

# **Processed Potato Industry Development Needs Assessment**

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Pyksis Pty Ltd

Project Number: PT08029

**PT08029**

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# Industry Development Needs Assessment Processed Potato Industry

Final Report – Project PT 08029

A Report for Horticulture Australia Ltd

Prepared by:  
Pyksis Pty Ltd  
June 2010



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- Attachment 2 – Completed Tool F – Action Plan
- Attachment 3 – Market Research and Survey Report
- Attachment 4 – Survey Questionnaire
- Attachment 5 – IDNA Progress Report
- Attachment 6 – USA Potato Industry Health Handbook
- Attachment 7 – Additional Considerations



## PT 08029 – FINAL REPORT

# INDUSTRY DEVELOPMENT NEEDS ASSESSMENT SCOPING STUDY

## PROCESSED POTATO INDUSTRY

### 1.0 Introduction

Pyksis Pty Ltd (Pyksis) submitted a Progress Report on this scoping study project (June, 2009), wherein it described how agricultural and pastoral industries, both locally and globally, experience a range of industry development needs as they seek to make themselves competitive and/or retain their competitive edge in an increasingly globally exposed marketplace.

Those developmental needs vary from that of a high level industry over-arching strategy, down to implementation of successful extension practices to ensure that the industry, from its “grass roots” growers, right through its supply chain, to the end processors can deliver that competitive edge.

The specific situational needs of the Processed Potato Industry within Australia were placed within that context and what avenues should be pursued to lift performance, having regard to the outcomes of the APRP1 project and the current APRP2 next phase (refer to Pyksis Final Report on PT07037).

The Progress Report on PT08029 should be read in conjunction with this Final Report.

Since the time of submitting the Progress Report, Pyksis has conducted further interviews in Australia, as part of a Market Research Survey, those interviews being with processed potato growers and seed potato growers, as well as service providers, in Tasmania, Victoria, NSW, QLD, and South Aust.

The Market Research Survey (refer to Attachment 1 and Section 3 of this report for details) has confirmed the findings reported in the Progress Report and specifically what works and what doesn't, with a particular emphasis on the Australian experience. It contains numerous direct quotes, especially from potato growers, which have been taken into account in arriving at the findings and recommendations within this Final Report.

### 2.0 Summary



In conducting its study of industry extension, Pyksis interviewed 20 experienced industry parties and made 4 field trips to investigate matters “on the spot”, including interviewing farmers and industry supply-chain companies.

These interviews included two interviews with experienced technology transfer practitioners visiting from overseas, as well as local industry figures. In addition, the Market Research Survey conducted 65 further interviews with growers on how to improve their engagement in HAL fostered research and development. The survey tested growers' interest in five potential communication tools, with important implications for the industry extension recommendations contained in the Progress Report.



What is clear from all of these discussions and interviews is that the major processors such as McCain, Simplot and Smiths/Frito-Lay, have taken the initiative to improve industry extension with those parties (growers, service providers), who are closely aligned to them. This has enabled them to develop an integrated approach to industry extension, including the use of overseas experts. It has had the demonstrable benefit of improving returns for all involved, including ensuring more consistent performance from growers.

What the major processors are achieving in terms of improved performance in their supply chains related to an integrated approach to industry extension, represents a position that is closer to the right-hand end of the *Spectrum of Experience, Capabilities and Needs* (refer to Section 4). That is, the major processors are a good deal closer to realising the end objective of improving industry extension through a progressive educational process that takes their supply chains closer to more sophisticated end of the *Spectrum*.

The main findings of this Scoping Study on industry extension were that:

1. Extension within the APRP project is currently skewed towards the left-hand end of the Spectrum (less sophisticated and less effective – refer to Figures 6 and 7)
2. The opportunity now exists with the APRP2 project, through allocating, recruiting and directing specifically targeted and matched resources, to make a quantum leap forward in improving industry extension
3. The APRP2 delivery management team, which was recommended in the PT08029 Final Report, especially the CEO/Director and the Industry Extension Specialist (IES), will play key roles in achieving that objective of high quality, effective industry extension
4. To achieve that improved industry extension, the management team will need to leverage all available industry resources including, but not limited to, major processors, early adopters and overseas specialists and organisations, creating, *inter alia*, electronic libraries that can be accessed by industry stakeholders (refer to Figure 5), in support of the overall extension effort. In this AusVeg, through publications such as *Potatoes Australia*, would play a supportive role, with all articles indexed and accessible through the library (refer to Attachment 1 of the Progress Report)
5. An integrated industry extension and communication capability will need to be established by the delivery management team (refer to Figures 2 and 5) to cater for the *Spectrum* of abilities of users to absorb and utilise information
6. As smaller land holdings are absorbed into larger organisations under the effects of competitive, economic and social pressures, the ability of the industry to utilise more sophisticated means for accessing and implementing improvements will increase and the extension and communication capability, referred to under point 5 above, will need to cater for this trend. This is where *Farm Plus*, once proven, has the potential to play a strong supportive role.

The main recommendations that Pyksis makes from this Scoping Study are as follows:

1. ***Ensure that an effective IES is appointed as a matter of priority***, together with a support team to ensure that, *inter alia*, all members of the supply chain implement beneficial practices, whether those beneficial practices are sourced from R&D (local or overseas) or through other channels. The effectiveness of the IES and support team will be largely determined by the IES's ability to gain the confidence of all parties involved in the supply chain, from small growers through to large processors.





2. **Build on the experience and lead of the major industry processors**, who have realised that, with the decline in State-based extension agencies they have needed to establish their own sub-sets of industry extension. These have many elements in common, eg field days, seminars, overseas experts, but also include elements that are particular to the processor involved. The processors are guarding that knowledge and generally do not recognise any need to make this information more widely available, especially in a competitive environment.

The challenge for the IES will be to encourage the processors to share their information and practices with the industry at large, without feeling that they have negatively impacted on their competitive edge.

3. **Augment the present best practices through introduction of improved communications**, to lift the supply-chain performance across the whole industry. These improved communications would include, but not be limited to the following initiatives:

- Access the latest information from overseas and convert this into easily adopted extension practices relevant to Australia and build a library accessible to Australian stakeholders through both electronic and printed libraries, feature articles and locally-based information sessions
- Encourage and orchestrate visits to and from overseas, including award of scholarships to raise interest in the industry, especially amongst the younger generation
- Act as the point of reference in linking existing field days to demonstration trials and interfacing with best practices, such as through processed potato grower groups

### 3.0 Market Research

In addition to the research work that was reported in the Progress Report, viz:



- 4 field trips in Victoria and Tasmania
- 18 interviews with growers, scientists, supply chain service providers (chemicals and fertilisers), agronomists and processors (McCain & Simplot)
  - Interviews with 2 visiting overseas industry extension specialists
  - Interviews with specialists in other pastoral industries

Pyksis commissioned a Market Research Survey that included sixty-five interviews with processed potato growers, seed growers, service providers and processors. Pyksis also conducted two further in-depth interviews with processors. These interviews and the Market research confirmed the situation described within the Progress Report and emphasised that there is no “one size fits all” solution, despite the recurrence of common elements within the successful methodologies that were employed by various industry participants.

The questionnaire that was used for the survey is contained within Attachment 2.

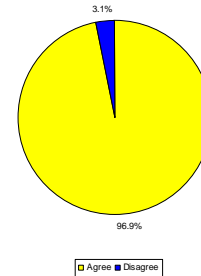


The main findings from the Market Research Survey were that:

**Figure 1 – APRP1 Awareness**

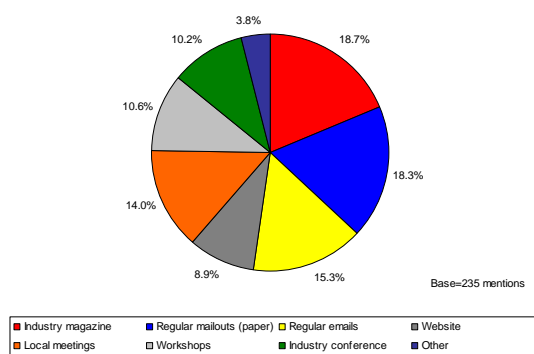
- Most growers (97%) reported a low level of awareness of PPRD1, citing deficiencies in communication, both in channels used and the materials, as the main reasons for that low level
- More than a third of growers specified on-farm R&D, field days and personal contact with an industry liaison officer as the best way to encourage grower involvement in APRP2
- Half the growers reported that they would be prepared to spend up to 4 hours travelling to an annual field event, while the other half was prepared to spend more than 4 hours
- Approximately half the growers called for increased interaction to encourage them to become more involved in HAL's R&D activities

We reported a low level of awareness of PPR&D1 among growers in 2008...  
Do you agree or disagree with this finding?



**Figure 2 – Preferred Communication Means for APRP2**

How would you like to receive updates on APRP2?



- Each grower nominated in excess of three preferred communication channels for receiving updates on APRP2, which highlighted the need for a multi-channel approach. Over a third of growers stressed a local, hands-on approach.

- Most growers (approximately 97%) would accept receiving information on APRP2 direct from processors or their representatives, which highlighted the value of effective use of the supply chain (being mindful of using different techniques for different groups in order to be most effective – refer to Figure 3 below)

- About 70% of growers are member of organised discussion groups (which provides a head start for the proposed IES in accessing the industry and communicating with its members)
- Growers rated crop management and agronomy, including management of diseases, chemicals and fertilisers as the core information topics they wished to be kept abreast of developments

Some of the typical grower quotes included:

- *'It's not really brought into your face. It's the sort of thing, you've got to sit down and read through the whole magazine (Potatoes Australia) and the amount of time that is being consumed with record keeping, you just don't have time! It's all the recording of the spraying, chemicals etc, it just takes up so much time, independent audits are taking up our spare time!'*





- “I think most growers are that bloody busy they don't have time to read all the literature that gets posted out to them, particularly in the commercial potato industry, you're under the pump to get the product out the door to meet requirements. With changes in climate, in excess of 12-hour days, the last thing they need is to sit down at the end of the day [and read the literature]. It's hard to walk away from what needs to be done in the paddock, especially when it's outside your front door. Over the last couple of years climatic changes have increased, the value of fertilizer...higher return on the dollar. Maybe lack of hours to do that sort of reading, too busy trying to make a dollar. It's a generational thing as well”*

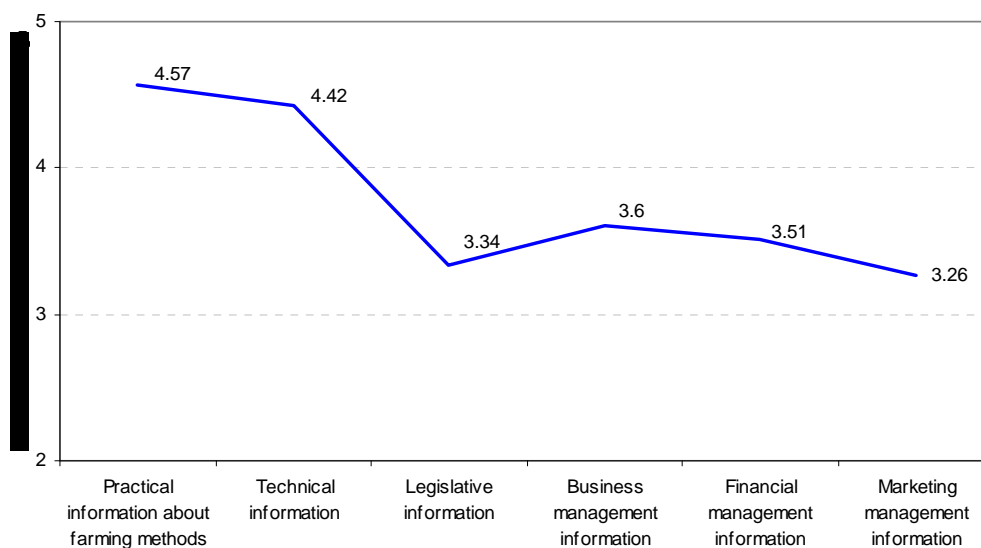
### Information to be Communicated & How Best to Achieve Good Outcomes

On average, growers rated the strongest level of interest in practical information about farming methods and technical information as broad areas of information they could receive about APRP2, recording an average 4.57 and 4.42 on a scale of 1 to 5, where 1 was not interested and 5 was extremely interested.

This finding was not surprising, given the hands-on practical nature of a grower's occupation where translation into visible results has much more impact, especially when the time line from action to result is relatively short.

**Figure 3 – Rating of Communication Information**

Level of interest in broad types of information about APRP2



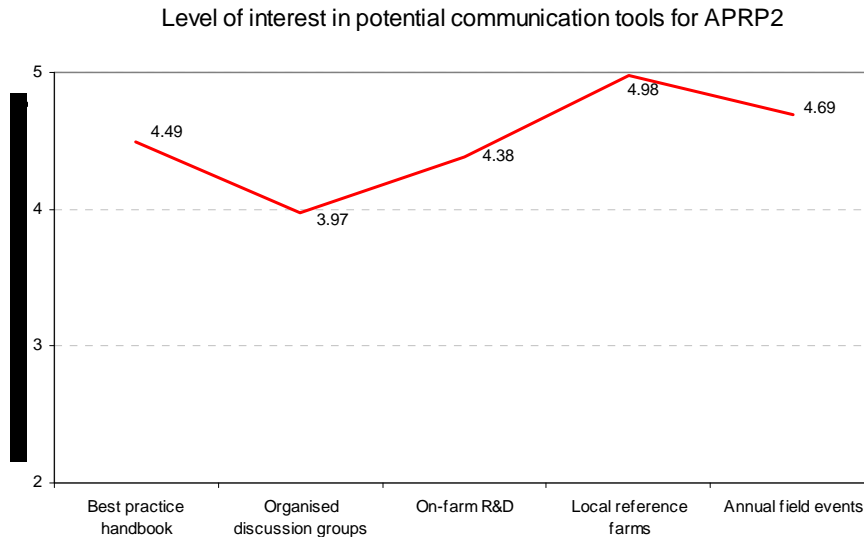
Growers provided lower average ratings for business management information (3.60), financial management information (3.51), legislative information (3.34) and marketing management information (3.26), which are perceived to be less relevant to an industry research and development program:

Consistent with their feedback on the importance of a local, hands-on approach in encouraging grower involvement in APRP2, growers recorded the strongest interest in local reference farms and annual field events (4.98 and 4.69 respectively) as potential communication tools for APRP2 on a scale of 1 to 5, where 1 was not interested and 5 was extremely interested.



Growers' interest in a best practice handbook and on-farm R&D was only marginally lower, at 4.49 and 4.38 respectively. Organised discussion groups received a lower average score of 3.97, which was consistent with feedback from some growers that they do not have time to attend discussion groups:

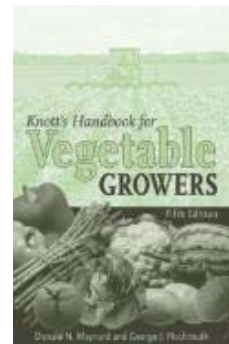
**Figure 4 – Preferences for Communication Tools – APRP2**



### Previous Experience, Publications and Overseas Practices

Some of the relevant quotations from interviews are repeated below, with a number of interesting references to previous publications that clearly hit a resonant chord with growers:

- *'It needs to be as short as possible, it does need to be clear in what it offers, readable in layman's language'*
- *'It's got to be practical, and modern-day farming methods, we'd all like to go down the cleaner practices [route]'*
- *'One idea, there's a book that's called the Knott's<sup>1</sup> Farming Handbook or something from the USA and I really like it, it has seeding rates, number of seeds per hectare, fertilizer recommendations and describes what they do, harvest practice, irrigation, all those things. Trying to rate how much yield you lose as you move away from the perfect scenarios, it's sort of happening with the potato calculator they're using now, which ones are the most important and which ones the least important to get right'*
- *'Possibly need to take notice of what's happening overseas, global practice, learning from Europeans and the UK'*
- *'We tried to do our own a few years ago but got nowhere, (SE Potato Growers Association and Rural Solutions SA)'*



<sup>1</sup> "For more than half a century, Knott's Handbook for Vegetable Growers has provided generations of commercial growers with the most timely, accessible, and useful information available on the subject. The Fifth Edition of this highly regarded horticultural mainstay provides readers with the reliable growing and marketing information they've come to expect, while including new and updated material throughout to maintain its relevance in our ever-changing world.". Knott, James Edward, 1897



- *‘So long as it’s written properly and makes sense, then it’s usually fairly effective, you might not read it all the time but it’s a reference point’*
- *‘There was a handbook, Vegie-notes, they used to be heaps good’*
- *‘With climatic variation best practice in one part of the country wouldn’t be the same as other parts, so you can’t really have a ‘best practice’ handbook for the whole country, and treat it like a bible, where it’s the same everywhere. There would have to be different ones for different areas. Also must always be updated, the weather is just so unpredictable’*

As noted in the Progress Report, overseas experience generally parallels that in Australia, with Australia generally lagging behind its international counterparts in terms of effective industry extension.

