

Improved Chickpea Varieties in a Non-GMO Breeding Technology (Yissum)

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High grain weight, high lutein content, better adaptation to limited rainfall

Categories	Agriculture, Plant Genetics
Development Stage	New varieties developed; ongoing work to commercialize
Patent Status	Proprietary chickpea varieties will be developed

Highlights

- Chickpea ranks second among the world's food legumes (FAO 2010)
- It is a staple diet component and supplies starch and protein to the predominantly vegetarian population in India, and is very popular among vegetarians in Western countries. For this reason, the nutritional value of chickpea grains is highly important for human health in both developing countries and industrialized nations.
- The carotenoid lutein is an important antioxidant whose intake is associated with lower risk of macular degeneration (blindness).
- Chickpeas are grown in areas with limited rainfall so early flowering enables the plants to benefit from the winter rains in short rainy seasons.

Our Innovation

- Development of new chickpea varieties with enhanced nutritional value and improved synchronization between flowering and the rainy season to increase yield.
- Wide array of genetic materials that can be used to enhance the adaptation profile of the crop to suit new growing areas.

Key Features

- New breeding lines combining early flowering, large seeds and good tolerance to Ascochyta blight
- Non-GMO breeding technology

Development Milestones

- Seeking industrial cooperation to develop the varieties for commercialization

The Opportunity

- Chickpea is currently grown on about 10.7 million hectares worldwide with average annual production of 8.2 million tonnes.
- Chickpea production appears to be growing, with global production in 2010 reaching 10.8 million tons, higher than dry peas at 10.1 million tons.
- India is the major player in chickpea markets and accounts for some 60–70 per cent of the

world's production and the majority of its imports.

Link to Article

www.yissum.co.il/sites/default/files/project_images/Articles/192-chickpea_lutein_2010.pdf

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