

Adapting crops and 'natives' to a changing climate

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CSIRO's Dr Joe Miller is studying the evolution of the iconic Australian wattle and predicting what specific environmental conditions are linked to individual wattle species. Credit: Siobhan Duffy, CSIRO

(PhysOrg.com) -- CSIRO scientists are investigating the potentially damaging effects climate change will have on Australia's agricultural crops and native plants as carbon dioxide concentrations, temperatures and rainfall patterns change.

"We're facing an urgent need to develop new crop varieties for anticipated conditions in 20 to 50 years," said a team leader in the climate-ready cereals project at CSIRO, Dr. Jairo Palta.

The results of Dr. Palta's study into how different wheat traits perform under predicted future climate conditions will enable wheat breeders to select traits that maximize growth and quality.

Dr. Palta is one of many CSIRO researchers presenting their work at the 18th International Botanical Congress this week in Melbourne.

Also presenting is Dr. Robert Godfree who is investigating how native and invasive plant communities will respond to climate change.

"Grasses are an important component of healthy agricultural ecosystems yet there is relatively little data on how they will respond to [climate change](#)," Dr. Godfree said.

Preliminary results are encouraging and the efficient, versatile and inexpensive experiment design developed by Dr. Godfree and his team is now being adopted by a number of colleagues in Australia and overseas.

The iconic Australian wattle (Acacia) may also feel the effects of a changing climate.

Dr. Joe Miller and his CSIRO colleagues are modelling the predicted distribution of Acacia species around [Australia](#) using climate variables such as temperature, available water and solar energy, soil type and topographic elevation.

"Once we understand what [climate](#) variables are intrinsically tied to wattle habitats we can predict where these habitats will move to in the future," Dr. Miller said.

Dr. Miller is also presenting an address on his work on the evolution of Acacia.

Provided by CSIRO

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