

Geneticist breeds new hope for chickpeas

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Chickpea plant.

Eric von Wettberg, professor in the FIU Department of Biological Sciences, has received a grant from the National Science Foundation (NSF) to study the effects of domestication on wild chickpea genes.

According to von Wettberg, wild chickpeas were first domesticated 8,000 years ago in the Middle East. Without machinery and labor from animals, early [farmers](#) selected crops that were easy to store and plant, including chickpeas, wheat, barley, flax, lentils and sweet peas. Using a

crop rotation system, where dissimilar crops are grown in the same field during sequential seasons, the farmers created a form of chickpea that relies on human-applied fertilizers and less on bacteria, which allows it to self-fertilize. The consequence of this has been the reduction of the [chickpea](#)'s genetic diversity.

Ultimately, the goal of the research is to give farmers the information needed to breed more genetically diverse and sustainable chickpeas that will grow in the absence of fertilizers.

Chickpea is the world's second most cultivated food legume. A highly nutritious crop, it is used as human and animal feed and is one of the more inexpensive sources of protein. Most production and consumption takes place in developing nations in the Mediterranean, western and southern Asia, and Sub-Saharan Africa.

"This research has significant implications for resource-poor farmers in places like Ethiopia and India," von Wettberg said. "Some of today's most commonly used fertilizers are very expensive and have environmental consequences."

According to von Wettberg, chickpeas that can thrive without [fertilizers](#) would also help reduce the carbon footprint and damage done to the environment in industrialized countries, including the U.S., Canada, Mexico and Australia.

Provided by Florida International University

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