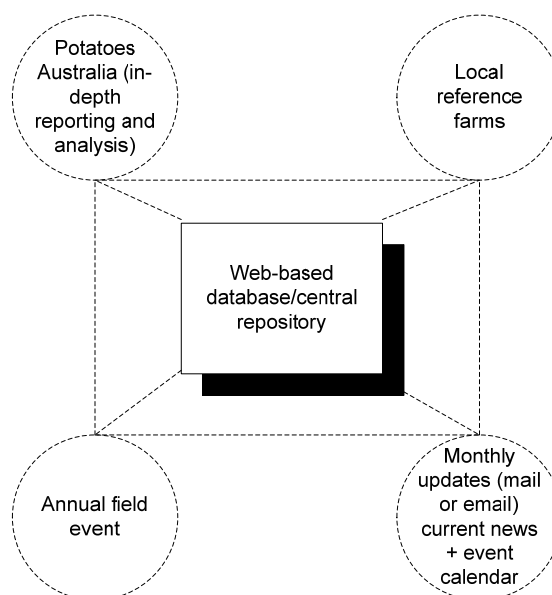
Relevant overseas resources that were referred to in that report were the “*Journal of Extension*” or JOE ([www.joe.org](http://www.joe.org)) and also the Scottish Agricultural College (SAC) website (<http://www.sac.ac.uk/knowledge/?ff=y>). No doubt, further research on this subject would identify additional overseas resources that can be accessed to the benefit of the Australian industry.

### Channels for Communication

There appears to be a clear need for a communication system with multiple channels of communication that would allow growers and all involved in the supply chain to access information in a form and through a medium that was best-matched to their state of development.

This matter is summarised in the following diagram (Figure 5) and taken further in Sections 4 and 5 of this report.

**Figure 5 – Potential Communication Model**





Further suggestions with respect to communications and extension that flowed from the Market Research Survey were:

- Ensure the new communication system encourages direct involvement between each level. This could be achieved via a dedicated Industry Extension Specialist (IES), which was suggested by a number of respondents
- Ensure the new communication system builds appropriate partnerships with processors and other suppliers in the supply chain, who are already interacting with growers on research and development initiatives
- Incorporate local reference farms and an annual field event in the new communication system, while ensuring appropriate incentives for growers who host or support the local reference farms
- Express all communication to growers in clear language which stresses benefits and outcomes, rather than scientific processes
- Design the communication system so that it can be migrated to a shared, online environment in the future

More on this final point is included in Sections 4 and 5.

#### 4.0 Dealing with the Spectrum of Experience, Capability & Needs

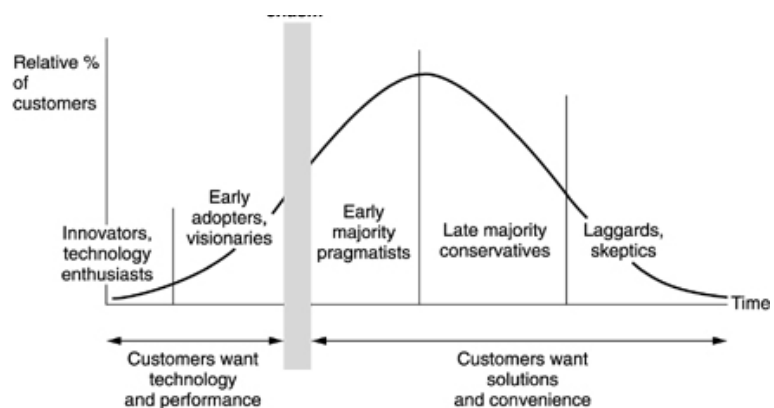
In the Progress Report, reference was made to the classic Agricultural Change Model, which is repeated below in graphical form.

What also was referred to in that Progress Report was the wide variation encountered in experience, interest, capability and capacity to absorb and implement information. There is also the fact that any industry extension initiative would need to deal with a range in MBTI types and what works for one group or type of grower, might not necessarily work across the board.

This situation places greater emphasis on the communication system which is to be adopted, using multiple channels of communication, as suggested through the Market Research Survey (refer to foregoing *Channels of Communication*).

The classic Agricultural Change Model (opposite) is essentially a “snapshot” of a situation within a given point of time and doesn’t reflect the dynamics of the situation confronting those in the industry and their stakeholders. In that regard, important factors that influence change in the market include, but are not limited to:

**Figure 6 – Classic Agricultural Change Model**

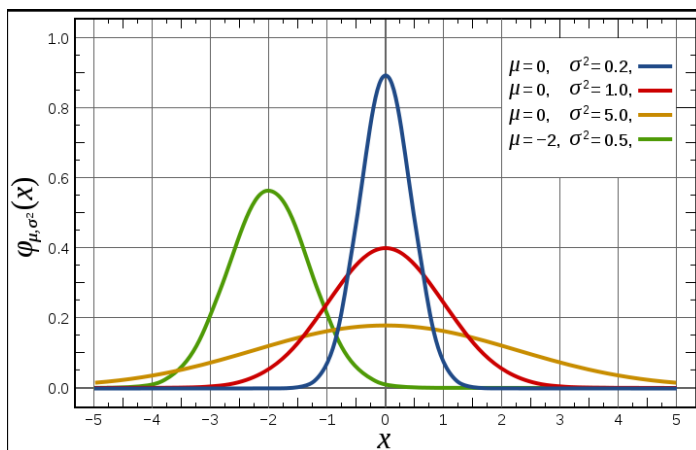




- The ageing of the potato grower population
- The general unattractiveness of the industry to the younger generation as a career path, especially a better educated younger generation
- Need for better practices to maintain competitiveness
- Need for larger sized farm holdings and a more “corporatised” approach to increase competitiveness (corporate entities currently account for more than 20% of Australia’s agricultural industry according to Phil Ruthven of IBISWorld)
- Dynamics within the industry especially with respect to processor changing needs
- Increased overseas competition
- A trend toward commoditisation
- Changes in government policy

What is clear is that underpinning the need for the industry to become more sophisticated in its approach, is a trend towards larger and more effective holdings with better farming practices, combined with a need for quality assurance, on-time delivery and the ability to react quickly to disease and product contamination threats, All of this will be against a background of fewer growers in the industry.

**Figure 7 – Forecasted Skewing of Change Model – APRP2**



As the degree of sophistication increases, so will the ability to accept information skew more towards sophisticated media such as web-based information and the distribution of the grower part of the industry become more narrowly represented, ie a more narrowly defined binomial distribution, perhaps even a little skewed.

This concept is illustrated by the distribution differences between the red curve (current situation) and the blue curve (future objective). The future distribution (blue curve) would preferably skew towards the left, evidencing a faster rate of take-up of new information, through a reduced list of effective technology and information transfer methodologies.

This concept is illustrated by the distribution differences between the red curve (current situation) and the blue curve (future objective).

This transition has been noted by the industry processors where trends towards the use of email and the processors themselves are starting to use websites to provide “instant” information for their growers and others in the supply chain. In their experience, it is the younger ones who are more “Internet savvy”, whereas a lot of the older growers will never use that medium.

All of these considerations highlight the need to use a range of methods in industry extension, from the simplest form of “show and tell”, ie demonstration plots, through to understanding and applying information communicated by way of scientific and other papers (refer to figure under *Channels for Communication*).



## 5.0 Central Importance of the Industry Development Specialist

The Progress Report emphasised the importance of the Industry Extension Specialist (IES) and his role and how that role integrated into the management team, responsible for the APRP2 delivery.

These latest analyses confirm the multi-faceted approach that needs to be taken to deal with the spectrum of capabilities and degree of sophistication that exists within the industry and the need to help steer the industry towards accepting increasingly sophisticated methods for technology transfer.

The IES needs to have access to all streams of communication and to develop both a database and library, the latter to be accessible by stakeholders who can access the information according to their level of sophistication.

Most importantly, it will be the flexible approach towards using a range of information and technology transfer techniques to suit each particular circumstance, combined with the ability to leverage resources, that will determine the degree of success in industry extension.

Overall, the IES will need a plan, complete with milestones and Key Performance Indicators (KPIs) to achieve the requisite level of industry extension to the benefit of the Australian industry. These points have been itemised in the Position description for the IES, as part of the Final Report for PT07037 and also in the Progress Report for PT08029.

### Gap in Extension Service Delivery

Over the past few years, State branches of the DPI have been progressively withdrawing their services through a combination of staff redundancies (and attrition) and closure or sale of facilities. This movement has been particularly noticeable in Victoria.

A case in point is Dr Nigel Crump, plant pathologist, who was formerly of DPI Victoria. He has now been recruited to head up ViCSPA through their Toolangi research facility (now passed from DPI to ViCSPA interests). Nigel is recognised widely as one of the best extension people in Australia.

In the words of one processed potato processor:

*“We used to use DPI a lot a few years ago. They had good people, especially in their vegetable branch where they had a potato specialist. Now we don’t use them at all. We are very critical of the lack of extension service by DPI.”*

It can be argued that the industry needs to take responsibility for and play a bigger role in, industry extension and certainly the withdrawal of governments from that role has hastened that requirement.

This gap in the extension service, which is probably widening, is an opportunity for HAL through a newly appointed IES, to take the initiative and introduce a universal extension capability throughout Australia.

*Further to this point, there should be government funding to support that initiative. Processors themselves have accessed government support funding for just this type of activity, although this has been on a project by project basis.*





## Further Pointers to Assist the IES

Following are some notable points that have been supplied by processors, through their experience, that should be of assistance to the IES in mapping out and putting into practice his Implementation Plan.

- There is a good deal of overseas R&D information that hasn't been effectively transferred into Australian practices. An example of this is Potato Health Management of which people such as Gary A. Secor (University of North Dakota) and Stephen B. Johnson (University of Maine) are listed as contributing authors (refer to Attachment 4).

### Edited by Dennis A. Johnson

*"...everything you want to know about growing potatoes is in this book...should be available in all universities, colleges, schools, farms and even homes and any research institute where research in any aspect of plant pathology is being carried out, or where horticulture or plant pathology is taught."*

**-- Fungal Diversity**



- Gary Secor, Stephen Johnson and Neil Goldman have been mentioned as highly effective extension scientists. **"People are still talking about Gary Secor, years after his visit"**.
- Use overseas specialists to bring in the best of overseas knowledge and practices
- Take the IES and groups of potato growers overseas at least once every two years. This type of activity has enormous ramifications in opening up the minds of the participants
- Leigh Walters was mentioned as a local communications and extension specialist who used to do a good deal of the extension work and could be a valuable resource to gain access to
- The potato industry is traditionally less open than other industries, such as the dairy industry, which encourages and promotes openness and their farmers readily "open their books to all." The use of an intermediary, such as the IES could do much to overcome this lack of openness
- Limit each session to a maximum of 3 hours
- Subjects need to be topical
- Lot of potato growers are also vegetable growers, so timing of information and extension sessions needs to take this into account
- Some growers seek coaching in business principles and this needs to be judiciously interspersed with the more hands-on extension
- Some typical statements from growers include "it will never work on my farm". However, once demonstrated on a local farm, they are usually amongst the first to take it up
- Growers like to get their hands into the soil
- Keep the messages simple & talk in a language they can understand



## 6.0 Findings & Recommendations

The main findings of this Scoping Study on industry extension were that:

1. Extension within the APRP project is currently skewed towards the left-hand end of the Spectrum (less sophisticated and less effective – refer to Figures 6 and 7)
2. The opportunity now exists with the APRP2 project, through allocating, recruiting and directing specifically targeted and matched resources, to make a quantum leap forward in improving industry extension
3. The APRP2 delivery management team, which was recommended in the PT08029 Final Report, especially the CEO/Director and the Industry Extension Specialist (IES), will play key roles in achieving that objective of high quality, effective industry extension
4. To achieve that improved industry extension, the management team will need to leverage all available industry resources including, but not limited to, major processors, early adopters and overseas specialists and organisations, creating, *inter alia*, electronic libraries that can be accessed by industry stakeholders (refer to Figure 5), in support of the overall extension effort. In this AusVeg, through publications such as *Potatoes Australia*, would play a supportive role, with all articles indexed and accessible through the library (refer to Attachment 1 of the Progress Report)
5. An integrated industry extension and communication capability will need to be established by the delivery management team (refer to Figures 2 and 5) to cater for the *Spectrum* of abilities of users to absorb and utilise information
6. As smaller land holdings are absorbed into larger organisations under the effects of competitive, economic and social pressures, the ability of the industry to utilise more sophisticated means for accessing and implementing improvements will increase and the extension and communication capability referred to under point 5 above will need to cater for this trend. This is where *Farm Plus*, once proven, has the potential to play a strong supportive role.

Given the size of the APRP2 program and its potential importance to the processed potato industry, it is important that the IES has adequate budget to ensure that the industry extension function is maximised, to the benefit of all stakeholders.

Now that the task ahead has been roughly scoped and the methodology for greatest success described, it is important that the IES can access specialist resources for both extension and the inherent specialised communications.

These resources include:

- Access to overseas specialists in industry extension for regular field extension work
- Establishing strong working relationships with Processors and Early Adopters/Industry Thought Leaders for planned regular demonstration days, seminars and the like to assist maximising the industry extension function and to build on success that those parties have been able to generate
- Access to other specialists in program and strategic planning for assistance with particular aspects of the program
- Access to programming capability to deliver, *inter alia*, the capability summarised in Diagram 5



The main recommendations that Pyksis makes from this Scoping Study are as follows:

1. **Ensure that an effective IES is appointed as a matter of priority**, together with a support team to ensure that, *inter alia*, all members of the supply chain implement beneficial practices, whether those beneficial practices are sourced from R&D (local or overseas) or through other channels. The effectiveness of the IES and support team will be largely determined by the IES's ability to gain the confidence of all parties involved in the supply chain, from small growers through to large processors.
2. **Build on the experience and lead of the major industry processors**, who have realised that, with the decline in State-based extension agencies they have needed to establish their own sub-sets of industry extension. These have many elements in common, eg field days, seminars, overseas experts, but also include elements that are particular to the processor involved. The processors are guarding that knowledge and generally do not recognise any need to make this information more widely available, especially in a competitive environment.

The challenge for the IES will be to encourage the processors to share their information and practices with the industry at large, without feeling that they have negatively impacted on their competitive edge.

3. **Augment the present best practices through introduction of improved communications**, to lift the supply-chain performance across the whole industry. These improved communications would include, but not be limited to the following initiatives:
  - Access the latest information from overseas and convert this into easily adopted extension practices relevant to Australia and build a library accessible to Australian stakeholders through both electronic and printed libraries, feature articles and locally-based information sessions
  - Encourage and orchestrate visits to and from overseas, including award of scholarships to raise interest in the industry, especially amongst the younger generation
  - Act as the point of reference in linking existing field days to demonstration trials and interfacing with best practices, such as through processed potato grower groups

## 7.0 Completion of HAL IDNA Tools Schedules

The findings and recommendations from this Scoping Study have been translated into suggested activities and Action Points, using the Tools Schedules provided by HAL via its *Guidelines and Tools Handbook* for IDNA.

These completed schedules are included as Attachments 1 and 2 to this Final Report.

