceived job opportunities and potential for better pay:

  > *"Horticulture is the poor cousin of agriculture, and within that, vegetables is the poor cousin of fruit."*

Capacity

Survey results

The second part of the survey was focused on *capacity* – that is, whether advisors felt that they had the time and resources available to do the job effectively. Most advisors, whether in small or large organisations, felt they have sufficient time to meet the advisory needs of their role (see Figure 6). However, there was a notable difference as those in larger organisations were more likely to report having less time overall.

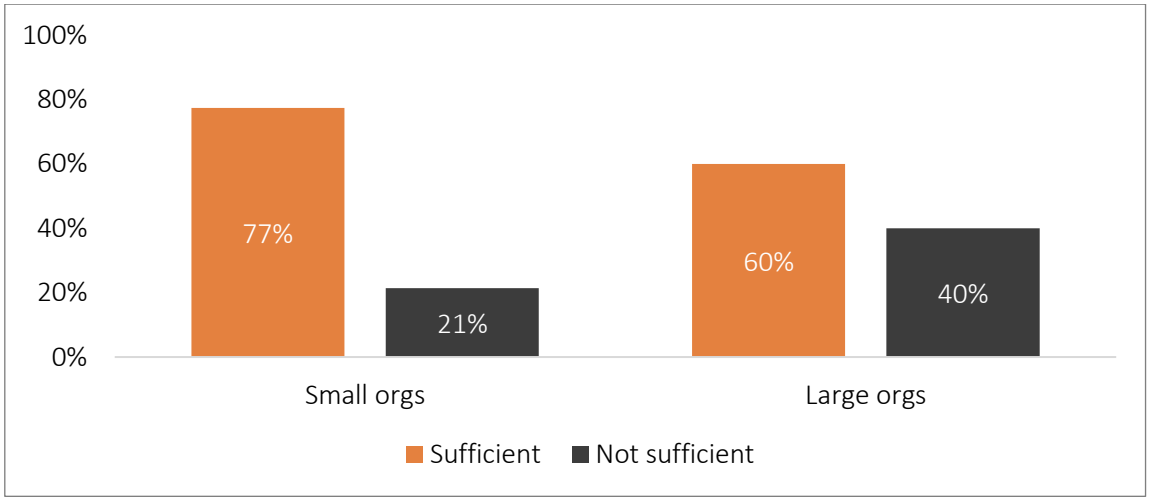

Figure 6: Time sufficiency for advisory work (n=41)

Respondents were also asked whether they felt they had access to the resources needed to do their jobs effectively—specifically the information, tools, transport, and funding required to do their job. Most respondents agreed or strongly agreed with each statement, suggesting there were no major gaps in resource access for advisors (Figure 7). However, one survey participant highlighted the link between funding availability and broader industry performance, noting:

"Funding is subject to reduction in poor industry production years."

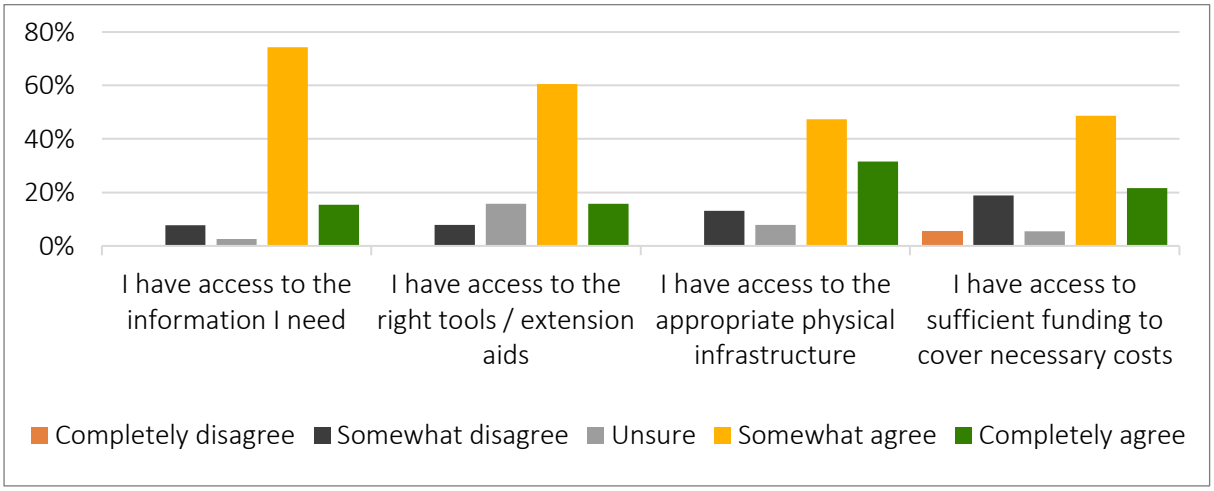

Figure 7: Access to information, tools, physical infrastructure, funding (n=41)

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Focus group perspectives

In focus group discussions, the difference in time-sufficiency between small and large organisations was attributed to a greater number of competing demands in larger organisations, including internal responsibilities such as governance, committees, and other non-advisory tasks. In contrast, small organisations may include self-employed advisors or small consultancies, where individuals have more control over how they allocate their time.

