



This project is supported by funding from the Australian Government Department of Agriculture and Water Resources as part of its Rural R&D for Profit program.

Stimulating private sector extension in Australian agriculture to increase returns from R&D

Research Report B:
Supply of farm advisory and extension services
May 2018

Rural Innovation Research Group Faculty of Veterinary & Agricultural Sciences University of Melbourne





















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University of Melbourne, Melbourne, Australia

About the project

Stimulating private sector extension in Australian agriculture to increase returns from R&D is a three-year project to research, develop and test models to build the capacity of the commercial and private sector in delivering R&D extension services to Australian producers.

Led by Dairy Australia, the project is a collaboration involving nine partner organisations including six Research and Development Corporations (RDCs) – Dairy Australia, Meat & Livestock Australia, Cotton Research & Development Corporation, Sugar Research Australia, Australian Pork Limited, Horticulture Innovation Australia – as well as the Victorian and NSW governments, and the University of Melbourne.

The project is funded by the partners and the Australian Government's Department of Agriculture and Water Resources as part of the Australian Government's Rural Research and Development for Profit program.

The project is in response to the trend towards increasing roles for industry and private services in delivering agricultural extension. This represents a shift away from traditional, government-funded extension services over the past 20 years. Currently the extent of private sector involvement in extension varies across industries, depending on product markets, policy settings, regional issues and industry demographics.

The private sector is now a well-used information source for producers, however there is scope to enhance the capability of the private sector in delivering extension. Improving the capacity of private extension service providers will contribute to on-farm productivity gains and profitability.

Companion reports

This report provides a summary of findings from research into farm advisory services, the involvement of advisory service providers in extension and the current professional development needs of advisers. It is one in a series of four research reports from national surveys of farmers and advisers prepared for the project *Stimulating private sector extension in Australian agriculture to increase returns from R&D*.

- Report A: Farmer demand for agricultural extension services
- Report B: Supply of farm advisory and extension services (this document)
- Report C: The advisory and extension system in Australia
- Report D: Farmer and adviser networks
- Report E: Research data tables and results: Focus groups and surveys of farmers and advisers.

Background: Australia's evolving agricultural extension system

Over time, the means and mechanisms by which Australian farmers access and receive their information, advice and support has changed markedly. This is largely because there has been:

- Changes to the role of government and their investment in and coordination of agricultural extension services in each State of Australia.
- Variation in the way Australia's rural Research and Development Corporations have invested in and positioned extension functions.
- Variation in the extent to which a range of private providers have engaged in extension functions and the business models of agricultural service firms.
- Technological change in society, particularly, information and communication technologies.

Terminology

The term 'advisory and extension system' or 'advisory services' refers to the set of organisations and people that enable farmers to develop farm-level solutions by establishing service relationships to produce knowledge and

enhance skills (Birner, et al, 2009. The need for co-ordination and collaboration amongst different advisory services and organisations in improving the impact from R&D investment is well recognised internationally.

Executive summary

This report provides a snapshot of the supply of advisory and extension services available to Australian farmers. The findings draw upon the results from four focus group workshops held in 2016 and a national adviser survey conducted in 2016-2017. The results provide a baseline for monitoring trends related to advisory services.

In summary, advisory services appear to be willing and able to respond to increased demand from farmers. They are also keen to work more closely with RD&E.

A number of challenges need to be addressed to successfully respond to increasing demand from farmers for advisory support. They include establishing ways to effectively and efficiently connect the range of advisers into R&D and greater support for building the capacity of new advisers.

Given the expected trend towards a greater role for private sector advisory services, it will be important to address specific challenges faced by the private sector. The low level of engagement of the private sector in key activities associated with the RD&E system and relatively low willingness to pay for services by farmers (see: Summary research report A), presents a significant challenge to the strength of the system and further private sector engagement.

The low membership of professional association and accreditation of advisers, particularly related to extension skills, is a concern. Advisers indicated strong demand for training in technical areas, however many received this development from within their own organisation. Therefore, whilst the private sector may be able to meet demand, they do not have a remit to help the system work or necessarily change services without strong signals to do so.

