May 2017

The Project Team - RD&E for 2050
DPIPWE
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RE: Green Paper: Growing Tasmanian Agriculture - Research, Development and Extension for 2050

Wine Tasmania is pleased to provide the following input to the Green Paper on Growing Tasmanian Agriculture - Research, Development and Extension for 2050. The Tasmanian wine sector has built its strong and growing reputation on the basis of quality and the importance of RD&E in building the sector’s profile and reputation cannot be overstated.

Wine Tasmania
Wine Tasmania is the peak body representing Tasmania’s grape growers and winemakers, with a focus on promoting Tasmania as a benchmark wine region of world renown. Wine Tasmania represents more than 98% of Tasmanian wine production, through voluntary membership, with 95 state-wide producer members and 50 associated member businesses. All activities undertaken by the peak body are designed to generate value for our members, in line with Wine Tasmania’s Strategic Plan, which is available at www.winetasmania.com.au.

Tasmanian Wine Sector
The Tasmanian wine sector is an important and growing contributor to trade and the economy, regional employment, tourism and the overall Tasmanian brand.

Tasmania’s wine sector has developed a strong, clear and collaborative position in the wine world, built on quality and high value. Contrary to many other Australian wine regions, demand for Tasmanian wine continues to outstrip supply, and strong growth is occurring in the Tasmanian wine sector across new vineyard plantings, infrastructure, cellar doors and the overall visitor experience and offering.

This significant growth is through both existing wine businesses and new entrants to the Tasmanian wine sector and includes a more than 40% increase of wine availability from the 2016 vintage as well as approximately 150 new hectares of vines being planted in 2017. This is in contrast to national trends, with the latest Australian Bureau of Statistics report showing overall yield decreasing by 11% in Australia’s cool and temperate regions, compared with Tasmania’s growth of 14% during the same period.

The sector directly employs more than 1,400 full time equivalent positions throughout the island’s regional communities, supporting a wide range of complementary businesses and employment in these areas.

The infographic below shows the strong performance of the Tasmanian wine sector and its dramatic contrast with the national wine sector.
ANNUAL WINE PRODUCTION 2016

TASMANIA
15,343
Tonnes
= 4 X OLYMPIC SWIMMING POOLS

AUSTRALIA
1,810,000
Tonnes
= 520 X OLYMPIC SWIMMING POOLS

TOTAL SALES
By volume and value

TASMANIA

0% BELOW $15

100% ABOVE $15

AUSTRALIA

93% BELOW $15
72% BY VALUE

7% ABOVE $15
28% BY VALUE

AVERAGE VALUE

TASMANIA

$22.62
Average value of bottled wine
(domestic – off-premise)#

$13.66
Per Litre – Export Markets
2016

$2707
Per Tonne – All Wine 2016

AUSTRALIA

$11.48
Average value of bottled wine
(domestic – off-premise)#

$5.48
Per Litre – Export Markets
2016

$526
Per Tonne – All Wine 2016

A TASMANIAN FOCUS

Key varieties of Tasmanian wine produced

Interstate / international visitors to cellar doors

266,332 PEOPLE
21% of all visitors +22.5% on the previous year

References: Wine Tasmania, Wine Australia, Winemakers’ Federation of Australia, Centaurus Partners, Tourism Tasmania

# bottled wine only
Comments on the Tasmanian Government’s Green Paper: Growing Tasmanian Agriculture - Research, Development and Extension for 2050

Section 1: Contemporary Agricultural Research, Development and Extension in Australia

1. Can you identify personal, business or community benefits from the investment in agricultural RD&E?

The Tasmanian wine sector’s productivity and continued focus on wine quality has benefited from the investment in agricultural RD&E, particularly via the Tasmanian Institute of Agriculture (TIA).

For example, the current collaborative research into opportunities to improve the productivity of Tasmanian vineyards is critical. With technical support from TIA, investigation is occurring into ways to improve the predictability, stability and overall vineyard yields, in line with quality. Wine Tasmania has identified lower than desirable productivity and believes this needs to be thoroughly investigated in order to realise the full growth potential of the sector. Whilst this research is still continuing, the results are expected to have a major beneficial impact for the Tasmanian wine sector.

Additionally, TIA collaborative research into cool climate viticulture topics (outlined in question five) has contributed to the sector’s knowledge and practices.

The Tasmanian wine sector is highly engaged and invested in pursuing quality improvements and innovation. This is a positive, progressive environment, supported by a well qualified team at TIA.

2. Many commentators believe that significant effort will be required to return productivity growth in Australian agriculture to (at least) historic rates. If you agree, what do you think needs to happen to grow RD&E capability and impact, and how do you believe this effort should be resourced and funded?

The production rates of viticulture across Australia have remained constant and are at a suitable level for quality production at ~12 tonne per hectare. In Tasmania, this drops to ~ 6 tonne per hectare with variability from 3-8 tonne per hectare.

Wine Tasmania has identified the need to improve productivity in Tasmanian vineyards, including through RD&E with TIA, supported by the Tasmanian Government. This is seen as critical, to ensure that vineyards - both existing and new plantings - are at their desired productivity, with due consideration to quality impacts.

An important part of this project is to include growers as trial sites, ensuring that the varying impact across diverse sites is understood, that growers have shared ownership of the research and will be early adopters of new knowledge. Whereas some other agricultural sectors can undertake research at trial sites or in laboratories, the diversity of vineyard sites - soils, microclimates, grape varieties and clones - means that research is best undertaken across a range of different sites.

Whilst productivity growth can and should be discussed and explored across different sectors, Wine Tasmania’s also notes that the associated market for increased output needs to be considered and developed ahead of productivity improvements.

3. Are you aware of more effective RD&E models that Tasmania could learn from?

The Tasmanian wine sector’s RD&E model has proven to be very effective. The sector drives and leads priorities and each project incorporates extension activities as part of and at the commencement of the research. It also directly engages growers in the research, through trial sites, activities and demonstrations on their individual vineyards.
This effectively helps growers to own the research, become the early adopters and help to disseminate the knowledge to their peers. It also provides value to the research side of the project with additional and more widespread data. With the diversity of vineyard sites and conditions, it is important for research to incorporate multiple vineyard sites.

Section 2: The Tasmanian Institute of Agriculture (TIA)

4. What interactions do you have with TIA, if any?

Wine Tasmania and the Tasmanian wine sector have a very close relationship with TIA. This includes regular high-level meetings to discuss key research priorities, based on sector needs, and to coordinate RD&E activities in line with these priorities.

TIA has an observer representative on the Wine Tasmania Technical Committee, ensuring that research is embedded at the grassroots and that two-way communication can occur between the sector and TIA. This relationship has been furthered through the partnership on the current yield research project, with Wine Tasmania driving extension activities while TIA concentrates on the research side of the project.

5. Can you describe some of the benefits that your business, industry or community have experienced from TIA?

Several research projects have been undertaken through TIA relevant to the Tasmanian wine sector. Some examples include:

- Improving cool climate Pinot Noir & Sparkling Wine quality - a three year project, supported by AusIndustry funding, 2008-2011 - driving knowledge and practice change around Pinot Noir and sparkling wine viticulture and winemaking.
- International Cool Climate Symposium, building on the research project above and presented by Wine Tasmania, TIA and the Australian Wine Research Institute (AWRI), 2012 - a major international conference, assisting Tasmania’s global reputation.
- Establishment of the first AWRI regional ‘node’ in partnership with TIA, supported by the research mentioned above, introducing research winemaking services to the island for a four year period.
- TIA research into Botrytis - Kathy Evans at TIA is considered Australia’s leading expert in Botrytis, and her knowledge has assisted growers identify and manage Botrytis in their vineyards.
- TIA research into Powdery Mildew - this has enabled growers to understand how Powdery Mildew establishes and moves through a vineyard, and to alleviate the potential problem by the use of the appropriate sprays at the appropriate time.

6. What other ways do you access research, information and/or agricultural education to enable practice changes that contribute to increased agricultural productivity?

The Australian wine community is very well served by the AWRI, which runs an annual major roadshow to update growers on the latest relevant research. Wine Tasmania runs a regular workshop program, with guest presenters including TIA, on relevant topics and information to assist grower knowledge and practices.

Wine Tasmania has also initiated the VinØ program, providing information and encouraging best practice viticultural management, based on the latest relevant research.

Research updates are also obtained through industry publications, by attending workshops and conferences and by direct contact with researchers.
7. What changes would you support to TIA’s role, programs, suite of projects, or staff that would improve outcomes for your business, industry or community?

Wine Tasmania and TIA have a very productive and collaborative relationship for the benefit of the Tasmanian wine sector. Importantly, TIA is responsive to the sector’s research needs and priorities, ensuring resources are targeted and outcomes-focused.

Only one issue has arisen over the past few years, which Wine Tasmania has identified and raised with TIA. This is in relation to ensuring the local wine sector directly benefits from TIA research, at least as a first user. The desire for TIA and Universities to leverage research through collaboration and additional funding streams is recognised, however the key focus on direct outcomes and benefits for the local sector needs to be maintained.

A key example is in relation to the Sense-T viticulture project, which was initiated and widely promoted to benefit the Tasmanian wine sector. The sector provided considerable input into development of the viticulture project to ensure it was effective and relevant, participating in numerous workshops, interviews, meetings and discussions on this project. This significant input and investment has been based on the recognition of the potential benefits this initiative offers. It had been understood that this would move from a research to commercialisation stage, with the resultant outputs and technology available outside Tasmania, however it had been expected that the Tasmanian wine sector would itself extract benefits from this project. This has been challenging to secure to date.

8. Do you have any views on the structure or role of the TIA Advisory Board?

The structure looks appropriate with a wide range of skills. There is potential for greater representation of industry (closer to 50%) on the board, which could facilitate additional sector views and ensure alignment of research to sector needs.

Section 3: History and experience in State-owned research and demonstration farms

9. What is your experience with government or educational institution-owned research and demonstration farms? Has this experience provided benefits to your business, industry, or your community?

TIA owns both a micro trial winery and an abandoned vineyard at Cambridge. While the vineyard could be resurrected and used a demonstration/trial site, resourcing this would present a challenge. The practical benefit of research being replicated across multiple vineyard sites is greater than a single research vineyard site. The trial winery has served the sector well providing valuable data on the viticulture research projects undertaken.

10. Are you aware of other models that showcase best practice and which could be adopted in Tasmania to benefit the agriculture sector?

The Lincoln University (NZ) model is an interesting one, providing students with a practical experience through the onsite vineyard and winery. The Charles Sturt University in Wagga Wagga also has an onsite vineyard and a commercial winery. Funds from the sale of commercial wines help to run the vineyard and winery, which are then used for teaching purposes at the University, as well as for demonstration purposes and research aims.

It can be difficult to run multiple trials on a single vineyard, as quarantining each project can be difficult. As mentioned previously, tangible outcomes from viticultural research, particularly in the microclimates of Tasmania, are more likely to be achieved through multiple vineyard sites and participants.

11. Are there further best practice principles for such facilities that you are aware of?

No.
Section 4: State-owned farms in Tasmania

12. What is your experience with these facilities?
Wine Tasmania and several Tasmanian wine producers have participated in research including trial wines made at the TIA research winery.

13. What is needed to enable or enhance world class research at these facilities?
Wine Tasmania believes TIA can grow its reputation as a cool climate viticulture centre of excellence. The Tasmanian wine sector’s global reputation continues to grow, and the differences between the growing conditions in Tasmania by comparison to the mainland necessitate local expertise. Viticultural research currently undertaken largely focuses on in situ trials, supported by the research winery and laboratory facilities.

A key opportunity to grow this world class reputation is through international collaboration by Wine Tasmania and TIA on relevant RD&E, which could also link to exchange programs, promotional collaboration and more.

Section 5: Comments

14. Any other comments you would like to provide:

Wine Tasmania and the Tasmanian Institute of Agriculture’s (TIA) Perennial Horticulture Centre are close collaborators. Wine Tasmania identifies and drives priorities based on consultation with the Tasmanian wine sector, and TIA is extremely receptive to partnering on relevant RD&E priorities.

A representative of TIA is invited to participate as an observer on Wine Tasmania’s Technical Committee and regular communication between the two bodies is undertaken.

The Australian wine community is well served by a range of research institutions, including the Australian Wine Research Institute. However, the vast majority of research is focused on climates, varieties, challenges and opportunities that differ significantly from the Tasmanian wine sector’s priorities. Having a dedicated cool climate research focus in TIA allows for research to be directly targeted to our unique climate based on sector needs.

I would be pleased to discuss further with you, and to provide additional input on behalf of Tasmania’s wine producers.

Yours sincerely,

Sheralee Davies
Chief Executive Officer
30 May 2017

The Project Team – RD&E  
DPIPWE  
GPO Box 44  
HOBART TAS 7001  

Dear DPIPWE,

Growing Tasmanian Agriculture – Research, Development and Extension for 2050  
Green Paper, May 2017  

We refer to the Green Paper seeking submissions on the future of research, development and extension for Tasmanian agriculture and enclose our responses. While our comments are applicable to the RD&E programs for agriculture generally, we have focused on the dairy sector in our responses.

AgCAP, as manager of the Sustainable Agriculture Fund, has been involved in Tasmanian agriculture for the past seven years. We operate four dairy farms in northern Tasmania and five beef cattle farms on King Island. We have seen first-hand the strengths of the Tasmanian agriculture sector and the potential to further leverage these strengths and grow the industry.

We commend the government’s Agri-Food Plan initiative and believe a well-resourced and well targeted RD&E program can create significant benefits and act as catalysts for further growth in the sector.

Yours faithfully,

Deo de Jesus  
General Manager, Strategy
1. Can you identify personal, business or community benefits from the investment in agricultural RD&E?

Research, development and extension plays an important role in ensuring Australian dairy remains competitive on a global stage. Public investment in RD&E enables important work to be undertaken where it would not be rational for the private sector to undertake. These investments provide significant benefits for the business and the community, including:

(a) disseminating leading edge research which ensures our industry remains at the forefront of productivity;
(b) disseminating best practice research which assists in reducing the dispersion of performance across the industry and improving the professionalism of the industry as a whole; and
(c) continue growing the body of knowledge of the sector, which is important in attracting talented and ambitious farming professionals to the industry.

AgCAP believes these initiatives ensures the on-going competitiveness of the Tasmanian dairy industry which has a positive benefit not only for individual farm businesses but also for maintaining the vibrancy of regional communities. We also believe that these efforts will assist the Tasmanian dairy industry to attract capital which is critical towards improving productivity of the sector.

With the benefits of research and development in the local Tasmanian dairy industry the highest when it is shared across the industry, we have observed that productivity gains have occurred through effective public R&D efforts delivered by extension and implemented by individual farmers.

2. Many commentators believe that significant effort will be required to return productivity growth in Australian agriculture to (at least) historic rates. If you agree, what do you think needs to happen to grow RD&E capability and impact, and how do you believe this effort should be resourced and funded?

AgCAP agrees with the statement that significant effort is required to return productivity growth back to its historic rates. However, before answering the question of what needs to happen to grow RD&E capability and impact, policy makers need to understand what is productivity, how does it benefit the dairy industry and the Tasmanian dairy industry specifically. As a measure of a rate of progress within an industry, it is an implicit assumption that the type of output produced is consistent between the two time periods of measurement.

This assumption has historically been a good measure for the rate of progress of the dairy industry. In recent history, increasing productivity in the dairy industry and more broadly the agricultural sector has been a significant benefit for producers and consumers in a world with a fast-growing population, relatively unsatisfied needs and limited resources. In this world, productivity growth in its traditional sense is positive for consumers by providing access to products at lower real prices and enables producers to earn higher incomes from a given level of resource.

While this remains somewhat true today, it is starting to break down as population growth slows, standards of living rises and levels of disposable income increases. In this environment with consumers able to be more discerning on what they consume,
increasing value is no longer just measured by the quantity produced and consumed but also on the quality and how it is produced. These are attributes that are not measured in traditional measures of productivity. However, we have no doubt improvements on these measures can lift income and economic activity to the benefit of the industry and the community.

We are observing that the dairy industry is increasingly less homogenous, with consumers demanding provenance, traceability, and sustainability. The growth in the demand for organic products is a prominent example. It is possible, increasing uptake of organic dairy farming may result in a reduction in on-farm productivity. However increasing organic production may increase farmgate prices and accordingly, result in increasing value being created.

This approach requires a mind shift from traditional thinking. However, the Tasmanian dairy industry is well positioned to take advantage of, given its reputation for clean and green environment and for producing high quality produce. We believe there is an opportunity for Tasmania to become a global leader and further accentuate its reputation as a high-quality food producing region.

With this perspective, we believe RD&E should have three focuses:

(a) continued dissemination of industry best practice to boost the performance of bottom quartile performers;
(b) research into technological improvement in the traditional sense of producing more for less; and
(c) investment in improving non-quantitative factors that consumers are demanding and which can add value at the farmgate (e.g. improvements in animal management techniques, environment and social welfare).

As a general rule, we believe RD&E that benefits the wider industry rather than individual private groups should be funded by the wider industry. This can ensure that the benefits of this work will be made available for all. Where RD&E benefits a narrower range of interests, the question of funding becomes more difficult. Implementing this in practice will be difficult and require compromise. RD&E bodies will need to have well defined roles in order to ensure appropriate equity with any work undertaken.

3. Are you aware of more effective RD&E models that Tasmania could learn from?

Apart from the models cited in the Green Paper, we are not aware of any additional models that Tasmania could learn from. However, the only comment we make is that any approach undertaken by Tasmania should not re-invent the wheel. We should understand and learn from international examples and where required make changes to meet the characteristics peculiar to Tasmania.

Prior to any investment in demonstration farms, Tasmania should learn from overseas and interstate examples. Tasmania should understand what worked at the Lincoln University Demonstration Dairy Farm but also did not work well at other locations. As an initial note, we observe that the Lincoln University Demonstration Farm is not only connected to a highly regarded agricultural university but is in a dairy region many times the size of the Tasmanian industry. We suggest, perhaps, a better return on investment may be to partner with commercially operated private farms to act as partner farms for any demonstration objectives. This approach may be of lower cost and note that this concept has worked well in other states of Australia.
SECTION 2: The Tasmanian Institute of Agriculture

4. What interactions do you have with TIA, if any?

AgCAP management have had frequent contact with research staff (e.g. Richard Rawnsley) and communicate and use their extension staff. AgCAP participates in TIA discussion groups and field days. As part of our interactions, AgCAP has made available one of the farms owned by the Sustainable Agriculture Fund for use in the Smarter Irrigation for Profit research program.

5. Can you describe some of the benefits that your business, industry or community have experienced from TIA?

One discrete benefit has been the learnings from the Smarter Irrigation for Profit project. This research is now being utilised across all our dairy farms to gain irrigation efficiencies. Currently, AgCAP is interacting with TIA to ensure our farms produce more milk from our feeding inputs, i.e. more production from the same inputs and eventually producing more from less.

6. What other ways do you access research, information and/or agricultural education to enable practice changes that contribute to increased agricultural productivity?

AgCAP accesses information from newsletters and from online resources provided by TIA.

7. What changes would you support to TIA’s role, programs, suite of projects or staff that would improve outcomes for your business, industry or community?

AgCAP would support an investment in updating current research facilities and/or the building of state-of-the-art multi-disciplinary research facility in Northern Tasmania.

8. Do you have any views on the structure or role of the TIA Advisory Board?

We do not have any suggestions for any change in structure or role of the TIA Advisory Board.

SECTION 3: History and experience in State-owned research and demonstration farms

9. What is your experience with government or educational institutional-owned research and demonstration farms? Has this experience provided benefits to your business, industry or your community?

We refer to the previously mentioned comment regarding the size of the dairy industry near Lincoln University and query whether Lincoln University’s demonstration farm experience could be replicated in Tasmania. We note the significant cost of demonstration farms and examples of less successful examples in other states of Australia. Accordingly, we believe there are alternative models which can deliver a better return on investment in RD&E.
10. Are you aware of other models that showcase best practice and which could be adopted in Tasmania to benefit the agricultural sector?

No.

11. Are there further best practice principles for such facilities that you are aware of?

No.

SECTION 4: State-owned farms in Tasmania

12. What is your experience with these (existing Tasmanian) facilities?

None.

13. What is needed to enable or enhance world class research at these facilities?

As an outside observer, we suggest consolidating and rebuilding Tasmania’s research capabilities will assist in creating not only a competitive advantage for Tasmania’s agricultural industries but also a reputation for being a world class destination for agricultural research.
31 May 2017

The Project Team – RD&E for 2050
DPIPWE, GPO Box 44
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Dear Sir/Madam

Re: NTDC Ltd Submission to the RD&E for 2050: Green Paper

Northern Tasmania Development Corporation Ltd is the newly re-formed economic development agency for the North and North East funded by seven councils throughout the region.

Food and Agribusiness is a sector of particular interest to NTDC. Education and learning, and Entrepreneurship and innovation are two of NTDC’s other six focus sectors. I am the Director responsible for promoting the sector and looking for cross-sectoral opportunities. I am also Acting Chair at this time.

Our main interest is to make comment on the potential of the Cressy Research and Development Station (CRDS). With more than 450 hectares and a substantial irrigation license this property has the ability to be a centralised hub for most forms of research in the state. There is a growing recognition that Tasmania’s produce can be marketed at a premium and while private research facilities are beneficial to the industry they are less inclined to be focused on the best interests of a particular region such as Tasmania. Wine, stone fruit, beef and berries have all been developed to a standard where premium prices are becoming available. The ability to extend this further into lamb, dairy and selected vegetables necessitates a need for more local research that is specific to our island.

An important aspect of our Food and Agricultural Sector Plan is the improved productivity and profitability at farm gate and the ability to have a flourishing processing sector. For the northern region there is a growing recognition that lamb, dairy, beef, cereals, vegetables and poppies will be backbone of the area into the future with dairy and lamb prime opportunities at the moment. RD&E that not only generates innovation but also assists producers to adopt or adapt new practices is essential if our agricultural sector is to continue to contribute to economic growth.

