

Plan for Tasmania's
research farm capacity:
**Supporting agricultural
research, development and
extension for 2050**

October 2020



Summary

The Tasmanian Government's target set with industry is to grow the annual farm gate value of agriculture to \$10 billion by 2050. In doing so, it is committed to supporting local agricultural research, development and extension (RD&E) that directly leads to productivity improvements for Tasmanian farmers and agribusiness. The aim is sustainable growth, supporting better farm gate returns and a more competitive agricultural sector.

Maintaining a portfolio of public research farm assets can enhance the local delivery of RD&E where the research being conducted is relevant to industry; where there is a demonstrable need; and where government investment is based on sound public-sector investment principles and criteria.

This Plan for Tasmania's research farm capacity sets the direction for utilising the existing Elliott and Forthside Research Farm assets in partnership with the University of Tasmania (UTAS) and industry, to help drive agricultural RD&E for the next ten years, and towards 2050. It also considers the future of the Grove and Cressy farms.

Tasmania's research farm capacity will be enhanced through working in partnership with the Tasmanian Institute of Agriculture (TIA) to help develop the UTAS research farms as an integrated research, development, extension and education "Future of Farming Hub" in the north of the State. This includes developing the capacity of the Elliott Dairy Research Facility and the Forthside Vegetable Research Facility to deliver current and emerging RD&E and agricultural education in a contemporary farming system for up to ten years.

At the same time the State Government will seek ongoing private sector partnerships to maintain the Cressy Research and Development Station and develop it as a hub for industry-led RD&E.

The State Government will co-invest in complementary farm infrastructure, facilities and equipment upgrades based on clear funding criteria.

The use of the TIA research farm assets and Cressy Research and Development Station will be monitored over time and regularly reviewed against the principles established in this Plan to ensure they retain a clear purpose and demonstrate value for Tasmanian agriculture and the broader community.

The State Government will also work with the fruit industry to examine the feasibility of the Grove Station (farm) to support an industry-led horticultural centre for RD&E and demonstrations. Grove farm has been privately leased and has not been used to support RD&E since 2010. To help protect and promote our pome fruit genetic heritage, the feasibility of establishing an additional insurance population from the stock at the Grove heritage apple and pear nursery will also be examined.



Background

In 2017 the Government released the **White Paper: Growing Tasmanian Agriculture - Agricultural RD&E for 2050** (the “white paper”) to direct Government effort – policy, actions and investment – to support Agricultural Research Development and Extension (RD&E) in Tasmania. A key area examined in the White Paper was the role and use of research and demonstration farms in Tasmania. The White Paper states that:

- TIA remains the Government’s preferred supplier of publicly-funded agricultural RD&E services.
- The Government will continue to seek both public and private partnerships to maximise the use of our research farm capacity, including providing access to land and associated infrastructure.
- The Government and UTAS will jointly determine how to most strategically utilise research farm assets to support RD&E, including the potential to establish “Centres of Excellence”. This includes considering whether Tasmania should focus its future research farm capacity into one or more Centres, rather than servicing the research needs of a broad range of sectors at various farms.
- The Government will consider industry-led proposals for establishing commercially-focused demonstration farms on Crown assets, with any support being determined by analysis of its business case, opportunity costs and its prospect of providing a long-term contribution to progressing Tasmanian agriculture.

Since the release of the White Paper the Government has committed \$28 million over five years commencing in 2018-19 to the joint venture investment with UTAS in TIA. An additional (up to) \$7 million was committed to modernise our Crown and TIA research farm assets.

This *Plan for Tasmania’s research farm capacity* sets the direction for utilising the existing Elliott and Forthside Research Farm assets in partnership with UTAS and industry, to help drive agricultural RD&E for the next ten years, and towards 2050. It should be read in conjunction with the White Paper, and also outlines the criteria for Government’s investment in the assets and related infrastructure. At the same time the State Government will seek ongoing private sector partnerships to maintain the Cressy RD&E Station and develop it as a hub for industry-led RD&E. The feasibility of the Grove farm as an industry-led RD&E facility will also be actively examined.