**Pyksis Pty Ltd**

June, 2010



## **Attachment 1 – Potential Industry Development Activity Schedule**


**Tool: E**

## POTENTIAL INDUSTRY DEVELOPMENT ACTIVITY SCHEDULE

- To create a new bullet point within the same question, simply hit 'Enter'
- Hit the 'Tab' or ↓ key to move to the next question

### Employment of Industry Professionals (such as IESs & IDMs)

PROJECT DETAILS						NEEDS ASSESSMENT TEAM RANKING			
Brief Description	Intended Outcomes	Possible Start	Possible Finish	Possible Budget	Managed By	Urgency (1-3)	Imp. (1-3)	Impact (1-3)	Success (1-3)
IES for Processed Potato Industry	<ul style="list-style-type: none"> <li>Management of Industry Extension activities &amp; interaction with all Stakeholders</li> </ul>	Prior to end 2010FY	End 2015 FY		IDM	1	1	1	1

### Study tours – within Australia and overseas

PROJECT DETAILS						NEEDS ASSESSMENT TEAM RANKING			
Brief Description	Intended Outcomes	Possible Start	Possible Finish	Possible Budget	Managed By	Urgency (1-3)	Imp. (1-3)	Impact (1-3)	Success (1-3)
Skilling of Processed Potato industry peer group influencers	<ul style="list-style-type: none"> <li>Delivering international best practice to Australian industry, modified to suit local needs</li> </ul>	Prior to end 2010 Calendar Year		End 2015 FY	IES with oversight by IDM	2	2	2	1



## Conferences and/or seminars

PROJECT DETAILS						NEEDS ASSESSMENT TEAM RANKING			
Brief Description	Intended Outcomes	Possible Start	Possible Finish	Possible Budget	Managed By	Urgency (1-3)	Imp. (1-3)	Impact (1-3)	Success (1-3)
Information dissemination and Stakeholder involvement	<ul style="list-style-type: none"> <li>Latest &amp; important information on research results and industry best practice disseminated, while promoting active involvement of key Stakeholders</li> </ul>	November 2010	End FY 2015		IES	1	2	1	1

## Training programs, workshops and field days

(includes also field trips and field days)

PROJECT DETAILS						NEEDS ASSESSMENT TEAM RANKING			
Brief Description	Intended Outcomes	Possible Start	Possible Finish	Possible Budget	Managed By	Urgency (1-3)	Imp. (1-3)	Impact (1-3)	Success (1-3)
Series of well-structured and widely held Field days & Training Programs	<ul style="list-style-type: none"> <li>Effective industry extension at all levels of the Supply Chain, while promoting full involvement of major processors and their sharing of valuable methodologies and approaches</li> </ul>	November 2010	End FY 2015		IES	1	1	2	1

## Leadership development and scholarships

PROJECT DETAILS						NEEDS ASSESSMENT TEAM RANKING			
Brief Description	Intended Outcomes	Possible Start	Possible Finish	Possible Budget	Managed By	Urgency (1-3)	Imp. (1-3)	Impact (1-3)	Success (1-3)
Scholarships to develop younger generation & peer group leaders	<ul style="list-style-type: none"> <li>Re-invigoration of industry and promotion of leadership resulting in wider adoption of best practices</li> </ul>	November 2010	End FY 2015		IES	2	1	2	1







### Industry communications (newsletters, magazines, websites, DVD's etc)

PROJECT DETAILS						NEEDS ASSESSMENT TEAM RANKING			
Brief Description	Intended Outcomes	Possible Start	Possible Finish	Possible Budget	Managed By	Urgency (1-3)	Imp. (1-3)	Impact (1-3)	Success (1-3)
Comprehensive attention to all means of communication to reach widest possible audience in most effective manner	<ul style="list-style-type: none"> <li>Full participation by all Stakeholders, actively accessing and implementing information that will significantly improve industry performance</li> </ul>	November 2010	End FY 2015		IES	1	2	1	1

### Other

PROJECT DETAILS						NEEDS ASSESSMENT TEAM RANKING			
Brief Description	Intended Outcomes	Possible Start	Possible Finish	Possible Budget	Managed By	Urgency (1-3)	Imp. (1-3)	Impact (1-3)	Success (1-3)
Development of Best Practice handbook	<ul style="list-style-type: none"> <li>Wider and more active participation by industry to lift performance</li> </ul>	November 2010	End FY 2015		IES	2	2	2	2



PRIORITISATION RANKING GUIDE						
<p><b>Urgency</b> (in the context of the industry's national interest)</p>	<p><b>Ranked 1 to 3 with:</b></p> <table border="0"> <tr> <td style="vertical-align: top;"> <p><b>1. Very Urgent</b> Must be continued (existing projects) or addressed immediately</p> </td> <td style="vertical-align: top;"> <p><b>2. Urgent</b> Must be continued (existing projects) or addressed within the next three years</p> </td> <td style="vertical-align: top;"> <p><b>3. Not so Urgent</b> Must be continued (existing projects) or addressed within the next five years</p> </td> </tr> </table>			<p><b>1. Very Urgent</b> Must be continued (existing projects) or addressed immediately</p>	<p><b>2. Urgent</b> Must be continued (existing projects) or addressed within the next three years</p>	<p><b>3. Not so Urgent</b> Must be continued (existing projects) or addressed within the next five years</p>
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<p><b>Importance</b> (in the context of the industry's national interest)</p>	<p><b>Ranked 1 to 3 with:</b></p> <table border="0"> <tr> <td style="vertical-align: top;"> <p><b>1. Very Important</b> Critical to the survival of the industry</p> </td> <td style="vertical-align: top;"> <p><b>2. Important</b> Important for the industry's development and growth</p> </td> <td style="vertical-align: top;"> <p><b>3. Not so Important</b> Would be valuable to do, funds permitting</p> </td> </tr> </table>			<p><b>1. Very Important</b> Critical to the survival of the industry</p>	<p><b>2. Important</b> Important for the industry's development and growth</p>	<p><b>3. Not so Important</b> Would be valuable to do, funds permitting</p>
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<p><b>Success</b> (in the context of the industry's national interest)</p>	<p><b>Ranked 1 to 3 with:</b></p> <table border="0"> <tr> <td style="vertical-align: top;"> <p><b>1. High</b> Very likely to achieve the outcomes</p> </td> <td style="vertical-align: top;"> <p><b>2. Moderate</b> Reasonably likely to achieve the outcomes</p> </td> <td style="vertical-align: top;"> <p><b>3. Limited</b> Only a limited chance of achieving the outcomes</p> </td> </tr> </table>			<p><b>1. High</b> Very likely to achieve the outcomes</p>	<p><b>2. Moderate</b> Reasonably likely to achieve the outcomes</p>	<p><b>3. Limited</b> Only a limited chance of achieving the outcomes</p>
<p><b>1. High</b> Very likely to achieve the outcomes</p>	<p><b>2. Moderate</b> Reasonably likely to achieve the outcomes</p>	<p><b>3. Limited</b> Only a limited chance of achieving the outcomes</p>				



## Attachment 2 – Action Plan


**Tool: F**
**ACTION PLAN**

<p><b>Industry development need</b></p> <p>Establishment of the framework for effective acquisition of best practice information and methodologies and the dissemination and uptake of that information, along with beneficial outcomes from the APRP2 R&amp;D Strategic Plan</p>	
<p><b>Outcome required</b></p> <p>By 30 November 2010 – appointment of an IES as part of IDM team</p> <p>By April 2011 – infrastructure for industry extension established</p> <p>By November 2011 – First rounds of seminars, field days, information sessions and overseas experts visits completed, along with commissioning of enhanced website and basis of new electronic library</p>	
<p><b>Strategic plan link</b></p> <p>This Industry development activity links strongly with two imperatives of the Industry Strategic Plan, namely:</p> <ol style="list-style-type: none"> <li>1. Improving Industry Competitiveness</li> <li>2. Improving Industry Communication and Information Systems</li> </ol>	
<p><b>Federal rural R&amp;D priorities</b></p> <ol style="list-style-type: none"> <li>1. Productivity and adding value</li> <li>2. Improving international competitiveness</li> </ol>	<p><b>Public or spill-over benefit</b></p> <p>(Describe any wider public or spill-over benefit that this activity/program/project may generate.)</p>
<p><b>Current activity and comment</b></p> <p>(Details of any current activities that are contributing to or related to addressing this Industry Development need. Comments on any actions that may be required in relation to those activities.)</p>	
<p><b>Funding options</b></p> <ul style="list-style-type: none"> <li>▪ List the various options that may exist for funding this activity/program/project.</li> </ul>	



## Actions

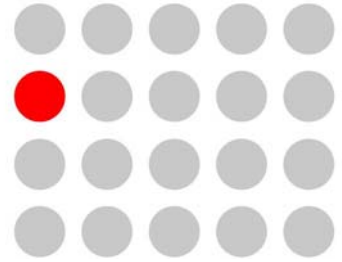
Action	By when	Responsibility
1. Specifically what actions must be taken to implement this Industry Development activity/project/program and address the need? Note these, step-by-step, so that the Action plan is easy to follow for anyone new who may have to take over responsibility.	A <u>realistic</u> target date	Who is responsible
2.		



## **Attachment 3 – Market Research & Survey Report**



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## ○ client report

Topic Processed Potato Growers Engagement

Report prepared for Pyksis

Report prepared by Red Letter Information

Date 23 September 2009



## report contents

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# 1 Executive summary

On behalf of Pyksis, Red Letter Information conducted 65, 8-minute telephone interviews with growers in September 2009 to gather feedback on how to improve their engagement in Horticulture Australia Limited (HAL)'s research and development programs.

Specifically, the research obtained feedback on growers' preferences for receiving information about APRP2 and encouraging their involvement. It also tested growers' interest in 5 potential communication tools.

Key findings of the research are set out below:

## Awareness of PPR&D1

- Most growers (96.9%) reported a low level of awareness of PPR&D1, mentioning ineffective communication, limited communication channels or poorly communicated material as key reasons for their lack of awareness

## Opportunity to build engagement in APRP2

### Preferred ways of encouraging grower involvement

- When asked to nominate the best way to encourage grower involvement in APRP2, over a third of growers (n=23) stressed the importance of a local, hands-on approach to communication, which could be achieved through on-farm R&D, field days, personal contact with an industry officer or existing discussion groups

### Level of participation in organised discussion groups

- Over two-thirds of growers (69.2%) reported being members of an organised discussion group

### Preparedness to spend time travelling to an annual field event

- Growers reported considerable variation in the amount of time they would be prepared to spend travelling to attend an annual field event. The median time reported is 4 hours or half a day, that is, half the group is prepared to spend up to 4 hours and the other half is prepared to spend more than 4 hours. The average time reported is 8.31 hours

### How HAL could encourage grower involvement in R&D

- Nearly half of the sample (n=31) called for improved interaction with growers and more effective communication to encourage them to become more involved in HAL's research and development activities, while others stressed the importance of demonstrating the benefits and value-adding outcomes of research and development (n=9)



## Communication preferences

### Communication channels

- Each grower in the research nominated over 3 preferred channels of communication for receiving updates on APRP2 on average, underlining the need to design a communication program with multiple channels if growers are to be engaged
- The largest groups of growers identified the industry magazine and regular paper mailouts as their preferred communication channel for receiving updates on the program (18.7% and 18.3% of mentions respectively), although 15.3% and 14.0% of mentions respectively were for regular emails and local meetings
- Most growers (96.9%) would be happy to receive information on APRP2 direct from processors or their representatives, confirming the potential benefits of building alliances with processors and other stakeholders in the supply chain

### Information to be communicated

- Growers rated the strongest level of interest in practical information about farming methods and technical information as broad areas of information they could receive about APRP2, recording an average 4.57 and 4.42 on a scale of 1 to 5

## Skills development

- In contrast with their information needs with respect to APRP2, over half of growers in the sample identified business management skills, including people management, time management and computer skills, as the skills they most need in order to develop their businesses
- Nearly a third of growers also mentioned crop management skills, including agronomy, disease management, and use of chemicals and fertilizers (n=26 mentions)

## Rating of potential communication tools for APRP2

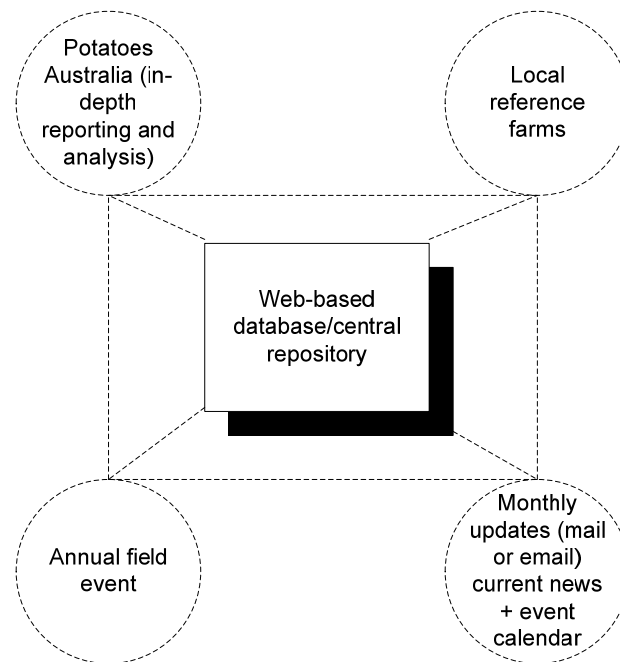
- Growers recorded the strongest interest in local reference farms and annual field events (4.98 and 4.69 respectively) as potential communication tools for APRP2 on a scale of 1 to 5. This is consistent with their feedback on the importance of a local, hands-on approach in encouraging grower involvement in APRP2
- Growers identified crop management and agronomy, including management of diseases, chemicals and fertilizers, as the core information topics to be included in all 5 potential communication tools tested in the research



## Recommendations

- 1 Design a communication system with multiple channels of communication, as the research confirms that growers want to access information from more than one source. Figure 1 below illustrates a potential multi-channel model:

Figure 1 — Potential communication model



- 2 Ensure the new communication system encourages direct involvement between representatives of HAL and growers to encourage two-way communication at the local level. This could be achieved via a dedicated industry development officer, which was suggested by a number of respondents
- 3 Ensure the new communication system builds appropriate partnerships with processors and other suppliers in the supply chain, who are already interacting with growers on research and development initiatives
- 4 Incorporate local reference farms and an annual field event in the new communication system, while ensuring appropriate incentives for growers who host or support the local reference farms
- 5 Express all communication to growers in clear language which stresses benefits and outcomes, rather than scientific processes
- 6 Design the communication system so that it can be migrated to a shared, online environment in the future



## 2 Findings

### 2.1 Introduction

On behalf of Pyksis, Red Letter Information conducted 65, 8-minute telephone interviews with growers in September 2009 to gather feedback on how to improve their engagement in Horticulture Australia Limited (HAL)'s research and development programs.

