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Alfalfa partnership sprouts to develop salt-tolerant crop

Davis biotech startup and giant Woodland seed company are combining forces.

By Mike Lee -- Bee Staff Writer

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A Davis biotech startup and a Woodland seed giant are teaming up to develop alfalfa that can flourish in soil too salty for regular varieties.

Arcadia Biosciences Inc. announced Monday that it has licensed its salt-tolerant gene portfolio to Cal/West Seeds Inc. for use in the forage crop around the world. Terms of the deal were not disclosed.

If perfected, the salt-tolerant crop could not only boost the fortunes of the two companies but also make converts to biotechnology, a controversial method of moving genes in ways not possible through conventional plant breeding.

Environmentalists assert that the small variety of existing biotech crops was developed by multinational companies to profit from increased sales of their chemicals that are sprayed on their biotech crops.

The venture between Arcadia and Cal/West, however, tackles a problem acute in some developing countries: naturally occurring salt in the soil that can substantially cut crop yield. Salty soil - also created by mineral deposits from intensive irrigation in developed countries - lessens productivity on an estimated 190 million acres worldwide.

"We are using this technology to address significant environmental and human health issues," said Arcadia President Eric Rey, a former Calgene employee. "We think that really is a powerful argument for the technology."

Arcadia, now at 20 employees, opened its Davis lab last summer to be near Eduardo Blumwald, cell biology professor at the University of California, Davis. While at the University of Toronto, Blumwald discovered a gene in a small flowering plant called arabidopsis that can be inserted into other plants to increase their salt tolerance.

Arcadia also has developed salt-tolerant tomatoes and canola but has not licensed its technology for those crops.

Cal/West, the largest member-owned seed cooperative in the country, sells alfalfa seeds from Australia to the Middle East. President Paul Frey said it's not clear yet when the first salt-tolerant products will be marketed.

About the Writer

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