Sector capacity

In the survey, the primary focus was on individual capacity, rather than sector-wide or industry capacity. Some advisors in the focus groups were surprised by these results, and reported being very stretched in their roles, while others thought the results made sense. In addition, during focus groups we sought a deeper view of sector-wide capacity. When asked whether the industry as a whole had enough advisory capacity to meet grower needs, participants responses reflected several important themes:

- Product groups themselves have very limited capacity: One participant noted that while most survey respondents reported adequate capacity, this does not reflect the reality of advisory capacity within product groups. This was not captured well in the survey, where respondents were asked capacity questions from the perspective of their role, rather than a product group perspective. There were no questions in the survey asking about the capacity of product groups themselves. This overlooked a crucial dimension of capacity in the sector: that product groups often do not have capacity to focus on extension in a systematic way:

  "Most product groups run on the smell of an oily rag"

- Day-to-day advice vs. time for professional development: While most advisors could manage their client load, there was limited capacity to stay current with industry developments, attend conferences, network, or engage with international research. One focus group participant summarised this:

  "Finding time to grow in the role as well as do the role is limited."

- Uneven access to advisory support across regions: For example, in the kiwifruit industry, growers in the Bay of Plenty were seen as having much better access to support compared to those in other regions, like Waikato or Nelson. Postharvest support was noted as particularly limited outside the Bay of Plenty, and advisors received more frequent and urgent requests for help from growers in regions outside of Bay of Plenty.

- Support for newer growers: One participant highlighted an increasing number of small-scale growers, particularly from Indian and Chinese communities. Sometimes these growers had limited English and so were seen as needing more tailored support. While these growers often had greater advisory needs, they also had fewer financial resources to access private services. Language was a barrier, and many technical materials are only available in English.

- Access to growers themselves: Due to the unpredictable nature of their work, growers often need to cancel or reschedule appointments with little notice. This makes it difficult for advisors to consistently engage or provide timely support.

"When talking about time, the constraint is not our time, but theirs – the people we're trying to give advice to."

Capability

Survey results

Capability refers to the skills, knowledge, and abilities respondents felt they had to deliver effective extension services. The following section of results is focused on these skills and abilities.

Overall, respondents reported high levels of confidence across all advisory activities (Figure 8). Advisors were most confident when it came to running traditional extension activities, with 85% saying they were either very or extremely confident doing this. Confidence in using technology was more moderate, although the majority (51%) indicated they felt very confident. There was slightly more variability in responses related to understanding the science of learning and behaviour change. However, overall respondents still reported being moderately confident in this area.

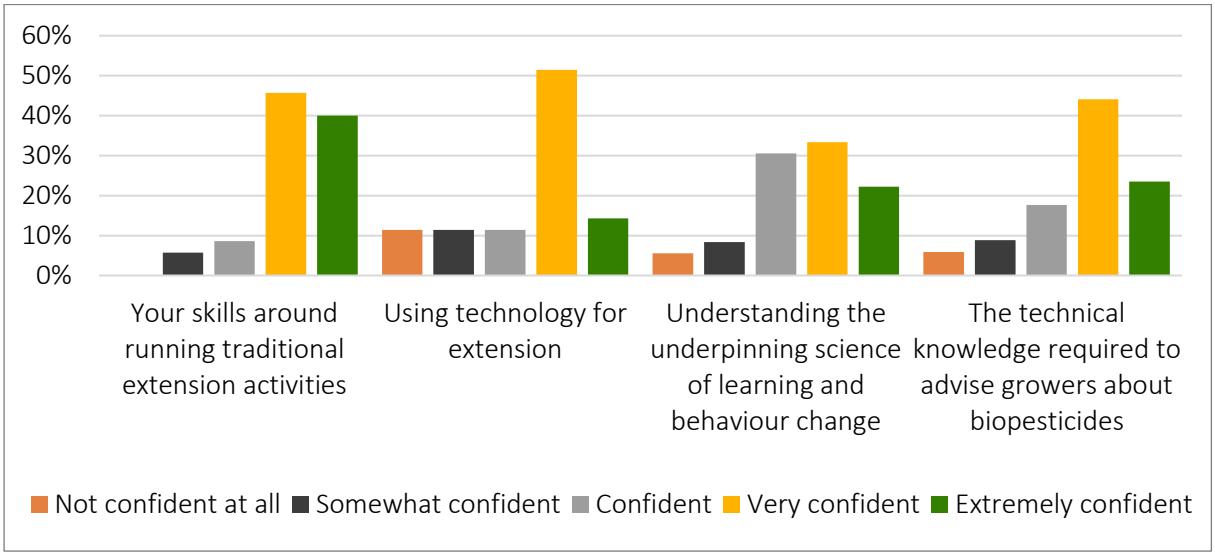

Figure 8: Confidence in advisory activities (n=36)

There was noticeably more variation in how familiar advisors were with key extension concepts. While most respondents (53%) reported being very or extremely familiar with the term agricultural extension, only a small proportion (11%) said the same about models that explain how behaviour change happens.

