

## Community & People

# College's Camelina project ties in with Ever Cat biofuel production

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A test growing plot at the Cambridge Campus of the Anoka Ramsey Community College is being carefully analyzed to find if this region can raise suitable yields of a nonfood plant for biofuel production.

 ARCC biology faculty member Melanie Waite-Altringer is flanked by chief science officer Clayton McNeff and marketing director Dave Wendorf of Ever Cat Fuels, of Isanti, in a field of Camelina. Photos by Greg Hunt

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On July 31, a “harvest party” was hosted by the campus to showcase the first-year crop of Camelina, a distant relative to canola. The 24-acre, double-crop planting has Camelina sharing the same rows with soy beans. The project ties in work from professors and students with real-life biofuel production at Ever Cat Fuels LLC in Isanti.

“They’ve been doing research on Camelina in both Iowa and Montana as a biofuel, and they’ve successfully grown it there. We’re trying it out here to see how well it grows in our sandy soil,” explained ARCC science student Dillon Danforth. “As part of my project, I planted different densities of Camelina and soy beans to distinguish what rates those plants grow best together. Hopefully, if it all works out, farmers, in the future, would know how many pounds per acre to plant.”

The test plots are being monitored to find when the Camelina gets down to an 8 percent moisture level, which signals time to harvest. Harvest days are expected to be in August; soy beans are typically harvested September and October.

*ARCC faculty member Andy Aspaas demonstrates the extraction process students are learning through the biofuel courses at the college.*

“I’m really excited to be part of something like this. I just heard about it in my environmental science class at Anoka Ramsey, and my teacher is the head of this whole project,” Danforth said. “I just jumped on board and just wanted to get involved.”

That teacher is ARCC biology faculty member Melanie Waite-Altringer, who walked with interested groups around the plot areas.

“The last couple of years, we’ve been kind of playing around with biofuel plants,” said Waite-Altringer, who also was interviewed by Minnesota Public Radio that morning about the project. “We partnered with Ever Cat Fuels out of Isanti on a pennycress planting last year, and it really wasn’t working too well. So we applied for and received some grants for this Camelina project; then we could have a truer management plan like a real farm.”

As Waite-Altringer explained, Camelina is hardier plant that can be planted in the spring. There are small Camelina test plots around the Midwest area, and Montana took it the next step with larger acreage plots for the plant.

“Thousands of years ago, Camelina was a weed that was used for lotions. Aveda, out of Blaine, uses Camelina in their products. And just the other day, I saw Camelina as an ingredient in L’Oreal,” she continued. “It’s a nice oil that’s been used a long time – just not necessarily as a biofuel.

“Depending on the year, it can hold up to 40 percent oil. A lot of people say 32 to 40 percent is the normal extraction range. It’s almost double what soybeans are. Isn’t it crazy? Just those little weeds with three-to-five seeds in each pod.”

Waite-Altringer said a regular combine with a finer screen can be used to harvest the Camelina, right over the top of the soy beans in the test plots.

Clayton McNeff, chief science officer for Ever Cat Fuels, explained the process at the biofuel plant.



*ARCC science student Dillon Danforth explains his test double-plot of Camelina and soybeans during the July 31 "harvest party."*

"We discovered the process back in 2006 where we can take nonfood oils and make them into biodiesel. That's the difference between our process and most processes out there, using sources such as used cooking oil from restaurants or brown grease from traps – or weeds like Camelina and pennycress. Even algae oil. As we learned how to use the process, it became apparent that we needed to understand all the feedstocks that can go into it that are not going to compete with food."

McNeff said Ever Cat's process can make fuel in seconds, doesn't use any harsh chemicals and doesn't use any water in the process.

"If you can combine that and marry it with something you can grow on the farm, it really is a perfect storm of things coming together that can be done," he continued.

SarTec Corporation, in conjunction with Ever Cat Fuels, received a \$500,000 grant in 2011 from the Department of Energy. A focus of that grant is working with farmers to grow biofuel crops, along with working with Anoka Ramsey, Augsburg and Morris colleges to find optimum growing conditions for top yields, all while training students in the field.

"We have a process that makes biofuel possible. And now it's finding out what things we can put into it to make the economics work," McNeff said. "So that's what is being studied here: How can we double-crop something, find the understanding how to do it effectively on a farm, and does it make money?"

Those going to the Minnesota State Fair can find the Ever Cat Fuels booth explaining more about biofuels up on Machinery Hill (lot 1241).

As noted by ARCC, biofuels are expected to play an important role in helping Minnesota meet the goal, set by the Legislature in 2007, to produce 25 percent of the total energy used in the state from renewable energy resources by 2025.

For more information about the ARCC-Cambridge demonstration site, the professional training opportunities or more about biodiesel production, contact Steve Jones at [stephen.jones@anokaramsey.edu](mailto:stephen.jones@anokaramsey.edu) or 763-433-1200 or Waite-Altringer at [melanie.waite-altringer@anokaramsey.edu](mailto:melanie.waite-altringer@anokaramsey.edu) or 763-433-1327.

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