Specifically, the research obtained feedback on growers' preferences for receiving information about APRP2 and encouraging their involvement. It also tested growers' interest in the following 5 potential communication tools:

- Best practice handbook
- Organised discussion groups
- On-farm R&D
- Local reference farms
- Annual field event

The sample of 65 growers are distributed by state as follows:

- NSW – 2
- Queensland – 4
- South Australia – 7
- Tasmania – 37
- Victoria – 15

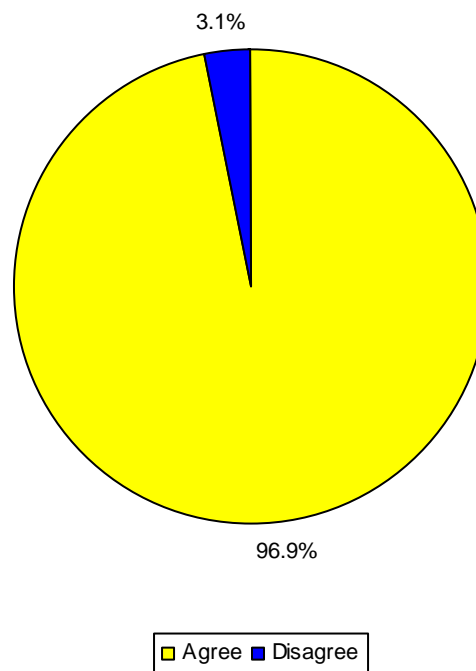




## 2.2 Awareness of PPR&D1

Most growers (96.9%) agreed with the finding from Red Letter Information's previous research study in 2008 that there is a low level of awareness of PPR&D1 among growers:

We reported a low level of awareness of PPR&D1  
among growers in 2008...  
*Do you agree or disagree with this finding?*



When asked the reason for their opinion, growers mentioned ineffective communication or limited communication channels, poorly communicated material, the message not “getting through” or simply not being aware of the program. A few growers said they would not hear about the program if they did not attend discussion groups, and others mentioned the difficulties associated with working long hours, limited time and information overload:

### Ineffective communication

#### Communication channels too limited

- ‘Well, it's only the information that's written in *Potatoes Australia* [that we see], some growers don't even get it’
- ‘Well, I suppose, if you're doing things and you're not giving much information out, then you won't get any awareness’
- ‘Doesn't seem to be getting out there, not sure if they're the right channels or not, my knowledge is poor’



### **Not communicated clearly, not outcome oriented**

- 'Because it's a project that has a long run time and outcomes are not clear, there's no outcome in the first, second or third year from that program'
- 'It's just I think the way HAL put it out is not in a farmer-friendly form. It's very scientific and most people don't have a scientist they can call on to decipher it. I know HAL put a lot of money into the University of Queensland to sort out communication problems - from Queensland University it's very well presented for farmers to understand, from HAL it's not easy to decipher, to understand and a lot of people don't read it. I'm on the State Vegetable Council so I have to understand it'

### **Message not getting through**

- 'It's a feeling I have that it's probably not brought to the attention [of growers] and discussed enough'
- 'I don't really know, I've been more involved than most but most don't know what's going on, they're not seeing or reading the information'
- 'I'm talking from a difficult perspective, it's difficult to get information out of growers without being face to face, it [information] doesn't get out as well as it should. The information development officer used to be responsible for distributing information, he was doing a fair job in Tasmania, farmers are notorious for not picking up on and listening to these expo days or going to them, especially if the time in the year compromises harvesting and planting. It's a hard job but I think it could be done better'
- 'People are just unaware, lack of communication between HAL and growers'
- 'We don't see enough information from them, you've got to chase it to find it'

### **No awareness**

- 'I'd never heard of it'
- 'Well, I'm not sure what HAL really does at all'
- 'I didn't hear much about it and I'm in a lot of networks so farmers not as involved as me would hear less'
- 'I know we have a potato group within our area, and we're quite up to date with our R&D and we aren't really aware. There needs to be a central R&D location, like an online database with previous developments throughout the years, so there needs to be a central location'
- 'Just from...people ask what we pay the levy for, we never hear from them'
- 'I just don't think the growers are aware of where their money is being spent, not aware of the programs being done'

### **Isolation**

- 'Probably the way, if you're not in the loop, I'm on my own, no other growers around me, don't see people so I don't hear about it'
- 'Well, it's not something you hear about unless you attend all those meetings and so on'
- 'A lot of growers are not involved in it'



### **Long hours, limited time, information overload**

- 'It's not really brought into your face. It's the sort of thing, you've got to sit down and read through the whole magazine (*Potatoes Australia*) and the amount of time that is being consumed with record keeping, you just don't have time! It's all the recording of the spraying, chemicals etc, it just takes up so much time, independent audits are taking up our spare time!'
- 'I think most growers are that bloody busy they don't have time to read all the literature that gets posted out to them, particularly in the commercial potato industry, you're under the pump to get the product out the door to meet requirements. With changes in climate, in excess of 12-hour days, the last thing they need is to sit down at the end of the day [and read the literature]. It's hard to walk away from what needs to be done in the paddock, especially when it's outside your front door. Over the last couple of years climatic changes have increased, the value of fertilizer...higher return on the dollar. Maybe lack of hours to do that sort of reading, too busy trying to make a dollar. It's a generational thing as well'
- 'I don't know, we get that much stuff that comes in the mail, but never have time to read them, really'



## 2.3 Opportunity to build engagement in APRP2

### Preferred ways of encouraging grower involvement

Over a third of growers (n=23) stressed the importance of a local, hands-on approach to communication when asked to nominate the best way to encourage grower involvement in APRP2. This could be achieved through on-farm R&D, field days, personal contact with an industry officer or existing discussion groups, although not all growers are involved in local discussion groups. Nearly a fifth of growers (n=14) identified the need for regular personalised communication, and a smaller group noted the importance of communicating the benefits or results of the program to capture growers' interest. Fourteen growers said they did not know, as set out in the table below:

What is the best way to encourage involvement in APRP2?	Mentions
Interactive or locally based	23
Personalised communication, such as mailouts or emails	14
Don't know	14
Benefits or results oriented, relevant	7
Advertising or editorial	5
Publications such as Potatoes Australia	2
Total	65

#### Interactive or locally based

- 'Perhaps field days where there's a little bit of interaction. It's an opportunity to get away from the farm and to interact with other growers. Usually there are a couple of familiar faces from seed growers and suppliers and you can pick their brains'
- 'Get a hold of the grower group in each area and get to them and present, not necessarily a field day, get people onside and you'll get their support'
- 'Talk to us about it to see if we're interested. Some of us have been conducting trial work ourselves'
- 'I think really and truly to get farmers involved you've got to look at on-farm discussion groups. Forums and presentations are fine but farmers will probably go up the road to a neighbouring farm and learn more that way than meetings, some will go to meetings but not all. It needs a hands-on approach'
- 'I think it's direct involvement, it's using the industry that's between the growers, such as the agronomy service industries, to deliver the info...Although we have small working groups, it's a good way to promote or enhance the potato production so having involvement in those groups would be a great mechanism, an appropriate IDO as opposed to an inappropriate IDO, I've had experience working with both'
- 'Through the local community because there are so many snake oil salesmen out there, unless it comes from a trusted source you really don't take much notice, a peer or business in the area that you respect'
- 'I suppose people have to come around and talk one on one with people, that seems like the only effective way'
- 'Have the right person that growers can relate to, a good people person, a practical person who knows what they're talking about that relates to farmers'
- 'Field demos, get out in the paddock'



### **Personalised communication**

- 'Just probably emailing letters or information or whatever, a more personal approach rather than just information in industry literature'
- 'More media, more mailouts to growers'
- 'For me probably email me is the best way'
- 'Mail pamphlets and that in the mail so you can sit and read it. Have meetings in the middle of winter, they normally have them at the wrong time of year for us'
- 'Probably send written information to growers'
- 'I don't know, maybe emailing them on updates and just information on the program'
- 'Well, to encourage them you've first got to make them aware, through letters, meetings etc. Then once they're aware it's a matter of putting forward ideas that need research'
- 'You've got to get out there, get information out to people, send them information, then it's up to them whether they become involved or not'
- 'Send us more information about it'

### **Benefits or results oriented**

- 'See some results from the first one'
- 'If it's of no benefit to the individual it would be a bit hard, it has to have some bearing on your business'
- 'Just get the information out and the advantages of what it is out there a bit more'
- 'Very good question, how do you stimulate growers, I'm on a number of committees, I don't know, put something in those. When a financial benefit is to be lost suddenly there's a desire for knowledge or understanding'
- 'The best way is to show what advantages people got out of the first one and publicising that. They've got to make themselves heard, to make the farmers say 'There's some benefit in this'. There'll be more of that as our margins are pressed further'
- 'It depends what you're tailoring the research to, they've got to see that it's worthwhile, make sure some of the research is relevant to their situation'



## How HAL could encourage grower involvement in R&D

Nearly half of the sample (n=31) called for improved interaction with growers and more effective communication to encourage them to become more involved in HAL's research and development activities. A smaller group (n=9) stressed the importance of demonstrating the benefits and value-adding outcomes of research and development:

What is the one thing HAL could do to encourage you to become more involved in its research and development activities?	Mentions
Interact with growers, ask for ideas, better communication	31
Demonstrate the benefits, provide value	9
Don't know	8
Nothing, I am involved already or do not want to be more involved	6
Be more efficient	4
Improve industry profitability	3
Keep the information relevant and easy to understand	2
Provide adequate resourcing for trials	1
Updated website	1
Total	65

### **Interact with growers, ask for ideas, better communication**

- 'Be approached more, be approached by HAL to do R&D. If HAL was to approach the processing companies, for example, McCain and Simplot, I'm sure they'd put them in touch with [growers], talk to field officers, they would know what's going on and who's interested and HAL could approach them'
- 'By encouraging growers to put forward ideas that affect them specifically could work'
- 'Get the people who want to do the research out into the paddock to meet the people that their research is going to influence. With that type of development, relationship, researchers will get a bit of spark into what they're doing. Most farmers would like to be involved, you've got to put the enthusiasm back into it, get the scientists back out meeting the people - there's too much of us and them'
- 'I think getting some of these things up and running that we've spoken about would be...the right people need to get the information out and get growers to share the information. Growers are your best source of information, if you get talking to growers that's the best research you can come up with'
- 'Probably to have some HAL representatives come and see us. Like I say, we've formed our own group because the information we got from HAL wasn't for our specific area, they haven't had anything to do with our area'
- 'The biggest thing is not enough information to the growers, how it works, how it spends its money and what input the growers can have to research ideas, there needs to be openness, what they can achieve through ideas or through trials they can have done'
- 'I'd say they have to integrate with the discussion groups that we're already having. I don't want to go to different things every week, so a couple of times a month, within our discussion groups will encourage involvement'
- 'Keeping you more informed, make us feel part of it'



### **Demonstrate the benefits, provide value**

- 'Give us value for money, a lot of their projects aren't relevant to what we're doing'
- 'Make us more aware of the projects and outcomes'
- 'Demonstrate that changing methods can bring a serious improvement in profitability that would lift the burden of having to cut corners with respect to practices from a sheer economic perspective. If the money's not there it can't be done. The economics of industry is extremely tight and seems to be getting worse. It's a social issue right through the whole community. Personally I believe agriculture is growing to be seriously under threat in Australia'
- 'Show us some results that may have come from doing things elsewhere, for example, other countries, where they may be doing it differently, might encourage us to do what they're doing'



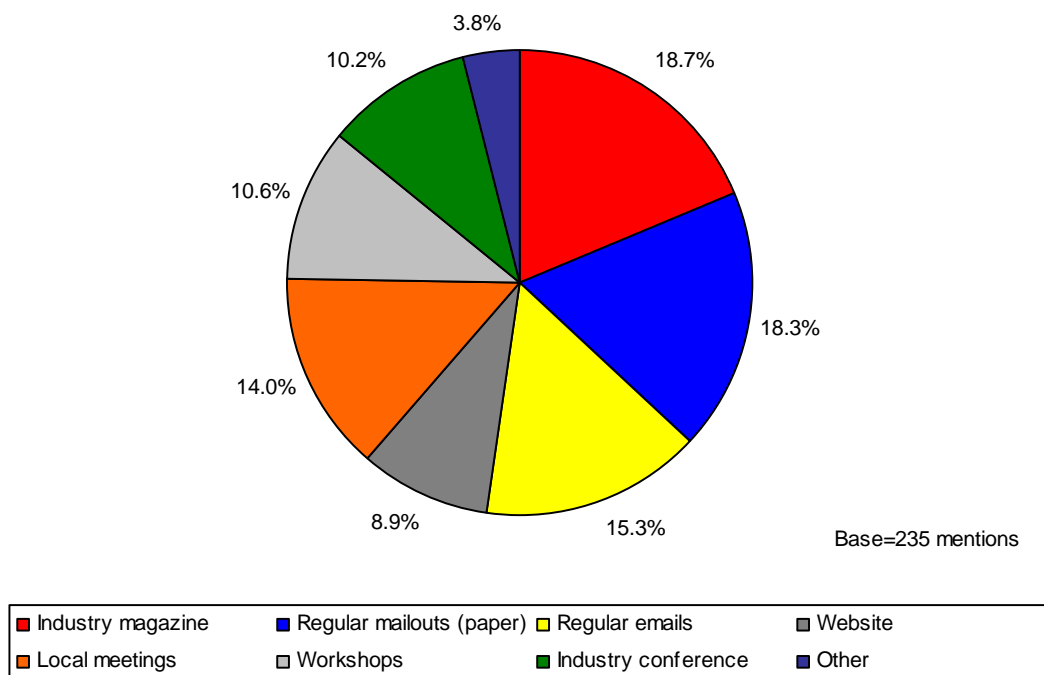
## 2.4 Communication preferences

### Communication channels

On average, each grower nominated over 3 preferred channels of communication for receiving updates on APRP2, underlining the need to design a communication program with multiple channels if growers are to be engaged.

The largest groups of growers identified the industry magazine and regular paper mailouts as their preferred communication channel for receiving updates on the program (18.7% and 18.3% of mentions respectively), while 15.3% and 14.0% of mentions respectively were for regular emails and local meetings. Of the balance, 10.6% of mentions were for workshops, 10.2% were for industry conference, 8.9% were for website and 3.8% were for 'other':

How would you like to receive updates on APRP2?



Of the 'other' mentions, a few growers suggested other potential communication channels for APRP2:

- 'Simplot has an annual meeting'
- 'They need to get to meet the people they represent'
- 'Email with an indexed list of what's on a website'
- 'We get a regular newsletter so something in that would be good'

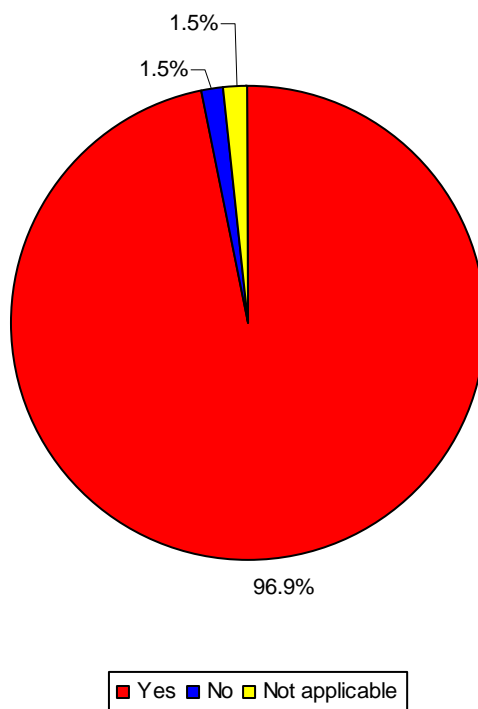




### Role of processors

Most growers (96.9%) said they would be happy to receive information on APRP2 direct from processors or their representatives, underlining the potential benefits of building alliances with processors and other stakeholders in the supply chain:

Would you like to receive information on the program direct from processors or their representatives?



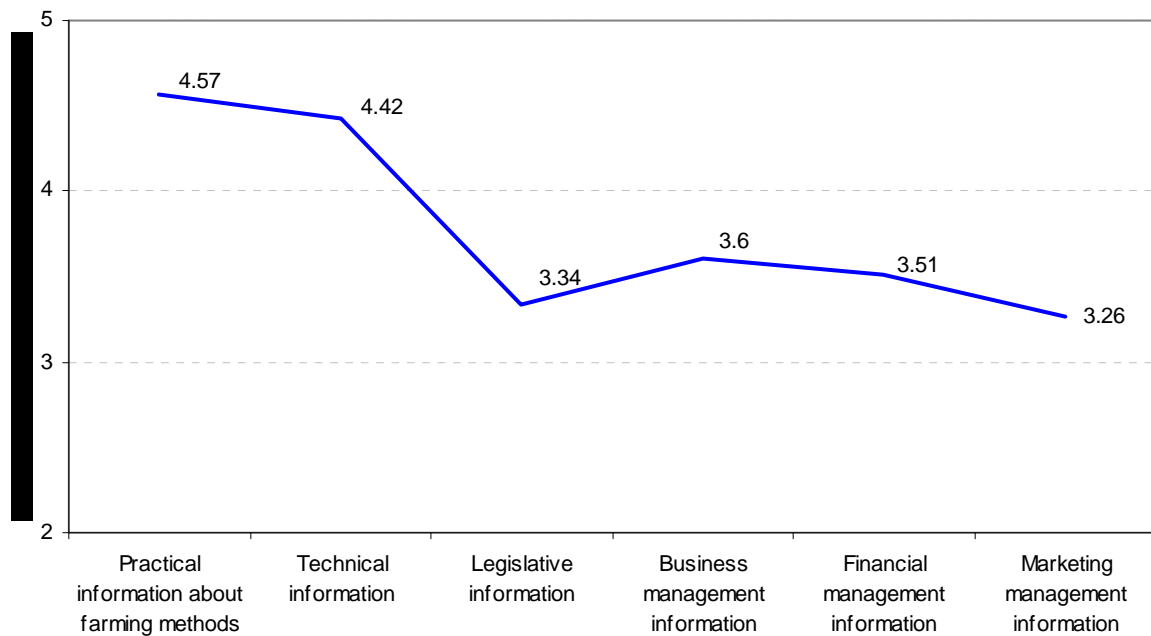


## Information to be communicated

On average, growers rated the strongest level of interest in practical information about farming methods and technical information as broad areas of information they could receive about APRP2, recording an average 4.57 and 4.42 on a scale of 1 to 5, where 1 is not interested and 5 is extremely interested.