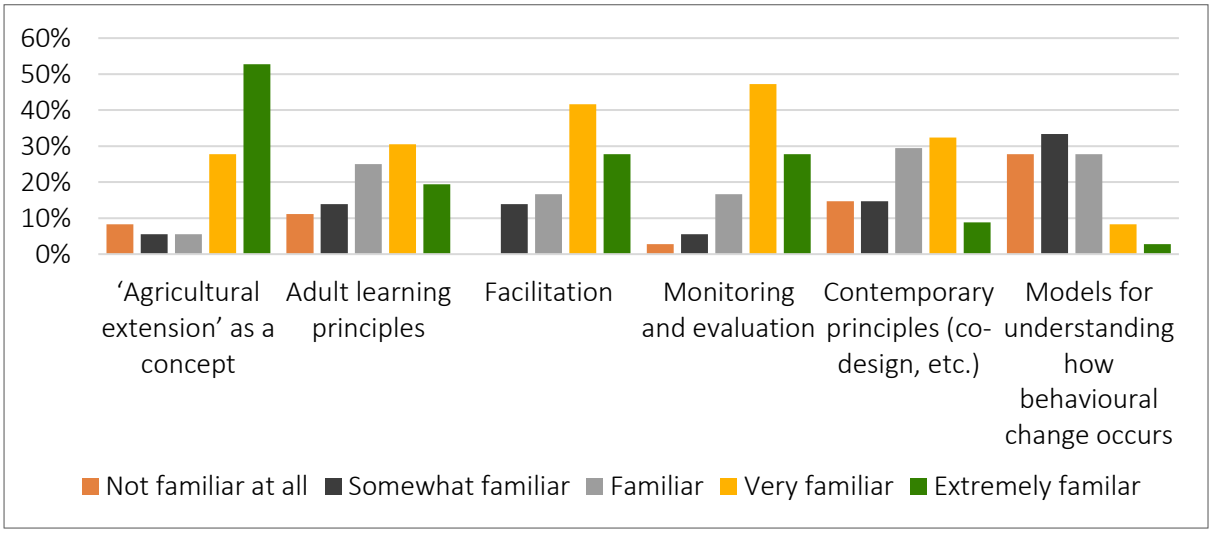

Figure 9: Confidence in extension concepts (n=36)

This suggested that while many advisors were confident in traditional aspects of extension—such as field days, presentations, and technical advice—there appeared to be capability gaps when it comes to designing or delivering extension that supports long-term change in attitudes or behaviours. It's possible that this reflects the training many advisors receive, which tends to focus more on technical knowledge than on education and extension theory or social science.

Focus group perspectives

Focus group participants generally found that the survey findings – which was that there was a wide range of confidence and competence among advisors – aligned with their experiences in the field. This was particularly true when it came to knowledge around contemporary extension principles such as flipped learning, co-design, and peer-to-peer extension models.

When discussing these results, participants shared that many advisors and extension professionals (including themselves) entered the role through a technical specialty rather than through formal training in extension or facilitation. This has led to a skills gap in some aspects of grower learning and engagement. One focus group participant said:

> *"I'm an example of this – my extension is predominantly self-taught. I haven't formally trained in extension, facilitation, or anything – I've just been involved with these things for over a decade and have picked up enough skills to be hopefully somewhat competent."*

There was also a significant discussion around the opposite challenge: that some extension professionals may have formal roles and even extension training but lack practical, on-farm experience or technical depth needed to provide sound advice. Focus group participants felt this was particularly true in larger product groups.

Professional development

Survey results

The section of the survey regarding professional development was focused on whether respondents had attended any training in the last 12 months, barriers preventing attendance, and preferred delivery formats for training. As with previous questions, there was a difference between those working in large organisations and those in smaller ones. Just over half of respondents from large organisations (55%) had attended training, while almost all respondents from small organisations (92%) had not (Figure 10).

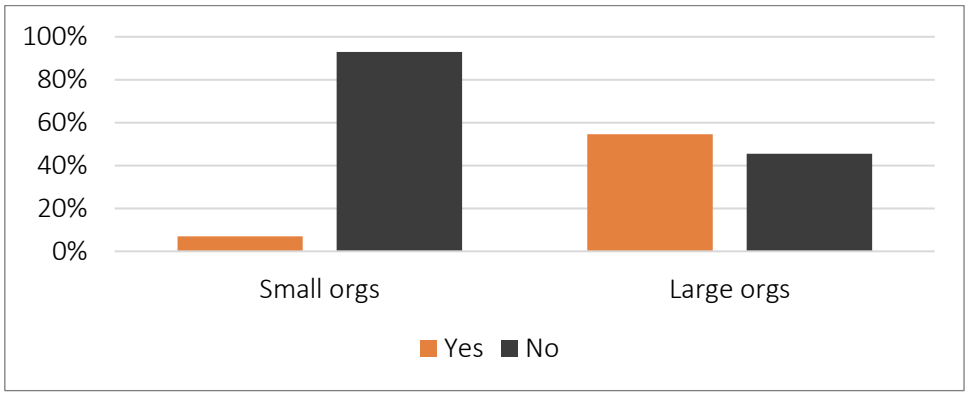

Figure 10: Professional development participation in the last 12 months (n=36)

When asked about the barriers preventing engagement with professional development, the most common reason provided wasn't a lack of time or funding. Instead, the top reason was simply not being aware of any relevant opportunities (41%). This was followed by respondents feeling satisfied with their current level of involvement (26%) and lack of time (24%).

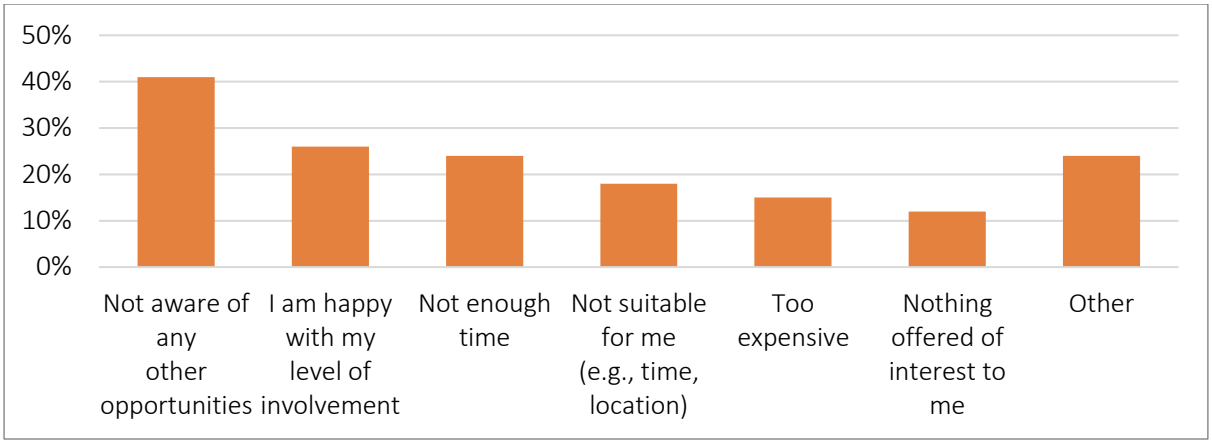

Figure 11: Barriers to professional development opportunities (n=34)

Survey respondents were asked to rate a range of professional development formats on a scale from 1 to 5, with higher scores indicating greater preference. When results were summed, in-person workshops were rated as the most preferred option, reflecting a wish for face-to-face learning. Peer learning groups and mentorship programs also rated highly, suggesting that advisors value opportunities to learn from one another in more informal or relationship-based settings.