Factors we consider important are the following:

- Cressy to become a consolidated RD&E facility focusing on grazing systems for dairy, lamb and beef. The sale of the other research farms could help fund the development on a modern, state of the art facility at Cressy.
- Research should include seed, pasture and crop trials including collaborative trials through TIA with groups such as GRDC, Dairy Australia, and MLA.
- Research should be complemented with an extension component that is built in to the research design from the start.
Develop an area for lamb breeding and trials to improve lamb quality and productivity including a focus on a brand that will attract premiums back to both farm gate and processor.

Develop stronger relationships with both Marcus Oldham College and Lincoln University in conjunction with UTAS.

Research the viability of developing a Lincoln Farm style dairy farm on a commercially viable basis. Input from Lincoln University (Ron Pellow) would be considered a vital part of this analysis. Any research dairy farm model should draw on the strengths of TIA's dairy research program, including the social research aspects of its Dairy Australia pasture management program. This will ensure that 'E' is embedded in R&D to promote adoption and adaptation of research.

Our view is that many of the research facilities located around the state are antiquated and too small to be commercially relevant in the modern era. In the past this has led to the transfer of this action to private, independent or farmer owned bodies where the focus has generally been where the greatest gains can be met. Tasmania has often been too small for specialised research with the exception of Dairy Tas, TIA programs and Southern Farming Systems.

At present there is a growing recognition that lamb, beef and dairy could be marketed better for a premium price at farm gate. This requires attention to pasture species, breed, fertility and other factors. While benchmarks have been created by most independent agencies we need to focus specifically on the needs of the Tasmanian farmer.

NTDC would recommend that the State Government review its State owned farms and their ongoing role, with the intention of consolidating operations into a new centre at Cressy to ensure it meets contemporary standards of R&D. This could include a dedicated commercially viable dairy farm with attached research unit plus attention to lamb and beef production. With UTAS reviewing their agribusiness-related educational offerings, a more contemporary facility at Cressy would provide more capacity for greater industry collaboration, including around RD&E.

Further investment into Cressy Farm will be a great outcome not only to farmers throughout the North but the northern economy as well -through the creation of jobs, agricultural training and education links with UTAS and VET agricultural qualifications.

I would be happy to comment further on this recommendation if given the opportunity.

Yours sincerely

Greg Bott
Acting Chair
1 June 2017

The Project Team – RD & E for 2050
Department Primary Industries, Parks, Water and Environment
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By email: RDE@dpipwe.tas.gov.au

Dear Sir / Madam,

I refer to the Green Paper for ‘Growing Tasmanian Agriculture – Research, Development and Extension for 2050’. The Directors and Members of the Tasmanian Agricultural Productivity Group (TAPG) (http://tapg.net/) appreciate the opportunity to contribute to the consultation process.

About TAPG

The Tasmanian Agricultural Productivity Group Limited (TAPG) was formed in 1989. The Group represent broad acre and intensive agriculture, fresh and processed food producers, and associated service industries. The Group is focused on representing whole of supply chain issues relating to food, fibre and allied crops to all levels of Government.

TAPG is uniquely positioned with membership that represents the full range of primary, secondary and related activities in agriculture, including plantation forest industries. This vertical integration of membership allows for issues facing industry to be addressed by a Board leveraging expertise from the continuum of growing, processing, marketing and service sectors.

TAPG is entirely funded from member contributions and is an apolitical organisation.

Due to the sectoral nature of our Board’s composition, TAPG has been able to commission responses to the Green Paper from within its elected Directors that collectively represent leadership, expertise and experience across the entire spectrum of the industry supply chain including:

- Representation from Plantation Forestry;
- Representation from Primary Industry including Dairy;
• Representation from Poppies and Other Crop Processing;
• Representation from Agri-business Marketing;
• Representation from Agri-business Companies;
• Representation from specialised Agricultural Advisory Companies;
• Representation from International Vegetable Processing Companies;
• Representative from the Fresh Vegetable sector;
• Representation from Transport and Logistics; and
• Experienced Business Development Experts.

The Review Process undertaken included electronic distribution of the Paper prior to meeting for consideration. This was reinforced with hard copy scrutiny, notation and discussion at Board Meeting Level. Compilation was carried out by a small editorial team before the response was circulated back to all Board Directors for their final approval.

**Current Strengths as Drafted**

• In keeping with its parent document: Cultivating Prosperity: A 2050 Vision for Agriculture, the production of the Green Paper is to be applauded. Understanding that the RD&E settings must align and support the attainment of the productivity targets listed within the 2050 Vision may seem self-evident but actually requires higher order planning and implementation.

• The Green Paper not only provides an invitation from Government to the private sector to generate further growth, it also makes a bold statement in the market place that Tasmania is ‘Open for Business’.

• This focus on RD&E is not only appropriate but essential if the growth targets encapsulated in the Vision are to be realised.

• There is an acknowledgement that while Tasmania has fantastic resources in UTAS, TIA and Industry Service Providers these resources require optimisation through a model that delivers tailored (industry owned) research direction and extension.
• The acknowledgement that research and demonstration farms are currently underutilised is supported by Industry and presents an opportunity for more effective outcomes.
The invitation to form a “Road Map” for RD&E should invigorate both Industry and traditional providers to more effectively utilise both private and public resources to deliver on the 2050 Vision.

Opportunities for Improvement

- The RD&E White Paper should acknowledge and support the enhancement of a sustained ‘Growth Culture’ amongst the broadest interpretation of the Tasmanian agribusiness community. The ultimate delivery of the Vision requires our businesses and community to be excited about growth, and look for pathways to realise it.

- Food Production and Fibre Production are often used side by side in contemporary agricultural policy settings. Plantation Forestry should be included within the scope of the 2050 Vision as an agribusiness involved in Fibre Production on >300,000 ha of Tasmania’s productive land. This position reflects TAPG’s sustained view that Plantation Forestry is simply another integral industry to optimising Tasmania’s productive capacity.

- The DPIPWE Enterprise Suitability Mapping project provides ‘shelf ready’ information to hypothetically ‘optimise’ Tasmania’s land mass and establish how much GDP is possible under existing enterprises. This output will provide some sense of reality around the possibility of a $10b target for Community, Industry, and Government.

- The research direction of TIA requires more direct engagement from, and accountability to, Industry, in all phases of formation, monitoring, and project completion. An ‘Industry Advisory Council’ would be a mechanism to ensure research is aligned to Industry’s response to the 2050 Vision, and that outputs are available for incorporating into practice. The exact formalities of this would need to be negotiated between appropriate parties.

- The Education and Training agenda is critical to Tasmania’s long term capacity for growth. Current Primary and Secondary educators will require professional development that assists them to integrate agribusiness content into the existing curriculum. A specific recommendation is this area would be that the Agricultural Education Centre of Excellence Program as developed at Hagley Farm School be fully supported.
• The logistics industry (freight) requires engagement from public and private interests to ensure capacity growth commensurate with the private sectors response to the 2050 Vision.

• The RD&E Paper is well recognised by ‘Industry’. However, successful deployment will require a social licence to attract investment and weather inevitable storms associated with a global community engaged with food and fibre production. The 2050 Vision requires direct engagement with interested parties that can be advocates during the life of the Vision.

Summative Conclusion

RD&E is imperative to drive productivity gains and growth in our industry. It supports innovation and ensures we are leaders and not followers.

Tasmania has a unique and blessed combination of climate, location, soils, water and talent which positions us in a unique and envious position.

To execute on our potential, it is imperative that productivity gains through our RD&E sector are supported by a strong extension model. Adoption of new technology and techniques needs validation in commercial terms and at a relevant scale. Quality RD&E needs to be taken to the farming community in consumable and relevant terms to ensure the maximum adoption. The contemporary example is the Tasmanian poppy industry with its RD&E generated growth both in terms of efficiency and yield per hectare.

The use of a combination of self-sustaining industry supported demonstration farms and on farm (focus farm) approaches are proven methods of maximising frontline adoption.

We must believe before we can succeed, we need to build a culture that allows us to grow. We need to create a revolution, we don't have time for evolution as the opportunity will pass us by.

Further Consultation

TAPG acknowledge and support the Government’s interest in maintaining momentum towards the 2050 Vision, and the development of the White Paper as an integral step. Should further consultation
be required at any stage TAPG remain at the ready to facilitate further industry feedback that is frank,
constructive, and provided in confidence.

Kind regards

Jim Wilson
Chairman
Tasmanian Agricultural Productivity Group
PO Box 210
LONGFORD TAS 7301
Tasmanian Government’s Green paper (May 2017)

“Growing Tasmanian Agriculture” – Research, Development and Extension for 2050

Simplot Australia’s response

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And
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Simplot Australia

Submission Date: June 2, 2017

Approved for release for public record
Simplot’s Tasmanian Operations

Simplot Australia is a large food processing company and is the last remaining frozen vegetable processor in Australia.

Simplot Australia has two frozen food processing facilities in Tasmania, one in Devonport and the other in Ulverstone.

The plant in Devonport freezes and packs frozen vegetables in a number of formats and purchases about 70,000 tonnes of peas, beans, carrots, broccoli, cauliflower, Brussel sprouts, onions and potatoes from local farmers.

The plant in Ulverstone freezes and packs potatoes products, primarily frozen French fries and purchases approximately 265,000t of potatoes from local farmers.

In 2017 the total volume is grown on approximately 13,000 hectares and farm gate cost of vegetables and potatoes is in excess of $100m. Tasmania GVAP in 2014 – 15 of Potatoes, Onion, Carrots and Other Vegetables as represented in the Green Paper is $247.9m, therefore Simplot’s share of that is about 40% by value.

The stability of Simplot is crucial to the well-being of some 300+ vegetable growers, to the communities of Northern Tasmania, and to the Tasmanian economy as a whole. Simplot directly employ over 580 Tasmanians.

The great bulk of this production is overwhelmingly for consumption on the Australian domestic market. Approximately 99% of all production is shipped across Bass Strait.

Section 1: Contemporary Agricultural RD&E in Australia

Simplot is of the view that there is significant community good to be gained from RD&E. The existence and current productivity of the many major agricultural industries in Tasmania is as a direct result of public funds being directed to RD&E.

Simplot broadly agrees that the current model and structure is effective and provides an efficient pathway to enable RD&E to be undertaken. There are some bureaucratic hurdles that can slow down or create barriers to the efficient decision making and deliver of funding to providers but this is not reducing or stopping the effort.

Simplot funds a large private research program to enable us to develop and retain IP for the benefit of the farmers that supply Simplot. This effort is largely around developing new and better varieties and new and better practices.

Section 2: The Tasmania Institute of Agriculture

Simplot engages closely with TIA in various way from support for student work placement to co-operative research efforts.

Simplot broadly agrees that structure of TIA meets the needs of the Tasmanian agricultural community by providing an “interface between the university research, other sources of knowledge and those who can benefit from the research”.

Section 3: History and experience in State-owned research and demonstration farms.

Simplot has used and continues to use the TIA Vegetable Research Facility (TVRF), Forthside. In addition, many seed companies use Forthside to trial and develop vegetable varieties that could be suitable for the Tasmanian industry.

Simplot see the farm as a key piece of necessary infrastructure to support RD&E into vegetable and potatoes and will support the ongoing ownership and operation of the farm by UTAS.

Section 4; State-owned farms in Tasmania

Simplot would support a review of the operation of the Forthside farm to ensure the best management practices are being undertaken and that support for the RD&E work in vegetables is done in an efficient and capable way.
Introduction: AK Consultants enthusiastically supports the Government’s Agri-Food Plan, and the objective of increasing the value of agricultural output to $10 billion by 2050. We are therefore pleased to respond to the invitation to the questions posed in the Green paper.

We note that growth in agriculture will require investment in three key areas, productivity, education and marketing. The focus of RD&E is primarily on productivity; we must not forget the two other areas and we do acknowledge that the State Government is investing in these areas but at a lower level.

Contemporary agricultural RD&E in Australia.

Section 1: Contemporary Agricultural RD&E in Australia

Q1. Can you identify personal, business or community benefits from investment in agricultural RD&E.

AK Consultants staff have developed a working relationship with some TIA staff to tap into knowledge gained from RD&E, to the extent of soliciting very detailed reports from individual TIA members.

It is difficult to identify and link specific benefits with specific RD&E investments. Growth in the output of particular farming businesses results from many things; new production ideas emerging from media reports, field days and conferences, observing what neighbours and others do, and younger family members learning at agricultural training centres for example.

Q2. Growing RD&E impact.

We believe the impact of RD&E can be increased by focussing on the industries in the state where there is greatest potential for growth. This includes dairy, meat, viticulture and stone fruits. These industries were identified by Jonathon West some years ago.

It is interesting to consider the growth of the berry fruits industry. In 2014-15 Total Fruit Production including wine grapes was worth $118m at farm gate; the main components were apples and pears $36m, cherries $31m, wine grapes $21m and strawberries $12m (the value of other berries not specified). Although data is difficult to obtain, by 2015-16 the berry fruit industry was estimated to be worth $100-$150m at farm gate (pers. Comm. DPPIPWE). This industry is expanding rapidly in the north of the State, and it seems likely the industry will be worth $200m in the next 2 years. This is as much as the entire vegetable industry ($211m) and twice as much as wool ($91m).

We need to ask, how has this occurred?

- Very suitable climate
- Driven by two marketing companies (Driscolls and Costas). They have brought the technology to the state.
- Very efficient marketing system.
- A small number of enthusiastic growers, probably around 10; hence large scale.
- Growers using world’s best practice technology, varieties and production systems
- Low interest rates – very high capital investment; Government has helped a little.

This growth is occurring with very little RD&E input by the state. In my view state resources should be focussed on industries like this; industries that are already large, internationally competitive, and growing. Given such growth, it may be concluded that State involvement is not necessary; the businesses are growing without assistance. However, such a conclusion is not necessarily correct. We know that in 2015/16 an outbreak of thrips in some strawberry plantings resulted in very substantial losses. I believe there should be discussion with the industry to see whether and where investment in RD&E could facilitate growth and if possible, reduce the production risks.

RD&E investment in growth industries like this should be jointly funded by the industry in partnership with the state (TIA).

The Australian Farm Institute May 2017 Discoveries newsletter contains an article titled “Collaboration Key to Effective RD&E”. The article refers to a soon to be released research report that investigates the opportunities and potential for enhancing private sector agricultural RD&E investment in Australia. The findings indicate that private investors list impediments to effective collaborations are more related to administrative culture and commercial awareness than the calibre of the science involved. This certainly correlates with AK Consultant’s experience of working with the public sector in RD&E. The article continues by raising the question of whether matching cultures between public and private RD&E is possibly more important than direct funding programs or incentives in achieving the ultimate aim of more effective RD&E.

Q3. More effective RD&E models.

RD&E funds should be targeted to the priority industries; large industries that are internationally competitive and growing. On these criteria, investment in industries like essential oils and medicinal hemp for example, would be a low priority and minimal.

We note that the Green paper does not recognise the extension activities of the NRM organisations. The Tasmanian Country newspaper (12 May 2017) promotes an extension activity concerned with pasture productivity; presumably funded by public funds. While we do not criticise the event, and it will contribute to the overall aim of increasing agricultural output, the priority for investment in this particular area should be established to ensure the investment of public funds in RD&E is maximised. The other NRM sponsored event is concerned with soil management; we would expect both productivity and environmental sustainability
benefits. To the extent the productivity outcome would be expected it would be appropriate for the event to fit within an overall strategy, so that the priority can be assessed. We are aware of the “LEADER” model for the distribution of state funds to members of the European Union, having heard several presentations by the representatives of the South East Cork Area Development (SECAD) in Ireland. SECAD provides support a wide range of projects in South East Ireland, against regional priorities such as increasing employment opportunities for young people. The organisation also assists projects meeting social and environmental outcomes. The LEADER program has been operating throughout the EU for many years. A very significant factor in its’ success is that priorities within the region, consistent with national objectives, are determined by a local board with very wide representation, and not by national politicians. It is a very successful model for the allocation of public funds.

Section 2: The Tasmanian Institute of Agriculture (TIA)

Q4. Our interactions with TIA are generally confined to:
   • Participation in Agrifood Collaboration Tasmania (ACT).
   • Occasional one-on-one interaction with technical staff at field days and workshops, and meetings with members of the Ag Institute.
   • Attending TIA extension activities.

The performance of ACT has been disappointing. Aside from the “planning” meetings attended only by single representatives of the four consulting firms and 2-3 TIA staff, 1-2 times each year, and a single larger meeting at least 3 years ago, little has occurred. The last meeting was in May 2016; it was a facilitated meeting between ACT members and some TIA staff to workshop a practical plan to help the State Government achieve its’ 2050 vision. However, it was discovered that such a plan was already in the making. It appears that TIA has lost interest in continuing to collaborate as no further meetings have been arranged.

To be blunt, ACT has achieved very little; certainly not enough to justify the trips to Hobart in the last four years. I refer to the smaller meetings as planning meetings, as the major purpose was to determine what ACT would do. The objectives of TIA remain relevant, but it is apparent the commitment of TIA to achieving those outcomes is lacking.

Q5. We believe it important that personal interaction between TIA staff and the private consultants be actively encouraged; personal relationships are more likely to lead to professional relationships that will benefit all, and contribute to better outcomes from RD&E. We actively sought opportunities for personal engagement and this has improved our capacity in the service sector.

The networking provided through the occasional meetings and the rare workshops has been beneficial.

Q6. There are a number of other organisations conducting agricultural RD&E; for example private consultants funded by RDCs and other providers, NRM organisations, AWA and TAPG. Ideally, the RD&E activities of all these organisations would be coordinated with priorities established to meet the agreed strategy.
We access information from these sources through media, field days and workshops.

Q7. Changes to TIA’s activities to improve outcomes for our business, industry or the community.

We would support greater opportunity to source knowledge and skills through direct engagement with TIA staff. This is more likely to result where there is personal interaction between private consultants (like us) and TIA staff, and where there is a culture that not only actively supports less formal interaction, but actively encourages such interaction. This means that TIA staff should be encouraged to be pro-active in approaching private consultants working in their field of expertise. Without this culture TIA specialists are commonly “silo bound”, not benefiting professionally from interaction with the consultants, and consultants and their clients not benefitting from the technologies being developed by the TIA specialists.

One of the objectives of ACT was to ensure that when TIA staff are developing projects, they discuss the project with private consultants in the early stages, so that the consultants can assist with planning the extension actions expected to follow. This has not occurred, at least with our business. I believe that is an expression of the “silo” culture.

State owned farms.

Section 3: State-owned Farms

Q9. We are aware of the RD&E work in the dairy industry at Elliott and Forthside. Cressy Research Station has deteriorated, yet improving the productivity of meat production under irrigated and dryland pastures should be a very high priority (in the same way as it is in dairy and being conducted at ERS). Why is similar R&D work not being undertaken at CRS? Perhaps research on projects like this can only be undertaken with the involvement of national funding bodies, such as MLA and Wool Innovation, but certainly demonstration on technologies could be undertaken at CRS for Tasmanian farmers.

The farm gate value of livestock slaughterings (ABS 2014-15) was $373m, making it the largest sector after dairy ($442m). RD&E to increase productivity should be a high priority.

Of 19 projects currently listed in TIA’s Extensive Agriculture Centre’s web page, only 5 are concerned with pastures and meat production. This seems a very small contribution to such a large industry, and an industry with potential for significant growth.

Q13. In our view RD&E projects need to be better integrated into the 2050 Vision and tied closely to the Agrifood Plan. Investment in RD&E projects targeted to priorities in the Agrifood Plan will maximise the value of the primary industries sector and its’ contribution to the Tasmanian economy.

Better and more transparent alignment of priorities of TIA and the Agrifood Plan, and developing a culture of collaboration between TIA staff and private service providers, will improve the results from the expenditure of public funds on RD&E.
CropLife Submission to Growing Tasmanian Agriculture - Research, Development & Extension for 2050

2 June 2017
1 INTRODUCTION

CropLife Australia (CropLife) is the national peak industry organisation representing the agricultural chemical and biotechnology (plant science) sector in Australia. CropLife represents the innovators, developers, manufacturers and formulators of crop protection and agricultural biotechnology products.

The plant science industry provides products to protect crops against pests, weeds and diseases, as well as developing crop biotechnologies that are key to the nation’s agricultural productivity, sustainability and food security. The plant science industry is worth more than $18 billion a year to the Australian economy and directly employs thousands of people across the country. CropLife Australia is a member of CropLife Asia and part of the CropLife International Federation of 91 CropLife national associations globally.

CropLife welcomes the opportunity to make a submission to the Tasmanian Government’s Green Paper Growing Tasmanian Agriculture – Research, Development and Extension for 2050. CropLife’s submission responds to Section 1 of the Green Paper concerning contemporary agricultural RD&E systems that could benefit Tasmanian agriculture.

CropLife’s submission highlights that over the past 14 years, Tasmania’s agricultural sector has suffered a net loss of $4 million per year due to a moratorium on genetically modified organisms (GMOs) that has provided little tangible benefit to the state in return.

Fourteen years of evidence shows that the moratorium has only managed to hurt the state’s economy and has failed to give local growers an advantage in domestic and global markets. GM and non-GM crops are now grown successfully side-by-side in Australia and in more than 25 countries worldwide. Many other countries and regions have examined the potential for GMO-free marketing and almost all have concluded that any potential benefits do not outweigh the costs.

The moratorium also ignores the mounting evidence of the environmental benefits of GM crops. Globally, since 1996 GM crop plantings have conserved biodiversity by saving more than 430-million acres of land from being placed in agricultural production. Crop biotechnology is an important tool helping farmers become more sustainable by allowing them to produce more using less natural resources.

Tasmania’s island state image is an asset to the state’s economy. The GMO moratorium, purportedly put in place to protect this image, has turned out to be an extremely costly investment that has delivered no measurable return to Tasmania’s economic standing or competitiveness.

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1 Macquarie Franklin 2012, Market advantage of Tasmania’s GMO-free Status, Devonport, Tasmania
The world’s population is predicted to increase to 9.7 billion by 2050, requiring an increase in global food production of 70 per cent. Providing enough food in the context of production constraints, volatile consumption patterns and a changing climate will be an unprecedented scientific, economic and public policy challenge. The situation provides an opportunity for the Tasmanian agricultural sector to both assist in the global food security effort and to profit from increased demand for their agricultural products. By having the option to adopt innovative farming practices, such as the sustainable and efficient use of crop biotechnology products, the Tasmanian farming sector will be able to produce more with less, strengthening both the sector itself and the regional communities that rely on it.

