

RF: 2018/8777

Mr Brent Findlay
Chair, Future Drought Fund Consultative Committee
c/o Department of Agriculture
GPO Box 858
CANBERRA ACT 2601

12 December 2019

Dear Mr Findlay

Submission to the Future Drought Fund Consultative Committee on the draft Drought Resilience Funding Plan

The University of Adelaide is pleased to submit a response to the Future Drought Fund Consultative Committee on the draft Drought Resilience Funding Plan.

The University of Adelaide has identified agrifood and wine as a critical research and engagement area, where our mission is to tackle the global challenges of food security and environmental sustainability in the Australian context. Our domain knowledge, capability and infrastructure facilitates the deployment of large-scale transdisciplinary research programs to transform the Australian agrifood and wine sector.

The University acknowledges the importance of the new \$100 million per annum Future Drought Fund, and the potential this Fund has to support the development and enhance the resilience of Australia's agricultural sector – both at industry and community level.

Initiatives which enhance the resilience of Australian farms and communities, by becoming more prepared to respond to the impacts of drought, are essential. The University of Adelaide strongly supports the Fund's plan to invest in research and innovation, research extension, the adoption of new and existing technology, improved environmental and natural resource management, infrastructure and community initiatives. We agree such measures will make agriculture more productive and profitable and enhance the wellbeing of farming communities and the sustainability of our farming sector.

The University argues that evolution to a bigger and more sustainable industry requires substantial investment in fundamental research, and an uplift in industry-university interactions to stimulate innovation and rapid translation. As such, this submission outlines a proposed **National Mission for Future Crop and Community Resilience**, currently being developed in partnership with the Australian National University and the University of Western Australia, and together with industry. We believe this Mission could perform a critical role in delivering on the Strategic Priorities of the Drought Resilience Funding Plan.

Noting the economic and social importance of agriculture for rural communities, and the disruptive challenges facing the agricultural sector, it is time for a large-scale, long-term investment to improve the resilience of crops and rural communities across Australia. The purpose of the proposed National Mission would be to stimulate acceleration of the agricultural economy through industry-aligned investments in R&D and innovation which target cereal crop productivity and climate resilience, and serve society and rural communities. The following examples represent an indicative potential work stream for research investment under the National Mission, aligning strongly with the Drought Resilience Funding Plan:

- **Smart Plants for Future Cropping Systems:** Farmers need on-demand crop management tools to increase yields by 20%, and the ability to switch production to high-value alternative commodities such as oils and proteins in planted crops.
- **Resilience to Drought, Heat and Salinity:** Farmers need varieties that are resilient to stresses, but will yield well in good years to enable cropping to be profitable in harsh climates and soils and to make the best use of all available farmland.
- **Digital Agriculture Solutions:** Farmers need crop breeders to increase the speed at which they select for improved yields and resilience in response to changing environments and markets for farm products.
- **Building Thriving Rural Communities:** Rural communities need delivery of smart, resilient solutions that work to empower them in decision-making in the face of unprecedented changes in climate, water availability and need for next generation jobs.

Therefore, the University of Adelaide supports the proposition that the Future Drought Fund is to include a significant component for R&D and innovation in order to deliver long-term community benefits that will help to break the cycle of drought and dependency. If adopted, the approach above would deliver transformational benefits to agricultural communities and economies, and catalyse new development opportunities across the wider agri-technological innovation landscape in Australia.

Managing Australia's finite and highly variable water resources will be increasingly critical to meet future demand, and sustain a productive agricultural sector while securing long-term environmental sustainability. The University of Adelaide's Water Research Centre comprises one of Australia's largest and most diverse group of researchers in water-related fields. With a breadth spanning the natural and social sciences, engineering, economics and law, the University has built an extensive track record working with governments and private industry on issues related to developing water markets and trading, drought forecasting and long-range scenario development, hydrology and water quality modelling, environmental flows and ecosystem science, irrigation technologies, land-use planning, and decision support. These skills will become increasingly relevant not only to address the multiple challenges of the current drought, but to underpin the long-term improvements to system resilience needed to address future periods of drought.

Utilising these and other disciplines, the University of Adelaide's vision is for South Australia to be a world-leader in dryland agriculture and in the wine industry. The University's Waite campus already has the largest concentration of expertise in the southern hemisphere in wine and crop-based agricultural sciences, and is globally recognised for its strengths in agronomy, plant science, breeding, landscape and soil science, winemaking, viticulture, and food research. The Waite conducts more than 70% of the nation's wine research and is the origin of the majority of dominant cereal varieties grown over many decades. Now is the time to super-charge the impact of the Waite Campus as a genuine national and global asset, to ensure Australia's wine and dryland agriculture sectors are among the best in the world.

Central to this vision is a major new infrastructure build at Waite which will lay the foundation for success. A new high-tech winery will teach the wine-makers of the future and house the latest, world-leading research that will continue to underpin Australia's wine sector in the global market. This facility also will bring together those central to driving the nation's dryland agriculture. We will co-locate industry, academia, government and international partners side-by-side within the new buildings. This will become the home of the latest knowledge and technology, education and training, and research and development, creating a national asset to drive forward critical advances in this important sector. We will enhance Australia's already valuable export market by adding *knowledge* and *innovation* to sit alongside *commodities* on our top exports list.

Our ambition is for Waite to become one of a number of new **AgTech Precincts** to support new research, development, extension and adoption to expand technologies available to farmers in responding to risks such as drought – a key Action of Strategic Priority One in the Drought Resilience Funding Plan.

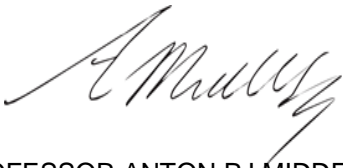
The concept for AgTech Precincts is to bring together relevant partners around key production sites to develop, provide education and training in, and showcase innovations for:

- Extension and adoption – bringing together industry and producers to improve adoption of new technologies;
- Education and training – building capacity in the current and future workforce, from schools to universities;
- Research and development – to co-create innovations that drive future industry innovations; and
- Commercialisation – led by industry, start-ups and investors.

The establishment of AgTech industry precincts, many proposed to be based within our farming regions, would allow the fast-track adoption of technologies and ensure Australian agriculture remains globally competitive. Bringing these partners together would support the research, development and technology innovation and commercialisation required to develop a new AgTech industry, and would build a culture and capacity in our agriculture sector for continuous innovation that is strongly market-driven.

Representatives of the University would be pleased to discuss our ability to help deliver on the Priorities and Actions of the Drought Resilience Funding Plan with your Committee.

Yours sincerely

A handwritten signature in black ink, appearing to read 'A Middelberg', written in a cursive style.

PROFESSOR ANTON PJ MIDDELBERG
Deputy Vice-Chancellor and Vice-President (Research)