

Unlocking genome of world's worst insect pest

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The Australian Minister for Innovation, Industry, Science and Research, Senator the Hon Kim Carr, said – at the BIO 2008 International Convention in San Diego, California – that the team was expected to sequence the moth's genome in about four months.

"This will allow the collaborating scientists and a worldwide consortium of specialists to work on new ways of controlling this pest," Senator Carr said.

According to CSIRO's Group Executive for Agribusiness, Dr Joanne Daly, these include: the molecular basis of resistance to chemical and Bt insecticides and population genetics related to the refuge strategies in place to help prevent *Helicoverpa* from developing resistance to Bt transgenic cottons.

"This moth is resistant to nearly every class of chemical pesticide and threatens the long-term viability of transgenic crops which are reliant on the biological pesticide, Bt," Dr Daly said.

"The sequencing of the genome will greatly facilitate this research by improving the power, cost effectiveness and insights from the genetic work on this species and its American cousin *H. zea*," University of Melbourne Associate Professor Philip Batterham said.

Senator Carr said that finding the moth's Achilles heel was critically important to agriculture worldwide.

"The moth causes \$225 million of damage a year in Australia – \$5 billion globally – to crops such as cotton, legumes and vegetables," he said.

"Our scientists are already world leaders in research on the genetics and ecology of *Helicoverpa* and its close relatives.

"This project – led by CSIRO Entomology's Dr John Oakeshott and Associate Professor Batterham – will build on Australia's role. Working together with our partners at Germany's Max Planck Institute for Chemical Ecology and France's National Institute for Agricultural Research, the project will help establish us as leaders in organising major insect genome projects."

The project is another example of what can be achieved through collaboration between scientists and their institutions both in Australia and overseas, he said.

Source: CSIRO Australia

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