Whilst both farmers and advisers expressed interest in increased interaction with researchers and research organisations, it is unclear how this would occur without support.



Research methods

In seeking to better understand the supply of advisory and extension services for Australian farmers, it was important to consider:

- Modes and topics for service delivery;
- Types of farms targeted by advisory services;
- Skills and capabilities of the sector related to technical and advisory and extension roles;
- Advisers' professional association and accreditation;
- Current funding sources of adviser roles.

The findings reported here are drawn from two activities undertaken to better understand the supply of agricultural advisory and extension services in Australia:

- Four regional forums with farmers and advisers held in 2016 in Queensland, New South Wales, Victoria and South Australia (143 participants).
- A national survey of advisers (655 responses) conducted between 15 December 2016 and 17 February 2017.

The regional forums used a focus group approach to discussing current key issues and priority areas for private sector involvement in agricultural research, development and extension. The forums were organised by the University of Melbourne's Rural Innovation Research Group. Forums included a total of 142 farmers and advisers from a range of enterprises including sheep, beef, dairy grains, horticulture, pork, poultry and cotton in NSW, Queensland, South Australia and Victoria.

The national adviser survey explored and quantified the extent to which the issues identified in the focus groups were reflected across a broader population of advisers. The adviser survey employed both on-line (non-random) and telephone interview (random) methods. This work was undertaken by Quantum Market Research.

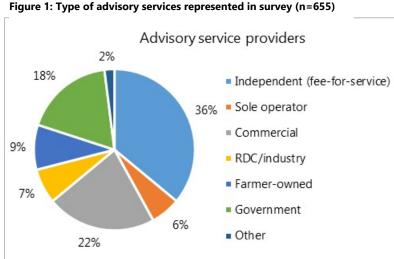
In order to categorise different types of advisers and advisory organisations and conduct international comparisons of pluralistic extension systems, a typology of advisory organisations based on the goals, form of funding and management of services was developed and used consistently in the farmers and adviser national surveys (Table 1).

Table 1. Typology of advisory and extension service organisations in Australia

Type of organisation	Example organisations	Definition
Government	Commonwealth (national), State agriculture and environment departments; Local government and 'catchment' (regional) organisations	Public
Research and Development Corporations (RDC's)	Sugar Research Australia, Dairy Australia, Meat and Livestock Australia, Horticulture innovation, Australian Pork limited, Grains Research and Development Corporation, Cotton Research and Development Corporation.	Industry (public-private co-investment)
Product re-sellers / farm input suppliers	Fertiliser, seed, feed merchants;	Private-commercial
Independent (fee-for-service) advisers	Farm management consultants, agronomists, specialist advisers (e.g. veterinary surgeons, crop specialists, breeding, etc.)	Private-commercial
Farmer-owned information, advice and support organisations	Local productivity services, farming systems groups, Landcare groups	Private
Processing companies	ing companies Processing companies' farmers supply associated with dairy, meat, cotton, grains industries (co-operatives/commercial)	
Other	Community organisations/philanthropic organisations	Third-sector, NGO (community)

The survey questions were formulated to allow for comparison with previous Australian studies on these topics (e.g. RIRDC, 2009; Stone, 2011; Wilkinson et al, 2011; AFI, 2014) and allow for comparison with current studies in Europe (E.g. Prager et al., 2016; 2017). In addition, where qualitative information was available in the survey responses, qualitative data analysis techniques (Gibbs, 2004) were applied with the assistance of nvivo-10[™] software to generate themes and response counts by categories (for instance, related to advisory professional development needs).