GM crops currently under development in Australia will help Tasmanian farmers to combat environmental stresses such as drought, acid soils and salinity, which are being caused by climatic changes and previous non-sustainable farming practices. There is also significant Australian research into GM traits that will bring health benefits to Tasmanian consumers, such as healthier starches and oils modified to be lower in saturated fats and with improved cooking qualities.

CropLife supports the ability of farmers to be able to plant those GM crops approved by the Gene Technology Regulator and not be further restricted by non-science based regulation. CropLife urges the Tasmanian Government to put political considerations aside and consider what is best for Tasmanian farmers and the Tasmanian agricultural industry. CropLife questions why Tasmanian growers are being penalised to promote a ‘clean green’ image that would still be maintained and arguably enhanced without a GMO moratorium.\(^3\)

CropLife’s submission addresses the following questions relevant to Section 1 of the Green Paper:

- What needs to happen to grow Tasmanian agricultural RD&E?
- Are there new and emerging opportunities in agricultural RD&E that could benefit Tasmania?
- What impact has Tasmanian government policy had on agricultural RD&E?

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\(^3\) For a qualitative case study that examines the impact of the hypothetical introduction of GMOs on New Zealand’s “clean green” marketing image, see Knight JG, Clark A and Mather DW (2013) ‘Potential damage of GM crops to the country image of the producing country’ *GM Crops and Food* 4:3, 1-7.
2 WHAT NEEDS TO HAPPEN TO GROW TASMANIAN AGRICULTURAL RD&E?

The release in 2012 of the Macquarie Franklin report to investigate market, economic, social and environmental issues relating to Tasmania’s GMO free status, demonstrated the GMO moratorium has been a trade and marketing disadvantage for Tasmania’s primary industries, and significantly stifled Tasmanian RD&E into agricultural biotechnology. The Macquarie Franklin report found:

- The non-GM canola seed industry was the only industry in Tasmania at the time that had achieved tangible (quantifiable) benefits from Tasmania’s GMO-free moratorium. This is, however, more than offset by the inability to be able to grow GM canola.
- The market disadvantage created by Tasmania’s GMO-free status is currently producing a net loss of around $4 million per annum at the farm gate. This represents $56 million of lost opportunity over the last 14 years.
- The ability to supply non-GM canola to Japan has been reported as one of the major benefits of Tasmania’s GMO-free status. However, other Australian regions where GM and non-GM crops coexist also supply this niche segment of the market. It was also found that this market was small and sporadic in nature.
- Price premiums in world canola for non-GM canola are either small or non-existent.
- Less than 5 per cent of the food and agricultural sector use Tasmania’s GMO-free status to support their brand image and there is no evidence to suggest they derive a tangible benefit from so doing.
- The current market advantage that can be gained from the specific promotion of Tasmania’s GMO-free status is likely to be very limited.

The consultant’s report also assessed the impact of the Tasmanian moratorium against the four goals of Tasmania’s Economic Development Plan. Maintaining the GMO moratorium in Tasmania is inconsistent with both the state’s clean and green image, and economic development goals. The authors found:

Goal 1 - To support and grow businesses in Tasmania

Except for the canola industry, Tasmania’s GMO-free status has had little impact on the growth of businesses in Tasmania to date. While there are several companies that have increased business in Tasmania utilising the GMO moratorium to grow and sell non-GM products, the loss to other companies from losing a GM canola seed business has had a greater negative impact on business in Tasmania.

Goal 2 - To maximise Tasmania’s economic potential in key sectors

The sectors of the food industry in Tasmania currently identified for significant growth are dairy, salmon and soft fruit. None of these derive benefit from Tasmania’s GMO-free status. The competitiveness of Tasmanian milk production may be negatively impacted by Tasmanian dairy

farmers’ inability to grow improved pasture species or grains. The capacity for industry to meet forecast milk demand would therefore be reduced.

Goal 3 - To improve the social and environmental sustainability of the economy

The GMO moratorium has not to date had a significant impact on agriculture in Tasmania so it has had little ability to improve either social or environmental sustainability of the economy.

Goal 4 - To support and grow communities within regions

Agriculture and food processing are two of the largest employment sectors in rural and regional communities across Tasmania. Growth in these sectors contributes greatly to growth in regional communities. The GMO moratorium has not impacted greatly on communities in regional Tasmania to date.

The report found that over 80 per cent of food products originating in Tasmania are sold within Australia, a market that is not focused on GMO issues. An increase in marketing of the GMO moratorium to the Australian market will not achieve growth in the agricultural and food sectors that support growth in communities and regions.

The findings of the Macquarie Franklin report clearly and unequivocally demonstrate that having a GMO moratorium is completely inappropriate for Tasmania. Tasmania’s GMO moratorium has stifled Tasmanian RD&E into agricultural biotechnology to the extent whereby it is the only state in all of Australia in which no GM crop field trials are being undertaken. Tasmania is no longer only at risk if becoming an agricultural RD&E museum; Tasmania is an agricultural RD&E museum.

To grow Tasmanian agricultural RD&E, the State Government needs to immediately repeal the *Genetically Modified Organisms Control Act 2004* (Tas). Repealing the Tasmanian GMO moratorium will clear the way for investment in RD&E of new agricultural biotechnologies in the state and send the right message to Tasmania’s trading partners that Tasmania is ‘open for business’. Currently, investors in agricultural biotechnology RD&E do not even give Tasmania a backwards glance as they invest their RD&E dollars in the progressive regulatory environments of mainland Australia.
3 ARE THERE NEW OR EMERGING OPPORTUNITIES IN AGRICULTURAL RD&E THAT COULD BENEFIT TASMANIA’S PRIMARY INDUSTRIES?

As a direct result of the GMO moratorium, Tasmania has missed out on 14 years of opportunity to maximise the benefits of agricultural RD&E in the state.

GM crops have been widely grown in Australia and around the world for more than 20 years\(^5\). During this period, the technology has provided significant economic, agronomic and environmental benefits to Australian farmers and citizens, excluding those in Tasmania.

Australian cotton and canola farmers have gained $1.37 billion worth of extra income and produced an additional 226,000 tonnes of canola that would otherwise not have been produced if conventional technology had been used. Tasmanian farmers have missed out on their share of these economic and agronomic benefits\(^6\).

This technology has enabled Australian farmers to reduce their use of insecticides and herbicides by 22 million kilograms of active ingredient, equal to a 26 per cent improvement in the environmental impact associated with pesticide use in these two crops. Tasmanian farmers have missed out on these environmental benefits\(^7\).

Improving the sustainable use of pesticides on GM crops has also resulted in a saving of nearly 27 million litres of fuel use and 71.5 million kilograms less carbon dioxide being released in the atmosphere. Tasmanian farmers have also been denied these environmental benefits\(^8\).

The most appropriate current GM crop suited to Tasmanian farming systems is GM herbicide tolerant canola. Tasmanian growers are already growing non-GM herbicide tolerant canola varieties (such as Triazine Tolerant and Clearfield) and the addition of GM varieties will simply be an extra tool in their weed control toolbox. Australia’s Gene Technology Regulator has concluded that approved GM herbicide tolerant canola varieties pose no greater risks to human health or the environment than their conventionally bred herbicide tolerant counterparts.

The agronomic benefits of GM (when compared to non-GM) herbicide tolerant canola include increasing the options for in-crop weed control, allowing herbicide rotations that address the risk of herbicide resistant weeds developing and increasing the yield in subsequent cereal crops, which could be adversely affected by herbicide carry over from the herbicides used in non-GM herbicide tolerant crops (triazines and imidazolinones).


\(^6\) Brookes G (2016) Ibid.

\(^7\) Brookes G (2016) Ibid.

\(^8\) Brookes G (2016) Ibid.
The control of insect pests and weeds is a significant cost for Tasmanian farmers. While insect resistant GM cotton is not suitable for Tasmania, GM herbicide tolerant canola is a new tool that Tasmanian farmers could use as part of an Integrated Weed Management program to improve the sustainability of weed control options in Tasmania.

GM crops currently under research and development in Australia will help Tasmanian farmers to combat environmental stresses such as drought, acid soils and salinity, which are being caused by changes in climatic conditions and previous non-sustainable farming practices. There is also considerable Australian research into GM traits that will bring health benefits to Tasmanian consumers, such as healthier starches and cooking oils modified to be lower in saturated fats and with improved cooking qualities.
4 WHAT IMPACT HAS TASMANIAN GOVERNMENT POLICY HAD ON AGRICULTURAL RD&E?

Commercial production of transgenic crops is only authorised when environmental and consumer safety has been thoroughly demonstrated. In Australia, The Gene Technology Regulator is responsible for approving any dealings with GMOs. Food Standards Australia New Zealand (FSANZ) is required to approve any GM food ingredient and the Australian Pesticides and Veterinary Medicines Authority (APVMA) regulates those GM crops with inbuilt pest protection. The GM canola and GM cotton crops that are grown commercially in Australia have passed these regulatory assessments.

The Gene Technology Act 2000 (Cth) was intended to establish a national system of regulating GMOs. Despite this intention, most states implemented legislation to address ‘marketing concerns’ that are neither consistent nor transparent. This unclear path to market was well demonstrated in 2003 when the Office of the Gene Technology Regulator approved GM canola for commercial release and all the canola growing states implemented politically motivated moratoria on commercial cultivation of this crop. This led to years of delays, which reduced the management options for Australian farmers and created real uncertainty about the future of GM crops in Australia. State bans also cost food producers and consumers, with one analysis concluding that nationally, the bans on GM canola cultivation cost $157 million per annum.

The Tasmanian Government has maintained a moratorium on commercial release of genetically modified organisms to the environment since 2001. Tasmania introduced the Genetically Modified Organisms Control Act 2004 (Tas) to provide for the whole or any part of Tasmania to be declared a genetically modified organism free area for marketing purposes. Despite subsequent reviews, this intervention means that there remains no clear path to market for the developers of GM crops in Tasmania, even when licence applicants have satisfied the requirements of the Commonwealth Gene Technology Act 2000 and it has been clearly demonstrated in other states that effects on trade are not only negligible, but in fact non-existent.

In Australia, GM crops are intensively studied and rigorously regulated. All regulation should be commensurate with the associated risk, cost and benefit to the community. CropLife supports the continued use of science-based risk assessment as the basis for sensible decision making. It is a key principle of good governance that governments should only intervene in a market where there is demonstrated market failure. State government moratoria on commercial production of GM crops, however, have never identified any such failings.

The regulation of GM crops by state governments creates uncertainty that acts as a major disincentive for private investment and as a brake on technological innovation in the sector. This uncertainty is exacerbated by the fact that the moratorium legislation is often written so that it prevents the Minister from granting a licence unless certain conditions are met. It does not,

however, compel the Minister to grant a licence if an application meets these same conditions. Thus, there remains a very real possibility that a company would invest significantly in bringing a technology to market in Australia with data to address all the federal and state regulations and still be unable to sell its product commercially.

This sort of significant disincentive to private investment in Australian agricultural biotechnology RD&E is counter-productive if Tasmania and indeed the rest of the nation, wishes to have a modern, sustainable and profitable agriculture sector in the future. Perhaps ironically, this situation is also a large threat to the otherwise highly successful public investments by some state governments in developing GM crops.

The failure to implement a consistent national regulatory scheme has created crippling uncertainty for the agricultural biotechnology RD&E sector in Tasmania and completely undermined the effective regulation of GM crops. Both issues need to be addressed if Tasmanian agricultural RD&E is to return productivity and profitability growth to Tasmanian agriculture.

The Parliament of Tasmania should recognise that evidence to date has demonstrated that GM crops do not pose any unique risks to human health and the environment, nor to trade and marketing of Tasmania’s primary produce, and consequently the Tasmanian moratorium on these crops is not commensurate with the risk, but is a major barrier to private sector investment in agricultural RD&E.
5 CONCLUSION

Maintaining the productivity, profitability and innovativeness of agricultural production systems by increasing investment in agricultural RD&E will not be achieved by limiting the options for farmers to manage their businesses. Each individual farm faces specific challenges in terms of climate, soil type, farming system, demography and economy. These circumstances all have an impact upon the choices available to farmers to manage their farms. For example, the challenges faced by a wine grape grower in the Tamar Valley will be different to a broadacre grains farmer in another part of the state.

There is a wide variety of farming systems and circumstances throughout Tasmania. Well targeted investment in agricultural RD&E will enable farmers to make management choices and decisions that best suit their individual circumstances. For some farmers, this may mean adopting organic production systems to leverage high-value specialty markets. For other farmers, this may mean adopting innovative new agricultural chemical products or genetically modified crops for agronomic and environmental purposes. Coexistence of different farming systems is the key.

Ultimately, it is farmers that best understand the pressures faced by a farm. Regulatory RD&E policy in Tasmania to support productive, profitable and innovative agriculture must continue to allow farmers to make decisions in the best interests of their own business. This will mean allowing farmers to adopt any one of a range of farming systems, or a combination of them.

Over 14 years, there has been no evidence that the Tasmanian GMO moratorium has caused anything but a trade and marketing disadvantage to the state. Tasmania’s primary production sector is being significantly disadvantaged through the denial of access to the newest and most innovative agricultural technologies. Technologies that not only could help the profitability of Tasmanian farmers but also allow them to farm more sustainably, which in turn would only enhance Tasmania’s ‘clean and green’ marketing profile.

The evidence of the benefit of GM crops is both overwhelming and indisputable. It demonstrates that GM crops could offer all the agronomic, economic, environmental, social, trade and marketing benefits that are sought by Tasmanian primary producers.

CropLife strongly recommends that the Tasmanian Genetically Modified Organisms Control Act 2004 be repealed as a matter of urgency. Fourteen years of evidence shows that the moratorium has only managed to hurt the state’s economy and has failed to give local growers a demonstrable advantage in domestic and global markets. Furthermore, there is no evidence to suggest that this ongoing economic loss is likely to change were the GMO moratorium to be maintained indefinitely.

It is time for the Tasmanian Government to put science first and recognise the unequivocal benefits that GM crops are bringing to farmers in New South Wales, Queensland, Victoria and Western Australia, that are being denied to Tasmanian growers, not because of science-based facts and evidence, but because of partisan politics and an outdated view of ‘Brand Tasmania’.
31 May 2017

Att: Caroline Brown
Department of Primary Industries, Parks, Water and Environment
PO Box 46
Kings Meadows TAS 7249

Dear Caroline

Following on from our meeting last week we have now reviewed the Green paper that we discussed and would like to provide the following comments to feed into the review and to inform the White Paper that will follow later this year.

OAK Possability were disappointed to read the very basic summary provided for the Grove site that we operate that failed to discuss or consider the significant evaluation and testing work undertaken with regard to Pome Fruit, cherry and other cultivars. As such the primary intention of our submission is to correct the record in this regard to clarify how the site is used to further agricultural endeavours in Tasmanian and beyond.

Under TFN (Tahune Farm and Nursery) management the Grove site is used for world class evaluation and testing of new cultivars of apples, and soon to be included cherry and pear varieties. Varieties used in the current and future evaluation programs are bred locally or nationally, or in some cases sourced from international partners TFN has established.

Already, this site has completed testing of and had national and international protection granted for the variety Pink Chief. More trials are being assessed seasonally, with another 3 to 5 varieties being prepared for national and international protection during the next 12 months.

The focus of this breeding and assessment program is to fast track significant improvements in genetic advancements for a range of apples, pears and cherries, providing intellectual property rights and commercial opportunity for TFN and most importantly significant commercial advantage for Australian and eventually international fruit growers. All this culminates in better fruit quality presented to consumers and better returns to growers.

Traditionally this process has been run by Governments, and in most cases, an uncontrolled release of new varieties into various grower/industry networks has occurred.

Future release of varieties bred and assessed by TFN at the Grove site will not all be released on an uncontrolled basis back to industry. TFN will evaluate the market of each new cultivar and assess through further regional testing throughout Australia and overseas, what level of market release is preferred for variety owner, TFN and commercial fruit grower and consumer.

Additionally TFN’s access to the heritage collection and its role in evaluating new varieties has been important. Many of the comparator varieties listed within international documentation used for Distinctive, Uniformity and Stability, (DUS) testing are located within the collection, allowing
international comparisons with locally grown versions of the comparator variety. Helping to make assessments of new varieties more robust internationally.

The potential tree sales that will come from these evaluation sites at Grove over a 10 year period will be in excess of multiple of millions. Internationally, it will be in the 10s of millions. All creating economic benefit to TFN, the local community and fruit growers nationally, and internationally. The social and economic benefit of research currently conducted by private companies on the Grove site should not be understated. Any successful development and subsequent development of a new variety will have significant impacts across the broader Australian fruit growing regions of SA, VIC, NSW, Qld, WA and of course Tasmania.

TFN has worked hard to perfect this process of evaluating initial cultivars that could improve outcomes for fruit growers by creating a very robust process for fast and reliable assessment of potentially new varieties of apples, pears and cherries within the context of an industry sector that has significant cost pressures from ever increasing costs of production. Any improvement in cultivars for Australian growers that lower costs of production are of significant value.

We appreciate the opportunity to respond to the Green Paper and look forward to being able to continue to work collaboratively with the agricultural and research sectors in ensuring that Tasmania reaches its targets with regard to agricultural production in to the future.

We would be happy to provide any further clarification if required either personally or in written form.

Yours sincerely,

Drew Beswick
Chief Executive Officer
The Ag Institute Australia’s Tasmanian branch is pleased to make a submission on the green paper “Growing Tasmanian Agriculture – Research, Development and Extension for 2050”. Ag Institute Australia (AIA) is the peak body representing the professions of agricultural science and natural resource management. AIA members include research and extension scientists, advisers, policy managers, consultants, agribusiness people and farmers. The majority of our members live and work in rural communities. AIA provides strong, independent, balanced and factually based representation and advocacy on a wide range of issues affecting the profession and agriculture generally. Nationally, in recent times these have included innovation, agricultural education, rural communication, the Murray Darling Basin Plan, farmer response to greenhouse gas emissions policy, and rural research, development and extension (RD&E) investment.

This submission has been initiated by the Tasmanian Division of AIA and makes use of our substantial background and experience in agricultural development, production and marketing.

**AIA Policy Position Statements**

Over the last 18 months AIA through its policy development group, Advocacy and Policy Special Interest Group, has been reviewing, developing and publishing AIA policy position statements inclusive of recognition of the absolute importance of RD&E to the future of agricultural productivity in all States/Territories of Australia inclusive of Tasmania. AIA both nationally and at State level is supportive of the contentions in the green paper relating to effective RD&E and agricultural productivity.


It is noted RD&E service delivery has changed considerably over the last few years not only in Tasmania but nationally and internationally. In Australia, this has seen State governments largely divesting themselves of RD&E responsibilities and directing funds into partnership arrangements such as the Tasmanian Institute of Agriculture (TIA) with the University of Tasmania (UTas). The important point here is that the research is kept together with the development and extension, a preferred situation. During early changes in Tasmania, the components had been separated. The final move of Extension services into the University system under the TIA banner was appropriate though there is some concern that this occurred not as a planned, transparent, or strategic process but with a reliance of uptake within the University system and gaps being addressed by the private sector and industry. This has happened to some extent through a lack of transparency in both what is done and what isn’t done within TIA and it makes it difficult for AIA to determine the efficacy or otherwise of programs. The industry/RD&E connect is vital and needs to be more clearly demonstrated and strengthened into the future.
Private sector investment in RD&E - Always worthwhile and critical but may come with limitations in terms of accessibility of generated information as intellectual property rights may apply. It is noted that self-funded research is limited and restricted in Australia for a range of reasons emphasising the importance of government investments. In the absence of stable, long-term government funding it is critical to engage, market and build liaisons with the private sector who pay or partially fund RD&E but if tax payer funds are being used to conduct parts of the research, accessibility of those results to the taxpayer needs to be catered for.

Our position on innovations and Governments responsibility to ensure blue sky research can take place is extracted from an AIA Policy statement: The Practice of Agricultural Science and Innovation Policy Paper. Because innovation from research is difficult to predict it is important to ensure investments are strategic rather than prescriptive. The continuation of science-based “blue sky” research is essential because of the possibility of discovery of novel processes that result in “disruptive” technologies with improved outcomes.

Blue sky research is essential because it informs us of the processes and causal factors behind a question, on which applied research and extension outcomes can be developed. It can also lead directly or indirectly to serendipitous or unexpected/intended outcomes.

One of the outcomes of the change in balance between government and industry investment in R&D has been the reduction in “blue sky or basic” research. Given the increased dependence on “outside” funds, RDC priorities in fact largely set the research directions and investment. Understandably grower levy payers want a return on investment in the shorter rather than longer term. That is not to say that RDCs don’t fund some blue sky research but normally see this traditionally as the province of Universities, CSIRO or government. Private companies do invest in this area but usually where it has a high chance of commercial payoff.

All research needs to commence with identifying the issue and the essential research questions - only then can we decide the nature of investigation required and the “path to market” for the outcomes. In the case of basic research these may be long. We can no longer get away with people pursuing their preferred areas of work to the exclusion of real outcomes.

1. Can you identify personal, business or community benefits from the investment in agricultural RD&E?

AIA publicly recognises the value of Agricultural RD&E across Australia inclusive of Tasmania. As such productivity and associated gains are understood by the Institute to be directly linked to RD&E. However, it is not sufficiently transparent to see the ‘behind the scenes’ work of researchers nor is there much obvious profiling or marketing of work undertaken, results gained and more importantly return on investment. Following changes in delivery models for RD&E over the past two decades, direct connectivity is now less obvious. However, despite this poor overall transparency, with quality project recording and reporting it is possible to identify specific benefits.
2. Many commentators believe that significant effort will be required to return productivity growth in Australian agriculture to (at least) historic rates. If you agree, what do you think needs to happen to grow RD&E capability and impact, and how do you believe this effort should be resourced and funded?

