

Gardening tools go mobile

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This March 2013 photo provided by Napa Valley Grapegrowers shows a remote weather station at a Bettinelli managed vineyard in North Napa Valley, Calif. Remote weather stations programmed to text frost alerts? Many commercial growers are using laptops, tablets or smartphones to keep costs down and production up. (AP Photo/Courtesy Bettinelli Vineyards, Paul Goldberg)

Smart phones that respond to signals from plants? Laptops that coordinate irrigation at dozens of vineyards? Remote weather stations programmed to text frost alerts?

Many commercial growers are using laptops, tablets or [smart phones](#) to keep costs down and production up. Home gardeners too, if they can afford it.

Apps may get more attention, but they're small potatoes compared with the software and online programs already at work or being tested for horticultural use. Simply scanning a monitor or applying a few keystrokes can save water and fuel, redirect a labor force or protect a crop.

"The online-based software is really the heart that drives all this technology," said Paul Goldberg, director of operations at Bettinelli Vineyards and a director of Napa Valley Grapegrowers. "A good portion of my day is now spent monitoring vineyards and making decisions to control certain vineyard operations via my phone or tablet in the field."

Perhaps the most powerful viticultural tool to come along in recent years is the solar-powered remote weather station, Goldberg said. These self-contained units are scattered throughout hundreds of vineyards providing site-specific streaming [weather data](#).

"Even more impressive is that the stations' online software can be set to notify growers with a phone call or text if something goes awry like a sudden pressure drop from a broken irrigation pipe, a well running dry or a decline in temperature posing a frost threat in the spring," he said.

Remote [weather stations](#) have become the platforms for integrating other powerful technology to manage vineyards from afar, Goldberg said.



This Aug. 8, 2013 photo shows a mobile phone displaying Burpee Home Gardens online-based software for horticulture being used at home in Langley, Wash. Burpee Home Gardens has introduced two mobile Web tools, not apps, that make smartphones into just another a gardening tool. One provides online tutoring via a continuing series of texts or email notes while the other dishes up "recipes" for designing flower and vegetable gardens based on the user's customized profile. (AP Photo/Dean Fossdick)

Some examples:

— Sap flow monitors that turn [grapevines](#) into living sensors by telling growers when or even if they need water. "This technology paired with other sophisticated tools has made irrigation much more of an exact science," Goldberg said.

— Wind machines controlled by computer, tablet or smartphone.

— Data collection. Growers can access vineyard information, work orders, fertilizer and irrigation programs, graphs, and a variety of viticulture tools from tablets or smart phones in the field.

Horticulturists at The Ruth Bancroft Garden in Walnut Creek, California, meantime, irrigate with a computerized system that automatically shuts down after a certain amount of water has been used rather than being operated by timers.

"The amount of water that can come out in a given time could be variable, so it's easy to over- or underwater if you're just using a timer," said Andrew Wong, Bancroft's head gardener. "They're also great if you live in a community that has water restrictions. If you're allotted 500 gallons, then that's what you'll use."

Another tech tool used at the garden is a self-guided audio tour that responds to prompts from smartphone users. "It provides information not found in our garden pamphlets," Wong said.

Burpee Home Gardens has introduced two mobile web tools, not apps, using smart phones as gardening tools. Gardeners can specify the size and location of their plant sites and "My Garden Designer" does the rest, creating "recipes" for easily planted containers or flowerbeds. "Burpee Garden Coach" is a free mobile web tool that provides online tutoring. Users customize their profiles by supplying their zip codes to receive a continuing series of tips on flower or vegetable gardening via text messages or email alerts.

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