Growers provided lower average ratings for business management information (3.60), financial management information (3.51), legislative information (3.34) and marketing management information (3.26), which are perceived to be less relevant to an industry research and development program:

Level of interest in broad types of information about APRP2





## 2.5 Skills development

When asked to identify the skills they most need to develop their business, the largest number of mentions was for business management skills, including people management, time management and computer skills (n=37).

This contrasts with growers' feedback on their information preferences with respect to APRP2, in which they stressed the importance of practical information about farming methods and technical information.

Nearly a third of growers also mentioned crop management skills, including agronomy, disease management, and use of chemicals and fertilizers (n=26 mentions).

There were 13 mentions respectively for new technologies and varieties and financial management, and 11 mentions for sustainability or water management. Smaller groups mentioned marketing (n=8 mentions), networking, negotiation or communication skills (n=7 mentions), farming methods (n=5 mentions), and best practice or benchmarking and legislation (n=4 mentions respectively):

In which areas do you most need to develop skills to develop your business?	Mentions
Business management, including people management, time management and computer skills	37
Crop management/agronomy, including disease, chemicals and fertilizers	26
New technologies and varieties/technical knowledge	13
Financial management	13
Sustainability/water management	11
Marketing	8
Networking/negotiation/communication skills	7
Farming methods	5
Best practice/benchmarking	4
Legislation	4
Total	128



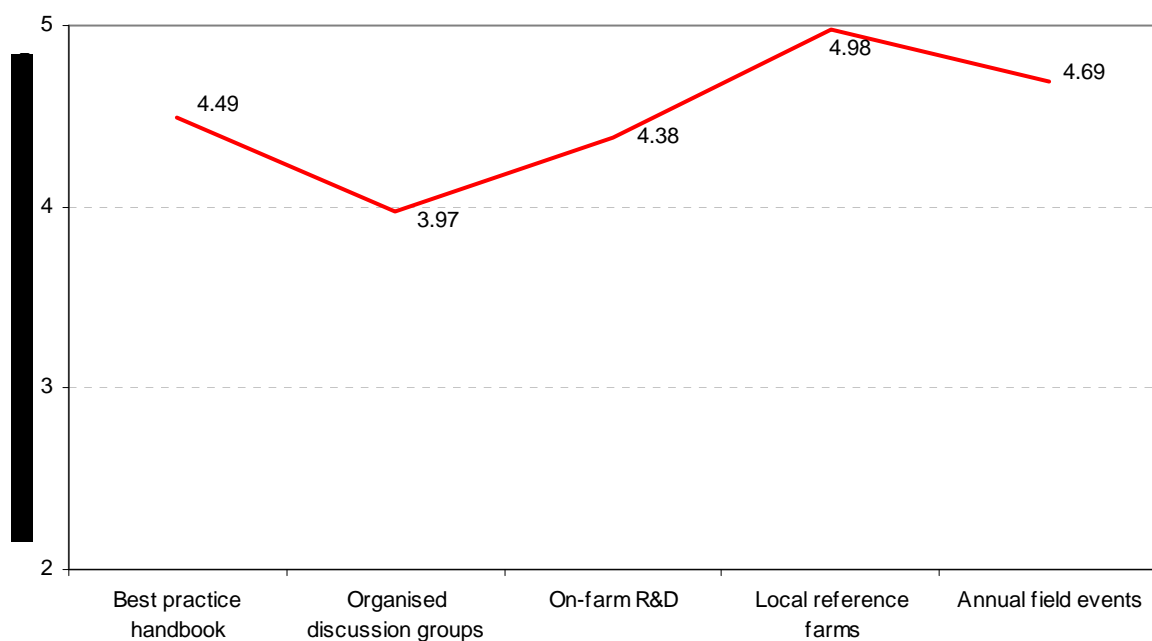
## 2.6 Rating of potential communication tools for APRP2

### Potential communication tools compared

Consistent with their feedback on the importance of a local, hands-on approach in encouraging grower involvement in APRP2, growers recorded the strongest interest in local reference farms and annual field events (4.98 and 4.69 respectively) as potential communication tools for APRP2 on a scale of 1 to 5, where 1 is not interested and 5 is extremely interested.

Growers' interest in a best practice handbook and on-farm R&D was only marginally lower, at 4.49 and 4.38 respectively. Organised discussion groups received a lower average score of 3.97, which is consistent with feedback from some growers that they do not have time to attend discussion groups:

Level of interest in potential communication tools for APRP2





## Best practice handbook

### Suggested information topics

Growers identified crop management and agronomy, including management of diseases, chemicals and fertilizers, as the core information topics to be included in a best practice handbook (n=64 mentions).

Smaller groups also identified business management or marketing, sustainability or water management and new varieties or cultivars (n=19, 17 and 14 mentions respectively).

There was some interest in new technologies, products or machinery (n=9 mentions) and best practice benchmarking and case studies (n=8 mentions). A few growers said a best practice handbook could include information on the results of PPR&D2 (n= 6 mentions), and a handful mentioned legislation (n=5 mentions) and industry development or networking (n=4 mentions):

Which information topics would you most like to see in a best practice handbook?	Mentions
Crop management/agronomy, including disease, chemicals and fertilizers	64
Business management or marketing	19
Sustainability/water management	17
New varieties or cultivars	14
New technologies, products or machinery	9
Best practice benchmarking and case studies	8
Results of PPR&D2	6
Legislation	5
Industry development or networking	4
Harvesting and storage	1
Work/life balance	1
Total	148

### General feedback

When asked for their general feedback on a best practice handbook, growers stressed the need for it to be simple, relevant, up-to-date and to add value. Other growers noted the major processors already provide information to growers, and others suggested including international developments or being aware of the impact of climate change on the currency of the handbook:

- 'As long as it's not written by scientists'
- 'I just find it hard to find a good one, most of them just make us farmers look like we're stupid'
- 'I guess it would be okay, as long it has the right information and is substantiated and didn't show us things that we already know'
- 'I just think that would be very useful, especially if it's updated regularly, it will be real handy'



- 'I don't think there is any need to have a handbook, we have 2 processors, Simplot and McCain, they do tests and train us and advise us on things like which fertilizers to use and they try to look after us very well. So I think the handbook would be too much doubling up of information. Also you have to consider things like is it going to be a mainland based thing. I personally hate technology so I think it needs to be in hard copy as well as online'
- 'I'm not a strong believer in handbooks, by the time you get them they're out of date'
- 'It needs to be as short as possible, it does need to be clear in what it offers, readable in layman's language'
- 'It's got to be practical, and modern-day farming methods, we'd all like to go down the cleaner practices [route]'
- 'One idea, there's a book that's called the *Knotts Farming Handbook* or something from the USA and I really like it, it has seeding rates, number of seeds per hectare, fertilizer recommendations and describes what they do, harvest practice, irrigation, all those things. Trying to rate how much yield you lose as you move away from the perfect scenarios, it's sort of happening with the potato calculator they're using now, which ones are the most important and which ones the least important to get right'
- 'Possibly need to take notice of what's happening overseas, global practice, learning from Europeans and the UK'
- 'We tried to do our own a few years ago but got nowhere, (SE Potato Growers Association and Rural Solutions SA)'
- 'So long as it's written properly and makes sense, then it's usually fairly effective, you might not read it all the time but it's a reference point'
- 'So much is already covered in our discussion group. It just needs to be readable and practical'
- 'There was a handbook, *Vegienotes*, they used to be heaps good'
- 'With climatic variation best practice in one part of the country wouldn't be the same as other parts, so you can't really have a 'best practice' handbook for the whole country, and treat it like a bible, where it's the same everywhere. There would have to be different ones for different areas. Also must always be updated, the weather is just so unpredictable'

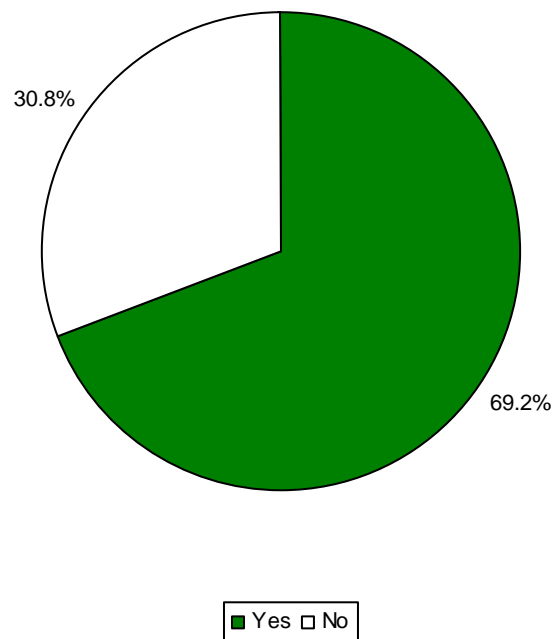


## Organised discussion groups

### Level of participation

Over two-thirds of growers (69.2%) are members of an organised discussion group, while the balance (30.8%) are not members:

Are you already a member of an organised discussion group?



### Suggested information topics

Consistent with their feedback on a best practice handbook, growers identified crop management and agronomy, including management of diseases, chemicals and fertilizers, as the core information topics to be included in organised discussion groups (n=70 mentions).

Smaller groups also identified business management or marketing, sustainability or water management, new varieties or cultivars, and industry development or networking (n=18, 12, 12 and 10 mentions respectively).

There was some interest in new projects or results of PPR&D2, new technologies, products or machinery, and best practice benchmarking and case studies (n=7, 6 and 5 mentions respectively), as set out in the table below:



Which information topics would you most like to see in an organised discussion group?	Mentions
Crop management/agronomy, including disease, chemicals and fertilizers	70
Business management or marketing	18
Sustainability/water management	12
New varieties or cultivars	12
Industry development or networking	10
New projects or results of PPR&D2	7
New technologies, products or machinery	6
Best practice benchmarking and case studies	5
Storage or transport	2
Legislation	1
Links with international research	1
Total	144

### General feedback

In general, growers who are members of a discussion group find them a useful means of solving problems and learning about new methods, although a few mentioned the need for compelling topics and to keep the groups small to maximise interaction:

### Growers who are members of a discussion group

- 'The most relevant thing that's grown our business is our organised discussion group. About 5 years ago we were going to drop out of potatoes altogether but after the creation of the discussion groups, we're still here today. It's just the fact that you see what others are doing, and getting bits and pieces from other farmers, just allows you to improve, and be not so negative when issues arise. So they are extremely helpful'
- 'Good opportunity, however keep them small, cover different aspects of potato growing, and bring in people to actually do the research'
- 'One thing is it's got to stay relevant to what we're doing, if it gets away from relevance people will lose interest'
- 'Usually there's a lack of commitment from people including myself, we make excuses why we don't go, unless it's radical, groundbreaking...we don't go. You need new ways, keep everyone interested'
- 'The group I'm in is a McCain's industry one, I mean we discuss seasonal and long-term issues but I mean we've learned heaps from them. It may take a couple of hours out of the day, but it's worth it'
- 'The smaller the better, get a big mob of people and they go off in tangents, pushing their own agendas'
- 'Just the time of year so everyone could attend them, they try and have them when you're busy and you can't be there'
- 'I reckon they're great, an absolute necessity'
- 'The current discussions within Tasmania have been some of the most beneficial anywhere and the model they have there is well worth looking at'
- 'I get dragged in for my opinion rather than them giving information back. Some of them are okay, but some are going over what you already know, having trouble bringing something that's more up to date, trying to bring growers up to the better ones, and the better ones are not getting a lot of information to improve'





### Growers who are *not* members of a discussion group

Growers who are not members of an organised discussion group provided mixed feedback on the idea of discussion groups, with some supportive of the idea and others questioning their value:

- 'As long as they're done in the local area or district, I believe they have a good potential to be significantly helpful'
- 'They get a bit stale very quickly, it always coincided with when I was busy. Some farmers like to do them at night time, but I'm one of the ones that don't, they need to be more flexible, and have different sessions for each discussion group and also make sure the same topics are covered so no one misses out'
- 'We don't have them and we should!'
- 'It comes down to, it's important to have the right person coordinating and then it can be a great success, small groups, have farm walks - going to each other's farms. You've got to have all farmers letting you on to their farms, active participation. The dairy industry do it, very good at it, some vegetable growers do it but with potato growers it's very much lacking'
- 'Would like to see it happen'
- 'We already have informal groups. I've been part of some [organised discussion groups] before and provided topical subjects are discussed they're good, it varies depending on what's happening at the time'
- 'Because quite often a lot of...I get the same type of information through potato publications, off the internet, through newsletters so I don't find the need to attend these groups'
- 'With potato growers, if someone else is falling over that's a win to them, it's different to dairy farmers who stick together. People aren't very open about their business around here, one person does one thing and the other person will do the opposite. If you keep quiet McCain...McCain have split the whole district up'
- 'Just whether they...they might have a bit of trouble getting them organised'



## On-farm R&D

### Suggested information topics

Apart from the topics nominated in the interviews, the majority of mentions of core information topics to be included in on-farm R&D were for crop management and agronomy, including management of diseases, chemicals and fertilizers (n=18 mentions):

Which information topics would you most like to see in on-farm R&D?	Mentions
Crop management/agronomy, including disease, chemicals and fertilizers	18
New varieties or cultivars	5
Sustainability/water management	3
Carbon trading	2
Harvesting and storage	1
Total	29

Of the group who mentioned crop management and agronomy, specific areas of interest include:

- Twin-row potato equipment
- How to get rid of self-sown potatoes
- Nutrients and water
- Plant spacing and plant density
- *Potato Calculator*, a New Zealand program
- Research on sclerotinia
- Scabs, white-fringed weevils
- Specific gravity in potatoes
- Biological-type fertilizers
- Using plants to control fungi and diseases in the ground

### General feedback

Most growers who provided feedback view on-farm R&D as a practical, local solution to trialling more efficient or effective methods. 'Seeing is believing', according to one grower. A number of growers said they already participate in local trials and a few mentioned the importance of a coordinated approach and sharing information on the results of trials:

- 'Needs financial backing, no need for more chemicals unless it's profitable. It's a really good idea, it shows HAL is out there caring, in the local community, participants should get info out of it'
- 'Endorse or qualify...from farmer's perspective it's time-consuming, he's got to do it all, changing equipment, set up, soaks up an enormous amount of time, time getting crops in the ground is pretty important. It's a good thing if it can be done with significant organised assistance to collect results. Just needs to be a skilled practical person doing that sort of thing'
- 'I believe it is the most efficient, effective way to do it. For example, Amistar did quite a lot of it in our area and they probably got 80% of the growers in the first few years'



