

AgTech Demonstration at Loxton Research Centre and Farm

Guide to EOI process

Expressions of Interest are now open from AgTech suppliers offering innovative products suitable to be demonstrated on the Loxton Research Centre and Farm.

This document provides all the information required to submit an expression of interest.

The Loxton AgTech Demonstration Farm provides a two-way digital marketplace for Agricultural Technology (AgTech) solutions that allows AgTech firms to match their products closely to on-farm challenges, and provides farmers with visibility of technology solutions, including key information on product cost and performance. The demonstration of AgTech at the Loxton Research Centre and Farm (LRCF) aims to:

- Identify key farm decisions and processes that can be supported by AgTech, and highlight the use and value of AgTech solutions in informing these management decisions.
- Enable primary producers to interact with a wide range of AgTech solutions before identifying and adopting products and services that will improve their productivity and profitability.
- Enable technology developers and suppliers to engage constructively with primary producers to ensure products are end-user centric and capable of meeting their needs.
- Document and communicate the application and performance of AgTech products as applied to Riverland and Murraylands production systems.

The Loxton Research Centre and Farm

The South Australian Department of Primary Industries and Regions (PIRSA) owns and maintains the LRCF.

The 25 ha LRCF is located 250 km from Adelaide within the Riverland. It supports agriculture, horticulture and irrigation research. The LRCF was established in 1960 on land that had been set aside for the establishment of a horticultural experimental station. The site underwent expansion in 1981 and again in the 1990s. A major redevelopment of the LRCF was undertaken in 2015/16 to provide new facilities. The Almond Board of Australia was attracted to the site and the Almond Centre of Excellence Experimental Orchard established nearby.



The LCRF features:

- 45 plots ranging from 0.10 to 1.0 ha
- An irrigation allocation of 295 ML per year
- A predominant soil type of sandy loam, the depth varies between 35 cm to 90 cm across the property
- Average annual rainfall of 275 mm
- A topography that is a good representation of the horticulture land in the Loxton irrigation district.

Current production is:

- 4 ha of producing citrus (Navel and Valencia orange, and mandarin)
- 4 ha of commercial wine grapes
- 2.8 ha of apricots
- Small area of almond and avocado.

There are a number of vacant plots that can be planted to suit demand. Proposals to plant vacant land should be included with your expression of interest.

Selection Criteria

The LRCF is aiming to demonstrate AgTech products to growers and facilitate a better interaction between AgTech providers and the industry. To achieve this the technology will be required to meet selection criteria. These are provided below:

1. The product or technology addresses one of the operational decisions or activities detailed in “AgTech Required” and is viewed to have potential value in farm management decision making
2. The product/technology is available to farmers within South Australia
3. The product embraces ‘open source’ principles such that it can communicate with other reporting/viewing products
4. The company can install the product on site at LRCF at their own cost
5. The company can provide adequate technical support to LRCF at their own cost
6. The company agrees to open access for all data collected by the product or technology
7. The company agrees to all performance data on the product or technology being openly available
8. The company agrees PIRSA can use the product operational and performance data for analysis and images in presentations and communications
9. Public liability insurance on an occurrence basis for at least ten million dollars (\$10,000,000) for each occurrence.

AgTech Required

AgTech is the broad term for a wide range of technologies that can help agribusiness. In the broader sense, AgTech includes digital agriculture software and hardware, mixed/integrated farming systems, plant crop and livestock sciences, and post farm gate agricultural value chain technologies.

The focus of the LRCF demonstration site is to enhance the adoption of AgTech that supports management decisions or activities/operations relevant to production systems within the Riverland and Murraylands region. The Riverland and Murraylands region has a temperate climate with hot dry summers and mild winters. With water available both from the Murray River and underground aquifers, the region is famous for its irrigated horticulture in particular winegrapes, almonds, citrus as well as potatoes, onions and carrots. Away from these water sources the economy is dominated with dryland grain farming, livestock and wool production.

The following are examples of farm management decisions or activities requiring AgTech solutions:

General Farm Activities

- Assistance with decision making
- Increasing resource use efficiency
- Environmental monitoring, including weather monitoring and forecasting
- Diesel fuel tank monitoring
- Precision agriculture
- Electronic marketing
- Mapping and identifying sources of variability across a property
- Reporting and record keeping
- Compliance with WH&S requirements
- Labour task scheduling and monitoring
- Remote hazard recording
- Quality assurance management
- Cost of production measurement

Crop Management

- Crop heat or moisture stress
- Crop growth and canopy cover
- Soil understanding, monitoring and management
- Crop nutrient management
- Variable rate application
- Tree water use
- Tree architecture monitoring and management

- Quality and/or yield improvement
- Yield estimation and prediction
- Pest identification (weeds and insects) and management

Irrigation

- Soil moisture monitoring and management
- Automation of irrigation control to take advantage of forecasting and prediction data
- Improving water use efficiency, e.g. linking sensors to irrigation scheduling
- Accurate water use predictions
- Water pump pressure (and flow rate) monitoring
- Automated notification about irrigation leaks
- Remote start and alerts management

Farm Vehicle Management

- GPS tracking
- Vehicle automation
- Vehicle safety monitoring (e.g. roll over alert)

Timing

Expressions of interest will be accepted on an ongoing basis. Successful demonstrators will be informed as assessments are completed.

How to apply

Expressions of Interest must be submitted via the [online form](#).

The following information will be required:

- **Company details**
- **AgTech Proposed for Demonstration**

Include, for each AgTech product or technology being proposed for demonstration:

- Product/technology name
- Relevant farm management decision/activity
- Product/technology description

- Distributor to South Australia if not the proponent

- **Compliance with performance based selection criteria**

Include responses to the following selection criteria:

- Availability in South Australia
- Open source system
- Installation – who will install and how
- Technical support

Where multiple products or technologies are proposed and the response differs between products or technologies please provide specific details for each product/technology.

- **Information Management**

State whether you agree with the below selection criteria, and list any additional requested conditions:

- All data collected by the product or technology can be openly accessed
- All performance data on the product or technology will be openly available
- PIRSA can use the product operational and performance data for analysis, and images in presentations and communications

- **Insurance**

The proponents are required to have public liability insurance on an occurrence basis for at least ten million dollars (\$10,000,000) for each occurrence. Please provide a certificate of currency.