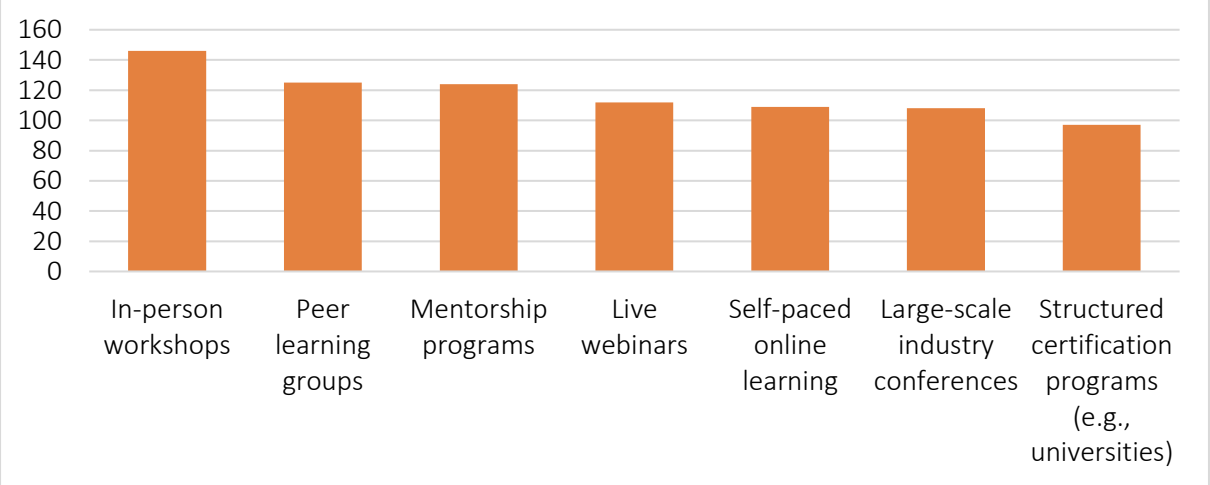

Figure 12: Favoured delivery formats (n=34)

Respondents were asked which training would be most useful. The answers were categorised into three broad categories, which will be discussed in the *Discussion and recommendations* section.

1. Facilitation and public speaking
2. Understanding behavioural change
3. Technical upskilling

The full list of responses can be found in the Appendix.

Focus group perspectives

In the focus groups, participants were not surprised that the most common reason for not pursuing professional development was a lack of awareness of options available, primarily due to an actual lack of training opportunities in New Zealand. When asked what pathways and options would be helpful for them, several suggestions emerged:

- Some type of **certification scheme**, similar to the Certified Practicing Agronomist certificate that no longer exists in New Zealand:

  "If you want to be seen as a professional, you should be accredited with a professional organisation, and you should have to keep that current."

- An **extension network** for extension professionals to upskill and connect. Several focus group participants had already been involved developing a kiwifruit extension group (KEG) and thought that there was opportunity for a pan-horticultural group. Another participant expressed desire for a nation-wide list of appropriately skilled extension practitioners with strong communication skills, so that successful projects could be emulated in different regions.

  "Having a network of people who have sat some kind of agricultural extension course to show at least a base-level of capability delivering messages to the industry would be really valuable."

- Some participants emphasised that training needed to be designed to fit into busy, modern lives – such as online, modular trainings that can be completed within flexible timeframes and done remotely.

  "With small kids, you need to be able to cram things in at random times of the day."

Confidence recommending biologicals

Survey results

The final section of the survey focused on respondent's confidence in their knowledge about biological and ecological pest management. It appeared that most respondents were confident in their knowledge (Figure 13).

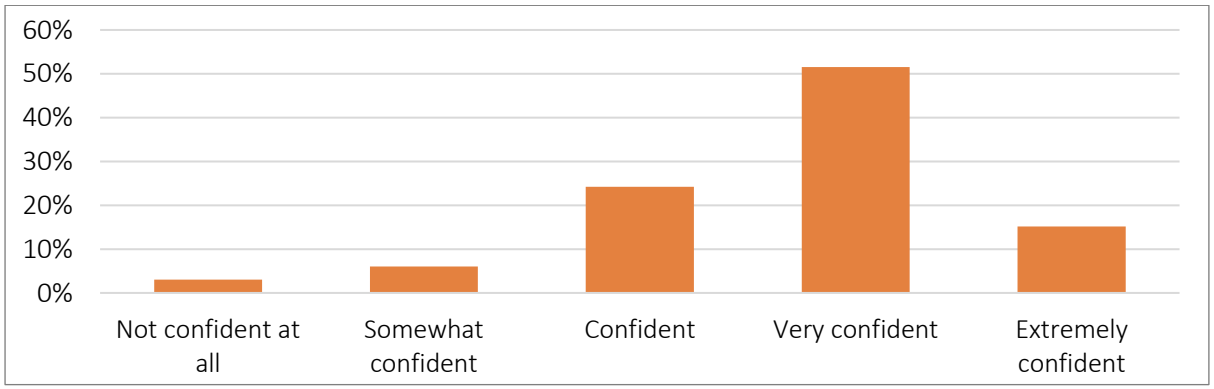

Figure 13: Confidence in knowledge about biological and ecological pest management (n=34)

Respondents were also asked to highlight the biggest limiting factor preventing them from recommending integrating biological and ecological pest management. There were a wide range of answers which were able to be grouped into four categories, outlined in Table 1 below (the full list of data collected is outlined in the Appendix).