For the purposes of this Plan, the separate Cambridge Farm which is solely-owned by UTAS and also the Freer Farm are not included. The Government’s policy to develop Freer Farm as a centre of excellence for TasTAFE to deliver skills and training is already set and implementation is underway with a separate \$5 million committed to achieve that outcome.

This plan recognises the evolution of agricultural RD&E in recent decades. Historically the Tasmanian Government played an active role in undertaking agricultural research on publicly-owned facilities. In more recent times, RD&E activities have increasingly been conducted by other institutions or the private sector on private, commercially run farms, or “focus farms”.

There are also a number of ways to undertake agricultural RD&E which do not require the Government to take freehold ownership of physical farm assets. Indeed research farms are one of a number of tools to help deliver RD&E.

While this work is underway in Tasmania, there is a national focus to better-coordinate the collective investment in RD&E delivery through a smaller number of research facilities distributed nationally that support specific industry needs. This is preferred over every state maintaining a broad research farm portfolio, thereby potentially duplicating resources and reducing economies of scale and research impact. National coordination, collaboration and co-investment in RD&E is aimed at ensuring the effective use of available resources and to get a better result.

Overall, there are generally accepted benefits from properly resourced and operated research farms, including:

- to enable commercially risky research;
- to provide long-term continuity and control for research; and
- to ensure well-documented site histories.

In developing the White Paper, stakeholders agreed that Tasmania needs to retain an effective research farm capacity in some form. In doing so, this Plan acknowledges that there must be a demonstrable RD&E need and sound investment principles and criteria for owning and maintaining public research farm assets.

Tasmania operates in a national RD&E system:

The need to direct limited public funds towards RD&E that has the best impact saw the development of the national RD&E framework to catalyse greater cooperation between the States and investors. The national framework reduces duplication and encourages the creation of national centres of excellence with appropriate critical mass. For further information on the National Agricultural Research and Innovation System refer to: <https://www.agriculture.gov.au/ag-farm-food/innovation>

Tasmania is unique in that it has one University, together with the joint venture with UTAS in TIA as the public provider of agricultural RD&E. This is complemented by the work of a number of private sector providers. The real opportunity lies in taking a 'whole of Tasmanian agriculture' approach to providing RD&E in a way that is timely, responsive, avoids duplication and most importantly, provides clear benefits to Tasmanian farmers and agribusiness.





AGRIVISION 2050

Increasing the annual farm gate value of agriculture to **\$10 billion** by **2050**

Linking with other strategies and plans including:

- Competitiveness of Tasmanian Agriculture for 2050 White Paper
- Growing Tasmania Agriculture RD&E for 2050 White Paper
- Agricultural RD&E Principles and Investment Strategy
- National Primary Industries Research, Development and Extension Framework, and Rural RD&E Priorities
- Industry partnerships including Rural Research and Development Corporations
- Our Digital Future: Tasmanian Government strategy for digital transformation



Tasmanian Government investment in agricultural research and innovation



Plan for Tasmania's research farm capacity:

- Future directions
- Principles for investing
- Criteria for infrastructure, facilities and equipment upgrades
 - Dairy Research facility, Elliot
 - Vegetable Research facility, Forthside
 - Cressy Research and Development Station
- Feasibility Study
 - Grove Station (farm)



Projects and programs with industry



Tasmanian Institute of Agriculture Joint Venture with University of Tasmania



Public research farms (state and UTAS)



Practical and industry relevant research, development and extension



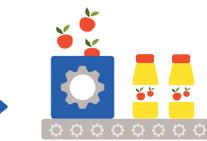
Farming



Post Harvest



Distribution



Food Transformation



Retail/ Export



Consumer



- On-farm productivity gains
- More sustainable farming
- Improved disease management

- Climate-ready agriculture
- Better products
- Value-adding
- Demonstration opportunities

- Outreach to promote adoption of new technology
- Agricultural education, skills and training
- Knowledge transfer

Research Farm Plan

University of Tasmania (UTAS)

UTAS has a long-term strategy to develop place-based and regionally distinctive teaching and research. This includes locating its campuses and facilities to be more closely connected to local communities and the key industries they service.