- 'I can't really say, always different ideas, people have different ideas on things, that's healthy, the advantage of grower groups, but getting time to go. If farmers got more time they can email each other and have a website or have growers groups linked together. Another way is a phone hook-up'
- 'I mean it's probably the most valuable method of growers getting information - seeing is believing but there's a lot of work involved in getting them going. A lot of cooperation is needed to be able to provide it, no doubt it's the way to get information out, is for people to see it but the drawback is the effort to organise it'
- 'I think if growers can see first hand the R&D it's a real benefit'
- 'I think trials done on farms is probably a good way to trial new ideas'
- 'I'd be interested, I'd do any sort of trials, I've just signed up for one'
- 'I'd like to see them better coordinated as in like, a lot of people doing little trials for themselves, how can you notify to others, follow up and keep a track of results'
- 'Not really, we do a lot of it ourselves, we conduct quite a deal of on-farm R&D so we rely on scientists to do the more technically involved research that we can apply for'
- 'Only that I'm all for it and would be very quick to volunteer to be involved in it. There's got to be a reward for everyone. With the right people it can be very beneficial'
- 'Probably not enough of it, though we do a bit. The government should be putting more money into it instead of removing it [money], we know there's a R&D trial that they want us to put money towards that in the past we wouldn't have had to do'
- 'Usually they work better than anything because people can see results first hand rather than on a piece of paper'
- 'We went to one of those and it was organised through Cyngenta and Ace Ohlsson and it was held at Robertson and it was brilliant. They had samples of various potato varieties and how those varieties responded to varying applications of certain chemicals'
- 'We're doing it all the time, trials all the time. It doesn't mean I don't believe that government agencies shouldn't be involved, they should do it as well, absolutely, part of a research project'
- 'We've done a few trials here, haven't got the results yet'
- 'We've done that over the years, different types of green manure crops and different types of fertilizers, I think it's a good idea'



## Local reference farms

### Suggested information topics

Apart from the topics nominated in the interviews, the majority of mentions of core information topics to be included in local reference farms were for crop management and agronomy, including management of diseases, chemicals and fertilizers (n=15 mentions):

Which information topics would you most like to see in local reference farms?	Mentions
Crop management/agronomy, including disease, chemicals and fertilizers	15
Sustainability/water management	4
New varieties or cultivars	2
Carbon trading	1
Harvesting and storage	1
Total	23

Of the group who mentioned crop management and agronomy, specific areas of interest include:

- Better quality information on products that activate bacteria and fungi in the soil
- Benefits of stone and clod separation, de-stoning and de-clodding
- Bio-fumigation
- Fostering of biological activity in soils and investigation into conditions that will encourage this
- Disease control, scab control and management
- One-pass ground preparation
- Organic fertilizers and sprayers
- Rotation benefits of crops
- Using plants to control fungi and diseases in the ground

### General feedback

Although the majority of growers who provided general feedback were positive about the benefits of local reference farms, a few raised the issue of how to reward growers who conduct the trials, and others said it is a small group who bear the weight of responsibility. A handful of growers also queried the extent to which the results of trials on a reference farm could be transferred to other farms with different conditions:

- 'Again, it's a good idea but you've got to find a farmer willing to do it and keep it up and running, he can't maintain that on his own, there's got to be a carrot to encourage a local farmer to do it, it should be helpful'
- 'I find them very interesting, very professionally presented back to us. Information on the day is very important when we visit those farms'
- 'I think it's a good idea to see first hand and to be able compare results'
- 'I think we're doing that now, it's very beneficial!'
- 'I think they're an important part of the industry'
- 'I'm just concerned that they might not work in our region, we've just got such variable soil you can't extrapolate from one farm to many others'



- 'It's not done or I'm not aware of it in the potato industry. Dairy farmers have focus farms provided, don't know how to reward the farmer that was involved and sharing information with everyone else. It needs to be the right people so they do share the information with others'
- 'Local feedback is better than out of a textbook. Other areas might be totally different from what you have. I've done a few trials and found that trials with the processors, our ideas one way or another came out to be true but they like to have it in black and white so they can argue one way or the other'
- 'No, normally the same person does the trials, you need some new people doing it. Everyone needs to share in the research'
- 'We've trialled green manures. We had a demo farm up here but it fell through but I think they're good if you can get people involved, trouble is the same people do all the work'



## Annual field event

### Travel time

There is considerable variation in the amount of time growers would be prepared to spend travelling to attend an annual field event, although the median time is 4 hours or half a day, meaning that half the group is prepared to spend up to 4 hours and the other half is prepared to spend more than 4 hours. The average time reported is 8.31 hours, which is to some extent skewed by a number of growers who are prepared to spend more than a day travelling. The minimum time reported is one hour, and the maximum time is 48 hours, as set out in the table below:

How much time would you be prepared to spend travelling to attend an annual field event?	Hours
Median	4
Mean	8.31
Minimum	1
Maximum	48

### General feedback

Most growers who commented on annual field events provided positive feedback on the benefits of annual field days, and a number said they would be prepared to spend longer travelling to an event if it offered value. A few growers commented on the poor timing of some field events and suggested they could be linked to other events, such as Agfest:

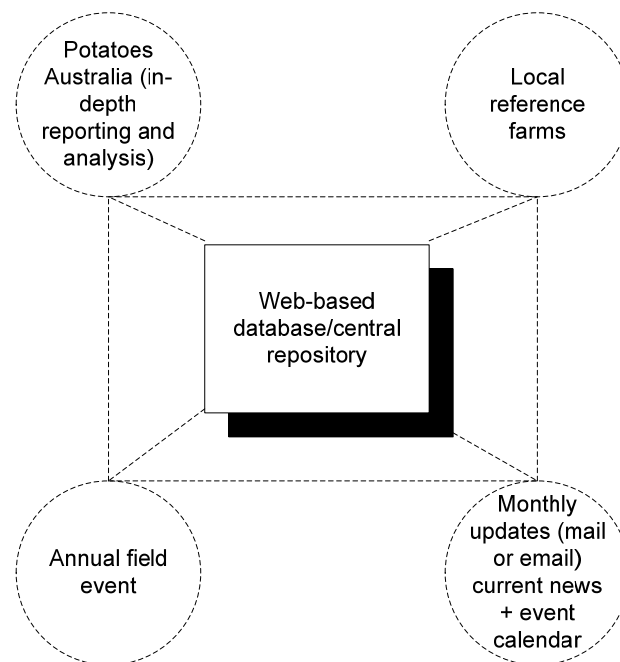
- 'Again, I think they're very good. The ones I've attended have been very beneficial'
- 'Depends on the time of year. I think they're very good'
- 'Generally, I do support them when they're on, it's a good chance for growers to meet'
- 'I don't get to a lot of them. Unless there's a return on investment, I dodge them'
- 'I think that's a very progressive idea, to have a field day type, it's the concept to go'
- 'If what's being shown seems to be good value, I'd fly across Australia'
- 'It's more of a cost issue than a time issue, it depends on the quality of the event as to how far you'd spend travelling. There doesn't want to be too many, maybe one and a very good one'
- 'If I considered one in Victoria and it had ideas relevant to me I'd go over and have a look...I didn't bother going this year as there were no new varieties'
- 'My wife and I just spent 24 hours to go to a field event in the Netherlands, it was excellent, very impressed. I think it's something we lack, we don't have machinery demonstrations and a field site, we had one at Warrigal and we don't have one anymore, I think it's a crying shame'
- 'Normally they're at the wrong time of the year and you can't go'
- 'Not something new but piggy-backing on something else like Agfest, that is, not stand alone, incorporate into other things'
- 'They're very good provided you've got enough stuff to make it worthwhile, I'd like to see it combined with Agfest which is run over 3 days, I'd like to see them incorporate, a one-stop-shop, a demonstration arm as part of that, or very close to it'



### 3 Recommendations

- 1 Design a communication system with multiple channels of communication, as the research confirms that growers want to access information from more than one source. Figure 1 below illustrates a potential multi-channel model:

Figure 1 — Potential communication model



- 2 Ensure the new communication system encourages direct involvement between level. This could be achieved via a dedicated industry development officer, which was suggested by a number of respondents
- 3 Ensure the new communication system builds appropriate partnerships with processors and other suppliers in the supply chain, who are already interacting with growers on research and development initiatives
- 4 Incorporate local reference farms and an annual field event in the new communication system, while ensuring appropriate incentives for growers who host or support the local reference farms
- 5 Express all communication to growers in clear language which stresses benefits and outcomes, rather than scientific processes
- 6 Design the communication system so that it can be migrated to a shared, online environment in the future



## Attachment 4 – Survey Questionnaire





6 September 2009

## HAL 2009 Structured Telephone Interviews – Final

Good morning /afternoon, it's xxxxx calling from Red Letter Information. How are you today? We are conducting market research on behalf of Horticulture Australia Limited (HAL) to help them gather feedback on the best ways to improve grower involvement in the processed potato industry R&D programs, known as APRP1 and 2 (Australian Potato Research Program 1 and 2). This takes 6-8 minutes. Would you be able to spare the time now? (*Pause and wait for response...*) If now isn't a suitable time, I'd be happy to arrange an appointment for a more convenient time.

*(If the respondent does not agree to proceed, thank them for their time and proceed to the next respondent)*

I would like to start by confirming that our discussion today is strictly anonymous and confidential. Are you happy to proceed with the interview now?

1 Can I confirm that you grow potatoes or seed potatoes for the processed market?

- Yes

- No

*(If No, thank the respondent for their time and move to the next record. If Yes, proceed)*

There is no right or wrong answer, so please feel free to express your opinions. If at the end of the interview you would like to receive more information on this from HAL, I would be happy to pass on the details of today's interview. I'll ask you this at the end of our interview.

2 The market research we conducted into the first industry R&D program (PPR&D1) reported a low level of awareness of the program among growers? Would you agree or disagree with that finding?

Agree

Disagree

3 Why is that? (*Record below*)

---



4 In your opinion, what is the best way to encourage involvement in the next program, known as APRP2? (*Record below*)

---

5 Would you like to receive information on the program direct from processors or their representatives?

Yes

No

Not applicable

6 How would you like to receive updates on the program? (*Prompted multiple response*)

Industry magazine

Regular mailouts (paper)

Regular emails

Website

Local meetings

Workshops

Industry conference

Other (please specify) \_\_\_\_\_

7 Thinking about the broad types of information you could receive about APRP2, can you rate your level of interest in the following types of information on a scale of 1 to 5, where 1 is Not Interested and 5 is Extremely Interested:

Type of information	Rating 1-5
Practical information about farming methods	
Technical information	
Legislative information	
Business management information	
Financial management information	
Marketing management information	
Other (please specify) _____	



8 Now thinking about the skills you need to develop your business, can you list the 3 areas in which you most need to develop your skills: (*Record up to 3 areas*)

---

---

---

I have 5 ideas for communicating information about APRP2 on which I would like your feedback.

The first tool I would like you to consider is a best practice handbook. This would set out recommended methods and practices you could implement to improve the productivity, sustainability or profitability of your farm. You can assume the handbook will be kept up to date and will be available via a website.

9 Can you rate your level of interest in a best practice handbook on a scale of 1 to 5, where 1 is not interested and 5 is extremely interested?

Extremely interested

Very interested

Interested

Somewhat interested

Not interested

10 What are the 3 information topics you would most like to see in a handbook? (*Record below*)

---

---

---

11 Do you have any general feedback on a best practice handbook? (*Record below*)

---

The second idea is organised discussion groups among growers in your local area. The groups could include presentations on hot topics from researchers or growers with special expertise.

12 Are you already a member of an organised discussion group?

Yes

No



13 Can you rate your level of interest in organised discussion groups among growers on a scale of 1 to 5?

Extremely interested

Very interested

Interested

Somewhat interested

Not interested

14 What are the 3 information topics you would most like to see in organised discussion groups? (*Record below*)

---

---

---

15 Do you have any general feedback on organised discussion groups? (*Record below*)

---

The third idea is on-farm R&D, where inputs and methods could be trialled or developed on a selected farm, and the results observed first hand and reported to the industry. R&D activities could include fungicide or herbicide trials, use of green manures on farm or specific cultivar agronomy to maximise yield and quality.

16 Can you rate your level of interest in on-farm R&D on a scale of 1 to 5?

Extremely interested

Very interested

Interested

Somewhat interested

Not interested

17 Are there any R&D activities you would like to include that I have not mentioned? (*Record up to 3 topics*)

---

---

---

18 Do you have any general feedback on on-farm R&D? (*Record below*)

---



The fourth idea is local reference farms, which would consist of a limited number of growers in key locations hosting a program that would trial or develop new methods arising from the industry's research and development program, for example, validation of DNA diagnostics or evaluation of green manures.

19 Can you rate your level of interest in local reference farms on a scale of 1 to 5?

Extremely interested

Very interested

Interested

Somewhat interested

Not interested

20 Are there any methods you would like to see trialled or developed that I have not mentioned? (*Record up to 3 topics*)

---

---

---

21 Do you have any general feedback on local reference farms? (*Record below*)

---

Just 4 more questions...

22 And the fifth idea...Can you rate your level of interest in an annual field event, which could include machinery evaluations, varieties and co-investment with private companies on a scale of 1 to 5? (*Single response*)

Extremely interested

Very interested

Interested

Somewhat interested

Not interested

23 What is the maximum time you would be prepared to spend travelling to attend an annual field event? (*Record figure as number of hours below*)

\_\_\_\_\_ (hours)

24 Do you have any general feedback on annual field events? (*Record below*)

---



25 Finally, what is the one thing HAL could do to encourage you to become more engaged in its research and development initiatives? (*Record below*)

---

26 General feedback (*Record below*)

---

That concludes today's interview. Thank you very much for your time. Would you like me to pass on the details of today's interview so HAL can provide you with more information about the extension initiative when it is developed?

- Yes
- No

*(If Yes, record name, telephone and email contact information below)*

Name \_\_\_\_\_

Phone No. \_\_\_\_\_

Email \_\_\_\_\_

Do you know of any other growers we could contact for feedback? We'd like make sure as many growers as possible have the opportunity to contribute. (*Record name, mobile phone and landline of growers*)

Name \_\_\_\_\_

Landline. \_\_\_\_\_

Mobile \_\_\_\_\_

Name \_\_\_\_\_

Landline. \_\_\_\_\_

Mobile \_\_\_\_\_

Name \_\_\_\_\_

Landline. \_\_\_\_\_

Mobile \_\_\_\_\_



**Coding information**

Interview no.

\_\_\_\_\_

**Stakeholder**

*(Select all that apply)*

Seed grower

Fresh grower

Processed grower

Government representative

Processor

Industry representative

**State**

NSW QLD SA TAS VIC WA



## **Attachment 5 – IDNA Progress Report**



**COMMERCIAL-IN-CONFIDENCE**

# **Progress Report (PT 08029)**

## **Industry Development Needs Assessment (IDNA)**

### **Processed Potato Industry**

**Horticulture Australia Limited**

**Pyksis Pty Ltd**  
June 2009



**pyksis**

INNOVATE GROW SUCCEED

# PT 08029 – PROGRESS REPORT

## INDUSTRY DEVELOPMENT NEEDS ASSESSMENT

### PROCESSED POTATO INDUSTRY

#### Introduction

Agricultural and pastoral industries experience a range of industry development needs as they seek to make themselves competitive and/or retain their competitive edge competitive in an increasingly globally exposed marketplace.

These developmental needs vary from that of a high level industry over-arching strategy, down to implementation of successful extension practices to ensure that the industry, from its “grass roots” growers, right through its supply chain, to the end processors can deliver that competitive edge.

A graphical summary of those needs and a potential process to address them has been developed by Horticulture Australia Limited (HAL) and is provided by way of Attachment 3.

The higher level strategic developmental needs are not ones that are amenable to solutions solely through the deployment of R&D results and/or technological advances. They require, above all, information and knowledge, *inter alia*, on the markets, consumers, climate effects, global trends and country/industry strategies.

By contrast, this project on industry development needs is more by way of a scoping study which is targeted at the industry extension needs from farm through to processor for the processed potato industry.

Difficulties with industry extension of research findings and other useful information for improving productivity and efficiencies are not solely a problem within Australia’s horticultural industry. The problem extends to all the agricultural and pastoral sectors, and across the globe.

While it is, to a degree, assuring that the problem is not localised, the commonality of the problem gives rise to the following questions:

- Is there a solution to the problem available through other industries and/or through overseas counterparts?
- Can those solutions be translated effectively into the Australian horticultural context, in terms of effective tools and methodologies?