AIA believes that productivity directions need to be segmented according to sector (extensive work already done) and across individual industries and then compared. Not all sectors are showing productivity decline or stagnation e.g. Tasmanian feed grains, but certainly RD&E efforts are a core contributing factor to reversing declines. Therefore, it is not appropriate to simply maintain RD&E investment at current levels- investments should be increased. Commodity productivity analysis is the first step in assessing the areas for investment by all sectors including the public sector and to target what needs to be done to maintain/increase productivity. It should be understood that the RD&E component is only one contributing factor to productivity with a range of other environmental factors contributing to limitations.

3. Are you aware of more effective RD&E models that Tasmania could learn from?

Tasmania’s current model can and is working and shouldn’t be replaced. It can be improved particularly in active extension activity and important industry development and especially with new and bourgeoning or potentially bourgeoning new industries. Essentially the green paper data shows a steady decline in State Government funding over a five-year period not taking account of Consumer Price Index or other time-sensitive adjustments. An extended analysis of government contributions adjusted accordingly would provide a fuller picture of the direction/status of State government financial support.

Alliances discussed in the paper are assumed to be live, productive and active alliances. The Institute understands this may not be the case with all areas mentioned including the Agri-Food Collaboration, with reports there has been minimal activity since the signing of the relevant memorandum. The focus of an alliance is critically important and seems to be targeted at the largest players which may be appropriate but ultimately to increase agricultural productivity to meet the aspirational targets of the Tasmanian Government are full and extended alliances and partnerships with all players including the smaller ones, smaller industry bodies and indeed Divisions and Branches within the Government’s primary industries agency. AIA understands connectivity particularly that alliances in the latter areas are limited and should be improved. TIA’s approach to business could be perceived to be inward looking and influenced in part by private sector investments in contracted research. That in itself could present challenges to meet bold production targets within Tasmanian agriculture. Another challenge for TIA in contributing to the 2050 target is its research emphasis on delivering new outcomes for industry-leading farmers, yet a vast body of existing relevant agricultural research knowledge has not yet been adopted by the majority of farmers. Continuing to provide extension support to that majority of farmers is a key requirement in helping Tasmanian agriculture reach the 2050 target.

The contribution to RD&E by NRM organisations is not mentioned in the Green Paper. This appears to be a significant omission given the prevalence of extension by these organisations. It is not clear how NRM bodies fit strategically within the delivery of RD&E in Tasmania.
4. What interactions do you have with TIA, if any?

AIA has limited interaction with TIA on an RD&E basis. There are AIA members within TIA hence there is a membership service connect. The provision of information sharing and networking services are partaken by some TIA staff members and non-members alike. The last few years has seen AIA strongly establish its policy presence in the agricultural professional landscape in Australia and the future is likely to see opportunities for increased collaboration.

5. Can you describe some of the benefits that your business, industry or community have experienced from TIA?

The RD&E model in Tasmania for which TIA is the lead is appreciated by AIA and has been considered in its policy development as a model approach for other States and Territories with some improvements identified earlier in this paper.

6. What other ways do you access research, information and/or agricultural education to enable practice changes that contribute to increased agricultural productivity?

As a member services and advocacy organisation, AIA is directly connected at a national level to agricultural RD&E activities through membership linkages at individual and corporate levels. This also includes director representation in these areas on the national board of AIA.

7. What changes would you support to TIA’s role, programs, suite of projects, or staff that would improve outcomes for your business, industry or community?

The Institute has indicated its broad support for the model on which TIA is based however it does flag some concerns with apparent lack of transparency especially with industry linkages for RD&E programs in the State context. Though a number of aspirational and strategic documents/plan have been produced in recent years, which is positive, a clear forward-looking operational plan to deliver on activity is lacking. TIA as an organisation also needs to ensure it really is connected with key stakeholder groups throughout the State and interstate and that these connections and relations are dynamic, strong and productive. This may counter perceptions of an inward-looking approach to work and some academic isolation from the real world of the agricultural industry.

8. Do you have any views on the structure or role of the TIA Advisory Board?

The concept and structure of the TIA Advisory board is appropriate and offers a great opportunity to ensure both State and academic benefits are reached with the JVA. However similar to TIA itself, and perhaps more so, AIA identifies it has a low profile, may not be fully understood by stakeholders and potential stakeholders, and does not necessarily appear to be actively and dynamically linked to industry stakeholders.

History and experience in state-owned research and demonstration farms (p15)

AIA cannot emphasise enough the importance of both research and demonstration farms to assist in on-farm RD&E activities. These assets are critical to Tasmanian agriculture industry development and they should be primarily operated to benefit RD&E even if that is at the expense of commercial viability. Expectations that such facilities can run as both research and commercial enterprises with a requirement the unit can generate a bottom line profit is not necessarily conducive to RD&E objectives. Ownership, whether government (State) or educational (university/TAFE) is less relevant
as long as the results of work conducted on site are accessible to the broader industry. This is particularly important where public monies are being expended. The cost of these facilities (in terms of not generating profits) is contributing to the dollar investment by government into future agricultural development in the State.

9. What is your experience with government or educational institution owned research and demonstration farms? Has this experience provided benefits to your business, industry, or your community?

Since its founding in 1936 AIA and its predecessors have represented professionals in agriculture, many of whom have worked and depended on the facilities provided by such centres. It would be unusual to find any member who cannot recognise the importance these types of facilities, particularly in Tasmania, in progressing sound and enduring agricultural industry gains in productivity and efficiency.

10. Are you aware of other models that showcase best practice and which could be adopted in Tasmania to benefit the agriculture sector?

Not completely alternative models. The Lincoln dairy centre (New Zealand) is a classic example as is the iconic Rothamsted research facility (United Kingdom). All have similar characteristics but those highly successful facilities are held in high regard internationally because of their recognised and promoted value and their solid reputation. There is little coordinated focus for the network of such facilities in Tasmania and seemingly a foggy understanding of the primary objectives of RD&E at these centres, and external pressures to run as a commercial farming enterprise.

11. Are there further best practice principles for such facilities that you are aware of?

Not specifically but the basis and modus operandi of iconic facilities such as Lincoln and Rothamsted should be investigated.

13. What is needed to enable or enhance world class research at these facilities?

The institute suggests that in Tasmania a broader and more cohesive approach to RD&E with direct linkage and profiling of the research station facilities is required. These are invaluable assets that along with in-field work with industry and growers are the vehicles to power a strong and successful drive to meet Tasmania’s challenging production value targets in 2050.

Prepared by the Committee of the AIA Tasmanian Division.

Contact for Further Information: Adrian James, Chair (AIA Tasmanian Division)
Growing Tasmanian Agriculture – Research, Development and Extension for 2050: Green paper (May 2017)

Submission by the University of Tasmania

About the Tasmanian Institute of Agriculture

The Tasmanian Institute of Agriculture (TIA) was established in 1996 as a centre of excellence for agricultural research, development and extension in Tasmania. It is a joint venture between the Tasmanian Government and the University of Tasmania and is closely integrated within the University’s School of Land and Food.

TIA receives an annual investment of approximately $5 million from the Tasmanian Government, which it leverages to attract additional funding into the State to provide tangible benefits for Tasmania’s agriculture industry. Research priorities range from dairy, grains and grazing to annual and perennial horticulture, food safety and agricultural systems.

TIA’s wide range of research, development and extension (RD&E) efforts contribute towards a more profitable, productive and sustainable agriculture sector. The current total value of its RD&E portfolio is estimated at around $72 million.

Introduction

The University of Tasmania welcomes the Tasmanian Government’s vision to grow the value of the State’s agricultural industry to $10 billion per year by 2050 and the associated review that aims to ensure agricultural research, development and extension (RD&E) undertaken in Tasmania directly contributes towards this goal.

The ‘Growing Tasmanian Agriculture – Research, Development and Extension for 2050’ Green Paper provides a valuable opportunity for the community to provide feedback and share insights about how the research priorities and activities of TIA are enabling a more productive, profitable and competitive agricultural sector in Tasmania.

TIA is an important and highly valued research institute within the University. It contributes to key university priorities including supporting research breadth while pursuing benefits of targeted research investment, attracting and retain students, and community objectives to translate research into solutions for a modern society. TIA has strong support across the entire University community.

The University is looking forward to reviewing the submissions in-line with our Strategic Direction and for the benefit of our students and key Tasmanian stakeholders. We are pleased about the opportunity provided by this review to ensure agricultural RD&E conducted in Tasmania remains innovative, world-class and appropriate to the future growth and sustainability of the industry.

Impact-driven research

TIA is a national leader in impact-driven research and has a long-standing focus on authentic research collaborations that deliver industry and community benefit. We welcome recent arrangements under the Australian Government’s National Innovation and Science Agenda to

prioritise research that produces outcomes with economic, social and environmental benefits. We also welcome the recognition under this Agenda that state, national and international business collaboration can strengthen these benefits.

Continued and strong partnerships will reward the significant effort that TIA is already making in this area, by ensuring our research aligns with University and Government objectives, societal needs, industry priorities and engaging in direct collaboration with industry. Being ahead of the game will ensure that TIA can continue to effectively leverage funding from other sources to create an enabling environment across the agriculture and food sector.

The recognition of TIA’s relevance is indicated by a strong track record of attracting and maintaining significant industry funding and partnerships. TIA leverages a $5 million annual investment from the Tasmanian Government to attract additional funds into Tasmania to conduct solution-orientated agricultural RD&E, including $6.9 million in external research grants in 2016 and $8.1 million in 2015. TIA currently has a research portfolio of 120 projects and an active portfolio value of $72 million.

Some recent RD&E achievements include:

- Establishment in 2016 of a $7.6 million five-year partnership with Dairy Australia to drive dairy farm profitability and sustainability in Tasmania.
- Industry-supported research to address systemic downy mildew in poppies. Resulted in development of a DNA test to identify the pathogen in seeds and a seed treatment plan to protect the state’s $90 million industry.
- Securing a $7.2 million partnership with the Australian Defence Science and Technology Group and CSIRO to construct the nation’s first Microwave Assisted Thermal Sterilisation (MATS) facility in Tasmania to enable food innovation.
- Development of a new variety of malt barley (Macquarie Barley) which provides growers with another viable cereal option.
- Research to sustainably manage diseases including common scab and powdery scab, which are estimated to cost the potato industry approximately $17 million each year.
- Running the Australian Wool Innovation-funded Sheep Connect program in Tasmania, extending national research benefits to 1,000 local producers during an 18-month period.
- Leading of the national Productivity, Irrigation, Pests and Soils (PIPS) Orchard Productivity Program, funded by Horticulture Innovation Australia.
- Development of a Food Safety Knowledge Portal to provide industry with management tools and resources.
- Establishment of Australian Research Council (ARC) Centre for Innovative Horticultural Products and Pathways to Market research hub to develop knowledge in partnership with industry.
- Development of Pasture Predictor tool in collaboration with Sense-T, which is improving productivity by assisting farmers to accurately predict pasture growth.
- Provision of a free benchmarking program for Tasmania’s dairy industry, helping to assess business efficiency and performance.
• Leading a temperature pastures regeneration program as part of the Australian Pastures Genebank (APG) Restoration Project.

• Leading a national cherry RD&E program to support development of the industry in Tasmania and nationally.

• Collaboration with the Tasmanian Agricultural Productivity Group (TAPG) to help boost agricultural productivity in Tasmania through use of precision agriculture technologies.

• Holding more than 200 extension events during 2015, including field days, workshops and discussion groups.

Research excellence

TIA, through its close integration with the School of Land and Food at the University of Tasmania, operates at the interface between science, academia and applied research. This structure is a nation-leading example of a productive collaboration between a Government and University, and it allows TIA to conduct industry-relevant research through a clear focus on research and teaching excellence.

For the past two years, the University of Tasmania, through TIA, has been ranked among the top 100 universities in the world for agriculture. It is also the only university in Australia to receive the highest possible rating in the areas of both agriculture, land and farm management and horticultural production.

At a national level, TIA shows leadership in research excellence and partners strategically with many other organisations around Australia. At an international level, TIA has the opportunity to tap into a pool of international research, influence this research agenda and apply learnings to the Tasmanian context. Its high academic standing means that TIA contributes to and directs the international agenda for local benefits.

For example, in 2015 TIA signed a Memorandum of Understanding (MoU) with Lincoln University in New Zealand that paved the way for research and teaching collaboration. In 2016, TIA signed a further MoU with Wageningen Academy in the Netherlands. In collaboration with these two university partners and with financial support from Horticulture Innovation Australia, TIA now delivers the Masterclass in Horticultural Business, tapping into international excellence in agricultural education and making it available to Australian and Tasmanian industry representatives.

This recognition of TIA’s research excellence and international relevance helps to generate benefits for Tasmanian agriculture, which can only be achieved through the partnership between the Tasmanian Government and the University of Tasmania.

Structure for the future

TIA recognises that agriculture has transformed from a labour-intensive industry to a knowledge-intensive industry and that a broader systems approach is required to enable innovation and address future challenges. TIA will play a key role in contributing to the growth of Tasmania’s agriculture industry, through the extension of processes that translate knowledge into economic growth while maintaining a focus on sustainability. While some of TIA’s work leads to immediate

impact on-farm, adoption of new practices and actual practice change sit largely outside TIA’s realm of influence and hence responsibility. Instead, TIA enables innovations in agriculture and food systems by building and maintaining a pipeline from fundamental to highly applied research and translating this research into knowledge that is accessible to and can be applied by its key stakeholders. TIA operates on the basis of ‘market failure’, i.e. TIA only engages in industry-led activities where current commercial services are either unavailable, inaccessible or not fit-for-purpose for activities that are seen to be critical enablers for future success.

TIA has recently re-aligned its structure to take advantage of scientific and technological advantages that will enable agricultural growth in the future. The new structure includes two commodity-focused centres (Dairy, Grains & Grazing and Horticulture) underpinned by an Agricultural Systems Centre as well as the Centre for Food Safety and Innovation. These Centres give TIA the agility to conduct RD&E in a way that achieves greater research impact through a systems approach to innovation.

The Australian Academy of Science (ACA) Decadal Plan for Agriculture identifies the importance of a broader systems approach to RD&E and highlights that using enabling approaches to integrate research breakthroughs into an overall farming context is vital.4 The University’s philosophy is that research should not be conducted in silos, but that collaboration must transcend disciplines and institutions to ensure appropriate and outcome orientated research. TIA epitomises this philosophy.

**Farm-based research**

Research farms are an important part of TIA’s efforts and current facilities that are actively used for TIA research include the Elliott Dairy Research Facility (220ha) and Forthside Vegetable Research Facility (54ha). It is vital that such valuable infrastructure is fit-for-purpose and enables the innovative research and training essential for a growing and thriving agriculture and food sector. TIA is currently reviewing the capacity of these assets to enable the outcomes required by Tasmania’s agriculture industry.

**Engagement**

TIA’s RD&E activities are guided by key policy documents from the University, the Tasmanian Government and industry. TIA also actively contributes to the development of these documents. For instance, TIA engages strongly with national strategies of Rural Research and Development Corporations (RDCs) and has been very successful in attracting co-investments from these partners.

TIA’s strong focus on engagement with farmers and agribusinesses is underpinned by its strong and world-class research evidenced by the international recognition that it attracts. The next users of TIA’s RD&E knowledge often include intermediaries that deliver services and products to industry - these stakeholders are an essential part of TIA’s successful engagement strategy. TIA adds to the global pool of research-based knowledge in agriculture and engages strongly with the Tasmanian community. This addresses the core objectives of the University and the Tasmanian Government.

For instance, through the $1.5 million Water for Profit (WFP) program, a collaboration involving the Tasmanian Government and Tasmanian Farmers and Graziers Association (TFGA) and TIA, TIA is working closely with industry to ensure an effective information flow before, during and after research. TIA’s WFP team actively seek feedback from growers throughout the program to

measure relevance and impact of activities, this is part of TIA’s ongoing monitoring, evaluation and reporting (MER) process.

More than 50 farming businesses regularly engage with WFP through grower groups held at various locations around the State, including those new to irrigation right through to third generation irrigators.

Over the past two years, more than 200 people have attended the annual state-wide event and approximately 50 per cent of participants at the 2017 event were agricultural producers. Participants at the 2016 event were surveyed about the program and the results found that 86 per cent of respondents agreed and strongly agreed that the event improved their knowledge and understanding, 95 per cent of respondents rated the content as good or very good, and 61 per cent indicated they planned to make changes as a result of information learnt at the event.

The program is an example of how TIA is actively engaging with Tasmania’s agricultural industry at a systems level to enable industry expansion, in this example through irrigation, with broad benefits to pasture, seed crops and high value vegetable crops.

TIA’s applied researchers engage strongly with industry through on-farm research, field-day presentations and user-centred activity around the development and delivery of products, services or systems contributing to industry development. Increasingly these researchers are co-developing knowledge with stakeholders, facilitated by technology and rapid dissemination of information via knowledge-management tools.

Future agriculture leaders

The University of Tasmania’s ‘Open to Talent: Strategic Plan’ outlines a vision to facilitate meaningful partnerships with government, industry and communities in Tasmania and across the world. This vision is exemplified through TIA, which effectively operates at the interface between research, government and industry. TIA ensures that agricultural RD&E is visible and accessible in the community and creates a constructive science dialogue which promotes agriculture as a diverse and rewarding career path.

TIA’s contribution to the capability development of Tasmania’s future agriculture leaders, through input into undergraduate and associated degrees, is vital to the industry’s future. As agriculture transitions from a labour-intensive to a knowledge-intensive industry, highly skilled people will be required to meet the Tasmanian Government’s ambitious growth target by 2050. At the same time, the demand for lower-skilled labour will diminish further and be increasingly replaced by technology. TIA facilitates this transition for the rural sector in Tasmania.

TIA’s close integration within the University’s School of Land and Food enables industry-relevant research to be available to students. TIA researchers also help train the next generation of scientists through the supervision of postgraduate students, many of whom contribute to TIA’s research projects and extension work.

RD&E capabilities and impact

TIA has been very successful in converting a relatively modest amount of investment from the University and Government into a large research portfolio of global relevance. However, its core funding base has been static for a long time and reduced in real terms, while competition for Australian Research Council (ARC) and RDC funds has significantly increased. In such an

environment, it is difficult to recruit young staff with contemporary and supplementary skill sets. This can lead to missed opportunities and inhibits effective succession planning. Further, increased expectations on TIA are not reflected in increased funding, while comparisons with other RD&E models need to be considered in the context of their actual government investment.

Although agriculture’s contribution to Tasmania’s gross state product (GSP) is similar to NZ’s gross domestic product (GDP) (7.4 per cent vs 7.2 per cent, respectively) and significantly higher than the agricultural GDP contribution for Australia as a whole (2.5 per cent), agricultural research in Tasmania does not attract the equivalent investment from industry. With very few exceptions, there is no direct industry investment in public RD&E, further limiting TIA’s scope and impact.

**Governance**

All TIA staff are University employees and thus fall under the University’s Human Resources, Occupational Health and Safety (OH&S) and other fiduciary rules and regulations. The TIA Director reports to the Dean or Pro-Vice-Chancellor of the Faculty or College. A management team consisting of the Director and senior University and Department of Primary Industries, Parks, Water & Environment (DPIPWE) staff is the decision-making body in regards to the use of the joint venture agreement (JVA) funds. An Advisory Board that includes independent industry representatives advises the Director, the management team, the Minister and the Vice-Chancellor on matters of strategic importance. This structure is appropriate, given the existing fiduciary responsibilities of the University and the State Government and TIA’s responsibilities to deliver benefits to all its investors.

**Conclusion**

TIA has a clear purpose of enabling the success of Tasmanian agriculture and strikes the right balance of world-class research that has relevance for the local agricultural environment. TIA is actively contributing to the ongoing growth, development and sustainability of Tasmania’s agriculture industry through world-leading RD&E and education.

TIA is also introducing strong systematic thinking and capability to its portfolio to create stronger evidence-based disruption to maximise the success of Tasmanian agriculture through collaboration and innovation. TIA’s scientific input into policy development creates value for industry, Government and the University.

The University welcomes a collaborative approach to invigorate agricultural RD&E in Tasmania and looks forward to reading the public submissions as part of the Tasmanian Government’s ‘Growing Tasmanian Agriculture – Research, Development and Extension for 2050’ Green Paper.
DPIPWE

By email: RDE@dpipwe.tas.gov.au

The Tasmanian Farmers & Graziers Association (TFGA) is the leading representative body for Tasmanian primary producers. TFGA members are responsible for generating approximately 80% of the value created by the Tasmanian agricultural sector.

Agriculture is one of the key pillars of the Tasmanian economy and, with the current level of support from government, we are well positioned to further capitalise on the stature of Tasmania agriculture. The Australian Bureau of Statistics estimates that Tasmania’s Gross State Product for 2014-15 was $25.42 billion. Agriculture, forestry and fishing in 2014-15 was Tasmania’s largest industry representing 9.6% ($2.29B) of Tasmania’s total gross value added.

Tasmania has a proud agricultural history, with research and development playing a major role in and throughout that story. Tasmania also has a strong tradition of research and school farms, which have in the past been sources of great pride, education and project facilitation. The “Growing Tasmanian Agriculture – Research Development and Extension for 2050: Green Paper May 2017” basically questions the premise of the contemporary value of these facilities, and as a matter of diligent practice and due process DPIPWE have sought consultation on the matter. To reach the aspirational and commendable goals of Agrivision 2050, improvement at all levels of the agricultural supply chain need to be improved, analysed and fully developed, this include State owned farming assets and RD&E.

The TFGA sees this Green Paper as an opportunity for industry, Government, UTAS, TIA and stakeholders to reinvigorate the natural and developed advantages this state already possesses. To assess, measure, clarify and justify the continued expenditure on RD&E is pivotal to the future of the States efficiency and productive growth. If these assets are squandered or underutilised we as an industry stand to lose those future benefits, benefits which is within our grasp.
The TFGA trusts through this process that:

- That the effectiveness of all state-owned assets are considered with respect to future industry requirements.
- That roles within the space are clearly defined.
- Other models of RD&E, State-owned research & demonstration farms and also state owned farms are evaluated for suitability, sustainability and are flexible enough to cause effect.
- That the outcomes are for the greater benefit of the industry, stakeholders and the state, now and into the future.
- That action is decisive, transparent and informed.