For the adviser survey, the sample achieved reflects a range of advisory and extension providers across most agricultural industries (beef, sheep, grains, dairy, horticulture, cotton, sugar, pork/poultry, etc) with respondents working in a range of advisory services including independent (fee-for-service), sole operators, commercial (product re-sellers/farm input suppliers), R&D corporations/industry organisations, farmer-owned/farming systems groups/NGOs and government (federal, state, local/catchment). (Figure 1)



Research questions

This report addresses the following research questions as part of the project *Stimulating private sector extension in Australian agriculture to increase returns from R&D.*

RQ5 What is the motivation for the private agricultural services sector to provide their services in the context of agricultural RD&E? [Identifying and understanding demand and supply of services; defining similarities and differences between providers; sectors; regions]

RQ6 How (if at all) are private providers preparing for increased engagement in the RD&E system? [e.g. capacity building of staff; engagement with industry; skills and capacity aligned to industry needs]

Findings – regional focus group forums

The findings reported here are from the issues identified during the focus group discussions at the regional forums.

Further reading

Fact Sheet 2: Regional Forums http://rirg.fvas.unimelb.edu.au/ data/assets/pdf file/0011/2374724/Fact-sheet-forums.pdf

At the regional forums, private sector advisers described challenges they faced in supplying advisory services to farmers. The challenges included access to the latest research findings, funding their own research, the value of professional development and limited career pathways.

Access to research outputs can be expensive and advisers therefore expressed the need for an information platform allowing them to access the latest research.

Further, advisers often don't have time to prepare competitive funding grants to conduct their own practice-based research and often find themselves in competition with RDCs around these funding applications.

Other issues mentioned at the forums included an unclear cost-benefit relationship around professional development training, the loss of expertise in extension, particularly around advisory 'soft skills', and limited career pathways for young advisers.

Findings – national adviser survey

The survey findings fall within six themes:

- 1. Services offered
- 2. Responding to increased demand
- 3. Delivery modes.
- 4. Adviser income streams
- 5. Professional development, keeping up to date and involvement in RD&E
- 6. Professional associations.

Services offered

The main services offered by advisers responding to the survey related to livestock (21%) crop production (15%) and whole farm management/farm business management (11%). Most advisers nominated three service areas on average. Whilst advisers targeted different farm types (across income categories of commercial farms) so that no particular farm size was excluded from services. However, some specific categories of farmers may not be targeted for particular services including women and young farmers, sharefarmers, employees, hobby farmers, urban farmers, with less than 16% of advisers not already working with these groups were willing to work with them. Farmers starting out are likely to miss out on services provided by fee-for service advisers.

Whilst 30 % of advisers said they provided environmental services, only 7% noted this as a main service.

Responding to increased demand

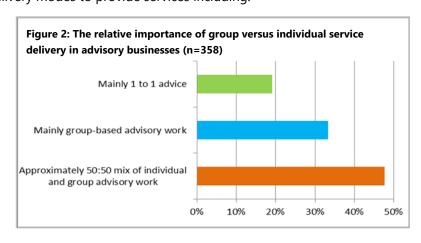
Advisory services appear to be *willing and able to respond* to increased demand from farmers. 87% of adviser organisation 'leads' said providing information, advice and support services to farmers was 'moderately or extremely important to their business' and that their capability was strong/moderately strong in providing extension services. Of this group, greater capability was sought in:

- Targeting farmers with tailored information based on their goals and values.
- Designing and delivering farmer training.
- Design of extension programs for adoption.

Delivery modes

Advisers used a range of individual and group delivery modes to provide services including:

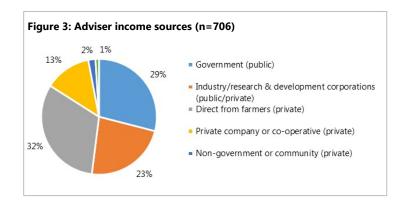
- 1-on-1 advice (74% of advisers mentioned this mode).
- Farmer groups (64%).
- Technical and analytical services (57%).
- Media/web-based communication (49%).
- Product sales (22%).
- Supplier relations (15%).



Adviser income streams

Based on the income streams of advisers surveyed, support to farmers is funded 50:50 from the public and private sector (Figure 3).

People in public and industry organisations are more likely to be delivering training or extension projects/programs than the private sector (with the exception of sole providers).