If those solutions and methodologies cannot be effectively translated into the local context, will this mean that a local solution needs to be custom-developed to suit the local environment?

While the process that has been mapped out in Attachment 1 is a useful guide and check-list, as can be seen from this Progress Report, the reality of successful extension depends on a number of factors, including, but not limited to the following:



- The needs and receptivity of the person or group receiving the extension or knowledge transfer
- The experience and skill sets of the instructor, as well as the tools and methodologies employed
- The setting/circumstances for the knowledge transfer itself

Fortunately, the work conducted to date, under this project, has confirmed that HAL can both use and build on the work conducted by others in extension.

## Scalability of the Solution

A parallel issue is whether and how can extension be “scaled” so that the desired results can be delivered to a wider audience, without the need to greatly escalate the amount of resources employed.

Relevant to this issue, work is being undertaken by third parties, in collaboration with the various Rural Development Corporations (RDCs) to establish a web-based resource called *Farm Plus*. The stated purpose of *Farm Plus* (apparently currently in Beta version) is to review all rural industries to see how they give effect to technology transfer and how to better achieve that outcome.

*Farm Plus* aims to bridge the gap between face-to-face technology transfer and a more widespread methodology.

While Pyksis has not had access to *Farm Plus*, from the description that has been so far provided, it is more likely that *Farm Plus* will become a resource that is similar to the *Journal of Extension (JOE)* that has been developed in the USA by the University of Maine (see following).

## Summary



In conducting its investigations into industry extension, Pyksis has interviewed 18 experienced industry parties and made 4 field trips to investigate matters “on the spot”, including interviewing farmers and industry supply-chain companies.

These interviews included two interviews with overseas visiting experienced technology transfer practitioners, as well as local industry figures.

The outcomes from these interviews can be summarised as follows:

- No one tool or methodology or combination of both works for all cases
- It is important for the industry practitioner to be flexible at all times. If one approach doesn’t work, try another or a combination of others
- The experience of the technology transfer agent is paramount
- The technology transfer agent needs to be respected by the technology recipients
- The “language” used, the setting and the practical demonstration, all play key roles in successful technology transfer
- Industry “champions”, peer group leaders, thought influencers all have important roles to play in technology transfer and adoption
- Resources and their general availability are important

What is clear is that there is usually a wide disparity between those developing technology and those who will be asked to adopt technological advances.

The same can be said for other situations within the supply chain, eg between processors and growers.

This would be evidenced through any psychometric analysis of personality types, such as through Myers-Briggs Type Indicators (MBTI) and may point out a fruitful area for research to improve the implementation of and outcomes from technology transfer.



A further and limited amount of independent market research is to be finalised, prior to this scoping study being completed. That market research will build on the market research that was undertaken for the APRP2 Strategic project (PT07037). The Final report will include more information on interviews with the local & overseas industry representatives (retained as anonymous where requested by industry participants).

## Field Work

So far, Pyksis has participated in or conducted:



- 4 field trips in Victoria and Tasmania
- 18 interviews with growers, scientists, supply chain service providers (chemicals and fertilisers), agronomists and processors (McCain & Simplot)
- Interviews with 2 visiting overseas industry extension specialists
- Interviews with specialists in other pastoral industries

## International Experience

One of the most informative discussions was with Professor Steven Johnson from the University of Maine, USA. A powerful resource that he and his colleagues use is the “*Journal of Extension*” or *JOE* ([www.joe.org](http://www.joe.org)) to improve the level of skills & useful tools that extension practitioners and industry participants can gain access to.

A major function of *JOE* is to expand and update the knowledge base of Extension Officers to improve their effectiveness. Its website is accessed internationally. This is a good example of a mix of extension expertise and effective communication and is recommended for use in the Australian industry.

*JOE* is available on subscription, includes a “hot line”, has over 10,000 contacts and includes a wealth of information on methodology.



Major points that Professor Johnson made were:

- The most effective extension people are trusted, independent advisers
- It is important to conduct regular interfacing with groups such as farmers to build trust and receptiveness
- Extension officers should conscript service providers such as fertiliser and chemical suppliers
- Field days are useful means to technology transfer
- Use any form of extension in order to “get message across”
- Use all forms of communications, eg faxes, email, text, journals
- Deliver simple messages in “bite sized chunks”
- Adoption drivers are principally economic. Those who do not keep with developments will ultimately fail and/or leave the industry

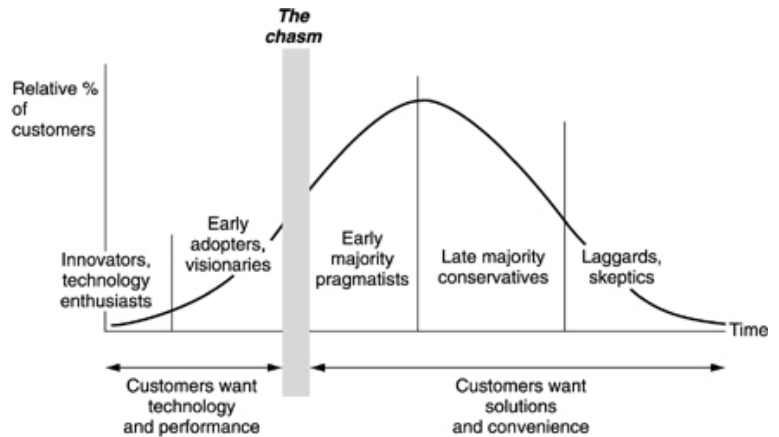
A further interview was conducted with Dr Stuart Wale of the Scottish Agricultural College (SAC) who brought a British perspective on the extension issue.

His advice, some of which is accessible through the SAC website (<http://www.sac.ac.uk/knowledge/?ff=y>) was not at variance with that provided by Professor Johnson.

## Local Experience

Discussions with specialist local scientists such as Nigel Crump, leading growers such as Frank Rovers and Ken Labbett and processors such as McCain and Simplot have provided a local perspective on the extension issue.

What is clear from a farmer viewpoint is that the leading farmers not only welcome new knowledge, but actively seek that knowledge through their own research and overseas travel. These are the early adopters of the “agricultural model” (refer to diagram).



These early adopters and innovators frequently offer their own properties for technology trials and field days to assist their less technology orientated peers to recognise the value of the new technology to their own businesses.

As can be seen from parallel experiences in the Australian wool industry, demonstrations at leading edge properties (*Red Carpet Days*, involving the property owner and technologists who “talk” a simple language are highly successful in effective technology transfer.

But industry extension is not limited to technology transfer. Farmers in particular require coaching on business practices, including financials and to work “on the business” rather than “in the business”.

From the processor viewpoint, being able to establish a well-functioning group of growers who will adopt good practices and reliably deliver consistent quality product is central to the efficiency and profitability of their operations.

These relationships take many years of careful nurturing to bring to fruition and involve professionals across all disciplines, augmented by visiting overseas specialists, field days, taking small groups interstate. Ultimately trust is built up and that level of trust assists to promote strong interaction and changes in work practices.

As noted earlier in this report, the *Farm Plus* product is likely to be a resource in a similar mould to *JOE*, rather than a solution in itself.

It may assist in improving the scalability of the knowledge transfer process, although this will be critically driven by the capability and application of the knowledge transfer specialist.

*Relevant to the local potato industry has been the recent decision of the Victorian State Government, through DPI Victoria, to get out of extension services altogether. They have indicated an interest in forming partnerships and to this end will be putting the extension services out to tender.*

## **What Works & What Doesn't**

It is clear that anonymous, distanced interaction doesn't work.

By contract, in-the-field personal contact using experienced, sensitive and knowledgeable technology transfer parties works very well (and for that also read business transfer – which in combination with technology transfer can be termed: *knowledge transfer*).

Demonstration days are powerful for farmers, where the facilitator talks a simple language devoid of jargon and deep science. Access to applied information, such as that available through *JOE*, works well for all parties in the supply chain, as well as for the knowledge transfer specialist.

Communications play an important role. All parties in the supply chain are becoming more sophisticated and all forms of media need to be considered to establish what mix works best for the target group.

Further, as aggregation takes a further hold on the farming community, this will accelerate the move to sophistication in business practices and a deliver a greater propensity to accept knowledge transfer.

## **Structure for Delivery**

In completing the consulting work for the APRP2 project, it became apparent that effective knowledge transfer needed to be greatly improved over that encountered in APRP1.

Further, both knowledge transfer and communications were recognised as playing pivotal roles in delivering the results of research to the industry levy payers.

A structure was recommended for both the management of the APRP2 project (under a Project Director) and the integration of the important knowledge transfer aspect into the on-going operations (see Attachment 1).

In addition, a Job Description was drafted (refer to Attachment 2) to facilitate the identification and recruitment of the knowledge transfer specialist and his/her integration into the proposed project management structure.

The person recruited will need to travel frequently with a pragmatic budget to support the knowledge transfer activity.

## Next Steps

In progressing from this interim report to the Final Report, Pyksis will complete the:

- Local interviews of growers, service providers, scientists and processors
- Additional market research through a specialist third party service provider
- Interviewing of the AusVeg communication arm

In addition, if access can be gained to *Farm Plus*, Pyksis will provide an overview of its capabilities compared with *JOE*.

These results will be combined in a single report that provides, *inter alia*, main findings and recommendations.

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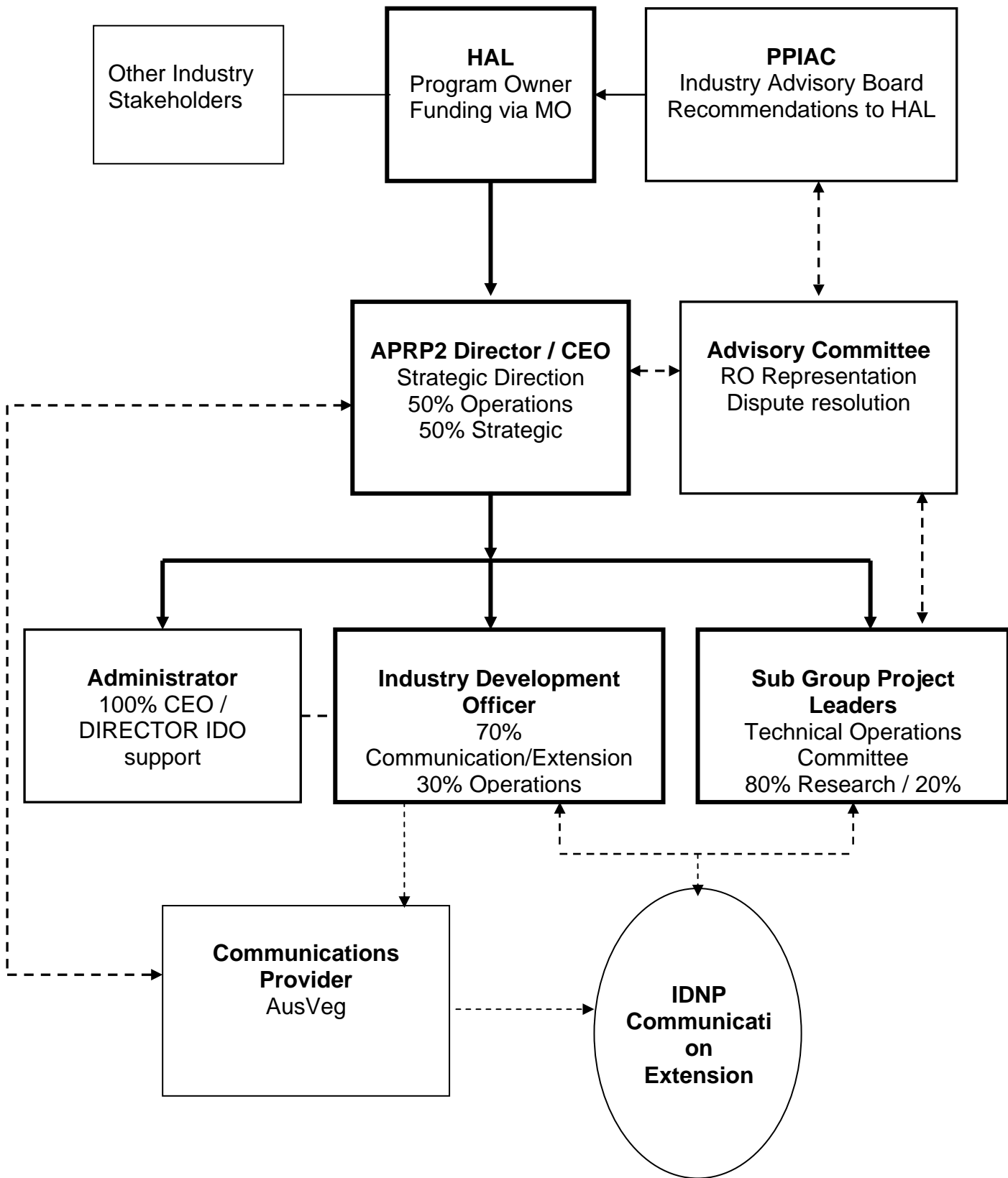
June, 2009

Attachment 1: Proposed Structure for Processed Potato R&D and Knowledge Transfer

Attachment 2: Proposed Job Description for Knowledge Transfer Specialist

Attachment 3: HAL Draft IDNA Process

**Attachment 1: Proposed Structure for Processed Potato R&D and Knowledge Transfer**





## Attachment 2: Proposed Job Description for Knowledge Transfer Specialist

Stakeholder	Role
Processing potato Growers and Processors	<ul style="list-style-type: none"> <li>Levy payers</li> <li>Beneficiaries of outcomes from the research and development conducted under APRP2, via extension and communication activities.</li> </ul>
Horticulture Australia Limited (HAL)	<ul style="list-style-type: none"> <li>Program Owner with overall management responsibility</li> <li>Levy and matching funding contributor</li> <li>Appoints &amp; manages APRP2 Director / CEO / DIRECTOR</li> <li>APRP2 Director / CEO / DIRECTOR reports to HAL</li> </ul>
Higher Education Service Provider (HEP)	<ul style="list-style-type: none"> <li>A Higher Education Provider able to receive Federal RIB Grant funding.</li> <li>Contracted by HAL to provide research and development services to the Processing Potato levy payers.</li> <li>Recipient of all HAL funds, levy and Commonwealth matched funding.</li> <li>Sub-contracts RO's to provide HAL and PPIAC approved research sub group programs.</li> <li>Liaises with APRP2 Management staff (dependent on model adopted)</li> <li>Fiscal responsibility for the APRP2 management costs including contractors, staff, offices, travel and other expenses.</li> </ul>
Management Organisation (MO)	<p>Depending on the model adopted (in this case Option 1 relationships are described)</p> <ul style="list-style-type: none"> <li>MO is in a three-way contract with HAL &amp; HEP where HEP provides the funding &amp; accounts for expenditures against acquittals from the MO</li> <li>MO reports to HAL &amp; is solely accountable to HAL</li> <li>MO employs CEO, IDO, Administrator</li> </ul>
PPIAC	<ul style="list-style-type: none"> <li>Strategic industry advisory role</li> <li>Regular meetings with HAL and APRP2 Management</li> <li>APRP2 recommendations to HAL</li> </ul>
CEO / DIRECTOR	<ul style="list-style-type: none"> <li>Program manager / Champion role</li> <li>- Experienced commercial business manager</li> <li>- Strategic and operations responsibilities</li> <li>Management responsibilities</li> <li>- APRP2 recommendations to HAL / PPIAC</li> <li>- Fiscal</li> <li>- IDO</li> </ul>