The TFGA looks forward to making comment on the resulting White Paper and the potential of Tasmania’s future in RD&E.

Please contact the TFGA if you require any further information.

Yours sincerely,

[Signature]

Peter Skillern
Chief Executive Officer
2nd June 2017
2 June 2017

The Project Team – RD&E for 2050
DPIPWE
GPO Box 44
Hobart, TAS 7001

To the Project Team

NRM North is pleased to make a submission on the Tasmanian Government’s Green Paper “Growing Tasmanian Agriculture – Research, Development and Extension for 2050.”

NRM North is one of the three natural resource management bodies in Tasmania, established under the Natural Resource Management Act (2002). The Australian Government recognises 56 NRM organisations across Australia and provides investment through the National Landcare Programme. The Federal Department of Agriculture and Water Resources’ contribution requires NRM bodies to assist farmers achieve higher productivity, sustainability and profitability through extension.

NRM North supports the Tasmanian Government’s aim to increase the value of Tasmanian agriculture tenfold by 2050. This is a significant task which will require RD&E, working closely with farmers, improving education, managing natural resources such as soil, biodiversity and water, maintaining social licence in the face of increased intensification, and value-adding to commodities.

The Green Paper outlines some key agencies and issues, however NRM North notes that the paper does not recognise the significant role that NRM organisations provide in delivering extension across the state to farmers. The key role that NRM North provides is building the capacity and knowledge of farmers to encourage adoption of improved practices leading to more sustainable, productive and profitable enterprises. NRM in Tasmania is unique in the mix of RD&E agencies in that we provide independent and focussed extension to as many farmers as possible, rather than only working with the most productive farmers. We believe that to grow the value of Tasmanian agriculture tenfold, productivity and sustainability improvements will be required from all farms.

NRM North supports the Green Paper’s focus on partnerships and as an organisation we deliver extension in partnership with groups such as the Tasmanian Institute of Agriculture, Dairy Tasmania, Southern Farming Systems and agricultural service companies.

We look forward to working further with the project team and are happy to provide details of our programs, outputs, outcomes, and plans for the future.

Sincerely,

Rosanna Coombes
CEO, NRM North
2 June 2017

The Project Team – RD&E for 2050
DPIPWE
GPO Box 44
HOBART TAS 7001

RDE@dpipwe.tas.gov.au

Dear Project Team – RD&E for 2050,

Comments on the Green Paper: Growing Tasmanian Agriculture – Research, Development and Extension for 2050

NRM South would like to thank you for the opportunity to provide comments on such an important document. Below you will find some specific comments from NRM South for consideration during the development of the following White Paper. We hope this will assist in building a policy platform which appreciates the need for sustainable development of Tasmanian agricultural industries based on solid research, development and the increasingly important aspect of extension. NRM South have been leaders in the field of extension through our 15-year history and have built solid networks and trust within the research, development and agricultural extension sectors. We are a boundary organisation which links academia, science and research with real world applications, decision making and action. In recent years, the Australian national rural research and development corporations have considerably improved in terms of their R, D&E, by they lack the regional and local networks and contacts that the regional NRM bodies possess. We hope that you will consider this standing in the development of the consultation and subsequent White Paper and appreciate the crucial role that NRM South, and the other NRM regional bodies of Tasmania, will play moving forward in this sector.

Consultation and strategic alignment:
It is disappointing and regrettable that the Natural Resource Management (NRM) regional bodies, established by the Tasmanian Natural Resource Management Act 2002, were not directly consulted during the development nor for comment of the Green Paper. As the regional bodies, which develop the priorities for natural resource management, as outlined in the third-generation regional strategies which were recently accredited by the Tasmanian Government (NRM Strategy for Southern Tasmania 2015 - 2020) we have a clear stake, expertise and legislated commitment to sustainable development of agriculture for our communities.

It would be beneficial if there was a stronger recognition and strategic alignment between the various stakeholders within this area of work and reflected in the subsequent White Paper. The Tasmanian Institute of Agriculture’s Strategic Plan (updated 2016, pg. 8) highlights that, “For Agriculture to contribute appropriately to the economy, it is dependent on well managed natural resources to support the industry and for industry to ensure the sustainability of the resource base.” It is this appropriate natural resource management which the regional NRM bodies are aiming to support. Clearly alignment across the various stakeholders is paramount to achieving...
the Government’s vision. To this end NRM South works closely with TIA, industry and landholders to improve on ground outcomes although this is not apparent in the Green Paper. We recommend that this coordinated approach be recognised in the consultation and development of the White Paper.

Additionally, the Tasmanian Government’s Agri Food Plan 2016 – 2018 states that the NRM regional bodies manage the planning, delivery and implementation of integrated natural resource management including support for the sustainable development of primary industries. It would follow that our organisations, representing our communities, need to be consulted and are well placed to support the Government in their activities to achieve their vision and on ground delivery.

**Purpose and Intent:**
The intent of the Green Paper is not clear. The paper as presented is about State Government funded RD&E, but there is little consideration of what each of Research, Development and Extension means in the 21st Century. The paper largely talks about research. There is little consideration of the development phase – how research is/should be developed/commercialised so that it is in a form that can be adopted in agriculture. In addition, there is very little consideration of the extension stage – i.e. how R&D is/should be applied in agriculture and on farms given all the practical and commercial constraints farmers face.

NRM South, and the other regional bodies across Australia, have had research, development and extension within their strategic plans since their inception ([http://www.nrmsouth.org.au/landholders/](http://www.nrmsouth.org.au/landholders/)). We have delivered scores of programs during our 15 years of operation in consultation, collaboration and on behalf of local, state and federal governments, industry and agricultural producers. We are building our relationship with and working closely with TIA including through the development of our regional strategy and on ground through trials such as looking at different perennial legume pasture species to improve productivity and resilience on the East Coast of Tasmania. The NRM bodies are well placed to support TIA in their activities. Regional NRM expertise, experience, linkages and history must be considered and included in the consultation and development of the White Paper.

**Sustainability, resilience and climate change:**
NRM South believe that the Green Paper is lacking in detail in several key areas which must be explored if Tasmania is to move towards the Government’s vision. There was no exploration of sustainable agricultural development for Tasmania. If the vision is to grow the industry through to 2050 with research, development and extension then surely the consideration of sustainability is mandated. It would be very disappointing if a relatively short term preference to use natural resources for economic outcome would lead this approach rather than focussing on longer term intergenerational equality and maintenance of Tasmania’s competitive advantages including our clean, green branding and Genetically Modified Organism free status.

A key focus of the Natural Resource Management Strategy for Southern Tasmania 2015 – 2020 is on building resilience, adaptive capacity and recognition of climate change effects on our Production Landscapes. It is essential, particularly with such a long term and ambitious target, that climate change influences, opportunities and threats be included in the development of the White Paper. Indeed, the Tasmanian Government’s own focus of work on Enterprise Suitability Mapping is including climate change and resilience factors as is the recently released [Tasmanian Climate Change Action Plan](http://www nrmsouth org au climate change). NRM South believe that sustainability, resilience and climate
change must be a focus of the White Paper given its importance to the future of the primary industries sector and it importance to industry stakeholders and land managers.

**Social, institutional, economic factors:**
The Green Paper has focused largely on the role of the Tasmanian Institute of Agriculture and the Crown’s land assets and research stations. It is disappointing that the aquaculture (nearly 50% of Tasmanian primary industry production value: [http://dpipwe.tas.gov.au/Documents/Agri-Food%20Plan%202016-2018.pdf](http://dpipwe.tas.gov.au/Documents/Agri-Food%20Plan%202016-2018.pdf)), fisheries and forestry sectors have not been included in this approach given their important status. Our preference would be to view a holistic, landscapes and integrated approach to how we manage change and growth in our primary industries sector.

It is not clear to NRM South where the AgriVision $10 billion by 2050 target originated nor the science behind this target. The various social, institutional and environmental factors at play in such a push for productivity and economic outcome have not been clearly articulated. To achieve such a bold vision there will be impacts on the resource base upon which communities and industries rely. The infrastructure, water resources, soil health and overall social dimensions and implications required to achieve the target have not been assessed – or at least have not been explored and communicated through the Green Paper. R, D & E will be one avenue to achieve efficiencies and uptake of new techniques, technologies, crops and biosecurity although cannot be viewed in isolation, nor considered a silver bullet for production and economic gains.

NRM South works with land and water managers daily and there are challenges in engaging with the agricultural sector which have not been mentioned or considered within the Green Paper. Issues around trust, entrenched practices, literacy and numeracy capacity, limited adoption rates, marginal land and economic capacity for change have not been articulated. NRM South, along with the other regional NRM bodies in Tasmania, can support the State government in understanding some of these factors which will influence the ability for R, D & E to be effective and have long term, sustainable economic outcomes.

A large part in the reduction of productivity in Australian Agricultural is clearly due to global competitive markets, including access to labour. Access to labour through increased wages and a general downward trend in job opportunities for farm-workers has been of concern to the industry. The backpacker tax highlighted the difficulties that producers in the horticultural industry particularly have in finding seasonal labour, but this is also reflective across many other enterprises. Young people are moving the country and seeking alternative employment for a variety of reasons, not the least the perceived hard work, isolation and low wages of farm workers/labourers. Access to basic services in rural areas such as schools and childcare has an indirect impact on families choosing not to remain in rural areas. NRM South believe that these issues need to be addressed as a part of a whole package to achieve the Government’s vision.

Additionally, the primary industries sector’s capacity to engage with the Government’s vision and R, D & E activities has not been explored in the Green Paper. If a key vehicle for the increase in agricultural productivity is through extension then the capacity, education and willingness to be involved needs to be explored. The capacity of many primary producers to engage and adopt new or varied practices will in many cases require support and systems to do so. This element and complexity has not been referenced and will require substantial consideration and support in the consultation and development of the White Paper to ensure successful extension service outcomes.

The model of agricultural extension has changed dramatically in Tasmania in the past 40 years, with a steady reduction in the number of extension services available to farmers. While some industries are better serviced than others (dairy and poppies for example) the lack of extension
staff and expertise is a huge factor in farmers not taking up R & D opportunities. It takes time for extension staff to earn the trust of farmers. Research has shown that many farmers will listen to the advice of a trusted advisor, but the same advice delivered by a non-trusted or known source will not be adopted. Farmers are constantly invited to workshops, field days and information sessions. However, it has been proven that while these can be effective in getting information to the community, one on one extension is the most effective way of seeing behavioral change and adoption of new technologies and ideas. Non-government agencies such as NRM South are in an excellent position to be able to deliver these services.

NRM South note that a positive step in improving R, D & E outcomes would be to build in to research and development projects, and associated budgets, the components of extension and outreach to a realistic level of perhaps 25%. Building in an appropriate scale of budget and activity will provide for the development of an iterative approach to working with producers that would yield far greater gains in on ground adoption and addressing actual needs. Again, NRM South would like to work further with TIA, DPIPWE, industry and producers in seeing this become a reality and supporting this iterative extension and outreach model from the ground up.

Finally, institutional issues such as land use planning are having significant effects on the social aspects of our primary industries sector which require attention and consideration for success in R, D & E approaches. Land prices have jumped dramatically in many regions where there is competition for rural-residential living. Planning decisions by local government has allowed areas of agricultural land to be converted to peri-urban development. This is in part due to the planning provisions protecting only prime agricultural land (class 1 – 3) across Tasmania. When in fact much of the state’s agricultural land is of a lower land class, but is still suitable for crops such as cherries and grapes. We are now seeing intensive agricultural enterprises such as dairy and orchards surrounded by suburbia, which causes many problems for farmers – particularly the inability to grow their farms or lease land around them. The increased price of land has pushed many would-be farmers out of the industry, it also exacerbates the situation where farmers are being forced out of communities and having to purchase land in more remote areas with implications for families. Anecdotally, some farmers are leaving the industry or down-sizing because their wives and families do not want to live remotely without access to the services their urban counterparts enjoy.

**Demonstration farms:**

History and experience has shown that demonstration farms work well where there is a strong partnership with local farmers and an acknowledgement that often the scale of such farms means that the research needs to be tweaked to properly represent larger commercial farms who are dealing with ‘real – life’ situations such as labour issues, access to machinery and finance. For example, a field day which demonstrates how a technique such as apple thinning/pruning is carried out will be demonstrated in a ‘bubble’ not taking into consideration real life issues such as worker fatigue and boredom when such tasks are carried out over a longer time-frame, thus setting unrealistic expectations. This has implications for many activities which are often repetitive in nature. Demonstration farms do not properly represent the business of real farms, which is why when they have a strong partnership with local growers who can identify such issues, the model works really well. One such example is the former Grove Research Station.
NRM South would like to thank you again for the opportunity to provide comment on the Green Paper. We hope that our comments assist in the consultation and preparation of the subsequent White Paper particularly around consideration of the substantial contribution that regional natural resource management organisations can play in this area. We look forward to working with DPIPWE in achieving excellence in sustainable agriculture research, development and extension outcomes in our region.

If you have any queries with the comments that we have provided, or would like to discuss further please get in touch with Luke Diddams, NRM Planning and Knowledge Manager on ldiddams@nrmsouth.org.au or (02) 6221 6111.

Kind regards,

Donald Coventry
CEO, NRM South
These comments relate to the Tasmanian Dairy Industry

You mentioned the LUDF and I think a similar model farm here in Tasmania - maybe in association with LUDF is of greatest use to the dairy Industry in Tasmania at the moment.

The demonstration farm needs to focus on a number of key areas:

First and foremost is productivity gains. We pride ourselves in the industry about our increases in production per cow over the last 25 years. Take the time to correlate this increase with the adoption of grain feeding and I think you will find nearly all of the production increase is from more inputs (grain specifically). Pasture growth and utilization has not changed much, apart from the influence of more irrigation.

It is hard not to argue that profitability is more closely correlated to pasture production than most other factors. Tasmania’s competitive advantage is the temperate grass growing conditions we have. It is not labour costs, milk price, grain prices or cost of land. We must make the most from our climate and water.

To this end, LUDF is demonstrating high production per cow off pastures alone. This is the demonstration needed for our industry. Can we do the same production (or more) without grain feeding? Just off pasture! Then we would see the next big gains in productivity and profitability for the industry moving forward.

Secondly the demonstration farm needs to have the attributes of where the industry is heading (not where it has been).

By this I mean:

- larger scale farms (600 cows plus)
- labour efficiencies
  - Pivot irrigation
  - Farm layout
  - Milk harvesting – rotaries or robots?
  - Efficient monitoring systems – cows, pastures, electricity usage, animal nutritional status, irrigation water use efficiency, nitrogen use efficiency.
- Moving off the red hill country more to the flats. (where the larger farms are being developed).

The scale, position, soil types, topography don’t suit demonstration at the Elliot Research Station. I am not suggesting closing this down, but to devote this facility to applied research.
What I would suggest is that developing a demonstration farm at say the Cressy Research Farm is more in line with the direction the industry is heading.

Thirdly:
The demonstration farm, like Lincoln, needs to be demonstrating best practice with regard to environmental issues and animal welfare. These issues could be the undoing of the industry in Tasmania, if the vocal minority have their say, and as an industry we need to be demonstrating good stewardship of our land and stock so no accusations can be thrown at us.

Summary:
We need a relevant demonstration farm in Tasmania, focusing on key factors for productivity gains (in my mind this is growing and utilizing more pasture at a higher quality) and providing examples of environmentally sustainable farm practices.
Dear Project Team,

We refer to the Green Paper – May 2017 Growing Tasmanian Agriculture – Research, Development and Extension for 2050.

The Committee of Management and members of Poppy Growers Tasmania Inc (PGT) welcome the opportunity to be involved in the Green Paper Consultation process.

PGT represents the overwhelming majority of the licensed poppy growers of Tasmania. PGT operates through a Committee of Management with members drawn from all poppy growing districts within the State. It is funded solely by voluntary grower levies and has by far the highest membership of any voluntary farm organisation within the State and arguably Australia.

PGT is the peak organisation charged with representing the interest of Tasmanian poppy growers at all level of industry and government – local, state, national and international. Its principle function is to ensure the policies and concerns of poppy growers are recognised by industry, the wider community and at all levels of government and are given a high degree of consideration at all levels of the decision making process.

Submission in respect of the Green Paper

PGT is a member of the Tasmanian Agricultural Productivity Group (TAPG) and our Chief Executive, Keith Rice is also a director of that organisation. PGT has been heavily involved in the formation of the TAPG submission in respect of the Green Paper and seeks to unequivocally support that submission (copy attached).

In addition PGT would also seek to make comment in respect of specific poppy industry RD&E matters, Poppies remain the largest commercial crop grown in Tasmania and underpin many farming enterprises and rural communities throughout the entire growing region.

They also form part of a complex and important rotational crop for many farming enterprises and remain an important economic driver for Tasmanian agriculture.

The poppy industry since its inception in the mid 1960’s has been at the forefront of RD&E.
The industry has grown from nothing in 1965 to now being the global leader providing approximately fifty percent of global requirements for opiate based pain management material.

Put simply Tasmania is the most productive destination in the world to cultivate alkaloid poppies.

The entire industry has from its very beginning had a particularly strong focus on RD&E.

The Tasmanian poppy industry is the most globally productive when measured in kilograms per hectare but we cannot afford to rest on past performances.

While Tasmania is recognised globally as the most productive it is also recognised as a very high cost producer and we can only remain competitive in the global market because of our high productivity.

This is why PGT strongly supports RD&E and in doing so recognises and greatly appreciates the support and funding provided through TIA and DPIPWE, by the Government for the two Systemic Mildew research projects.

One could argue that for decades there has been a range of good R&D initiatives, but this good work has not been adopted at "on farm" level due to the lack of adequate extension activities.

In our view it’s about convincing farmers of the value to be gained from R&D.

PGT sees RD&E as being an essential element to enhancing – Productivity, Profitability and Sustainability.

All R&D should in our opinion, have an E component – this component must be modelled on contemporary learning.

New skills need to be developed in the field of Extension. There is a need to integrate new Extension techniques that adopt elements of current and emerging technologies in order to connect with the younger, innovative and progressive farmer cohort.

Field days and workshops remain a very important learning tool however time away from the enterprise costs money and we therefore need to investigate contemporary communicating methodologies.

**In Conclusion:**

RD&E drives Yield
Yield drives Profitability

PGT would welcome any opportunity that may arise to be involved in constructive consultation in respect of Research Development and Extension as it relates to Tasmanian agriculture.

Yours sincerely

Philip Loane
President
5th June 2017
I must commend the government on having the vision to take a hard look at RD and E in the state and the aim to grow our agriculture sector in their aims. Jonathan West identified agriculture as one of the key platforms to drive our economy. I too have seen first hand in Canterbury NZ how rapid expansion of agriculture output completely changed a community bringing jobs, increased school roles and social infrastructure. This was experienced by the government party that visited the region at the end of 2015.

For agriculture to grow in this state there are several things that need to happen:
- We need farmers to want to grow their output (this will be an issue for a good majority of local farmers as discussed below)
- The opportunity needs to be shown that farming in Tasmania is profitable and a desirable industry to be involved in.
- This opportunity needs to be shown equally to local farmers and external farmers who will be integral to driving growth just as it was in Canterbury.
- We need to make growth as easy as possible and not only remove barriers (red and green tape) but also make use of our natural assets to help set the climate for growth. Water development and access to electricity at reasonable rates (cf the rates paid by big business that use massive amounts of power and generate much less GDP than a vibrant agriculture sector)

We need to think big and have vision and push past the Flat Earthers and anti-cable car sector or our State. We need to become a can do State not a can’t do one that we currently are.

-But we also need to bring the community along for the ride and show this growth won’t be to the detriment of the environment and also show them the opportunities it will open up for communities and for their children.

Unfortunately there is a high element of malaise in our agriculture sector that will inhibit the willingness to grow, expand and improve farming operations. This is due to a number of reasons in my opinion:
A number of businesses are happy to just get by and blame everyone else for their situation.
There is a segment of landed gentry with little or zero debt who are comfortable and have no need or desire to drive productivity. (debt is the best driver of innovation in my opinion)
There is an attitude that we can always put our hand out and the government will provide (this attitude extends across society from big car manufacturers to meat processors to individuals and who can blame them as usually the government coughs up)
Partly malaise is due to our isolation and lack of challenging of what is considered OK or normal or good.
Our acceptance of very average service sector often based on the excuse that “it” has to come from Melbourne (and somehow when a boat comes every day we are meant to accept it takes a minimum of a week to get anything here)

RD and E
R and D is essential to drive opportunities for our agriculture sector.
Quality demonstration and extension is essential to challenge farmers, ensure community buy in and show the opportunity both locally and internationally.

Local RD and E has benefited our business immensely but there is a large segment of the farming population that are not engaged and they see it as irrelevant to their business. Maybe this segment just needs ignored and allowed to go bust and allow more productive farmers to take their place as to achieve the governments objectives. The bottom 10 – 20% of farmers aren’t going to drive this.

My other comment on the national RD and E program in dairy is that by default it is Victorian and mainland focused as it should be with the majority of milk produced there. That isn’t to say there isn’t some fantastic local work done but the focus will always nationally be on climatic conditions and productions systems that differ from Tasmania. We are by default more similar in climate and systems to NZ and maybe that is where we should look to form strategic partnerships.

I believe the LUDF has had a massive impact on South Island dairy development and is a model that should be replicated here but to encompass other forms of agriculture here outside of dairying as the potential for non dairy farmers to form synergistic relationships with the dairy industry is not only large but essential if our dairy industry is to grow to potential.
LUDF is NOT run by Lincoln University (or government) and the structure it is set up under is critical to its success.
SIDDC (South Island Dairy Development Center) was formed by several key groups that have a vested commercial or otherwise interest in growing dairying in the South Island. They each sit as equal members on the board and generally have their CEOs or chairmen as their representatives on SIDDC such is the importance they attach to driving the growth of the dairy industry.
Lincoln University do own LUDF but it is run by SIDDC with the following structure:
Board set high level objectives
Advisory board of industry experts work out how objectives will be met
Farm advisory group implement

This is a commercial venture and sits in the top 5% of profitable farms in NZ and is regularly benchmarked against the best operators.
What LUDF did initially was take sound research and apply it commercially and hence challenged all the best operators to follow them with flow down effect. Lately this has moved from production to achieving it within environmental limits.

