



SAGIT Research Snapshot

AGT114: Heat research study trip to America

FAST FACTS

The details

Start: July 1, 2014

Finish: June 30, 2015

Project participants: Paul Telfer, AGT

The problem

Heat research is conducted by Paul Telfer at AGT, as well as studying a PhD with the University of Adelaide. This trip was designed to provide opportunities to meet researchers with similar projects to encourage future collaboration.

The research

The trip enabled visits to three research groups – Dirk Hays at Texas A&M University, Limagrain Cereal Seeds (LCS) in Colorado and the CIMMYT research centre in Obregon in Mexico. Industry and research links have been developed which will be beneficial to future research and study outputs.

In a nutshell

This project provided opportunities for Paul Telfer, of AGT, to make connections with international researchers to enable future research collaborations on heat and drought research projects.

This study trip was designed to enable Paul Telfer of AGT to visit research partners internationally to improve research links with counterparts and to promote future research collaborations.

RESEARCH AIMS

The aims of the study trip to America were to gain experience and knowledge of research methods and genetic analysis to directly benefit the SAGIT-funded heat project and Paul's PhD studies. In addition, it was designed to develop industry and research linkages to value add to current and future projects.

BACKGROUND

AGT currently runs the SAGIT-funded project "Genetic characterisation and exploitation of heat stress tolerant wheat germplasm" at its Roseworthy site. This builds on past SAGIT funding which saw the development of a wind chamber to assess heat stress tolerance.

Building on this work, current projects are looking at identifying chromosome locations for heat stress tolerance performance traits in wheat populations; developing molecular markers to select for heat stress tolerance; and beginning to combine heat stress tolerance into Australian wheat varieties.

IN THE FIELD

In early 2015, Paul visited three research sites in America and Mexico. These were to visit Dirk Hayes at Texas A&M University, Limagrain Cereal Seeds (LCS) in Colorado and to the CIMMYT research centre at Obregon in Mexico.

The study trip provided significant networking opportunities, the chance to learn from leading researchers and to gain greater awareness and appreciation of agriculture, wheat physiology research and wheat breeding in other environments and climates with similarities to Australia.

Visiting LCS enabled insight into both technical and breeding perspectives, the role of heat stress in the US environment and how breeding for adaptation is approached, by meeting with people from all levels of the organisation.

The CIMMYT experience provided an opportunity for Paul to meet with researchers and see how the world renowned centre operates.



RESULTS

A future research collaboration with Dirk Hayes, a heat and drought researcher from Texas A&M University is likely, allowing comparison of results identified under controlled environment conditions to be compared from two mapping populations with Halberd as the concurrent parent.

After meeting with breeders at LCS, they were interested in keeping the channels of communication open for any information to be shared. An exchange of germplasm, which is of benefit to research at AGT, is underway.

Potentially in the future, links with other researchers will be formed that will lead to research outcomes that will directly add value to industry or further research.



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