	<ul style="list-style-type: none"> <li>- Administrator</li> <li>- Research SGPLs monitoring</li> <li>• Regular Technical Group meetings involving             <ul style="list-style-type: none"> <li>- SGPLs</li> <li>- IDO</li> <li>- ROs that wish to attend</li> </ul> </li> </ul>
Industry Development Officer (IDO)	<ul style="list-style-type: none"> <li>• Reports to CEO / DIRECTOR</li> <li>• Commercial communications / extension experience</li> <li>• Day to day management of the IDNP program</li> <li>• Communication role linking research and extension             <ul style="list-style-type: none"> <li>- Research leaders</li> <li>- Industry</li> <li>- Communications Provider (CP)</li> <li>- Development / implementation / management of effective extension and communications programs with CP and SGPLs</li> </ul> </li> <li>• Operations role             <ul style="list-style-type: none"> <li>- Supporting the CEO / DIRECTOR in day to day management</li> <li>- Developing effective CP activities</li> </ul> </li> </ul>
Administrator	<ul style="list-style-type: none"> <li>• Reports to CEO / DIRECTOR</li> <li>• Administrative support to CEO / DIRECTOR and IDO             <ul style="list-style-type: none"> <li>- Organisation of regular meetings</li> <li>- Meeting agenda, papers and minutes</li> <li>- Day to day secretarial support for CEO / DIRECTOR</li> <li>- Support IDO extension activities</li> <li>- Support CP in provision of significant meetings</li> </ul> </li> </ul>
Sub-Group Project Leaders (SGPLs)	<ul style="list-style-type: none"> <li>• Project Research leaders</li> <li>• Dual reporting             <ul style="list-style-type: none"> <li>- Employed by and report to RO</li> <li>- APRP2 CEO / DIRECTOR for contractual obligations to HAL</li> </ul> </li> <li>• Research project management 80%             <ul style="list-style-type: none"> <li>- Contractual and fiscal obligations to HAL</li> <li>- Day to day management of research programs</li> </ul> </li> <li>• Extension / communication 20%             <ul style="list-style-type: none"> <li>- Develop and implement programs with IDO</li> <li>- Support communications activities via CP</li> </ul> </li> </ul>
Advisory Committee (AC)	<ul style="list-style-type: none"> <li>• Research Organisation (RO) representatives</li> <li>• Appointed by ROs</li> <li>• Role             <ul style="list-style-type: none"> <li>- Oversight in Technical Group meeting activities</li> </ul> </li> <li>Dispute resolution through CEO / DIRECTOR</li> </ul>
Communications	<ul style="list-style-type: none"> <li>• Communications manager e.g. AusVeg</li> </ul>

<p>Provider (CP)</p>	<ul style="list-style-type: none"><li>• Responsible for implementation of APRP2 communications activities<ul style="list-style-type: none"><li>- Industry Publications e.g. Potatoes Australia</li><li>- Creation of extension materials in collaboration with IDO</li><li>- Website Management</li><li>- Industry database management</li><li>- Organisation of major functions</li></ul></li> <li>• Works directly with and receives direction from<ul style="list-style-type: none"><li>- CEO / DIRECTOR</li><li>- IDO</li></ul></li></ul>
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## APRP2 industry Development Officer

### ROLE DESCRIPTION

**PROGRAM:** APRP2

**POSITION:** Industry Development Officer (IDO)

**REPORTING TO:** APRP2 CEO / DIRECTOR

#### 1. OVERALL OBJECTIVES

APRP2 is a 5 year multimillion dollar Research and Development program for the Australian Processed Potato Industry. APRP2 is funded by Horticulture Australia Limited (HAL) via levy funds, matched Commonwealth contributions and in-kind contributions from Research Organisations.

The primary purpose of this role is to provide effective extension of the results of the funded R&D Programs to the levy payers (which is a key role that affects the overall success of APRP2) and to provide support for the APRP2 CEO / DIRECTOR.

#### 2. KEY RESPONSIBILITIES

Reporting to the CEO / DIRECTOR and working with the Sub-group Project Leaders and the Communications Provider, the key responsibilities for the IDO are in the areas of:

- Reviewing and categorising the entire cross-section of levy payers to identify the status of their adoption of information, including R&D results, the inhibitors to that adoption and the most effective methodologies for adoption by sub-group
- Developing, in consequence of the above and in consultation with the CEO / DIRECTOR and the Communications Provider, an overall plan (the Technology Transfer Plan) for industry extension, complete with timetable and Key Performance Indicators (KPIs) on a yearly basis that the CEO / DIRECTOR can take forward to HAL & the PPIAC for approval
- Ensuring the effective transfer of APRP research results to levy payers, in accordance with the Technology Transfer Plan and as part of this key responsibility, organising & implementing, *inter alia*, events such as:
  - Demonstration sites for new technologies and methodologies
  - Field Days that are specifically focused on processed potato industry needs & technology transfer
  - APRP participation in larger industry Field days

- Delivering, in coordination with the Communications Provider, timely information in various formats, electronic and printed versions, that fully support the above activities
- Ensuring, in collaboration with the Communications Provider that reports and other information are up-to-date and readily accessible through portals such as the AusVeg website
- Working with other industry groups in Australia and the processed potato industry internationally to identify and adopt the most effective methods for industry extension
- Production of regular reports on status of industry extension
- Reporting, in collaboration with the CEO / DIRECTOR, to the PPIAC on progress, milestone achievements and initiatives
- Be prepared to travel broadly within Australia for effective industry extension and, as required overseas

### **3. KEY RESULTS AREAS**

- Providing the leadership in strategic planning for industry extension
- Being at the forefront in the effective delivery of information and technology to levy payers and its effective adoption
- Acting as the key link between researchers, management, levy payers, service providers and stakeholders
- Reporting on effectiveness of the overall strategy embodied in the Technology Transfer Plan and recommendations for improvements
- Optimising the effectiveness of communications
- Fostering improved technology transfer capabilities amongst SGPLs
- Establishing a strong and effective industry extension and communications capability that is targeted to the processed potato industry specific needs

### **4. KEY RELATIONSHIPS / STAKEHOLDERS**

- CEO / DIRECTOR
- Industry stakeholders and levy payers
- AusVeg
- APRP2 Research Organisations
- SGPLs
- Industry service providers
- National and International industry extension providers

### **5. ROLE**

- Full-time
- Time split 70% industry extension and communication and 30% operations

- Contractor to and reporting to HAL via the CEO / DIRECTOR
- Estimate \$75K to \$80k plus car, office and travel expenses
- Minimum 1 year probationary term with option to extend to 5 year term
- Need to travel frequently to regional Australia
- The position will require travel & participation outside normal office hours-

## 6. SKILLS

### Necessary

- Demonstrated ability to conceptualise, plan and implement a strategic plan to meet stakeholder needs
- Demonstrated capability and experience in working closely and effectively with key stakeholder groups
- Diploma or degree in Science
- Proven commitment to and understanding of the key issues relevant to industry extension
- Excellent written, oral, computer and delivery skills, with a proven ability to communicate effectively with people at all levels of company hierarchy as well as those of different backgrounds
- Working knowledge of industry bodies such as HAL and their role in delivering government programs
- Demonstrated ability to perform duties unsupervised
- Possession of a current driver's licence and a good driving record

### Preferred

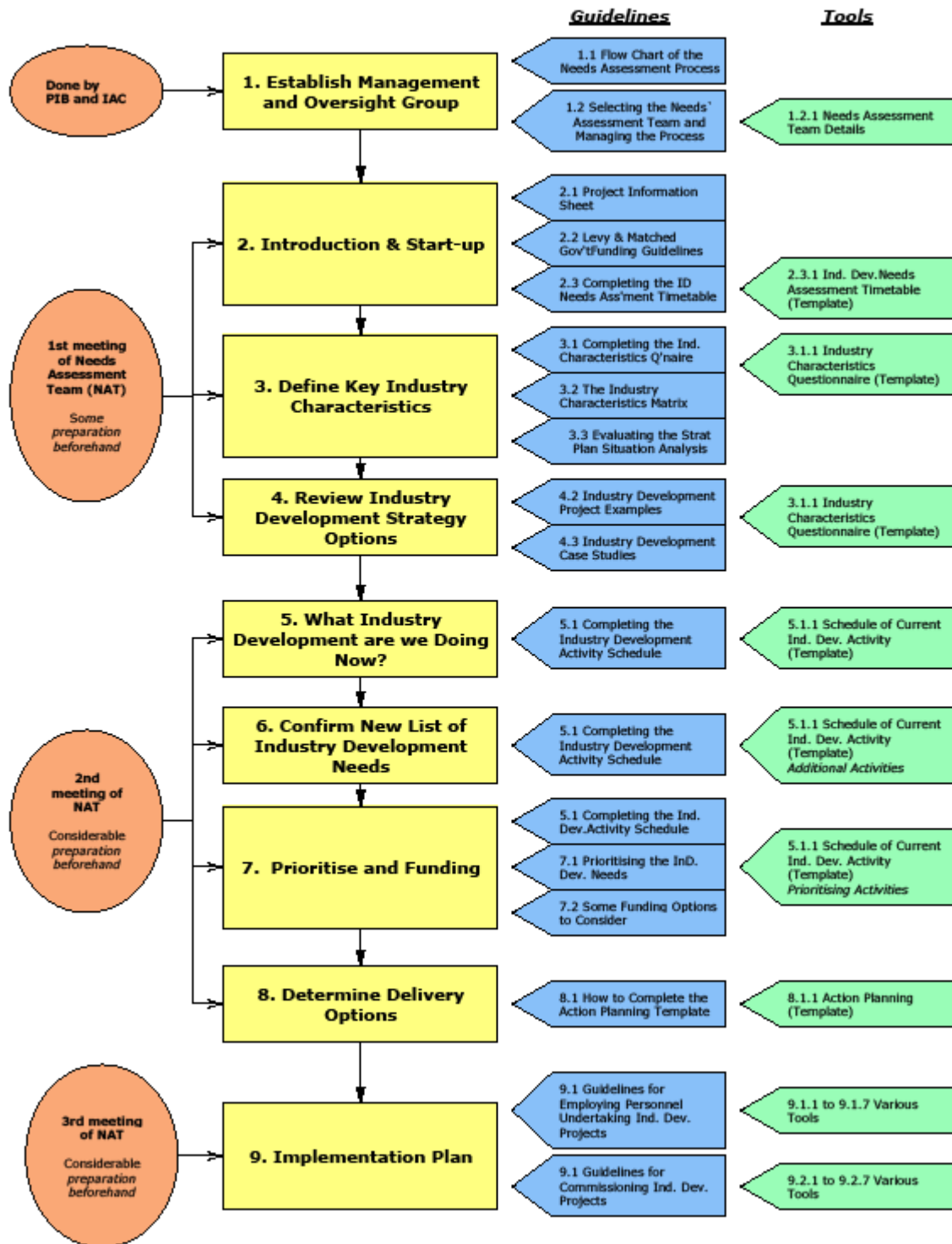
- Previous experience in industry extension & a seasoned professional
- Well-developed set of contacts in agriculture and communications and, preferably, in industry extension
- Familiarity with reporting requirements of government organisations

## 7. AUTHORITIES

- As agreed with the CEO / DIRECTOR and may include:
  - Approval of commitments to Field Days
  - Approval of commitments to demonstration plots
  - Approval of industry seminars
  - Approval of media publications for technology transfer

**Attachment 3: HAL Draft IDNA Process**

## Industry Development Needs Assessment Process







## **Attachment 6 – USA Potato Industry Health Handbook**



## Potato Health Management, 2nd Edition

**Complete update of the bestselling first edition!**

**Edited by Dennis A. Johnson**

*"...everything you want to know about growing potatoes is in this book...should be available in all universities, colleges, schools, farms and even homes and any research institute where research in any aspect of plant pathology is being carried out, or where horticulture or plant pathology is taught."*

**-- Fungal Diversity**

*"This book is very well illustrated with drawings, schemes and especially with colour photographs. It contains an impressive amount of detailed information and suggestions for the management of potato health throughout all states of potato production for different purposes.... particularly recommended for all those involved in practical aspects of potato production, even outside this area."*

**-- Dr. Nicola Greco, Nematologia Mediterranea**

The first edition of *Potato Health Management, Second Edition* is the best-selling title in the APS PRESS Plant Health Management Series, with more than 7,000 copies sold. Pest and pathogen populations have changed since the first edition was printed and a significant amount of new research knowledge has been gained. This new book addresses those changes and contains up-to-date information recently acquired to help you economically manage potato health.

This highly-anticipated manual tackles the hundreds of problems that affect this important crop including weeds, insects, nematodes, fungi, bacteria, phytoplasmas, and viruses. The new edition is 30% larger than the first and contains more colour photographs, which are now interspersed throughout the text. It includes timely new chapters on economics, home gardening, and organic production.

More than 40 experts from the fields of soil science, weed science, nematology, plant pathology, and entomology explain how to manage potato health from seed to storage by a holistic approach. The book provides the most current information on potato production practices, with an emphasis on pest and disease management. The knowledge base provided in this text can be integrated into a comprehensive management scheme in the context of today's agriculture. Using this manual's integrated strategy for potato health management will help you produce a quality product at a reasonable profit, using an environmentally friendly approach.

*Potato Health Management, Second Edition* is easy to read and understand on two levels. Call-outs of important concepts give quick information to supplement the more-in-depth level of peer-reviewed information. Nearly every chapter includes a boxed briefing on an important concept, helpful test, diagnostic tip, or checklist, adding to your practical understanding of potato health management strategies. The information in each of the book's 23 chapters is essential to a successful, holistically managed potato health management program.

Cutting edge discussions and details on soil health, managing tubers during harvest and in storage, organic potato production, pesticide resistance management, pesticide application, management of diseases, insects and weeds affecting potato will enlighten commercial potato growers, field consultants and farm advisors, extension specialists, agriculture students, researchers and agribusiness professionals in all aspects of the potato industry. The 42 contributing experts are from the leading potato research facilities in the United States and Canada, but the information in the handbook will provide valuable practical assistance to potato professionals outside of North America as well.

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- What Is Potato Health?
- Management of Potato Health
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- Management Prior to Planting
- Management During the Growing Season
- Management During Harvest
- Management During Storage

### Chapter 3

#### **Soil Health: Managing the Soil Microflora to Enhance Potato Health**

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- Outlook for Management of Soil Microbial Communities
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**Glossary**

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**Sources of Additional Information**

**Potato Health Management's 42 contributing authors are recognized authorities with many years of practical experience in their fields:**

**Juan Manuel Alvarez**, Department of Plant, Soil and Entomological Sciences, University of Idaho, Aberdeen

**Andrei Alyokhin**, Department of Biological Sciences, University of Maine, Orono

**Zahi K. Atallah**, Department of Plant Pathology, University of Wisconsin, Madison

**Robin R. Bellinder**, Department of Horticulture, Cornell University, Ithaca, New York

**Gilles Boiteau**, Agriculture and Agri-Food Canada, Fredericton, New Brunswick

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**About the Editor of Potato Health Management, Second Edition**

Dennis A. Johnson is professor of plant pathology at Washington State University in Pullman. He has been involved in research and extension in disease management of potatoes and other crops for more than 25 years. His primary research emphasis is plant epidemiology, with a focus on developing practical disease management tactics for potatoes. He teaches a graduate class in plant epidemiology and disease management. Originally from southeastern Idaho, Dr. Johnson earned a B.S. degree in botany from Brigham Young University and M.S. and a Ph.D. degree in plant pathology from the University of Minnesota



## **Attachment 7 – Additional Considerations**





## Attachment 7 – Additional Considerations

These additional considerations are intended to provide HAL with further information to take into account for future strategic planning within the industry as a whole, not just for the Processed Potato Industry.

1. **The opportunity now exists, with the wind-down of State-based agencies,** for HAL to take the lead role in industry extension by establishing a ***Global Centre of Excellence for Industry Extension*** that will materially lift the performance across the whole HAL portfolio. *The Centre* would logically be focused round the IDO function, starting with processed potatoes and extendable to other sections of the HAL product portfolio. *The Centre* would, *inter alia*, act to:
  - a. Access the latest information from overseas and convert this into easily adopted extension practices relevant to Australia and build a library accessible to Australian stakeholders
  - b. Encourage and orchestrate visits to and from overseas
  - c. Act as the point of reference in linking existing field days to demonstration trials and interfacing with best practices, such as through processed potato grower groups
2. **For HAL to put forward a proposal to the Federal and State governments** to provide underpinning funding for the ***Global Centre of Excellence for Industry Extension*** to enable it to function as an industry wide body, drawing on the best practices from Australia and overseas, with an operational time frame that transcends any current programs.