PIRSA

Struan-Kybybolite Best Practice Demonstration Farms

Guide to the Expression of Interest process for AgTech products on the Demonstration Farms

Expressions of Interest are now open from AgTech suppliers offering innovative products suitable to be demonstrated on the Best Practice Demonstration Farms (BPDF), a new initiative at the PIRSA-owned Struan and Kybybolite farms.

It's part of the collaboration between the State Government and Elders Ltd developing the best-practice farming demonstration sites in South Australia's south-east, to encourage better take-up of innovative farming practices, including the use of new technology in the agricultural sector.

The demonstration of AgTech at the Struan-Kybybolite BPDF aims to:

- increase the productivity and profitability of the Struan and Kybybolite farms using world's best practice technologies and management in order to increase the productivity and profitability of livestock farming in South Australia
- document and communicate the improvements in physical and financial performance
- demonstrate the use and value of new products and management options in a farm system
- identify key farm decisions and processes that can be supported by AgTech and demonstrate available AgTech products to enhance AgTech adoption by industry.

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

The Struan-Kybybolite Farms

The South Australian Department of Primary Industries and Regions (PIRSA) through the South Australian Research and Development Institute (SARDI) own and maintain the Struan and Kybybolite farms.

The 1100 ha Struan Farm is situated approximately 370 km south-east of Adelaide and 17 km south of Naracoorte. The 300 ha Kybybolite Farm is approximately 35 km from the Struan Farm.

View the map for details of the farms' location.

The Struan Farm lies on the edge of limestone ridges and comprises:

- 250 ha of sandy high country
- 850 ha of flood plains (rendzina and podsolised soils overlying limestone).

The Kybybolite Farm Research Centre contains 300 ha of Red Gum soils.

Underground water supplies are available at shallow depths (3 to 4 m) and approximately 140 ha are irrigated.

The Struan Farm currently runs a TechnoGrazing™ system of beef livestock production. The stock held can reach up to 1100 head in number depending on seasonal variation, which are grown out and rotated (sold and replenished) annually. The Kybybolite Farm runs a flock of merino and first cross ewes. The flock consists of approximately 1850 merino and 2500 first-cross ewes which are all MN3 accredited status for Ovine Johne's disease. Merino ewe replacements are bought in annually and the farm self-replaces the first cross ewes by mating Merino ewes to Border Leicester rams. The Bool Lagoon block is used for cropping.

The farms also produce (approximately):

- hay - 350 tonnes
- ryegrass hay - 315 tonnes
- oat - 28 tonnes
- barley - 250 tonne
- silage - 546 tonnes
- wheat - 227 tonnes.

Apart from broad acre grazing and cropping, the operations at the farms include:

- feedlot capacity of up to 200 cattle - Struan
- two centre pivots for irrigation - Struan
- a TechnoGrazing™ system under irrigation and dry land conditions - Struan
- a small sheep feedlot facility – Struan.

Selection Criteria

The joint PIRSA and Elders BPDF project is aiming to demonstrate best practice farm management, including technology support in order to increase the productivity and profitability of livestock farming in South Australia. As a result technology will be required to meet the following selection criteria:

1. The product or technology addresses one of the operational decisions or activities detailed in "AgTech Required" and are viewed to have potential value in farm management decision making
2. The product/technology is available to farmers within South Australia
3. Product is based on an 'open source' system that will communicate with other reporting/viewing products
4. The company can install the product on site, and agrees that all costs associated with hardware, software and installation will be borne by them
5. The company can provides adequate technical support
6. The company agrees to all data collected by the product or technology being openly available
7. The company agrees to all performance data on the product or technology being openly available
8. The company agrees PIRSA and BPDF participants (including Elders and other investors) can use the product operational and performance data and images in presentations and communications relating to the BPDF
9. The company provides 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 demonstration of AgTech on the BPDF is to enhance the adoption of AgTech that supports specific farm management decisions or activities/operations. The following lists the farm management decisions or activities requiring AgTech solutions:

General Farm Activities

- Weather monitoring
- Electric fences monitoring
- Diesel fuel tank monitoring
- Silo monitoring
- Shed doors and farm gates monitoring
- Shed temperature monitoring
- Feedlot bin monitoring
- Water tank level monitoring
- Water trough monitoring
- Main water pump pressure (flow rate) monitoring
- Electric fence monitoring

Livestock Management

- EID smart tag - auto draft/weigh, fleece weighing
- Stock movement monitoring
- Feed intake monitoring - individual, mob
- Auto EID scan loading/unloading animals
- Walk-over weighing
- Parasite monitoring
- Automatic drafting between paddocks
- Climate shelters (i.e. shelters that reduce temperature, and are important for male fertility)

Farm Vehicle Management

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

Pasture

- Soil temperature monitoring
- Pasture biomass monitoring
- Climate modelling, growth, rainfall
- Nutritional value of plant species monitoring
- Remote weed control
- Livestock pasture intake monitoring
- Variable rate input management e.g. fertiliser, chemicals
- Innovative strategies for pasture improvement e.g. low cost spreading of seed with fertiliser, sowing on micro-raised beds or inter-sowing perennial species with precision ag

Irrigation

- Flood moisture monitoring
- Flood pump flow monitoring
- Pivot moisture monitoring
- Automatic gates
- Bay monitoring
- Pivot - movement monitoring
- Variable rate management
- Fertigation management
- Remote start alerts management

Farm management software

- Labour task monitoring
- Pasture use efficiency measurement
- Stock movements / traceability management
- Data / record management
- Cost of production measurement
- Remote hazard recording
- Quality assurance management
- Imagery for farm management

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 and BPDF participants (including Elders and other investors) can use the product's operational and performance data and images in presentations and communications relating to the BPDF
- **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 evidence that the required insurance is currently held.