I have outlined in another document attached how this might look in Tasmania.
TIA
TIA do some really good stuff and have helped our business particularly with pasture management.
The concept of TIA is a very good one.
However they have a long history of struggling to keep good staff ( ? reason )
who leave to the private sector. I find it hard to believe it is pay and condition related.
They by default seem to have a reasonable amount of dead wood present.
Regarding the TIA advisory board I know little of it but wonder if there are any real farmers on it.
One of the keys to success is a team approach to driving productivity
encompassing all segments of the industry from university to processors and
producers to agree on targets for investment.
It is essential 80% of investment is driving productivity gains in the short term
and 20% looking a blue sky research set by a team approach.

ASSETS
Elliot - They have done the best they can here with a less than ideal site.
Cressy - This is a public embarrassment

My advice would be to sell Elliot and build a purpose built research farm close to the university.
Freer farm with some land behind it would be ideal and hopefully the owners ( well known locally ) would part with it.
Either way a new purpose built research facility that can take us forward for the next 40 years is required.
It needs to be based around other research farms in the world and be totally about research. Demonstration and commercial return need to be separate.

Cressy is an ideal location and challenge ( soil types and protecting the river environmentally ) to set up a demonstration farm centering around dairy but encompassing mixed cropping and sheep and beef ( especially dairy beef as this is a totally wasted ressource ).
This needs set up in a structure replicating LUDF and SIDDC.
There are plenty of people and organizations in NZ that are prepared to help with this including some involved in the setting up of SIDDC and currently involved in it.

FINALLY
Now is the time to drive dairy development here with our natural resources.
The environmental crack down in NZ will lead their farmers to look for the next opportunity and Tassie is the obvious answer as long as we don’t make the same mistakes.
Lets look past the anti everything / can’t do it attitude that exits in the State.
A LUDF model will demonstrate to both locals and outsiders Tassie has the potential with real data to back it up. But get the structure right.

Grant Roger
Discussion Paper

Tasmania has recently invested heavily in water infrastructure at vast cost both on and off farm. We cannot afford for farmers to fail with this investment.

It is also critical we look at developing agriculture around water investment to drive the overall economy and social infrastructure of the community. We saw how this looked in Canterbury and the wider benefits. But we must also be mindful that this is done sustainably.

The SIDDC dairy model could be replicated here but on a wider scale to drive the agriculture sector.

Like SIDDC the TAT (Tasmanian Agriculture Trust) will be made up of parties that have a vested interest in driving agriculture in Tasmania. They will all contribute annually financially and through skills etc they bring to the table. The wider sector needs to be sold the concept and also the concept that different forms of farming can symbiotically feed off each other for mutual benefit.

TAT
Adding Water, Skills and Confidence

The Trust will have three areas of activity:

Demonstration
Dissemination
Industry Profile

The Trust will work alongside TIA and UTas to ensure both education and research is industry ready and to promote these areas.

The cornerstone of the Trust will be around a demonstration farming area. This will be broken into two commercial farms:

Dairying
Mixed Cropping

These farms will allow industry best practice demonstration and be the cornerstone for dissemination and profile development

The Trust will have a similar structure to SIDDC from the board level down to the farming management teams.
The ideal would be for a combination of State / Federal Govt and industry to build the farm as close to debt free as possible. All profits could then be driven back into the Trust and it would be totally self funding.

Demonstration

Both farms must operate in the top 5% of their type in profitability
Both farms must be business and environmentally sustainable

Dairy Demonstration
- high pasture production and utilization
- profit not production
- high performance in both animal health and reproduction

Mixed Cropping Demonstration
- high crop yields
- integration of enterprises
- wintering of dairy cow
- stock finishing

Dissemination

This could be achieved via a number of avenues including:
- field days
- newsletters
- extension officers
- private consultants
- pilot demos run on other farms to demonstrate the same principle in different regions eg growing a crop or grazing management

Dairy via DA / DTas advisors and other consultants
Mixed cropping?

Industry Profile

Alongside the farms just existing and driving profile there will be opportunities to engage school groups and run public open days similar to LUDF

Who is TAT?
Who has a vested interest in growing agriculture?

DA/ DTas
LIC
Roberts
Utas TIA
Tas Irrigation
Milk Companies
Cropping?
Finishing?
Poppies
Introduction

About DairyTas

DairyTas is the Tasmanian service delivery arm of Dairy Australia, investing farmer levies and other funds to support the Tasmanian dairy industry. DairyTas’ main aim is to identify, prioritise, promote, facilitate and leverage opportunities for research, development and extension activities in the Tasmanian dairy industry which will assist dairy farmers to manage change. Further to this the DairyTas Board seeks to encourage the development of a sustainable, vigorous and dynamic dairy industry in Tasmania that offers economic and social rewards to dairy farmers and those in the wider community.

About Dairy Australia

Dairy Australia is the national services body for dairy farmers and the industry. Its role is to help farmers adapt to a changing operating environment, and achieve a profitable, sustainable dairy industry. As the industry’s research and development corporation (RDC), it is the ‘investment arm’ of the industry, investing in projects that can’t be done efficiently by individual farmers or companies.

Dairy is Tasmania’s biggest agricultural industry and is worth more than $1 billion per year post farm gate to the Tasmanian economy. With approximately 430 dairy farms, the state produces around 850 million litres of milk per annum, contributing 9.5% of Australia’s total milk production. The state’s processing sector of the industry is dominated by four key companies along with a number of small businesses branding Tasmanian dairy products to the local, interstate and visitor markets.

Key Recommendations

1. The best option for the future Dairy R&D delivery is to sell the TIA Dairy Research Facility at Elliott and use these funds for a new Dairy Research Facility.
2. Build on engagement with the dairy industry from the R&D facility.
3. Maintain an independence between an R&D dairy farm and any demonstration farm.
4. Investigate the opportunity and feasibility for a dairy conversion on the Cressy Research Farm to operate as a dairy demonstration farm based on the LUDF model.
Section 1: Contemporary Agricultural RD&E in Australia

1. Can you identify personal, business or community benefits from the investment in agricultural RD&E?

Research development and extension (RD&E) has provided the basis of significant productivity improvements in the dairy industry over the last 20 years, at an annual average rate of 1.6 percent a year for dairy farms from 1978-79 to 2010-11. Independent experts have estimated that the overall economic benefit of RD&E expenditure in the dairy industry is in the range of 3.3-6 to 1.

The Australian dairy industry has a long history of improvements in the efficiency of its agricultural practices due to the adoption of new technologies. The 2011 report commissioned by Dairy Australia and the (then) Victorian Department of Primary Industries “The impact of innovation on the dairy industry over the last 30 years: Evaluating the contribution of industry and government investment in pre farm gate RD&E,” provides a comprehensive assessment of the impact of innovation for dairy.

Key findings of this report were that major increases in on-farm production are estimated to have increased dairy farm profitability by around $10 billion over the three decades from 1980 to 2010. Of this, nearly half can be attributed to on-farm innovation, which is estimated to have increased farmers’ profitability by around $7.7 billion in net present value terms, whilst only costing approximately $2.3 billion in net present value terms, representing an estimated cost: benefit ratio of $3.30 economic benefit for each dollar invested in RD&E.

The recorded increases in productivity were largely driven by increased pasture production and utilisation, increased supplementary feeding, and more efficient cows, all of which have been – and remain – key areas of focus for the dairy industry’s RD&E program. For example, the report outlined that milk production in Victoria more than doubled despite cow numbers remaining the same and a 35% reduction in effective grazing area. Milk yield per cow almost doubled and production per hectare increased by 192%. This 2011 report reinforced the importance of RD&E investment, and noted that while much had already been achieved through dairy industry RD&E, there was still much more benefit to be derived from this research in years ahead. The report also found that improvements in innovation had broader community benefits, particularly in the areas of natural resource management and public health and nutrition.

The main direct benefits flow to businesses and particularly farmers from RD&E investments. This comes by way of productivity gains, new products and technology, improved understanding of the interactions around the environment, farm assets and inputs and the flow-on impacts to the community and other businesses. From a dairy point of view RDE investment enables farmers to build on the comparative advantage that dairy provides.

Any industry must progress and improve and RDE is the catalyst that helps make this happen. The nature of farming means that industry, commercial and government RDE together are important to help the farmer better manage the business. The levy funded industry bodies are crucial in bringing information to the farmers.
Some examples of Tasmanian dairy performance indicators are shown in the table below from the 2017 Tas Business Awards Booklet and Benchmarking. This indicates some significant productivity improvements over the past decade.

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<td>Milk solids, kgs MS per cow</td>
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</tbody>
</table>

2. Many commentators believe that significant effort will be required to return productivity growth in Australian agriculture to (at least) historic rates. If you agree, what do you think needs to happen to grow RD&E capability and impact, and how do you believe this effort should be resourced and funded?

At the industry level, total factor productivity for Australian dairy farms has increased at an annual average rate of 1.6 percent a year from 1978-79 to 2010-11. This compares favourably with broadacre agriculture (1.0 percent) and the beef industry (0.9 percent). While there are other factors at play, well targeted innovation and RD&E programs has provided the basis of much of this productivity improvement.

However, it is important to note that despite favourable productivity increases, in the last decade productivity growth has slowed and we have struggled to keep up with the productivity gains of our major international competitor New Zealand.

Scope for further improvements from technologies and improved management practices remains. As Australian dairy operates in an open and highly competitive international market, continuous productivity gains are critical to competitiveness.

RD&E is a public and private supported activity. Agriculture requires a supportive and prosperous private sector to invest in RD&E. Government and industry need to collaborate to deliver a balance of RD&E investments that have high relevance to industry, address government priorities and optimise efficient, effective and appropriate expenditure and co-investment of private, levy and taxpayer funds.

Ongoing Tasmanian Government support for the TIA Dairy Centre for specific research, industry development and extension work, and to maintain sufficient levels of RD&E capability, is critical to ensure productivity gains are sustained or increased into the future. Government funding enables strong and effective linkages between research and development and extension (in
Tasmania’s case, under one organisation - TIA Dairy Centre), enables research outputs to be codified and available to end-users, and for research to be development-led.

3. Are you aware of more effective RD&E models that Tasmania could learn from?

The TIA Dairy Centre model is rare in Australian agricultural RD&E as a partnership between the research resources of the University of Tasmania, the merged development and extension resources of the Tasmanian Department of Primary Industries, Parks, Water and Environment, and a close and effective relationship (including co-investment) with the industry service bodies of Dairy Australia and DairyTas. As mentioned previously, from Dairy Australia’s experiences across Australia, where there is co-investment between industry and State Government, there are superior outcomes delivered for both the industry, as well as the broader community and taxpayers.

The TIA model is seen as an effective model by many interstate and national contemporaries. The fact that there is only one university in Tasmania and the size of the state assists with streamlining the arrangements between the government and the university. This investment is extremely well leveraged; as indicated in the green paper 'it leverages a $5 million investment from the State Government to attract additional funding and has a research portfolio valued at approximately $72 million'.

In commodity sectors such as dairy the state contribution to RDE is matched by UTAS which is then matched with DA investment to create a significant resource that allow for the attraction and attainment of human resource capability. Project funding is aligned to the national strategic direct of the industry (Dairy Moving Forward) in the key area of Feedbase and animal nutrition, Farm systems and business management, and Land, Water, Carbon. Projects are developed in alignment with the DMF priorities and the local industry needs with DairyTas. Where possible, with other funding sources (e.g. Federal government Rural R&D for profit programme), this co-investment between Government, UTAS and DA is further leveraged into national programs.

The Lincoln University Dairy Farm in New Zealand is in many ways seen as a leader in the dairy industry RD&E space. The Tasmanian dairy industry is increasingly looking to Lincoln to learn and understand best farm practices and guide implementation. This covers a range of areas including a strong R&D program, a Demonstration Farm with a strong commercial focus and linkages between the University and farmers that is well regarded by dairy farmers and has a strong academic/graduate program.

Section 2: The Tasmanian Institute of Agriculture

4. What interactions do you have with TIA, if any?

The DairyTas Board works closely in with TIA Dairy Centre to deliver programs for Tasmanian dairy farmers. TIA has a representative on the DairyTas Board through the TIA Dairy Centre Leader, Richard Rawnsley.
Dairy Australia invests significantly into the TIA Dairy Centre and the current Funding Agreement provides Dairy Australia funding of $3,280,000 over five years (2015/16 to 2019/20) that is then leveraged by the University of Tasmania to a total of $7,565,000. This provides a significant resource to support a variety of research, development and extension projects that are beneficial to the Tasmanian dairy industry, and the Australian dairy industry more broadly. Dairy Australia is represented on the TIA Dairy Centre Management Committee.

The intent of the Funding Agreement between Dairy Australia and University of Tasmania is four-fold:

1. Signify a long-term funding commitment for dairy-specific RD&E through the TIA Dairy Centre, by Dairy Australia and the University of Tasmania;
2. Maintain and attract appropriate high-quality RD&E capability through continuity and security of funding inherent in a long-term funding agreement;
3. Maximise Tasmanian Government and University of Tasmania funding support for dairy-specific RD&E under the auspices of Dairy Moving Forward (the national RD&E framework for dairy), and;
4. Provide a base of core funding and capability that can effectively leverage funds from other funding sources.

Outside of the Victorian Government and Dairy Australia investment in the Ellinbank facility, the TIA dairy program is the next largest collaborative industry/state RD&E arrangement in the dairy industry across Australia. DairyTas sees this ongoing investment as crucial to supporting the growth and development of the Tasmanian dairy industry and the productivity of our dairy farmers generally. Tasmania is now nearly 10% of the national milk production and we are approaching the second largest state in terms of volume of milk. Tasmanian dairy farmers on average perform better and achieve rates of return regularly above other dairy regions of Australia.

The DairyTas and Dairy Australia interaction with TIA is a crucial component of our industry and is an asset that we must continue to build on. This is right across the RD&E spectrum. From an RD&E perspective we believe that Tasmanian dairy industry is a leader in Tasmanian agriculture and in Australia with the ability to collaborate at a number of levels. The Tasmanian Dairy Industry Strategic Plan is an example of this in providing a focus for TIA activity and priority.

One of the primary examples of this interaction with TIA is around the extension delivery to the dairy industry. The Dairy Australia and TIA Dairy Centre-funded “Dairy on PAR” project is a major element of the extension program to Tasmanian dairy farmers. This project engages with a significant proportion of Tasmanian dairy farmers (estimated at 30-40%) through a range of activities including:

- Discussion Groups
- Business Groups
- Pasture management programs and groups
- Benchmarking and Business Awards
- Industry communications and newsletters
• Seasonal field days

There are also a number of other projects and activities that DairyTas/Dairy Australia works with TIA in the delivery of:

• Short Time Effluent Retention Project
• Small project grants
• Smarter Irrigation
• Dairy Industry Calendar of Events

DairyTas and TIA work closely to coordinate delivery of extension programs to farmers. This also includes planning delivery around the strengths and resources of each organisation with TIA very much focused on feedbase and nutrition.

The DairyTas Board has a director representative on the ‘Dairy on PAR’ Project Steering Committee and the recurring funding agreement managed with Dairy Australia.

5. Can you describe some of the benefits that your business, industry or community have experienced from TIA?

The TIA Dairy Centre’s areas of RD&E work has focused on feed production (the production and consumption of pasture crops, grazing and harvesting management, water use efficiency and nutrient requirements), the factors affecting milk production (supplementary feeding, feed conversion, body tissue mobilisation, milking frequency, genetic merit and developmental epigenetic effects) and management of the dairy environment (synchronisation of fertiliser use with weather conditions, plant demands and soil properties, nutrient budgeting and management, and improvement of catchment water quality).

Projects in these areas have delivered productivity, profitability and sustainability benefits to dairy farmers, the dairy industry more broadly, and regional economies.

Benefits are derived from different programs and also from the flow on benefits that occur for communities and industry around Tasmania. Some examples of these are outlined below.

1. Feedbase RD&E: Grazing principles of temperate pastures has been led by the TIA Dairy Centre and this has R&D as the basis of much of the material that is extended and adopted on farm nationally.

2. Soil nutrient management programs: In collaboration with DairyTas, DA and NRM groups, significant monitoring and evaluation of on farm soil nutrient status have been completed over the last decade. This has resulted in significant on farm savings and better environmental outcomes.

3. Nitrogen (N) and Irrigation: Current industry BMPs (Best management practices) associated with the key inputs of N and irrigation have been researched and extended through TIA. Significant R&D, conducted through TIA, relating to irrigation scheduling (start-up time, rates and deficit irrigation approaches) along with water use requirements of varying pastures and forage crops. Research today continues in the adoption of VRI (Variable rate irrigation), autonomous decision making technologies and whole farm system analysis to assist with gaining
greater efficiency (NUE and WUE) and productivity from these two key inputs whilst minimising environmental impacts.

4. The Australian Dairy Carbon Calculator (Dairy Greenhouse gas Abatement Strategies-DGAS). This tool was developed by TIA in collaboration with University of Melbourne and allows farm managers and other users to calculate the impact of adopting different abatement strategies on their total farm GHG emissions and GHG emissions intensity and can help them work out the strategies best suited to their farming system.

5. Support for the adoption of RMS: Robotic milking systems (RMS) are increasing in number throughout Tasmania with Tasmanian dairy farmers being the leading adopters. TIA have collaborated with the leading research organisation in RMS (University of Sydney) in conducting some on-farm research in Tasmania and have led the extension activities to support successful on farm adoption of RMS.

6. Biophysical modelling: TIA and CSIRO as part of the Sense-t program developed cloud-based capability (on the Sense-t Data Platform) allowing for the ingestion of real-time data from both in situ sensors and Bureau of Meteorology (BoM) data, combined with a complex biophysical pasture growth model, to displays pasture growth rate data via a web-viewer and mobile application (app). Historical and forecast pasture growth estimates are updated weekly on a regional basis across key grazing industry regions of Tasmania.

7. National/international leadership in the use of on-animal sensors: TIA and CSIRO as part of the Sense-t program have developed advanced machine learning algorithms using on-animal sensor data to enable categorisation of cow behaviours including grazing, resting, ruminating and walking at the individual animal level. This capability enables an assessment of individual animal management strategies for improving efficiency and productivity of pasture based dairy herds. Progress has been made on identifying bite rates of individual cows as a proxy for determining pasture intake, using on-animal sensors. This capability is at the forefront globally in behavioural monitoring in pastured based systems.

8. Virtual Herding: A major project has been established under the Commonwealth Rural R&D for Profit programme, to undertake research and development of the implementation of virtual herding technology across the major livestock industries in Australia. TIA are leading subprogram 2 which is will quantify and document how virtual herding (VH) technology can be used in grazing livestock systems to increase pasture utilisation through more regular and/or more tightly controlled stock movement.

9. Benchmarking and Business groups: The TIA Dairy Centre offers a free benchmarking service that provides information about the efficiency and performance indicators of dairy farming businesses. There is also the opportunity to participate in business groups as part of the TIA Dairy Centre's major extension program. The business groups focus on business analysis and management, cash flow budgeting and monitoring, and discussions around any major decisions each of the farms might be considering.

10. Communication: Tassie Dairy New and Weekly TDRF farm report. Whilst all of the direct benefits are hard to quantify the TIA Dairy Centre has played in a major role in facilitating growth and development on the dairy industry in Tasmania helping farmers with feedbase management mainly in the pasture management area as a primary example, building a solid base for
benchmarking and business management and soils and fertiliser strategies. These learnings have been extended out with discussion groups and DairyTas support.

6. What other ways do you access research, information and/or agricultural education to enable practice changes that contribute to increased agricultural productivity?

Dairy Australia programs and resources are important for giving us the tools to help farmers with contemporary farm management practices and raising awareness. DairyTas is focused on delivering programs, workshops and training to farmers across the whole spectrum of dairy farm management. We tailor the resources available to Tasmanian conditions and industry to meet the local priority needs.

In addition to this there is a strong dairy industry focus from commercial enterprises in such areas as Pastures/Seed management, milking machines and technology, other equipment suppliers, semen/AI/breeding, Veterinarians, Animal Health Services, fertilisers and nutrient management.

The dairy industry also investments in large scale research projects, the priority of which is guided by the Dairy Moving Forward planning process under the national R&D framework. Examples of these collaborative investments include DairyBio, the research program around genomic technology for plants and animals based at LaTrobe University in Melbourne, and DataGene, the industry wide approach to herd (genetic) improvement. Both TIA and DairyTas are strongly linked in with these initiatives.

The Victorian Department of Economic Development, Jobs, Transport and Resources operates the Ellinbank Dairy Research Farm in the Gippsland Region of Victoria. Victoria is the lead jurisdiction for dairy under the national RD&E framework and through this facility supports a significant research program – particularly in the area of feedbase and animal nutrition. Dairy Australia is also a key partner in the funding of research at the Ellinbank Research facility. This research consists of projects identified as priorities under the national framework.

7. What changes would you support to TIA’s role, programs, suite of projects, or staff that would improve outcomes for your business, industry or community?

The TIA Dairy Centre plays a valuable and effective role in supporting the Tasmanian dairy industry and playing a part in national dairy RD&E. To continue to be successful and to build on its current position it requires:

- Up-to-date infrastructure for R&D including farm facilities for experimental and validation activities;
- Maintenance of a supportive farm and industry sector that sees outcomes and value from R&D;
- Ongoing funding from the Tasmanian Government via UTAS, co-investment from industry organisations such as Dairy Australia, and support and funding from other partners;
- Project funding that supports Tasmania’s dairy comparative advantages around climate, water and irrigation;
- Funding support for best practice RD&E with capable staffing to deliver programs,
- TIA needs to ensure that it continues engaging well with industry and has the right staff available to deliver these programs. There have been times when staffing has been a problem; due in part to contract timings, and this must be managed.
- Flexibility to adapt to the industry opportunities and challenges based on seasonal conditions and milk pricing changes.