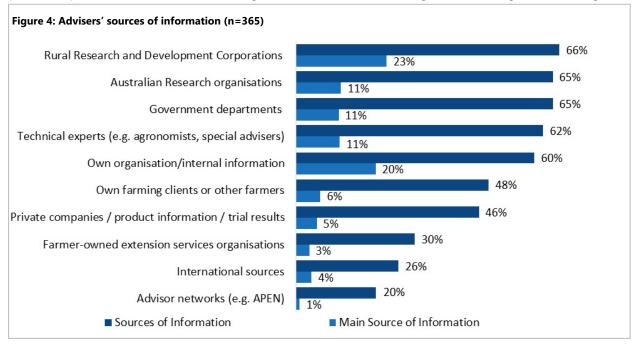
Professional development and keeping upto-date

Advisers seek professional development related to their role. While 80% of advisers said it was very important to keep up to date with the latest research in agriculture, the actual participation rates in professional development and training was lower. 50% of advisers had undertaken professional development (PD) or training related to agricultural extension in the past 12 months. Actual participation rates in PD in the past 12 months varied across service groups, being highest among industry advisers and lowest with sole operators:

- Industry advisers (73%).
- Private commercial (53%).
- Private-consulting (48%).
- Sole operators (27%).

Most agricultural extension related training was provided 'in-house', rather than through formal education institutions.

A range of organisations were used by advisers to keep up to date; with the main sources being rural research and development corporations, the advisor's own organisation and research and government organisations (Figure 4).



Advisers' preferred ways of accessing information and knowledge were similar to farmers, including:

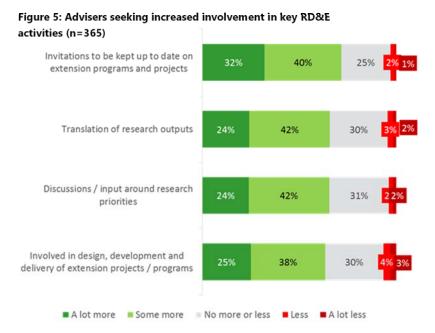
- Field days (16%).
- The internet (16%).
- Access to technical specialists at events (14%).

Advisers' involvement in RD&E

Overall, only a small proportion of advisers are strongly connected to key RD&E activities such as research priority setting, translating research to suit farming clients and in the design and delivery of extension programs. A significant proportion seek greater involvement in these activities (Figure 5). Between 24 and 32% of advisers sought a lot more involvement in the key activities of RD&E.

Advisers seeking more involvement tended to be those aged 30-50 and in smaller organisations (less than 10 employees) within private or public organisations (rather than industry or farmer organisations) and with mainly commercial interests, although consulting organisations were also interested in more involvement. Advisers in NSW and Victoria tended to show greater interest in increased involvement relative to the other states.

Advisory organisations see value in partnerships with RD&E organisations and there is some willingness to collaborate and cooperate amongst the different organisations.



Professional associations

Less than half of the advisers surveyed were members of professional associations, leaving 58% of advisers who were not members of any professional association. Of those in associations, 43% were accredited through these associations. Advisers were members of technical or discipline-based professional associations (26%) rather than members of advisory and extension practice organisations such as APEN and the Ag Institute. No single association had the monopoly with 20 different associations listed.

Discussion and conclusions

Advisers in the study provided services to particular industries/sectors (e.g. grains/cropping or livestock) but worked with a range of farm categories. Contrary to overseas evidence of exclusion of some farmers (particularly small farmers) to access to information, advice and support due to privatisation (Labarthe and Laurent, 2013; Prager et al., 2016), the range of services appear to be used and available to all farm types in Australia. There are however some farm types that are *not a target* for advisory firms, such as young farmers, women, employees and sharefarmers. Farmers starting out, and perhaps the most in need of individualised advice, are reluctant or unable to pay for this service. Overall, advisers surveyed suggested that providing information advice and support to farmers and being engaged with the latest research in agriculture was important to their business. Further, half had received training in agricultural extension in the last 12 months, although this was mainly delivered 'internally.' The private sector was less likely to have received such training (in particular sole operators) when compared to industry and government.