TIA's vision for the future of the UTAS research farms is an integrated research, development, extension and education "Future of Farming Hub" in the north of the State, using contemporary farming systems. The aims of developing a hub include to:

- better connect the University, other education providers and the agriculture and food sectors;
- better integrate plant and animal research with sustainable agriculture and climate science;
- support Tasmanian agriculture to respond to and capitalise on digital transformation and new technologies; and
- help strengthen agricultural education pathways in Tasmania.

Developing contemporary research farms as the physical basis for such a hub also provides a platform for TIA to deliver place-based experiential learning, formal education, short courses, demonstrations and industry updates.

The first step is to maximise the potential of the existing Elliott and Forthside research farms, which are owned by UTAS, to continue to deliver TIA's pasture-based livestock and horticultural RD&E programs for up to the next 10 years. Both Elliott and Forthside are Tasmania's two key research farm assets as each site currently hosts significant and active RD&E programs in partnership between TIA, national research and development corporations and the private sector.



Farm Summary

PROPERTY	OWNERSHIP	CURRENTLY OPERATED	HISTORY AND CURRENT STATUS	FUTURE DIRECTIONS UPTO 2030
TIA Dairy Research Facility, Elliott	Transferred from Crown to UTAS	Tasmanian Institute of Agriculture	<p>The then Department of Agriculture made the original purchase of land at this site in 1949. Additional land was acquired over the next 30 years to attain its current size of 229.15 hectares. The site has a range of farm infrastructure, including a herringbone dairy, and was operated as the Elliott Research and Demonstration Station by the Department for over 40 years, with a focus on dairy production.</p> <p>The facility was transferred from the Department to the University of Tasmania in July 2007, when the Dairy and Vegetable Centres were established within the then Tasmanian Institute of Agricultural Research – a joint venture between the University and the Government. Now the TIA Dairy Research Facility (TDRF), it is one of four national research centres supporting Dairy Australia and is not currently used for demonstration. Using technologies such as virtual herding and autonomous irrigation control systems, TDRF has focussed on RD&E to increase the productivity of pasture based dairy systems in recent years. Around 50% of TIA's dairy research takes place at the TDRF with the remainder undertaken on commercial farms.</p>	<p>To further develop Elliott's capacity to deliver contemporary RD&E to the Tasmanian and southern Australian dairy sectors with a focus on high quality (pasture) feed base research.</p> <p>In doing so, TIA aims to better use both Elliott and Forthside farms to support collaborative teaching and the agricultural education framework (at the higher education, VET and TasTAFE and school curriculum levels).</p>
TIA Vegetable Research Facility, Forthside	Transferred from Crown to UTAS	Tasmanian Institute of Agriculture	<p>Forthside was acquired by the then Department of Agriculture in 1963 and operated as a research and demonstration station with a focus on vegetable production. The 54-hectare property was transferred from the Department to the University of Tasmania in July 2007.</p> <p>Now the TIA Vegetable Research Facility, it undertakes a range of vegetable research and provides research services to industry on a fee-for service basis. The property holds long-term data and trial sites, including research into biofumigants and demonstration of controlled traffic. In collaboration with agribusiness groups, TIA is also developing the use of precision agriculture technologies and remote sensing at Forthside. In addition to research, land is contracted for commercial crop production, the revenue from which offsets the costs of the facility.</p>	<p>To further develop Forthside's capacity to deliver contemporary horticultural RD&E with a focus on vegetables, protected cropping and to develop and demonstrate to farm businesses the use of digital infrastructure or SMART (Sustainable, Manageable, Accessible Rural Technologies) farming technologies.</p> <p>In doing so, TIA aims to better use both Elliott and Forthside farms to support collaborative teaching and the agricultural education framework (at the higher education, VET and TasTAFE and school curriculum levels).</p>