8. Do you have any views on the structure or role of the TIA Advisory Board?

Dairy Australia is represented on the TIA Dairy Centre Management Committee. This committee comprises representatives form TIA, DPIPWE, Dairy Australia, DairyTas and an independent dairy farmer and is an effective forum and mechanism for overseeing the Funding Agreement and each of the projects within the Agreement.

The TIA Advisory Board does not have a direct connect with DairyTas or Dairy Australia, and any connection is through the TIA Dairy Centre on the DairyTas Board, staff at the Dairy Centre and any UTAS connections that might happen from time to time. There is no regular connection at this higher level. The dairy industry used to have an industry/farm representative on the TIA Advisory Board but that was not connected with DairyTas and its Board at all.

The DairyTas Board is not aware directly of the role of the TIA Advisory Board but presume it does oversight and strategic direction setting for TIA.

Section 3: History and experience in State-owned research and demonstration farms

9. What is your experience with government or educational institution-owned research and demonstration farms? Has this experience provided benefits to your business, industry, or your community?

DairyTas and Dairy Australia see research and demonstration activities as two different areas of activity and they need to be considered in their own way. We believe that mixing the two objectives and activities can be counter-productive to achieving industry outcomes. DairyTas and Dairy Australia support the continued investment in the TIA Dairy Research Facility (Elliott Research Farm) or equivalent as an important part of our industry. We see an important role for government and universities in the farm R&D sector but see a demonstration role as more of a private sector activity that enables an unencumbered delivery to farmers.

The TIA Dairy Research Facility has played an important role in dairy industry RD&E but has the potential to do more with the right investments and infrastructure.
10. Are you aware of other models that showcase best practice and which could be adopted in Tasmania to benefit the agriculture sector?

The Tasmanian dairy industry has looked closely at the model offered by the Lincoln University Demonstration Farm (LUDF) in NZ. The operation of this farm by SIDDC (South Island Dairy Development Centre) has created an environment where best practice farm management is able to be implemented by the Demonstration Farm along with its network to other commercial farms in the region.

If Tasmania is to have such a farm then this model is considered to be ideal but it requires a willing and supportive private sector to invest and make it work. For this model of Demonstration Farm to be successful, the Tasmanian Government would be required to acquire or provide the farm facility for a corporate structure to operate.

A full study into the feasibility of this option is needed based on the size and potential of the Tasmania dairy industry to support such a facility. The ideal location for such a farm is in the Northern Midlands where there is potential for more new dairy conversions to build on the current situation. Such a farm needs to be the catalyst for future growth utilising the water available for irrigation in the area.

Should this facility not be considered a viable option then Tasmania must continue to build on its links and relationship with SIDDC and LUDF to ensure Tasmanian dairy farmers gain access to best practice farm management.

11. Are there further best practice principles for such facilities that you are aware of?

Other dairy-specific State-owned research and demonstration farms in Australia are the Victorian Government’s ‘National Centre for Dairy Research and Development’ at Ellinbank, Victoria and the ‘Gatton Research Dairy’, a joint initiative of the University of Queensland and the Queensland Government Department of Agriculture and Fisheries.

The principles that contribute to the success of both of these facilities are:

- World-class modern facilities with infrastructure including greenhouse chambers, a dairy, a feeding complex, pens for nutrition-based research, calf-rearing facilities designed to optimise calf welfare and growth rates, etc.
- Significant funding support from respective State Governments with co-investment from industry or academic partners
- Effective research programs
- Integration with teaching programs, especially at ‘Gatton Research Dairy’ which is integral to teaching veterinary science students
Section 4: State-owned farms in Tasmania

12. What is your experience with these facilities?

The dairy industry’s main experience in Tasmania has been with the TIA Dairy Research Facility, located at Elliott. Dairy R&D dairy has been undertaken at this facility for the past 35 years. From 1982-2007 the state government dairy branch was responsible for the farm operations. TIA has run the Dairy Research Facility since 2007 and it currently operates as a fully functional, 360-head dairy farm and the site of structured experiments into a range of key industry issues.

The TDRF does a limited range of demonstration around the research projects on the farm and the main extension activity is delivered via commercial farms and other facilities away from Elliott.

After having a variable performance over its history the past few years has seen a focus back to an R&D facility with some education. Elliott has had some improvements in infrastructure and farm operations but still suffers from a number of deficiencies such as the location and topography, size and age of the dairy shed, the public road through the farm, aged condition of the offices and support facilities and some limitations on water availability for irrigation.

The Dairy Research Facility consists of:

- 220 ha consisting of milking, runoff, bush, and buildings
- 20 unit swing over herringbone dairy with auto cup removers, auto weighing, autodrafting and an Alpro milk monitoring system
- 24ha centre pivot irrigator with VRC
- 360 milking cows
- Basic Lab and drying oven facilities

The Research Facility farm has been operating on a sustainable basis with a cost of production close to $5.50kgMS and no debt servicing. The R&D delivery has improved but still has some opportunities to improve how it relates to mainstream industry and farmers. The current R&D program is conducted on the basis on around 50% on the Research Facility farm at Elliott and 50% on commercial farms. This mix is believed to be satisfactory in the current environment but TIA does need to get greater farmer engagement with its R&D program.

Further Tasmanian Government investment in the TIA Dairy Research Facility farm is needed to maintain and improve its R&D capability and to address the issues identified above. However, this will not address issues such as location, topography and water availability.

Ideally, a new purpose-built Dairy Research Facility or an existing farm redevelopment is required. Any new Dairy Research Facility farm should not be mixed with a demonstration farm operation or activities.

Any new dairy demonstration farm must also be a stand-alone one outside of Government and University control. The SIDDC model in the NZ South Island is considered to be a sound model for consideration as to its viability in Tasmania. DairyTas believes that the Cressy Research Farm is an underutilised facility and asset and the location of this farm would lend itself to a full study for a potential dairy conversion with the aim of becoming a future demonstration farm. The main question is whether Tasmania is large enough to sustain a private sector operated dairy
demonstration farm. Such a resource is likely to be a catalyst for further investment and growth in Tasmanian milk production as the LUDF in the South Island of NZ has achieved.

13. What is needed to enable or enhance world class research at these facilities?

Ideally the best R&D solution for the dairy industry in Tasmania is to sell the TIA Dairy Research Facility at Elliott and have these funds retained to purchase or build a new Dairy Research Facility that has the necessary infrastructure and capability to serve the industry better than the Elliott farm currently does. This would involve additional funding contributions from the Tasmanian Government to ensure provision of world-class modern facilities and infrastructure.

However if this is not possible then there needs to be further Tasmanian Government investment in the existing Dairy Research Facility to bring it up to best practice.

The research farm needs to have stronger industry engagement with more focus on farmers and improving their understanding of the work being performed and the link of the work undertaken into the extension environment.
2 June 2017

The Project Team - RD&E for 2050
DPIPWE
GPO Box 44
Hobart TAS 7001

Dear Sir / Madam,

Re: Submission to Growing Tasmanian Agriculture – RD&E for 2050: Green Paper

Macquarie Franklin welcomes the opportunity to make a submission to the Tasmanian Government’s Green Paper on Growing Tasmanian Agriculture.

Macquarie Franklin is a leading consultancy for business, agriculture and the environment. We offer independent advice and support to farm businesses, agribusiness, industry and government. The company is privately owned and employs 20 staff, located across Tasmania. We work closely with producers and other stakeholders across all major agricultural industries, both at a state and national level.

Macquarie Franklin is passionate and committed to the growth of the agricultural sector in Tasmania. We strongly believe growth is achievable, however it will require stepped change and a strategic approach.

Enclosed is our response to the Green Paper, however I welcome the opportunity to discuss any elements of this further, if required.

Yours sincerely,

MACQUARIE FRANKLIN

Chris Thompson
Executive Director,
Principal Consultant
Contemporary agricultural research, development and extension in Australia

Question 2:

Many commenters believe that significant effort will be required to return productivity growth in Australia to (at least) historic rates. If you agree, what do you think needs to happen to grow RD&E capability and impact, and how do you believe this effort should be resourced and funded?

Question 3:

Are you aware of more effective RD&E models that Tasmania could learn from?

Introduction

To achieve the Tasmanian Government’s Agrivision goal of increasing the value of the agricultural sector to $10 billion by 2050, the sector needs to grow at more than double the growth rate experienced over the past 20 years (Figure 1). This strongly suggests that “more of the same” will not be enough, and that a new strategy is required to improve the current growth trend.
A strategic approach to achieving industry growth

As with the vision of ambitious growth in a commercial organisation, a strategic approach to achieving the increased agricultural growth target is required. This applies to stakeholder engagement, planning and implementation.

Strategic plan for accelerated agricultural growth in Tasmania

There is an opportunity for the Tasmanian Government to facilitate the development of a strategic plan, which engages, creates a sense of ownership and empowers the key stakeholders who will be involved in its implementation. Complete implementation will only be achieved through effective and integrated engagement of industry as a whole.

Strategic advisory board

The strategic plan for accelerated agricultural growth should be developed by a representative and skills based group (strategic advisory board or similar), who engage effectively with stakeholders, are technically competent and highly strategic in their approach. There is also potential for this group to provide governance to strategic plan implementation into the future, including monitoring performance against the strategic plan and ensuring it is a live, adaptive plan (not sitting on a shelf), that strives for continuous improvement.

A strategic approach to determining RD&E requirements

In the development of the strategic plan, some of the questions that would help to better understand the needs and roles for RD&E could include:

- **What does the success of Agrivision 2050 look like?**
  A joint vision developed and owned by key stakeholders.

- **What are the key characteristics of the agricultural sector in Tasmanian in 2050?**
  This might include things such as profitable agricultural enterprises and businesses, jobs to employ a cross section of the Tasmanian community, appropriately skilled people to fill those jobs, agriculture being an industry of choice to be part of, high quality natural resources, strong market demand for product grown/produced, highly competitive with our competitors, increased production value on a per hectare basis, etc.

- **What are our goals?**
  Using the outputs of the above point, turn these into SMART goals – specific, measurable, agreed upon / achievable, realistic, with a timeframe for achievement.

- **How will this be achieved?**
  This might include things such as stakeholders working towards shared goals, industry with increased capability (skills, resources, etc.) to achieve the key things that drive profit, continuous improvement and development of practices that drive profit and sustainability, proactively managing, preparing for and adapting to challenges to industry (e.g. biosecurity, climate variability, animal welfare, environmental sustainability, etc.), strategic plans for key industry sectors using profit drivers and industry issues to drive RD&E.
It will require a very strategic approach to R&D to ensure industry has the best opportunity possible to be cutting edge and competitive.

However, possibly the biggest challenge will be ensuring the agricultural sector develops the skills it requires to adopt and implement best practice business, technical, operational and people management practices. The role of E in RD&E is critical in achieving increased industry growth.

- **What needs to happen to achieve these goals?**
  This would be a key role of the strategic advisory board developing the strategic plan. Some of the considerations are outlined below. It is important to note that whilst RD&E will play an important role, there will also be other factors involved in achieving the Agrivision 2050 goal, such as government policy, market access, branding etc. This submission focusses on the role of RD&E.

**Integrating research, development and extension**

The term RD&E is regularly used, however, it does not adequately communicate the complexity of these fields or how they interact with each other. Research, development and extension each have their own spectrums when it comes to timeframes, objectives, funding sources, deliverers and users. Depending on the goals in the strategic plan and how they will best be achieved, Tasmania will need a mix of different types of RD&E to optimise the growth potential of the agricultural sector.

Australia has been transitioning from a predominantly publicly funded and delivered agricultural RD&E system to a space where the private sector has an increasing presence and important role. At times this has created confusion, conflict and gaps due to lack of clarity and transparency about roles and responsibilities.

There is so much potential in Tasmania for improvement to sustainable and profitable agricultural growth, that it is unnecessary and inefficient to have different types of organisations (e.g. public vs private) competing against each other. This does not refer to market competition between organisations with the same capabilities (e.g. consulting company vs consulting company). It presents an opportunity for consideration of the core strengths (in terms of quality, impact, value for money etc.) of different sectors and/or organisations and where the best fit is to ensure benefits to industry are optimised.

Figure 2 below provides a draft diagrammatic representation of the Australian agricultural RD&E sector. It acknowledges there is delivery across both the public and private sectors in RD&E. It also enables the discussion about the scale and type of involvement the public and private sectors have in these different areas. Note, the dotted lines do not represent what is or what should be the split, it is to aid discussion about where the lines should or could be.

In developing a strategic approach to RD&E in Tasmania, it may be of value to map out who is currently active in these different spaces, and how this aligns with current capability and future intended/required capabilities of organisations, as identified in the strategic plan. Capability is defined in this sense as the ability to effectively achieve the required outcomes.

To achieve significant growth in agricultural productivity, the investment into RD&E needs to deliver significant practice change in the decades ahead.
Figure 2 Draft RD&E framework to aid discussion

Note: the dotted lines do not represent what is or what should be the split, it is to aid discussion about where the lines should or could be.
Achieving practice change

It is a common misconception that “extension” will result in practice change. Or that extension is not working if practice change is not achieved. There is a spectrum of objectives in extension: from raising awareness of a topic (Category A), to building knowledge, skills and aspirations to make a change (Category B), to embedded practice change (Category C). As shown in Figure 3, many of the traditional extension activities, such as field days and discussion groups, do not have the objectives (or capability) of achieving practice change. It is unrealistic to expect that discussion groups will achieve complex practice changes, which are often required for increased profitability.

That is not to say that there isn’t a role for Category A and B activities in Tasmanian agriculture. There is. But, providing that they are part of a pathway to achieving practice change. At a time when funding, resources and producer time are limited, there needs to be significant improvement in the strategic nature of extension in Tasmania. Delivering field days in isolation will not achieve significant practice change and may even negatively impact adoption rates (e.g. producers become disillusioned when “make your business more profitable” promises are not delivered, the value of participating in extension activities is questioned, competition and confusion in the market place, etc.).

There is also a discussion to be had about who can achieve the objectives of the different categories of extension. In Australia, increasingly extension activities that achieve practice change are delivered by the private sector. There are various reasons for this, including the decline of investment in state DPIs, private deliverers having a closer interface with industry and understanding of industry needs, as well as the understanding and experience of commercial drivers. This space is still developing and starting to gain greater momentum as the private sector increases its capability.

Meat and Livestock Australia (MLA) is an example of an industry RDC that is at the cutting edge of extension in terms of developing programs to drive adoption of practices that will increase the profitability of red meat businesses. They are working with and supporting the private sector to increase its capability to better service the extension needs of red meat producers.

Who should pay for extension? This depends on who will be the main beneficiary of the activity. If there is significant benefit and gain to an individual, then it should have a strong element of user pays. From our experience, this gives producers skin in the game and market forces will then drive value for money and quality extension activities.

If an activity is to the benefit of industry, such as awareness raising activities potentially are, then there is a case that public funds could support this (to some extent) – providing there truly is industry benefit, by ensuring it is part of a strategic approach and has a strong enough value proposition to motivate producers to want to take the next step and increase their knowledge and/or skills. It should also be noted that when producers have a level of financial contribution an extension activity, the engagement level is often higher.

MLA has adopted a framework where the level of MLA investment into an extension activity is directly linked to the level of private benefit, whilst still ensuring that it will engage producers along the learning pathway and lead them to increased knowledge, skills and practice change. It is also important to note that it is not a given that publicly funded/supported activities are best delivered
by public organisations. Again, it will depend on the strategy, the learning pathway and who is most appropriately suited to achieve the objectives of the activity.

The private sector will play a very important part in achieving improved practices that lead to increased profitability and industry growth. It is important to be aware of the impact that public investment into publicly delivered extension has on the private sector, if part of the strategic plan is to foster the private sector in this process.
## Figure 3: Agricultural Extension and Adoption Framework

<table>
<thead>
<tr>
<th>Extension activity focus (what do you want to achieve?)</th>
<th>Approach</th>
<th>Format</th>
<th>How targeted is the activity?</th>
<th>Who benefits most from the extension activity?</th>
<th>Relative user cost (who pays?)</th>
<th>Objectives of activity</th>
<th>Monitoring &amp; evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness (Category A)</td>
<td>Communication (passive)</td>
<td>Newsletters, Forums, Field days, Case studies</td>
<td>National / sector</td>
<td>Industry</td>
<td>Free (Mostly publicly funded)</td>
<td>Participation rates, Awareness in target market segment of topic, Aspirations to increase knowledge &amp; skills on topic</td>
<td>Feedback sheets &amp; KPI survey</td>
</tr>
<tr>
<td>Knowledge, attitude, skills &amp; aspiration changes (Category B)</td>
<td>Group engagement (active)</td>
<td>Demo sites, Discussion groups</td>
<td>Regional / state</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practice change (Category C)</td>
<td>Group engagement (applied)</td>
<td>Workshops &amp; training</td>
<td>Local</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>One-on-one consulting / support</td>
<td>Supported learning programs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 3 Agricultural extension and adoption framework (adapted from Meat & Livestock Australia’s extension programs)
<table>
<thead>
<tr>
<th>Activity category</th>
<th>Description</th>
<th>Examples of category activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Awareness</strong></td>
<td>Category A activities form the initial stage of the learning pathway, by seeking to engage producers with extension and adoption programs. The key purpose of these events is to enable information sharing (increasing awareness) and networking. These activities should play a role as a feeder for either Category B or C activities (highlight opportunities for producers to increase their skills or knowledge on a topic).</td>
<td>Field days, Forums / expos, Seminars, Conferences</td>
</tr>
<tr>
<td><strong>KASA change</strong></td>
<td>Category B activities are about building producer knowledge, skills, confidence, and, as a function of skill development, some practice change (often significant) may occur over time. KASA change is defined as a measurable increase in Knowledge, a positive change in Attitude, an increase in Skills or a change in producers’ Aspirations. An additional role of these events is to feed producers into a Category C activity, where they can convert the knowledge and/or skills they have gained into changes in practice which improve business performance.</td>
<td>Demo sites, Discussion groups, Workshops, Comparative analysis session, Training</td>
</tr>
<tr>
<td><strong>Practice change</strong></td>
<td>Category C activities are about supporting adoption and increasing the uptake of practice change amongst producers to achieve quantifiable increases in on farm productivity and profitability. The focus is on skill development and supporting implementation of new skills and learnings within the farm business.</td>
<td>These activities would typically be delivered using a supported learning approach (e.g. coaching or benchmarking)</td>
</tr>
</tbody>
</table>

*Figure 4: Outline of extension activity categories (adapted from Meat & Livestock Australia's extension programs)*
Monitoring and evaluating impact

To date, monitoring and evaluating impact of agricultural RD&E in Tasmania is minimal. Whilst we know that nationally there is a strong return on investment from agricultural RD&E, there is not data available for Tasmania. This would be a valuable benchmark to enable evaluation of the performance of the strategic plan, as well as providing information about where there might be opportunities to make changes to achieve continuous improvement.

Macquarie Franklin implements rigorous monitoring and evaluation of its extension activities to ensure the objectives of the activity are clear and are being met, to maintain high quality delivery and to drive continuous improvement. Depending on the category of activity (Figure 3, monitoring & evaluation column), this is achieved through various layers of evaluation.

There is a clear relationship between skill level and profitability. Particularly where there has been an increase in business management and technical skills, there is a stepped improvement in business profitability.

Feedback loop between different facets of RD&E

With a diversity of organisations involved in agricultural RD&E, it is critical for there to be effective feedback loops between RD&E activities. In the development of the strategic plan, it will need to identify effective feedback loops that embrace:

- a strategic approach;
- genuine collaboration with stakeholders;
- effective communication channels;
- transparency to help manage expectations;
- impact focused investment; and
- monitoring and evaluation of performance and impact.

Effective collaboration with industry will be crucial in the stakeholder engagement, planning and implementation phases of the strategic plan for accelerated growth. An example of where this approach has been effective in Tasmania is the perennial fruit industry. There is opportunity to build on the learnings from this example.

In some models of RD&E, such as participatory action research, there will be a direct feedback loop, as researchers are working directly with producers. The objective of this type of activity may be increased awareness, knowledge or aspirations to adopt new practices, however the different facets of the program need to align and function effectively to maximise the value of the investment to industry. This model is one tool within an overarching, strategic approach to RD&E and its feedback loops.
The Tasmanian Institute of Agriculture

Question 4:
What interactions with TIA do you have, if any?

Macquarie Franklin has had a range of interactions with TIA, including:

- One of the founders of the *Building Cooperation in Agricultural Extension Memorandum of Understanding* between TIA and the private sector. (2012)

- Participation in the *Building Cooperation in Agricultural Extension Memorandum of Understanding* meetings. (2012 – ongoing)

- In partnership with Alexandra & Associates, Macquarie Franklin facilitated the process of developing an irrigation research, development and extension (RD&E) program for TIA, which had support from industry, national relevance, a cross-sectoral approach and strong science agenda to leverage additional funding. (2014-15)

- Member of the industry advisory group that was formed following the success of industry engagement in the development of the irrigation RD&E program. This advisory did not become functional and effectively folded. (2015)

- Assisted in the development of a successful proposal to Sense-T to jointly deliver the *Sensor-smart irrigation project*. Macquarie Franklin has not been involved in project delivery. (2015)

- Joint submission with TIA and other service providers to deliver services as required to GRDC in Tasmania relating to field trials, workshops and field days. Macquarie Franklin has not been involved in project delivery. (2015)

- Macquarie Franklin is contracted to TIA to facilitate two producer groups within the Water for Profit program. (2015-2018)

- Through Macquarie Franklin’s role as the MLA Making More from Sheep (MMfS) State Coordinator, the MMfS State Coordinator liaised with the SheepConnect Tasmania State Coordinator (delivered by TIA) and jointly delivered a number of extension activities for sheep producers. (2014-16)

- Partnered with TIA to deliver a MLA funded producer research site in north east Tasmania. (2014-2016)

- Occasional engagement of TIA soil management specialist in targeted extension activities. (ongoing)

- Macquarie Franklin provides input to a feedbase improvement group facilitated by the TIA dairy branch. (2016 –ongoing)

- Ongoing liaision with TIA dairy branch staff in relation to pasture growth prediction technology. (ongoing)
Question 6:

What other ways do you access research, information and/or agricultural education to enable practice changes that contribute to increased agricultural productivity?

