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**AGRICULTURE: Sensors help wine crop, track climate change**  
By BRADLEY J. FIKES - Staff Writer

FALLBROOK ---- On the grapevine-covered slopes at Fallbrook Winery, the sometimes abstract study of global climate change is coming down to earth.

Wireless sensors are now being installed by Irvine-based Cognetive Systems to measure vineyard conditions, including temperature, wind and moisture. Winery owner Ted Gourvitz plans to use that information to learn which winegrapes grow best at specific locations.

And the cost? Free. Under a partnership with Auckland University of Technology in New Zealand, Cognetive Systems is placing the sensors in vineyards in North America, South America, Europe, Australia and New Zealand. The information is wirelessly transmitted from the fields to a nearby location where it is fed into the Internet.

The New Zealand researchers will use the information to study the effect of climate change on grapevine growth and wine quality.

Growers are increasingly turning to wireless sensor systems as they struggle with the ongoing water shortage and the increasing price of water, said Eric Larson, executive director of the San Diego County Farm Bureau.

"The trick is, you don't want to put a drop of water on a plant that doesn't need it," Larson said.

Gourvitz said the information will give him more precise knowledge of how each section of his hilly 15-acre vineyard is faring. That knowledge will enable him to practice what's called "precision agriculture," customizing cultivation to each microclimate, almost down to the level of the individual plant.

Cognetive Systems choose Fallbrook Winery because it has a good reputation and conveniently located, said Hank Ortiz, Cognetive's president and chief executive. Ortiz contacted Gourvitz and asked permission to install the sensors in exchange for sharing the information.

"That was a very easy decision for us," Gourvitz said. "It will enable us to know when to water, how much to water ... It'll be open-ended what we're going to do with the data," Gourvitz said. "It will be helpful for us to determine what kinds of varietals are best-suited for where we are."

Gourvitz said the wireless sensor technology was news to him. "We didn't even know it existed," Gourvitz said.

Cognetive Systems hopes to showcase success to growers of other crops, such as citrus fruits and avocados, Ortiz said.

The company's wireless system was designed from the ground up to be inexpensive, Ortiz said. Its battery-powered sensors use very little energy ---- a 1/2 AA battery will last up to three years, the company said.

Ortiz said monitoring crops is a logical extension of Cognetive's previous use of the wireless technology for tracking water use in business buildings. Most of the water used for such buildings goes to landscaping use, he said.

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