

New drought-tolerant plants being developed by the South Australia Research and Development Institute (SARDI) are now protected by a two-hectare bird-proof enclosure. The \$70,000 enclosure located at SARDI's Genetic Resources Centre at the Waite Campus, Urrbae will be integral in the development of plants suited to withstand the rigours of climate change.

By eliminating bird damage, germplasm representing a diverse range of native and exotic pasture and shrub species can now be reliably established, characterised and harvested for agricultural and environmental research and ultimately the development of new plants and management techniques.

Under attack

Before the establishment of the new enclosure SARDI Genetic Resource Centre staff went to incredible lengths to protect valuable plants that were besieged year-round – first by pigeons, then ducks and then cockatoos. At one stage, staff mounted a 24-hour-watch from a nearby caravan, always at the ready to shoo away birds.

Other bird-repellent methods have been tried with limited success, including scarecrows, eagle kites, bird wire and chemical repellent. More recently, 1000 mobile steel cages were systematically, and manually moved between the plots. Although successful for low-growing annual species, these cages were extremely laborious and became of limited value when the emphasis on new germplasm shifted towards perennial species, especially the shrubs.

The new enclosure will now allow research to nurture and develop new varieties unhindered by bird attack.

Native shrub focus

A major research program currently underway within the new enclosure is assessing about 80 Australian native shrub species. Sourced predominately from remote inland areas, these species are being grown alongside a larger-scale seed orchard of 20 'best bet' species as the foundation for the research and development of the Future Farm Industries CRC, *Enrich*[™] project – identifying new shrubs and profitable systems for livestock industries.

The enclosure also provides a safe and secure environment for the seed multiplication of new CRC-funded *Lotus corniculatus* cultivars (for more information see *Focus on Perennials* Issue 8). It also includes 240 plots of *Cullen australasicum* a native leguminous sub-shrub under development within the CRC's *Perennial Legumes For A Dry Mediterranean Climate* project (for more information see *Focus on perennials* Issue 2).



Bird-proof cage keeps research under wraps

By Steve Hughes
SARDI

ABOVE: The new bird-proof enclosure will relieve SARDI research staff from their bird watching duties in the name of plant protection. (back row, left to right) Steve Robinson, Jake Howie, Steve Hughes, Hugh Drum (front row Left to right) Michelle Williams, Amanda Benger, Geoff Auricht, Erica Marshall, Yanjing Wang. (Photo: Grace Taylor, SARDI)

Recognising research

The new bird-proof enclosure was named after SA's first Plant Introduction Officer and Genebank Curator – Eric Crawford. Eric established the Australian Medicago Genetic Resource Centre and developed many pasture cultivars for low- to medium-rainfall zones in SA during his 40-year career, until his retirement during 1989.

The SA Minister for Agriculture, Food and Fisheries, Paul Caica, officially opened the enclosure in Adelaide on the September 17. Guests included representatives from PIRSA, SARDI, DWLBC, CSIRO, Adelaide University, the Australian Centre for Plant Functional Genomics, SAFF, AusIndustry, GRDC Southern Panel, Future Farm Industries CRC, The Australian Seed Federation, private seed companies and agricultural suppliers as well as scientists and related staff, along with Eric Crawford and his family.

Minister Caica explained that the new enclosure was a nationally-significant investment, which would play an important

role in securing agriculture across Australia under increasingly harsh climate conditions.

"Pastures underpin Australia's annual \$21 billion grazing industries, and add \$1 billion in value each year to SA farming systems. This new enclosure means a diverse range of native and exotic pasture and shrub species, from clovers and lucerne to grasses and dryland shrubs, can now be grown safely for agricultural and environmental research," he said.

"This research provides the building blocks for future food supplies as farmers look to new pasture varieties to cope with more extreme weather conditions, water shortage, the need for new perennials for improved livestock production, as well as managing the carbon balance. The pastures also provide groundcover to safeguard our soils."

"SARDI's Pasture Research plots protected by this enclosure represent the future foundation of SA's – and much of Australia's – pasture industry, as most plants and shrubs that are eventually introduced into farming practice start here."

The SA State Government funded the Eric Crawford Pasture Enclosure with the AW Howard Memorial Trust provided funding for the rock-mounted memorial plaque and opening ceremony. ↘

More information

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key points

- A bird-proof enclosure in South Australia is protecting some of the nation's most precious perennial plant germplasm
- Bird attack was a major threat to research programs investigating the potential of a range of native and exotic pasture and shrub species
- The development of new perennial species will prove critical in the toolkit required to meet climate change challenges.