Overall then, the advisory sector appears interested, willing and, to some extent, fully able to provide services to farmers and to work more closely with RD&E.

The low level of engagement of the private sector in key activities associated with the RD&E system and relatively low willingness to pay for services by farmers (particularly in the livestock sector) (Report A) presents a significant challenge to the strength of the extension system and further private sector engagement. Further, the low membership of professional association and accreditation of advisers, particularly related to extension skills, is a concern, with advisers indicating strongest demand for PD in technical areas.

That advisory income streams on average come 50:50 from public and private funding sources, raises the question of whether this reflects the balance of investment necessary to meet future needs. Further, whilst advisers expressed interest in increased interaction with researchers and research organisations, it is unclear how this would occur without support. Therefore, whilst the private sector may be able to meet demand, they do not have a remit to help the system work or necessarily change services without strong signals to do so.

Future opportunities

Organisations seeking to engage a range of advisory services in RD&E could consider:

- Methods to support PD for sole operators
- Formalise extension training for the range of advisory organisations.
- Hold targeted events for advisory service organisations
- Target engagement of different types of service organisations in translating research information and in extension design and delivery
- Better 'search' functions' for advisers
- Encouraging advisers into membership of professional associations and support those organisations in extension capability to reach a wider range of advisers.

Limitations

The study has some limitations in that whilst there is confidence in the breadth and depth of adviser responses, it is difficult to establish the size and nature of the total advisory and extension service population and therefore it is difficult to confirm the study has captured the full range of private sector and other adviser practices and views.

Project publications

- 1. Nettle, R. 2017, Workshop paper: farmers adoption and farmers benefitting from R&D where are we now? University of Melbourne
- 2. Nettle, R., Klerkx, L., Faure, G., Koustouris, A., 2017, Governance dynamics and the quest for coordination in pluralistic agricultural advisory systems, *The Journal of Agricultural Education and Extension* 23:3, 189-195, DOI: 10.1080/1389224X.2017.1320638
- 3. Nettle, R., La, N., Smith, E.: Milestone Report 3, University of Melbourne.
- 4. Paschen, J. A., Reichelt, N. King, B. Nettle, R., 2017, Enrolling advisers in governing privatised agricultural extension in Australia: challenges and opportunities for the research, development and extension system, *Journal of agricultural education and extension 23:3* http://dx.doi.org/10.1080/1389224X.2017.1320642

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Appendix A: Overall summary of regional farmer and adviser forum findings

The project held a series of regional forums in the first half of 2016, which were attended by close to 150 advisers and farmers from a range of agricultural industries. Forums were held in: Adelaide, SA (March); Traralgon, Vic (April); Toowoomba, Qld (May); Wagga, NSW (June).

The forum aims were to: define key issues farmers and advisers face related to the agricultural research, development and extension system; identify opportunities for improvement in engaging the private sector in extension; and, provide feedback on suggested trial concepts. The forums used a focus group approach to discussing current key issues and priority areas for private sector involvement in agricultural research, development and extension. Participant comments were noted down in 'workbooks'. Thematic clusters of key issues and opportunities emerging from the overall discussions were established:

- 1. **More collaborative knowledge production approaches** were needed: Forums/a platform for co-operative engagement between producers, researchers and advisers based on equal partnership and involving:
 - Encouraging and listening to producer feedback (e.g. surveying producers re R&D needs; producer-initiated projects)
 - Initiatives driven by farmers and knowledgeable advisers
 - Involve advisers in research projects
 - More focus on applied research
 - Utilise farmer/producer extension groups.
- 2. **Research directions need to draw more from advisor/producer needs** and provide strategic-level support to issues in the RD&E system
 - a. Address financial constraints to accessing research and advice and engaging in the RD&E system (advisers and producers)
 - "Most people won't pay for private advice."
 - "Access to the latest research often comes at great time and financial costs for small businesses."
 - b. Greater cross-industry exchange/networking and partnership approaches at the local or regional level was sought: They saw opportunities to better transition research findings into D (development) and E (extension). Participants wanted to explore opportunities for collaborative activities to: involve producers and advisers (e.g. advisory committees); work with private organisations for local best practices/ideas; work across industries to pool information, resources, and ideas; reduce duplication of research.
 - c. **Making advice relevant requires more than information provision: S**ignificant funds are invested by rural research and development corporations on communication and extension, yet the content was seen as often not relevant at the farm level, or difficult to see how it could be applied in practice. Participants reported that Australian farmers are time poor and operate in an era of information overload. More important questions were: "What is and what isn't relevant? Which adviser do I need? How can I set my priorities right?"
 - d. Whole farm systems approaches in RD&E are needed: Participants saw a need for translation of research into practice, particularly in the whole farms systems context. Producers are looking for consultants (advisers in the private sector) who can provide advice that fits into the 'whole farm picture' but this requires hands on, practical experience and diverse skills whereas many advisers have specialist knowledge. Participants reported a lack of farm advisers who could provide systematic/integrated advice that takes into account the whole farm business, including marketing, climate, machinery, nutrition, financial and 'soft' (HR/people) issues. They acknowledged a lack of opportunities for advisers to gain experience
 - e. **Research and research communication methods need to change**: more involvement of advisers and farmers to: identify research needs, extending the findings of research; have an equal partnership in driving research priorities. They suggested that better collaboration and 'more structured talking' would reduce the current level of waste and duplication of research

- f. **Innovation and change in the way RD&E is done new models are needed**. Good research did not always equate to increased profit. They identified challenges with:
 - i. measuring the true economics of research on farm/whole business impact/gains
 - ii. the time involved in deciphering and understanding research findings before extending
 - iii. finding people who can translate research output into recommended farming practices that have a real impact
 - iv. the need for consistency of messaging and co-ordinated delivery of information
 - v. facilitators with 'soft skills'
 - vi. access to research data, research outcomes and better management.

Forum participants called for 'fundamental changes' – a new model based on the core drivers of farmers on the ground. Recognising that many producers are multi-industry (e.g. livestock and crop producers), participants asked for 'out of the square' solutions, calling for a new model that would ensure application of R&D outcomes. They saw the need for a 'cross-industry group' of senior decision makers who could approve projects, then leave a project team to implement it. They wanted the complexity of extension to be recognised – that one solution doesn't fit all.

They recognised that the next generation of advisers and producers needed to be engaged and motivated to be self-directed learners, involved in the industry and able to understand the system implications of research findings

Appendix B: survey response tables

Of the 655 respondents to the survey, 365 advisers were identified that worked directly with farmers (other respondents were owners/managers of advisory organisations). These advisers worked with on average 134 farmers each (48,910 farms) of which they work with 10760 farms regularly (at least monthly). Some of these farms would use multiple advisers.

Private (commercial) organisations had a relatively high level of regular clients (32%), this adviser group also work the most days per year directly with farmers (195 days – 3-4 days per week on average).

Public and Industry organisations travelled the furthest to reach their clients (325km and 345km on average respectively), while Private consulting organisations travelled the shortest distance (226km on average). (Table 1).

Table 1: Advisers interaction with farmers by adviser type

	TOTAL (n=365)	Private organisation – Consulting (n=46)	Private organisation – Commercial (n=87)	Public organisation (government) (n=105)			Non- governmental organisation / NFP (n=28*)	
Total number of farmers work with each year	134	112	127	125	196	121	115	219
Proportion of farmers work with regularly (at least monthly)	22%	24%	32%	16%	14%	23%	18%	25%
Days per year working directly with Australian farmers	150	151	195	114	146	139	133	170
Furthest distance have had to travel to visit clients/customers	287km	226km	269km	325km	345km	279km	275km	292km