Table 1: Examples of factors limiting recommending biologicals

Theme	Examples from respondents
Confidence in the science / efficacy of the product	*"Don't always work."*
	"Efficacy data. Compatibility in mix with other products. Interaction between biologicals and with chemicals."
Technical knowledge gaps	*"I'm not an expert on pest management... This could be improved with literature reading and more grower engagement though."*
	"Nothing – I bring experts to assist."
Grower resistance & behavioural barriers	*"Lack of grower interest, and growers have too much pressure from resellers to change."*
	"People's willingness to try."
	"Time and having a willing audience, i.e. people who want to and are committed to doing it."
Market & structural barriers	*"Development of the NZ market – we aren't quite there yet with products."*
	"Cost of them versus traditional agchems, as well as the number of products available."

Focus group perspectives

The focus group brought some nuance to the survey results. Some participants expressed scepticism about the finding that most advisors felt confident in their knowledge of biological and ecological pest management. Several felt that confidence might be overstated—especially when it came to more complex areas like conservation biocontrol.

> *"That strikes me as a classic Rumsfeld "unknown unknowns" thing – [advisors] think they understand this stuff, but I think they're overestimating what they know."*

There was a general agreement that recommending biologicals often feels less straightforward than recommending conventional products. This is because recommending biologicals involves a different paradigm altogether than what one participant called the "pesticide mindset" —shifting from delivering fixed recommendations to helping design farming systems. That shift requires not just technical training, but also a mindset change. Advisors are understandably cautious about recommending anything they're not confident will deliver real value to growers. As one participant put it:

> *"If you're in the business of giving advice, then your advice is deemed to be valuable. You're not going to stick your neck out recommending something if you're unsure it'll work in practice."*

Another recurring theme was that the advisory system itself isn't always well set up to support the use of biologicals. A significant portion of advisory services are delivered by organisations that also sell inputs, and participants noted that if a company doesn't sell a biological product—or if there's no product at all, as in the case of system redesign or behavioural changes—there's little incentive to promote it.

> *"Even if the science is solid, if the company doesn't sell the thing, they're not going to be invested in the message."*

Discussion and recommendations

Insights

The survey captured insights from advisors across most of the product groups within the ALT programme and throughout New Zealand. While the sample size was limited, the range of responses provided valuable baseline data on extension capacity and capability within the current advisory system.

Current system status

The survey indicated that advisors generally had the time, tools, and resources to perform their roles effectively. However, the survey results did not question the capacity of product groups themselves. This was explored through focus groups and other conversations held as part of the broader *Awareness and integration of biologicals in IPM* project. Through these conversations, it became clear that product groups often do not have capacity to focus on extension in a systemic way. The responsibility can fall on the R&D manager, which means ad-hoc activities are undertaken resulting in "random acts of extension". There is little capacity for building extension plans, implementing them, and monitoring (and evaluating) those plans. This reveals a significant systemic gap in the ability to extend new biological products to growers.

In addition, capability levels varied across the system, with some advisors identifying gaps in their extension knowledge and skills. These gaps represent opportunities for building advisors' effectiveness and confidence rather than indicating inadequate current service delivery. Although the primary focus of this work was on the current capacity and capability of the advisory system, the findings also point to broader structural issues—particularly around succession, professional recognition, and the development of a future advisory workforce.

Workforce pipeline and career pathways

The primary focus of the Training Needs Analysis was to understand gaps in capacity and capability within the advisory system, and the findings reveal a fundamental issue: there are no clear, structured training options for advisors and extension professionals in New Zealand. Many advisors in the focus groups brought up examples from other countries where there are clearer training pathways, such as Ireland and the US. For instance, in Ireland, Teagasc delivers nationally recognised advisory qualifications. This ranges from CECRA (Certificate for European Consultants in Rural Areas) competence modules to master's programmes in agricultural extension and innovation through University College Dublin. In the US, universities like Louisiana State, Oregon State, and Colorado State provide PhDs in Agricultural and Extension Education and Masters programmes with built-in field placements and research positions. The absence of similar pathways in New Zealand possibly contributes to the gaps in capability identified, in terms of extension-specific skills.

Although many advisors reported strong technical confidence, the findings reveal some gaps in core extension skills. These skills encompass facilitation, understanding behavioural change, and supporting on-farm, peer-based learning. To bridge this gap, professional development needs to move beyond tools and content, focusing instead on how people learn and change—paired with opportunities to practise and receive feedback—as this would help advisors continue to increase effectiveness in their roles.

Professional development

Several advisors we spoke with described learning their extension skills on the job rather than formal training. While this highlights the adaptability of the current workforce, it also reveals a risk: without access to structured learning or peer feedback, key skills like facilitation, behavioural science, and learning design can be inconsistent. At the same time, the advisory system itself was described as fragmented, with individuals and organisations often working in isolation. There is no national coordination, no shared standards for extension practice, and few mechanisms for sector-wide learning. As a result, good practice is difficult to scale, capability is uneven across regions and amongst industries and product groups. There are some initiatives to build professional networks, such as the Kiwifruit Extension Group (KEG) and APEN. Some participants expressed a need for broader, cross-sector coordination to support advisors.

