

# Monsanto, UNL Sign Agreement To Develop Dicamba-Tolerant Crops

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The University of Nebraska-Lincoln and Monsanto Co. have signed an exclusive licensing agreement to develop crops tolerant to the broadleaf herbicide dicamba.

This agreement is based on discoveries by UNL plant scientists. Biochemist Don Weeks and colleagues identified a gene that can make dicamba-sensitive crops such as soybeans tolerant to the widely used herbicide. The university has several patents pending on this discovery.

The university, after a competitive process, granted exclusive license to Monsanto to integrate this trait into high-yielding commercial crop lines. Under the agreement, university scientists will provide technical support to move this technology from the lab to field as soon as possible, said Prem Paul, UNL vice chancellor for research.

"This is an example of the benefits of UNL's investment in high-quality research," Paul said. "This agreement with Monsanto, a leader in agricultural biotechnology, should help ensure that this technology becomes widely available to the farmers who can use it to improve food production."

Dicamba, which is economical and doesn't persist in soil, is effective against most broadleaf weeds, including weeds that are hard to control. Farmers have used it to control broadleaf weeds in grassy-type crops such as corn and wheat. However, it is harmful to crops such as soybeans, canola and cotton, which also are broadleaf plants.

The new technology will allow the development of soybean and other broadleaf crops that are highly tolerant to treatment with dicamba.

"The ability to use dicamba in the presence of broadleaf crops will give growers more flexibility in managing their weed control challenges. We are evaluating how to use this new tool in concert with our current portfolio to best address grower needs," said Robb Fraley, Monsanto's chief technology officer and executive vice president.

In general, herbicide-tolerant crops allow growers to make fewer application trips across their fields, reducing fuel consumption. They also aid in soil-saving conservation tillage, Fraley said.

Under the agreement, Weeks' lab potentially could receive up to \$2.5 million over five years for further dicamba-tolerance research. Specific terms of the agreement were not released, said Kannan Grant, UNL associate vice chancellor for technology development.

Weeks began searching for a genetic source of dicamba tolerance more than a decade ago.

"We knew there were bacteria that could degrade dicamba. The question was whether you could get one to do that in a plant cell, which is a completely different environment," he explained.

Weeks' laboratory collaborated with UNL plant scientist Tom Clemente's research team on extensive studies that revealed they had an effective gene. The Institute of Agriculture and Natural Resources' team inserted the gene and grew out test soybean plants. Preliminary field trials showed soybeans containing the gene can withstand spraying with dicamba at five times the typical field use rates with no injury, but much research and testing remain before a product comes on the market.

Commercialization of a dicamba-tolerant product is not expected until the first part of the next decade, Fraley said.

Weeks said the agreement with Monsanto is a major step in turning his findings into practical products.

"It always feels good to see your work move toward the point where it ultimately will be useful," he said.

Monsanto is a leading global provider of technology-based solutions and agricultural products that improve farm productivity and food quality. For more information on Monsanto, see: [www.monsanto.com](http://www.monsanto.com).

The UNL research that led to this discovery was conducted through the university's Agricultural Research Division.