Table 2: Types of farm enterprises different advisory organisations work with

	Private organisation - Consulting (n=235)	Private organisation - Commercial (n=235)	Public organisation (government) (n=117)	Industry organisation / association (n=45)	Sole operator (n=41)	Non- governmental organisation / not for profit (n=34)	Farmer-based organisation (n=30)
Average number of sectors targeted	3	3	4	2	3	3	3
No focus / Target all farm types	8%	17%	34%	2%	5%	15%	0%
Beef cattle	67%	43%	46%	29%	54%	26%	43%
Sheep for meat	47%	33%	41%	24%	51%	18%	50%
Dairy cattle	42%	37%	36%	49%	34%	44%	27%
Sheep for wool	40%	28%	44%	20%	46%	15%	47%
Mixed – cropping and grazing	26%	28%	42%	9%	22%	21%	33%
Cropping (grains)	22%	26%	45%	16%	17%	18%	27%
Horticulture (fruit)	11%	21%	33%	9%	12%	21%	7%
Horticulture (vegetables)	11%	18%	30%	9%	12%	18%	0%
Pork	13%	10%	17%	4%	7%	3%	0%
Sugarcane growing	3%	15%	6%	11%	0%	21%	13%
Poultry	8%	7%	14%	4%	2%	6%	0%
Cotton production	5%	12%	9%	2%	2%	0%	0%
Fishing / aquaculture	2%	4%	15%	2%	0%	6%	3%
Rice growing	3%	10%	5%	4%	2%	0%	3%
Fishing	1%	1%	9%	0%	0%	3%	3%
Non-production landholding	1%	2%	6%	0%	0%	9%	3%

The sources of income of advisers differ by adviser type

Public organisations most commonly obtained income from public / government funding. Public organisations, in addition to Industry and Farmer-based organisations, received income from Industry funding (e.g. rural research and development corporations, industry levy, and commercial trials). Comparatively, Private organisations and Sole

operators most commonly obtained income direct from farmers (i.e. through product sales, advice, fee-for-service etc.), followed by private companies/ co-operatives (international or Australian). (Table 3)

Table 3: Private sector Commercial and fee-for service) received the most of their income directly from farmers

	Private organisation - Consulting (n=235)	Private organisation - Commercial (n=144)	Public organisation (government) (n=177)	Industry organisation / association (n=45)	Sole operator (n=41)	Non- governmental organisation / not for profit (n=34)	Farmer-based organisation (n=30)
Direct from farmers	86%	83%	32%	40%	83%	35%	70%
Private company or co-operative	54%	51%	18%	18%	49%	6%	47%
Public / government funding	34%	12%	87%	36%	39%	56%	37%
Industry funding	36%	13%	62%	69%	34%	50%	63%
Non-government / community / NFP	11%	2%	9%	11%	10%	24%	27%
Other (please specify)	0%	1%	3%	2%	0%	0%	0%

Advisers were predominantly tertiary qualified in agriculture/agronomy

Advisers tended to be university educated in a field relevant to their work. In addition to being well educated, they were also well experienced, having had an average of 17 years' experience in the industry. Younger advisers were more likely to hold a bachelor's degree in agriculture/agronomy.

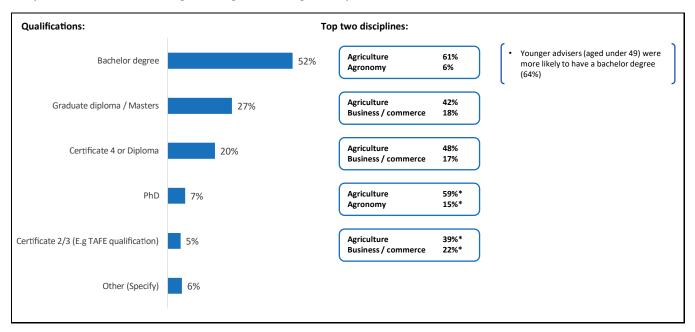


Figure 6: Qualifications of advisers (n=365) All employee advisers and sole operators