The structure of the advisory system

A recurring theme across the focus groups and in survey feedback was that the structure of the advisory system, with its strong links to commercial companies, shapes what advice is delivered, and which types of knowledge are prioritised. While there are some independent advisors, the majority are employed by companies that sell fertilisers, agrichemicals, or other inputs. While this model supports access to technical information, it also creates a bias toward product-based solutions.

Ultimately, there is a misalignment between the commercial drivers of the current advisory model and the long-term goals of agroecological transition. Even when scientific evidence supports a non-commercial solution, it may struggle to gain traction if it falls outside the remit of what an advisor is expected or resourced to deliver. As a result, the system may be reinforcing the status quo and slowing the uptake of more sustainable practices. Focus group participants described this as a major challenge, particularly for approaches that require systems thinking, long-term planning, or collective action—areas that commercial advisory models are not typically set up to support.

Training currently available

Currently there is no coordinated pathway in New Zealand that provides training in extension skills for advisors. There are some training opportunities available, but they may not be consistently offered. These are outlined below:

1. Facilitation and public speaking

- ToP (Technology of Participation) Group Facilitation Methods (Facilitate Aotearoa). Workshops are offered regularly to provide participants with a strong grounding in the essentials of group facilitation and Māori perspectives on facilitation. The core focus is on Technology of Participation™ (ToP™) methods – the Focused Conversation Method and Consensus Workshop Method. Tailored workshops can also be arranged.
- NZIPIM (New Zealand Institute of Primary Industry Management) Facilitating Learning and Change programmes. This programme has been supported by MPI's Integrated Farm Planning Careers Pathway Scheme. The programme has been designed to help build participant's confidence, acquire essential facilitation skills, and develop the tools needed to inspire effective group collaboration and support meaningful change. This is offered periodically.

2. Understanding behavioural change and extension principles

- **APEN (Australasian Pacific Extension Network)** runs webinars, regional events, and online sessions exploring behavioural science, extension theory, and change frameworks—though New Zealand participation is often informal or ad hoc.
- **Enablers of Change (NZ/Aus)** offers short courses like "Designing an effective extension programme," which apply frameworks from behavioural science to practical extension challenges.
- **University of Melbourne extension study opportunities** are open to NZ participants via remote delivery. These certificates and micro-credentials cover behavioural learning, adult education principles, and change design—providing a credible pathway with global perspective (though not NZ-based).

3. **Technical upskilling**

- **Massey University short courses** in agronomy, nutrient management, pasture science, irrigation, water management, and related topics. These are primarily technically focused, delivered via workshops or online.
- **In-house or sector-led training**, for example, industry levy bodies, large co-ops, or research organisations often run internal programs on pest management, soil, water, biosecurity, and technical tools. These are useful, but not centrally coordinated or publicly visible.
- **NZIPIM and professional networks** occasionally run sector-specific technical updates or field days—members are kept up to date and have preferential access. The scheduling is irregular.
- **PGG Wrightson** are currently leading an initiative in New Zealand to make available an independent endorsement certificate for crop protection, both internally and externally. The programme is intended be delivered as a micro-credential requiring the achievement of 30-40 unit standard credits at level 3 and 4 and focuses on the implications of crop protection practices on pest and disease control, traceability of products, unintended consequences, and resistance management impacts.

What could be done

While there are some training options available in New Zealand, they are not widely known or coordinated, and gaps remain—particularly in areas like behavioural science, facilitation, and applied extension practice. The second part of this project, after the stop/go point of the TNA, would be to develop an extension training pathway and initial resources. Several options going forward include:

- **Network/peer to peer platform:** What came through strongly in both survey responses and focus group discussions was the desire for a space to share ideas, test approaches, and build confidence through supported practice. ALT is already playing something of a role here, but there is the potential for a more formal effort to connect advisors through a professional network or community of practice.
- **Targeted development and support around biologicals:** Product groups tend to focus on their own contexts and aren't always resourced to lead capability-building in the biologicals space. ALT is well placed to fill that gap—by developing resources and training that cut across industries and help normalise biologicals as part of mainstream IPM conversations.

- **Building extension capability:** Participants highlighted the need to recognise and develop two distinct, but related, domains of expertise: **technical knowledge** (e.g. agronomy, pest management) and **extension capability** (e.g. facilitation, learning design, behavioural change). Other countries have formal credentialing schemes for agronomists or extension professionals, and while these may not translate directly to a New Zealand model, there is a clear opportunity to build something similar — raising the profile of extension work and supporting a more confident, skilled, and connected advisory system.

We recommend continuing the project and developing these products in conjunction with product group partners.

Appendix

Survey questions

#	Questions details	Answer options	Question type	Logic / notes
Section A: Demographics. To kick us off, please tell us a little bit about yourself.				
4.	What regions of New Zealand do you usually work across?	• Northland • Auckland • Waikato • Bay of Plenty • Gisborne • Hawke's Bay • Taranaki • Manawatū-Whanganui • Wellington • Tasman • Nelson • Marlborough • West Coast • Canterbury • Otago • Southland	Multi-choice	
5.	What product groups do you work with?	• Kiwifruit (Zespri) • Foundation for Arable Research (FAR) • Bragato Research Institute • Vegetables New Zealand Inc. • Process Vegetables NZ • Onions New Zealand Inc. • Citrus New Zealand • TomatoesNZ • Boysenberries New Zealand • Fresh New Zealand Persimmons • New Zealand Buttercup Squash • Strawberry Growers NZ • Passionfruit New Zealand • Summerfruit New Zealand	Multiple choice	