PROPERTY	OWNERSHIP	CURRENTLY OPERATED BY	HISTORY AND CURRENT STATUS	FUTURE DIRECTIONS UPTO 2030
Cressy Research and Development Station	Crown	<p>The Crown: under lease to third party until 2024.</p> <p>Other tenants use parts of the facility for the Save the Tasmanian Devil Program, a commercial trout guiding business, temporary housing of seized animals.</p>	<p>The original farm of 192 hectares was bought by the then Department of Agriculture in 1935 and over the years has been expanded to its current size of 478 hectares. The farm has variable soils representative of the midlands, a 300 megalitre water license from Brumbys Creek, along with a range of farming infrastructure and four houses on the site. Over the past 80 years activities on the Station have included training, demonstration, extensive agricultural production and research, development and extension (RD&E). Training has included practical farming skills for ex-servicemen in the post-war years, industry skills in artificial insemination, shearing and a range of in-service training. Commercial production on the site in the past has focused on sheep meat and wool with some beef production as well.</p> <p>The station has also been the site of RD&E in cereal breeding (including variety testing and multiplication), pasture breeding and improvement, livestock nutrition, sheep management, lamb production, quality assurance validation, essential oils, animal health and sunrise industry development. Over the past two decades, a range of entities have acquired interests in the site and its use has been mixed.</p> <p>Seed companies, TasGlobal Seeds and more recently Upper Murray Seeds, have been the primary leaseholders since 2010, utilizing the site for pasture seed development and multiplication. The current RD&E focus on the site is continued development of pasture cultivars suited to Australian conditions and expansion into soft fruits, including strawberries and raspberries.</p>	<p>Beyond current lease arrangements, seek ongoing interest from the private sector partners to maintain the Cressy Research and Development Station and develop it as a hub for industry-led RD&E.</p> <p>In support of this aim, the Government will invest in maintaining core farm infrastructure that support potential multiple future RD&E uses, e.g. core water; paddock, access and boundary infrastructure.</p>
Grove Station (farm)	Crown	Crown	<p>The Grove Research and Demonstration Station was established by the State Government in 1951 to research pome fruits, especially apples, and later stone fruits (including cherries), berries, floriculture and organics. The 28-hectare site was used to test and develop new cultivars, produce propagating material, improve orcharding systems and develop alternative strategies for pest and disease management.</p> <p>Since 2008, activities at Grove have been limited to the maintenance of the Tasmanian Heritage Apple Orchard which comprises over 600 cultivars of pome fruits.</p> <p>In 2010, Grove officially ceased as a Research and Development Station based on advice from TIA that it was not required to support these activities. The Station was then leased to a third-party to manage the farm primarily as an education, training and employment facility for people with disabilities and also maintain the heritage orchard. A sub-lessee operates a tree nursery on part of the site.</p> <p>The head-lease recently reverted to the Crown and is currently under care and maintenance by DPIPW. TIA has confirmed that the Station is not critical to its RD&E programs.</p>	<p>To examine the feasibility and case for Grove Farm to support an industry-led proposal for a horticultural centre for RD&E and demonstrations.</p> <p>To protect and promote our pome fruit genetic heritage by examining the feasibility of establishing an additional insurance population from the stock at the Grove heritage apple and pear nursery.</p>

Principles for investing in research farms

The following sets out the framework for the State Government's ongoing investment into maintaining research farms.

High level filter

The research farm facility, or portfolio of farms, should meet all, or most of the following criteria:

- Have a demonstrable purpose for delivering contemporary RD&E outcomes that benefits the Tasmanian industry or community and that cannot be met from alternative approaches here or on the Australian mainland;
- Provide multipurpose infrastructure that can be used flexibly for a diversity of agricultural RD&E and related natural resource management purposes;
- Provide local facilities for RD&E focused on unique Tasmanian agricultural issues that are not being addressed by facilities in other states;
- Fast track the local adoption of research developed outside Tasmania to benefit local agriculture;
- Provide a space for partnerships with industry and other RD&E providers which deliver positive benefits for Tasmanian agriculture beyond the ability of any individual partner;
- Provide local capacity to evaluate new (and sometimes high-risk) agricultural enterprises and technologies with potential for establishment at a commercial scale in Tasmania.

Criteria for assessing individual research farm investments

The White Paper establishes that in managing the research farm portfolio in Tasmania the Government will take into account the following principles:

1. Each facility should operate with clear objectives for supporting RD&E;
2. Funding from all sources will be adequate to sustain the necessary human and physical resources and ensure the facility is fit for purpose;
3. Acknowledge that revenue derived from the farm activities may not fully fund its operating costs;
4. As appropriate, opportunities to support education outcomes will also be accommodated.

