

Australian researchers first in the world to solve the genetic code of canola

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(PhysOrg.com) -- Until recently, the genetic code of canola was a mystery. Australian researcher Dr David Edwards, in collaboration with Bayer CropScience and Keygene N.V., is the first in the world to have solved the code, discovering the sequence of the canola genome.

By applying novel combinations of next-generation sequencing and assembly methods, the researchers were able to decipher the [genome sequence](#) at a fraction of the cost than if they had employed traditional methods.

This breakthrough will fast-track canola breeding allowing Bayer Crop Science to bring better seed to the market sooner and at a lower cost.

Dr Edwards, from the School of Land Crop and Food Sciences, said this research would improve canola crop varieties, creating huge benefits for farmers.

“The genome sequence will allow the rapid identification of genes responsible for disease resistance, yield and quality traits which can be selected in breeding programs to provide better seed for farmers,” Dr Edwards said.

“Canola [crops](#) often suffer from [fungal disease](#). By growing canola that has been selected for [disease resistance](#) this will improve yield and quality for farmers and consumers.”

The Australian Oilseeds Federation reports that Australia is currently the world's second largest exporter of canola.

With the improvement of crop varieties and the positive health attributes of canola oil, Australian canola production is expected to continue to increase.

The next challenge for Dr Edwards and his team lies in solving the genome sequence of wheat, which up until now has been considered impossible.

“The wheat genome is five times larger than the human genome and much more complex. However, by applying our new method it looks like we may be able to solve the genome sequence of wheat in the next few years,” Dr Edwards said.

“Wheat is the largest crop in the world and deciphering the genome is essential to ensure continued yield improvement to feed the growing world population.”

Provided by University of Queensland ([news](#) : [web](#))

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