		• Other (please specify)		
6.	What is your primary role at work?	*Open-ended*	Open-ended	
7.	What is your highest qualification?	• No qualification • Highschool certificate • Undergraduate certificate • Undergraduate diploma • Bachelor's degree • Bachelor's degree with honours • Master's degree • PhD • Mid-career (5-10)		
8.	At which stage of your career are you?	• Early (0-5 years) • Mid-career (5-10) • Advanced (10+)	Single choice	
Section B: Capacity. In this section, we want to understand the extent to which you are equipped with the right capacity (as in time and resources) to perform your job successfully.				
9.	How many people in your product group do advisory work?	• Number of full-time _____ Number of part-time _____	Multi-entry	Numbers only
Note: Have options for each PG selected				

10	What proportion of time you work do you spend advising others on growing practices in your overall role?	• Very little (0-30%) • Some (30%-60%) • Most / all (60-100%)	Single choice	
11	Is the time you have sufficient for the grower-advisory needs of your role?	• 0 (not sufficient at all) – 10 (extremely sufficient) • N/A	Rating	
12	To what extent do you agree or disagree with the below statements: a. I have access to the information I need (e.g., contact info, research findings) b. I have access to the right tools / extension aids (e.g., software) c. I have access to the appropriate physical infrastructure (e.g., demonstration sites, transportation) d. I have access to sufficient funding to cover necessary costs (e.g., travel, printed materials)	• 0 (completely disagree) – 10 (completely agree) • N/A	Matrix	
13	Any further comments on the above question?	*Open-ended*	Open-ended	Keep optional Make it part of the previous question and display them together
14	Where do you see yourself working in 3 years?	• Same role, same organisation • Same role, different organisation • Moved to other roles in agriculture • Moved outside of agriculture • Retired • Other (please specify)	Single choice	

Section C: Capability and professional development. In this section, we want to understand the current capability level in extension and your recent involvement in professional development activities				
15	How confident are you in: a. Your skills around running traditional extension activities - e.g., field days; farmer groups; one-on-one visits b. Using technology for extension, e.g., social media; webinars; podcasts etc. c. Understanding the underpinning science of learning and behaviour change d. The technical knowledge required to advise growers about biopesticides	• 0 (not confident at all) – 10 (extremely confident) • N/A	Matrix	
16	How familiar are you with • 'Agricultural extension' as a concept • Adult learning principles • Facilitation • Monitoring and evaluation • Contemporary principles (co-design, flipped learning, peer-to-peer groups) • Models for understanding how behavioural change occurs (e.g. Roger's diffusion of innovation or COM-B)	• 0 (not familiar at all) – 10 (extremely familiar) • N/A	Matrix	
17	Have you participated in any professional development activities related to grower	• Yes • No	Single choice	If no, skip to Q20 (barriers to participation)

	advising in the past 12 months?			
18	[If yes] What was the name of the course / training event?	*Open-ended*	Open-ended	
19	Which format was the training in? *Select all that apply.*	• Self-paced online learning • Live webinars • In-person workshops • Mentorship programs • Peer learning groups • Large scale industry conferences • Structured certification programs (e.g., university) • Other (please specify)	Multichoice	
20	For those activities you have selected, how many days in total have you spent on them?	• Number of days	Single entry	Numbers only
21	To what degree did your organisation(s) fund these activities?	• 0 (no funding at all) – 10 (fully funded) • N/A	Rating	
22	How valuable did you find the training?	*Scale 1-10*	Open-ended	
23	What prevented you from participating in any or more professional development opportunities? *Select all that apply.*	• I am happy with my current level of involvement • Not aware of any other opportunities • Not suitable for me (e.g., time, location) • Too expensive • Nothing offered of interest to me • Not enough time • Other (please specify)	Multichoice	
24	What advisory training would be most useful for you?	*Open-ended*	Open-ended	

25	Which delivery formats work best for you? a. Self-paced online learning b. Live webinars c. In-person workshops d. Mentorship programs e. Peer learning groups f. Large-scale industry conferences g. Structured certification programs (e.g., universities) h. Other (please specify)	• 0 (no interest at all) – 10 (extremely interested) • N/A	Matrix	
26	Would you be interested in participating in a focus group on this topic? If so, please leave your email.	*Open-ended*	Open-ended	
	Section D: Biological pest management. In this section, we want to collect some more specific answers for delivering extension services for integrating biologicals into pest management.			
27	How confident are you in your knowledge about biological pest management?	• Not confident at all • Somewhat confident • Confident • Very confident • Extremely confident		
28	What is the biggest limiting factor preventing you from recommending biologicals?	*Open-ended*	Open-ended	
29	Any final comments?	*Open-ended*	Open-ended	

Focus group guide

Topic	Time	Sub-topic	Activity
Intro	5 min	Introduction and warm up	• Getting started – welcome, agenda. !Start recording! • Get interview consent: o "We're recording this session for accuracy and to aid our analysis. Your comments won't be tied to your names in any reports, and we can exclude any specific points upon request. Transcriptions are available if you'd like a copy. Any questions or concerns, just let us know." o Quick introductions – name, role, warmup exercise: "What makes you feel most effective when you're trying to influence or support change?"
Sense-checking results	5 min	Demographics (Hadleigh)	• Overview of demographics o A representative spread of product groups o Number of staff – can break into 0-1 and 2+ to have 'big' and 'small' organisations o Splitting into annual v. perennial? o Almost everyone was advanced stage career
	15 min	Capacity	• "We broke down questions into capacity and capability [provide definitions]. Overall, we didn't find big lacks in capacity" o **Access to resources** - show the charts - discussion o **Sufficient time** – the majority of people reported having sufficient time to do their job, although those in larger organisations reported having less time. Why? ▪ The questions in the survey addressed individual capacity. Do you think the system as a whole has enough advisory capacity to meet demand — now and in the future? ▪ "Are there times when growers miss out on support because of a lack of coverage, even if your own role is manageable?" ▪ **What are we missing when it comes to capability?**
	15 min	Capability	• Also showed good general confidence in the various skills and capabilities around extension (slide 1), but there were areas where more people were reporting low or no confidence (slide 2). It seems that technical

