

SEATTLE POST-INTELLIGENCER

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Venture Capital: 'Energy crop' research reaps financing

Friday, April 21, 2006

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P-I REPORTER

Can bigger canola seeds help solve the world's energy crisis?

Thomas Todaro believes they can.

And the 37-year-old chief operating officer at Seattle-based Targeted Growth Inc. just pulled in \$10 million in venture capital financing to help make the idea a reality.

The 7-year-old Seattle bioagricultural company plans to use some of the money to continue field tests on a gene enhancement technology -- licensed from the University of Washington and the Fred Hutchinson Cancer Research Center -- that increases the yields of canola, sugar cane and other "energy crops" by more than 20 percent, Todaro said.

Boosting the amount of oil produced by each plant could have wide-ranging implications for the rapidly expanding biofuel industry, potentially allowing farmers to more economically grow crops on fallow or underutilized land. Eventually, that could lead to lower prices at the pump for biodiesel and ethanol -- derived from corn, sugar cane and other crops.

"We think we can literally improve alternative energy supplies within five years," boasted Todaro, a former general manager at Canadian dairy Alamar Farms and former senior vice president at PayPal.

If that occurs, Todaro believes, Targeted Growth could be a very big player in alternative fuels.

"Whoever controls the best plant, controls the kingdom," he said. "Building a better ethanol-producing factory is not as defensible as having a crop that can produce the highest yield. It is the equivalent of having the land underneath where the petroleum sits."

That claim won over plenty of fans in the most recent funding round, with Targeted Growth turning away potential investors and capping the amount at \$10 million. Total financing is at more than \$15 million, with Canadian venture capital firms Investment Saskatchewan and GrowthWorks taking stakes.

Initially, Targeted Growth was formed to create better crop yields for the food supply. Some of the science originated from cancer researchers at the Hutch, who were trying to figure out ways to diminish the division of cancer cells. Todaro and his scientists flipped the idea on its head for crops, trying to get the cells to divide more.

"It was honestly that simple," Todaro said, adding that it took about four years to prove the theory.

Genetically modified crops "for the dinner table" still account for about half of Targeted Growth's research efforts, with the company testing the technology on various crops in Montana, North Dakota, Saskatchewan and other locations. Last summer, that portion of the business got a huge boost when agricultural products giant Monsanto Co. signed a licensing deal for one of Targeted Growth's genes. Specific terms were not disclosed, and Todaro declined to say in what crops the gene is being applied.

While producing bigger and more robust plants for the food supply represents a huge potential market, Todaro said the alternative-energy sector is the faster growing part of the business. That technology also remains solely in the hands of Targeted Growth, Todaro said.

"We are aggressively working on pretty substantial increases in energy crops," he said.

Seattle Biofuels Chief Executive Martin Tobias, whose company is one of the largest biodiesel refiners in the Pacific Northwest, said that increasing crop yields would be beneficial to the industry.

"If a farmer can grow a crop that makes more oil -- whether it has been genetically modified or it is a new crop -- I don't really care. I just want plentiful, inexpensive oil," Tobias said.

But he is skeptical that farmers will actually grow crops in which genes have been altered.

"The problem is not whether you can genetically modify plants, the problem is can you plant it," he said. "That is where I have found most of these genetic modification of crops to run awry." After all, Tobias said the soybean or canola farmer still needs a market for the "meal" of the crop -- typically used for livestock feed.

"Will the farmers accept it, how does it work in the ecosystem, does it pass on to other plants?" Tobias asked. "Just look at the uproar on genetically modified food in the food chain."

Type "Frankenfood" into any Internet search engine to get an idea of what some people are saying about the fate of the world's food supply.

Meanwhile, the organic food movement is gaining steam. Last month, Wal-Mart said it would boost the number of organic items in its stores.

Todaro said he has "extreme confidence" that the technology is safe for human consumption.

"It is genetically modified, but it is the friendly kind," he said. "It is the genes that already exist inside the plant, we just make them work a little bit harder."

Bradley Powell, chief financial officer at Eden Bioscience, a Bothell agricultural science company, said that Targeted Growth must gain market acceptance for the genetically altered seeds among growers and consumers. More importantly, he said the company needs to navigate the regulatory maze in order to prove that the seeds are safe and beneficial.

"That is a long process," he said.

But Powell, whose company has invented a naturally occurring topical application for plants to increase yields and fight disease, said that farmers are used to buying genetically modified seed.

And he pointed out that the vast majority of agricultural production "is not organic by any means."

He also said that Targeted Growth, while in the early stages of development, could have a cost and marketing advantage over competing yield enhancement products because its technology is embedded directly in the seed.

"That is a very effective way to do it because everyone needs to buy seeds," Powell said.

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