- Formal and informal networks provide an important service in increasing awareness of new research outputs, resources and training activities.
- Attending networking and awareness raising events, such as local, state and national conferences, forums and meetings.
- Research outputs, information and other resources are now readily available online. There are many great tools and resources for the agricultural industry that have been developed. Many of these resources are housed on State Government, RDC and industry group websites.
- Science is increasingly being made available and useful through the development of apps.
- Scientific papers, accessed via online, are utilised to review and improve management advice and educational resources.
- Further education and development of staff through inhouse training and targeted, fit for purpose, external training.

Question 7:

What changes would you support to TIA’s role, programs, suite of projects, or staff that would improve outcomes for your business, industry or community?

As previously detailed, Macquarie Franklin supports the development of a strategic plan for accelerating growth of the Tasmanian agricultural sector. In this plan, TIA would likely play a key role, however the most appropriate determination of this role should be via the outcome of a strategic assessment of the relevant roles and capabilities within all the facets of RD&E sector.
History and experience in State-owned research and demonstration farms

As part of the development of the strategic plan for accelerating agricultural growth, the resources and facilities required to achieve the plan’s goals would need to be considered. Until this has been determined at a strategic level, it may be premature to make final decisions about land ownership.

It is acknowledged that some of the current facilities may not be fit for purpose and are under utilised, and that the impact of RD&E may be optimised through alternative options, such as purchasing new properties or lease arrangements.

Research farms

To enable pure, scientifically rigorous research, there will always be a need for dedicated facilities. Whilst there is certainly benefit in conducting research activities on working farms, research and trials on commercial farms can be a secondary priority to commercial imperatives. Which can mean data is compromised.

At present, there is an expectation that farmers will voluntarily host research trials as an in-kind contribution. Depending on the scale and nature of the research, this can be a significant impost on host farmers, and the fact that they are not being compensated, understandably can create situations where commercial decisions may put the research outcomes at risk. It is recommended that consideration is given to developing a model where producers are partners in the research and compensated appropriately to ensure the research ranks as a higher priority.

Demonstration farms

Macquarie Franklin is aware of successful demonstration farms elsewhere in the world, such as New Zealand. Implementation of this model in Tasmania with the population and budget constraints we have would potentially make this model difficult to achieve.

Focus farms

Focus farms provide an opportunity to delve into and understand commercial farms in action. These can be an effective way of achieving some of the objectives of demonstration farms, at a fraction of the cost. Being owned and run by commercial businesses, they reflect the conditions that other producers experience more closely than a business owned and or/run by a public entity.

Other values

It is acknowledged there may be other values of the farms outlined in the Green Paper. It is encouraged that the strategic value and future uses of these properties be assessed. A hypothetical example of this could be the Grove Farm, which may provide value if a cider centre of excellence was established. Likewise, the role of the Cambridge Farm may be increased if it was further integrated into the University’s teaching program.
2/06/2017
The Project Team - RD&E for 2050
DPIPWE
GPO Box 44
Hobart
Tas, 7001

Dear Project Team,

Ridley would like to thank you for the opportunity to respond to your Growing Tasmanian Agriculture - RD&E for 2050 Green Paper. Collaboration between Government, industry, research bodies and producers is key to ensuring the continued success and growth of the Tasmanian agricultural and food sectors.

Ridley is Australia’s leading commercial provider of animal nutrition solutions. We proudly manufacture premium quality feed for the dairy, pig, poultry, beef, sheep, laboratory, pet food, aquaculture and horse industries. We use Australian grown cereal grains to ensure world class solutions are produced for our customers. We have 20 manufacturing sites located in regional areas across Australia, including a site at Carrick in Tasmania, and we employ nearly 700 employees across these sites. Tasmania is a key area for our dairy, beef, sheep and aquaculture industry, and a key user of all of our packaged products. Ridley sees great potential and continued success of Tasmanian agriculture.

Ridley believes that successful R, D and E platforms are critical to the sustainable growth and productivity improvements required to meet Tasmania’s plan to grow the value of agriculture to $10 billion by 2050. Ridley wants to ensure a long term sustainable industry, and we believe we are a key stakeholder that can play a role in helping industry achieve productivity increases. In relation to the livestock industries, we strongly believe that targeted nutrition strategies help increase productivity, which increases the success of the industry as a whole and ensures the long term viability. We acknowledge we are a commercial business, but it is in our best interests to ensure the industry is profitable and successful, and we firmly believe optimal nutrition management will be a key factor in helping the Tasmanian agricultural industry achieve their productivity targets.

Research and extension needs to shift from low input conversations, and focus on increasing the margin over feed costs by increasing productivity as a result of targeted management and nutrition. Increasing innovation and extension, and implementing efficient pasture utilisation and strategic supplementation will increase feed efficiency, yield and overall animal health, and will enable the industry to work towards achieving the 2050 productivity target.

The following outlines Ridley’s responses to the specific questions raised in the Green Paper that we feel we can contribute to (i.e we have not answered all questions).

Section 1: Contemporary Agricultural RD&E in Australia

1. Can you identify personal, business or community benefits from the investment in agricultural RD&E?
   Successful innovation and extension leads to increases in productivity, which has flow on effects that enable the industry to withstand market fluctuations and ensure long term viability. Investment across all three components of RD&E results in new knowledge and technology, development of this technology to address sector specific issues, an increased awareness of new technology and long term successful uptake of innovation and technology. This has flow on effects...
from increased productivity into the success of local communities, with local producers and service suppliers spending more in local communities. Significant personal benefits arise from improved financial position, and a feeling of success and fulfilment when individuals feel they are at the forefront of their industries.

2. Many commentators believe that significant effort will be required to return productivity growth in Australian agriculture to (at least) historic rates. If you agree, what do you think needs to happen to grow RD&E capability and impact, and how do you believe this effort should be resourced and funded?

There is considerable variability across the different agricultural industries in terms of productivity growth, for example the ABARES Australian agricultural productivity growth research report suggests that "productivity growth of cropping specialists averaged 1.5 per cent a year between 1977-78 and 2010-11, higher than the rate observed over the same period on farms in the beef (0.9 per cent)." It is therefore difficult to simply talk about improving productivity and the means to achieve this in such a broad sense.

To provide a specific industry example though, the broiler industry nationally has experienced significant improvements in productivity. As a result of this, the broiler chicken industry has displaced other protein sources by focusing on production efficiency gains and improving the feed conversion of the chickens. The dairy industry in Tasmania has prioritised research based upon pasture improvements, a key focus of a low cost input system. And although this is a key component of the whole system, in order to make step-changes in productivity growth, advances in nutrition and supplemental feeding are the logical areas to embrace. Victorian dairy regions are maximising herd potential via the combination of strong pasture science and recognising the value of margin over feed cost in maximising farm income and profitability. Whilst Ridley is in the business of animal nutrition, we have a national view of what other regions are working on to increase productivity, and in dairy the improvements are driven by quality supplemental feed over and above pasture.

3. Are you aware of more effective RD&E models that Tasmania could learn from?

There will never be a perfect model that fits everyone and everything, highlighting the need for stakeholders to have clearly defined roles and outcomes that they are seeking to achieve. For example, specialising in the research field and/or development, and other stakeholders specialising in extension and education. Extension and education would appear to have failed in a number of areas with limited uptake of specific research projects due to limited resources to provide this extension. Adequate funding and resourcing is required not only at the research level, but particularly at the extension level to ensure producer understanding and uptake.

The model needs to be relevant, and market driven to ensure buy in from both industry and research organisations, and generate a willingness and appetite for these stakeholders to invest. There needs to be clear commercial outcomes articulated for both the producer and industry to ensure appropriate uptake.

Section 2: The Tasmanian Institute of Agriculture

4. What interactions do you have with TIA, if any?

Ridley has supplied feed to the TIA for specific research projects, and has attended open days at the Dairy Centre. Members of the Ridley team have also been involved in contributing to and editing publications by the TIA. Ridley has also recommended the TIA to conduct research and development work for a private company.

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5. Can you describe some of the benefits that your business, industry or community have experienced from TIA?

Ridley has benefited by having an association with the TIA that has allowed for cross-collaboration, however we cannot provide examples to confirm if this relationship has contributed to any success of Ridley in Tasmania.

6. What other ways do you access research, information and/or agricultural education to enable practice changes that contribute to increased agricultural productivity?

Ridley actively seeks out information through the internet by subscribing to scientific publications and journals, and attendance at key conferences and industry events, both locally, nationally and internationally. For example, attendance at the Australian Poultry Science Symposium, the Australasian Pig Science Association Conference, the Australian Association of Ruminant Nutrition seminars, and international events such as the Cornell University Dairy Nutrition Conference, and the European Symposium on Poultry Nutrition. Attendance at these events enables Ridley to ensure we are utilising the latest nutrition research to provide supplementary feed that helps producers improve performance and productivity.

7. What changes would you support to TIA’s role, programs, suite of projects, or staff that would improve outcomes for your business, industry or community?

The TIA should focus on projects that are specifically related to the systems that are suited to the Tasmanian environment. For example, enhancing utilisation of pasture based systems through optimal use of pasture during times of excess, whereby conservation and supplementation ensure continued access to nutrients throughout lactation and optimal production. Tasmanian dairy and beef systems are renowned for their least cost input systems, which although the aim is to always optimise pasture production and consumption, simply looking at it to decrease input costs has historically limited productivity. Projects should focus on researching the best way to utilise the pasture, and that which allows for optimal productivity, not just least cost. And if including strategic use of supplementary feed across lactation means increasing productivity and profitability, the TIA should be encouraging projects that explore and promote this to improve productivity. Focusing on the fact that Tasmania is traditionally a pasture based system and only exploring those options will not lead to increased productivity.

An opportunity exists also for the TIA to form relationships with partners that can help translate their research into commercial value for the producer. Traditionally research institutes have been criticised for not translating the science into financial returns, so it is critical that TIA staff either have commercial backgrounds, or significant consultation with commercial business is undertaken to ensure the value can be articulated appropriately.

8. Do you have any views on the structure or role of the TIA Advisory Board?

A general comment that at all times the advisory Board needs to include a cross section of stakeholders, including commercial industry, university partners, the TIA, producers and members of the general public. It is critical that the Advisory Board ensures the financial value of the research that the TIA is undertaking is articulated and realised.
Section 3: History and experience in State-owned research and demonstration farms

9. What is your experience with government or educational institution-owned research and demonstration farms? Has this experience provided benefits to your business, industry, or your community?

Ridley has provided nutrition advice and guidance to a number of state owned research and demonstration farms across Australia. The greatest challenge for these farms is remaining relevant to industry challenges and providing information that can be adopted to directly improve productivity. A great challenge arises when there is not a clear distinction if the farm is being run as a commercial farm, or purely a trial facility. This needs to be clearly outlined at the outset to enable appropriate funding of development and resources to carry out robust trials. Research needs to remain in the realm of universities, development should be undertaken on demonstration farms, and extension work should be done on focus farms.

Ridley believes Tasmania is strongly positioned to continue to increase productivity. Tasmania has shown consistent growth in the Dairy sector over the last decade, however this will be challenged with increased pressure from climatic conditions. Tasmania needs to invest in RD&E that enables Tasmanian producers to optimise pasture production under these pressures, and manage nutrition of livestock to ensure production is maximised whilst increasing margin over feed costs. Animal potential and productivity can only go so far if nutrition is limited, so changes need to be made to the current system to ensure a shift away from focusing on low input, and adopting innovation so that Tasmania can reach the goal of growing the value of agriculture to $10 billion by 2050. Effective RD&E programs will play a key role in ensuring the long term sustainability of this important industry.

Ridley would welcome the opportunity to provide any further advice or information should you require it throughout the development of the White Paper.

Yours sincerely,

Anne-Marie Mooney
General Manager Commercial Feed

Ridley Corporation Limited

References:
Submission to the Growing Tasmanian Agriculture- Research, Development and Extension for 2050: Green Paper

Submission prepared by Michael Chilvers, grain grower, mixed farmer,

My involvement in Tasmanian agricultural production spans some 25 years, focused on growing a family business in the Northern Midlands. Initially based around a self replacing merino wool flock, the business changed with the introduction of both dry land and irrigated crop, the latter encouraged by vegetable and poppy processors wishing to expand further away from the NW Coast.

This change came at a critical time when returns from livestock and wool were low, irrigation water was readily available due to underutilisation and inputs were relatively low on land with minimal cropping history.

The value I place on RD&E, as well as industry advocacy, has led my involvement with the Tasmanian Farmers and Graziers Association (TFGA) where I have been a long standing member of the Cereals and Seeds Committee and the Grains Research and Development Corporation (GRDC), where I am currently serving my second term on the High Rainfall Zone Regional Cropping Solutions Network Committee (RCSN).

Currently our crop production systems are being challenged by increased input cost, market volatility and a trend whereby processors and buyers pass greater risk to producers; farmers investment decisions have become far more complicated as a result.

Targeted, outcome driven, research, development and extension (RD&E) helps inform such decision making and drives productivity gains over time.

The GRDC fund many RD&E projects in Tasmania, a large proportion of which originate from the RCSN, proving the mechanism for agile, targeted issue identification and ensuring levy payer/producer buy in and engagement in the process and outcomes.

There is currently clear need for similar targeted, outcome driven RD&E effort in the extensive animal industry in Tasmania. This sector, which includes both sheep and beef cattle, has changed significantly over the last 10-15 years. Greater access to irrigation has intensified production and increased the distinction between breeding and finishing. Returns from well managed livestock businesses are at an all time high- an excellent opportunity exists to invest in RD&E.

The model whereby producers are engaged to identify short and medium term issues, and groups formed to provide the extension of the outcomes, would be a mechanism to address the gap in this vital sector; research priorities need to be relevant and current.

The outcomes from the RD&E spend need to be clearly defined, be presented to producers in a relevant package and the results measured with practice change the ultimate goal.

TIA has a role as an integral part of the University of Tasmania, including conducting 'blue sky' research and enhancing the exposure students have to industry and understanding of specific challenges and opportunities.

TIA also has a vital place in building the wealth of agriculture and the state, both economic success and the capacity of the many people participating. Being responsive to changes as they occur across sectors, and accountable to industry in terms of research priorities and relevant outcomes will ensure the engagement of all the various stakeholders.
Growing Tasmanian Agriculture - RD&E for 2050: Green Paper

Submission

This submission is made on behalf of the five industry representatives currently serving on the Advisory Board of the Tasmanian Institute of Agriculture (TIA):

- Dr Davina Gregory-Dunsmuir
- Ms Amy Grubb
- Mr Marcus Griffin
- Dr Hazel MacTavish-West
- Ms Mel Rae

Section 1: Contemporary Agricultural RD&E in Australia

It is noted by the Advisory Board (the Board) that Tasmania cannot expect to have expertise in every aspect of agricultural RD&E, and that accordingly the capacity to access and translate research done elsewhere for the Tasmanian context is critical.

However, the Board believes Tasmania does have the opportunity to strive towards having some ‘Centres of Excellence’, and that this public investment should largely be directed towards those sectors of agriculture where Tasmania has an obvious natural advantage.

There are obvious risks if public investment into RD&E gets directed disproportionately toward niche and emerging industries, especially if such activity gets too far ahead of the needs of the producers themselves, or is not aligned with tangible outcomes for that sector. It is also important to consider the scale of contribution a niche industry will have in achieving the Tasmanian Government’s long term Agrivision 2050 goal, and make investment decisions accordingly.

It was noted that institutions working in agricultural RD&E and education often have to make choices between activities that will deliver ‘quick wins’, as opposed to longer-term investments which will result in the further development of staff and students, and gains for industry that accrue only over time.

At present, some key Tasmanian industries are experiencing a short supply of relevant skills and expertise to aid industry growth. An RD&E program that is closely aligned with industry needs, combined with the resulting curriculum shift (because of more industry focused RD&E), will build the state’s skills and expertise capability to better match industry needs.

The issue of extension funded by Government is now more complex, and there is a risk of duplication and/or competition with the private sector if a strategic and transparent approach is
not adopted. There are also questions around whether ‘traditional’ extension activities, such as field days and general discussion groups, which have traditionally been delivered by State Departments of Agriculture, are capable of achieving significant practice change, particularly the level of practice change required to achieve stepped change in agricultural productivity to meet the Tasmanian Government’s Agrivision 2050 goal.

It was noted that, with the continuing evolution of the RD&E sector, some public funding might in future be also distributed to the private sector, where specialist expertise exists, particularly for the delivery of extension services.

Section 2: The Tasmanian Institute of Agriculture (TIA)

It was noted that industry and Board wants TIA to be successful and attract the best possible research talent – but ultimately, there needs to be strong evidence that Tasmania and the Tasmanian agricultural sector will benefit from the investment and/or activities. It is acknowledged that work of international standing, which enables Tasmanian businesses to be best-in-class or contributes to attracting new businesses to set up operations in Tasmania, delivers benefit.

Performance of TIA

The Board noted that it is difficult to determine whether TIA is objectively doing a good job, when there is minimal data available to the Board to benchmark, monitor and evaluate performance or benefit to industry. The Board believes there is opportunity to improve monitoring and evaluation of TIA’s performance and link TIA’s performance to improvements in the Gross State Product and the Government’s Agrivision 2050 strategy.

The Board is not aware of how TIA’s past and current activities align quantitatively with the agricultural sectors within Tasmania. For example, the correlation between the contribution of the dairy sector to economic value and the proportion of TIA’s activity/funding/people directed to dairy RD&E is unclear.

Broader awareness of the impact and strategic alignment of TIA’s work would be a strong driver for continuous improvement. It would also provide an opportunity to convince potential funders to invest more in the institution, as the value proposition put forward by TIA would be evidence based.

The Board perceives that the two stakeholders (Government & UTAS) have differing strategic objectives for TIA and that this is a complex issue to manage. This being the case, the measurement of TIA’s performance by each stakeholder is likely to be against different criteria with the metrics for success within a University context being more researched based. Until there is clear alignment of the stakeholders in regards the strategic intent, purpose and deliverables of TIA, the measurement of TIA’s performance will continue to be difficult.
Similarly, the delineation between the work of TIA and the work of the School of Land and Food is not clear.

**TIA Advisory Board**

The Board noted that the three functions it was established to undertake (as outlined in the Joint Venture Agreement and replicated in the Green Paper) are theoretically sound, but could be further refined and clarified to reflect the strategic and advisory role of the Board. There is also opportunity to clarify how TIA is held accountable for enabling the Board to fulfil its functions.

The Board would like more engagement with TIA to better understand the opportunities and challenges for the organisation. To date, the Board has not met researchers, toured the facilities, or otherwise significantly interacted (in the capacity as Board members) with the institution. It does not exercise any power over the selection and/or prioritisation of the TIA program.

It was noted that the current Board was formed twelve months ago and that TIA operates to a Strategic Plan that was developed by the previous Board. Since its formation, the current Board has not reviewed the Strategic Plan or discussed how performance against the plan is tracking. The Board believes it should actively monitor TIA’s performance to the Strategic Plan and review the Strategic Plan on an on-going basis, in accordance with its stated purposes.

It was suggested that, like many company boards, industry representatives on the Board could be incorporated into other appropriate TIA governance structures, like the Audit Committee, to achieve a more fulsome integration of the Board into the organisation.

It was noted that the quality of the individuals that will be willing to nominate to serve on the Board will decline over time, if their role is not well-defined and capacity to influence strategic direction enshrined and enacted in practice.

In simplistic terms, the Board members apply to be part of TIA in order to make a difference. An inability to do so will result in failure to utilise the skills and expertise of the Board in a meaningful way and result in disengagement of those tasked to engage.

The level of involvement of the Board in its current form is akin to canvassing various industry sectors for feedback on TIA’s direction or scope of work. If TIA is to be accountable to its stakeholders (and their common interests), it is proposed the Board should be far more intimately involved in the business, where the Board Members are also held accountable for tangible outcomes. It is considered that this is what will drive focus, incentive and deliverables for the benefit of Tasmania.

**Section 3: History and Experience of State-Owned Research and Demonstration Farms**
It was noted that long-term continuity of research is an undervalued aspect of institution-owned and operated research farms.

It was also noted that undertaking trials and other research on commercial farms is valuable, however at times can be difficult, not suitable and/or the quality of the research outcomes compromised. If farmers are not adequately engaged and incentivised, there is a natural risk that commercial imperatives may undermine research goals. However, in some cases institutions could lease out suitable areas of private farms, to undertake necessary research.

With regards to best practice around the world, research and demonstration farms in New Zealand (Lincoln and Massey) were discussed in this context. Whilst New Zealand has a population ten times larger than Tasmania and agriculture represents 6.2% of GDP versus Tasmania where agriculture represents 5.6% (2014/15), New Zealand has determined there is a need to provide cutting edge dairy demonstration activities, albeit that supplementary funding is required to do so.

The opportunity to create centres of excellence on the existing State owned farms is an issue requiring considerable strategic review.

Section 4: State-Owned Farms in Tasmania

The Board noted that it was difficult to comment on the research farms and other assets discussed in the Green Paper, as the Board has limited exposure to these assets, the current strategic role of these assets or information about the opportunities to utilise them into the future.

The Board believes a more thorough and strategic assessment is required before the future of these assets determined. The DPIPWE owned farms (Grove and Cressy) were also noted as in this category.

The Board considers that the past role and performance of State owned farms is not something that requires too much discussion. Perhaps more importantly is the identification of the assets required to achieve the objectives of the Strategic Plan, and in particular, strategies to support the development of Centres of Excellence. This could involve the divestment, repurposing or refurbishing of the assets to achieve the long-term goals of TIA and supporting Tasmanian agriculture more widely.

For the Board to form an opinion about the future of these assets, this is an element that needs to be considered within a broader TIA strategic planning process, once a new heads agreement has been established for TIA that creates greater alignment of the strategic intent of the stakeholders.