The *Agricultural Research, Development and Extension Principles and Investment Strategy (2018 -2023)* establishes that the prioritisation and allocation of Tasmanian Government funding to RD&E activities will be based on the following characteristics:

5. Focus on sustainable productivity growth for Tasmanian farmers and agribusinesses;
6. High quality agricultural RD&E likely to deliver a net social benefit that otherwise would not be undertaken;
7. Alignment with Tasmanian Government policy – and specifically the target to grow the value of Agriculture to \$10 billion by 2050;

8. Clear impact pathway articulating a plausible and feasible connection from RD&E investment to farm-level impact, including provision for extension and evaluation;
9. Partnership approach for industry engagement along the value-chain, appropriate levels of co-investment and maximisation of adoption and impact;
10. Transparent reporting that enables assessment of outcomes and impacts against the Government's RD&E investment.

These ten principles will be applied by Government in considering expenditure on RD&E projects or activities as well as for research farm assets, including any infrastructure, facilities and equipment upgrades.

Importantly we are not starting from scratch. Some of our research farm assets already support significant RD&E activities with national significance and have existing funding partnerships in place; whereas other farms currently do not support any RD&E activity. Recognising this, the Government investment in research farms assets in relative order of priority or proportion would be as follows:

1. **First, investment primarily to underpin industry-relevant RD&E delivered by our formal partner in TIA.**
2. **Second, to support existing RD&E where there is a partner organisation and demonstrated benefits to a Tasmanian agricultural industry.**
3. **Third, where there is no current RD&E will focus on capital works to support potential future RD&E capacity, where there is a demonstrable need and viable business case.**

The use of the research farm assets will be monitored over time and regularly reviewed against these principles to ensure they retain a clear purpose and demonstrate value for Tasmanian agriculture and the broader community.

Criteria for Infrastructure, Facilities and Equipment Upgrades

The Government, in addition to maintaining the research farm estate (land and property), may at times provide funding for the infrastructure, facilities and equipment at specific farms. Often Federal, State and private sector funding for RD&E is only available for specific projects or activities, not the capital items which are used to undertake the projects or activities.

In addition to the *Investment Principles* previously outlined, when considering any funding for infrastructure, facilities and equipment at research farms, the Government will for consistency and transparency evaluate any such investment in terms of:

1. **Base Capital items** - investment should be for capital items and not be devoted to providing operational or labour requirements which ideally should be resourced from the specific RD&E project or operational funds of the various organisations involved.
2. **R&D-specific capital items** - a research farm property needs to provide a base level of infrastructure that enables researchers to control, replicate, measure and manage their activities beyond the levels required for a commercial property.
3. **Avoiding duplication** – the research farm estate should be considered as a whole to minimise the duplication of similar investments at multiple properties.

4. **Flexibility** – the investment should foster flexibility of function and potential future uses, thereby making Tasmanian research farms responsive to new and emerging issues.
5. **Market failure** - investment in research farm infrastructure, facilities and equipment should overcome a market failure or gaps which are preventing local or nationally relevant RD&E from being delivered to benefit Tasmanian industry.
6. **Value adding** – the ability of the investment to add that to the capital value of the farm asset without limiting its potential future uses, or the level of future value that could be realised from the item(s).
7. **Co-investment** – the level of co-investment by collaborators or research partners and/or the value of RD&E programs that are realised from the investment.
8. **Overall value for money** – based on all factors, the overall value for money obtained from the investment.

The funding of any machinery will take into account:

- Cost: benefit of owning such machinery, including opportunity cost.
- The availability of contractors and other arrangements to access required machinery.
- Availability of sufficient recurrent budget to meet the operational, maintenance, storage and depreciation costs of owning the machinery.
- The long-term applicability and relevance of the machine.
- Activities requiring use of such machinery are core to delivering research outcomes.

Links

National agricultural research and innovation system information

White Paper: Growing Tasmanian Agriculture - Agricultural RD&E for 2050

Agricultural Research, Development and Extension Principles and Investment Strategy (2018 -2023)



All photos by the Tasmanian Institute of Agriculture



Tasmanian
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