			knowledge is there but there is less understanding and knowledge around how and why farmers change. **Is this right? What are we missing when it comes to capability?** o Thoughts? What would you need to know to be more effective in helping growers change their practices? o [Prompt] What about adult learning principles, contemporary extension design principles, and models of behaviour change are the least confident
Coffee break	5 min		
Exploring what could be useful	15 min	Professional development barriers	• Show results – quite low engagement with professional development. There was a difference between participants from big orgs and small orgs • Biggest limiting barriers – show results. Note that most predominant reason was not being aware of other opportunities o "Have you ever looked for a PD opportunity and not found it?" o "What's the most useful PD you've ever done?"
	15 min	Capability development	• Show results of capability development split into the three categories (facilitation and public speaking; understanding behavioural change; tech (especially social media and AI). o "What areas would you say are the most important for the field as a whole?" o "One person called some of their experiences a 'baptism by fire' (when talking about public speaking). Tell us about what's most challenging in doing extension o "What do you know about peer-to-peer or codesign?" o "What do you know about structured behaviour change models?" • Practicalities o "Some said they prefer walk-and-talk learning, flexible webinars, field days, or short sessions they can fit around work. What makes a training experience really 'stick' for you?"
	10 min	Barriers to recommending	• Most participants reported feeling confident in their knowledge around biological and ecological pest

		biologicals in practice	management but there were many barriers to recommending them – we organised it into 4 groups: 1. Confidence in the science / efficacy of the product 2. Technical knowledge gaps 3. Grower resistance / behavioural barriers 4. Market / structural barriers • "If there was one barrier you could remove tomorrow to make biologicals easier to recommend, what would it be?" Quickfire rounds or small groups Efficacy • How do you currently judge whether a product is trustworthy? • What kind of data or evidence would improve your confidence? Technical knowledge gaps • Where do you usually turn to for trustworthy technical advice? Grower resistance • Can you describe a time when a grower was resistant to adopting biologicals? What happened? • What helps a grower move from scepticism to interest? • Have you seen successful transitions — and what made them work? Product and market barriers • Some people felt the NZ market isn't quite ready — not enough product options, little research in some crops, and not enough industry support. What gaps are you seeing? • Are there specific sectors where this is particularly tough? • What role should industry-good bodies or regulators play in supporting you?
Wrap up	5 mins	Wrap-up	Final thoughts, thank them, anything else they would add.

Survey results: Most useful training opportunities

What advisory training would be most useful for you?
Agronomy
Leadership- facilitate courses, how to get the best out of people
AI applications
Field days. The walk and talk learning.
I would be keen to participate in any ongoing training opportunities relevant to my role
Behavioural changes and adult learning behaviours
Facilitation, subject matter training, leadership training, behavioural change and extension education training
Understanding of learning behaviours, facilitator training, better communication and uptake
Industry relationship management
On orchard and/or flexibly timed webinars etc. that can be watched at a time that suits.
Learning more about behaviour change
public speaking skills, bit of a baptism by fire in this role
Implementation of training in real-world examples to get it used
Too late! Now focused on developing my staff and the next generations
Soil Health Seminars Application workshops Legal and safe off label use of pesticides Effective use of biologicals and Biostimulants New technology and tools Sharing of best practice and experience from overseas
Social media/technology for extension
Not much. May be an update on using the latest technology
I would be interested to know more about Contemporary principal design and models for understanding learning. Open to other training opportunities to support agricultural extension
Audio visual
Behavioural and learning training, understand other people and best way to transfer information.

Survey results: Reasons for not recommending biologicals

What is the biggest limiting factor preventing you from recommending integrating biological and ecological pest management?
Crop specific/regional climatic variations impacting plant health and disease pressure, efficacy.
Lack of grower interest, and growers have too much pressure from resellers to change.
Arable sector- nothing new and price driven
Confidence in field efficacy
Don't always work
Time
Biological and ecological pest management are recommended by me, however, the complexity around full integration can be limiting
cost of them versus traditional agchems, as well as the number of products available
Lesser number of experts in the kiwifruit industry and less willingness of growers to switch to biological pest management due to limited research going out focused on ecological pest management.
People's willingness to try. Growers have sometimes had bad experience with biology products. Growers talk, so this bad experience becomes the expectation.
I'm not an expert on pest management while I've studied all my degrees (BSc, MSc, PhD) in Horticulture. This could be improved with literature reading and more grower engagement though.
Insufficient kiwifruit specific knowledge/research and/or not a current work priority area for me.
No limitation I sell them
Solid evidence on relative efficacy and their compatibility, not only in a tank but as part of an integrated programme with other chemistry that may more be favourable.
Lack of efficacy and evidence of.
Nothing I bring experts to assist
I don't have sufficient technical knowledge, and am yet to be convinced by promises from a number of providers. I want to see independent testing and a stronger body of experience
Efficacy data Compatibility in mix with other products Interaction between biologicals and with chemicals
complexity, would need support from someone accompanying transition
Not part of my portfolio of products - can discuss in general terms
time and having a willing audience, i.e. people who want to and are committed to doing it
Awareness and understanding of technologies and confidence in their potential outcomes.
Industry good organisations not making more use of my expertise to work with growers to help them use biopesticides more
Development of the NZ market – we aren't quite there yet with products