



**Canola Product Update:  
Bayer Crop Science First to Sequence The Entire Genome of Canola**

Source: Bayer CropScience news release

Bayer CropScience has sequenced the entire genome of rapeseed/canola (*Brassica napus*) and its constituent genomes present in *Brassica rapa* and *Brassica oleracea*. This provides Bayer with a unique level of insight into the previously unknown genetic code of canola. Rapeseed/canola is the second largest oilseed crop after soybeans, accounting for approximately 15 percent of world production.

The Bayer CropScience sequencing project was a collaboration with several parties. The Beijing Genomics Institute-Shenzhen (BGI-Shenzhen, China), provided Bayer with a high-density, fully assembled and annotated sequence of a *Brassica rapa* and a *Brassica oleracea* line. Both lines were made available by Bayer. Complementary genome sequence data sets of an elite proprietary Bayer CropScience *Brassica napus* parental line were provided by Keygene N.V. (The Netherlands), and the University of Queensland (Australia). These data were assembled and now form the basis of Bayer's functional sequenced rapeseed genome.

The respective sequences have immediate applications such as "in silico" gene copy identification and isolation for use in both Bayer's GM and non-GM trait development platforms. They also allow rapid and precise chromosome positioning of GM trait events. Furthermore, the genome sequences provide an excellent discovery tool for mining novel genes and pathways and serve as references for the re-sequencing of relevant breeding lines used in advanced molecular breeding applications. Finally, Bayer will leverage this proprietary knowledge in future strategic research collaborations focusing on agronomic trait discovery and metabolic enhancement of oil content and composition.

"This milestone achievement demonstrates Bayer's ongoing commitment to be a leader in the rapeseed crop production business," said Bart Lambert, Head of Research for Oilseeds at Bayer CropScience, Gent, Belgium. "This will allow us to speed up our current research and breeding programs so that these will bring new technology and better products to growers much sooner. Not only does this mean faster and more efficient development, it also allows us to explore many more innovative ideas which will continue to enhance the value of rapeseed/canola as a crop."