

## **UW-River Falls Partners with BioDiagnostics and Brownseed Genetics to Develop Super High-Oil Corn Development**

*By Jill Ladwig*

In another example of breakthrough collaboration, Steve Carlson, professor of agronomy at UW-River Falls; Chandra-Shekara, Research and Development Scientist at BioDiagnostics; and Charles Brown, president of Brownseed Genetics are working to create cost-effective, eco-friendly oil for use in food, animal feed and fuels. The team is investigating and identifying molecular markers associated with producing a high-oil corn stock. WiSys will manage the intellectual property developed by the partners and facilitate funding.

According to Bill Campbell, director of grants and research at UW-River Falls, the project came to the university by way of BioDiagnostics, a leading genetic seed-testing company. It builds on collaborative efforts already in play.

“UWRF works with BioDiagnostics in a number of ways,” Campbell says. “They hire our students, and our faculty members consult with them.”

Another company in the region, Brownseed Genetics, had already developed a high-oil corn, and according to Campbell, approached BioDiagnostics about developing genetic markers that could aid in assisted breeding of the high-oil trait. Regular corn contains 3-5 percent oil.

“What we’re doing is trying to generate markers that allow us to detect the particular regions in the corn genome that are needed for that high-oil trait,” says Mike Thompson, manager of the DNA Technologies group at BioDiagnostics. “This will give us a foothold into the genome, and show us the positions of loci responsible for the super-high-oil trait.”

Normally, the breeding process would entail study of the plant’s entire life cycle, according to Thompson. “But with a marker, we can identify progeny that have the loci that would give us that trait, and we can find out when the plant is still a seedling,” he says.

The project offers benefits for all parties involved. “For the university, it’s a chance for us to strengthen our ties with BioDiagnostics, and to help our faculty and students apply classroom knowledge to a real-world case,” Campbell says.

“One of the benefits of the high-oil corn is that it’s good for the production of biodiesel, and it could compete with soybeans and make production of biodiesel more economical. That would have an implication for Wisconsin farmers and farmers everywhere,” he adds.

Plus, Campbell and others say high-oil corn could be used in livestock feed, making it a useful agricultural product, as well as an alternative energy fuel. This could be an economic windfall to farmers everywhere.

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