

# Growers can monitor irrigation via smartphone

By Andrea Johnson  
For Midwest Producer

The Lindsay Corp., makers of the Zimmatic irrigation system, is using smart-phone technology and more to improve irrigation efficiency.

The Omaha, Neb.-based company finds that growers can eliminate about 75 percent of their daily or twice-daily trips to the pivots by monitoring them via a cell phone with Web browser capabilities.

FieldNET and FieldNET Mobile offer a combination of hardware, software and communication tools that allow operators to control and oversee their center pivots from anywhere in the world via the Internet.

Since 2007, Lindsay has offered FieldNet — a Web-based irrigation management tool. The website can be accessed via an Internet browser on any computer or by voice commands on any phone.

FieldNet includes a user-friendly Web portal that provides the grower with information about every pivot. The map view uses GPS coordinates to allow the grower to “scroll up or down” to see all of their pivots on one screen.

The user clicks on a specific pivot, and information comes up on its location, status, water usage and the direction the pivot is traveling (clockwise or counter-clockwise).

The site includes weather updates needed to make irrigation decisions.

FieldNet can offer reports on the status of each pivot, no matter the brand. The program can send text alerts to cell phones too.

The program allows growers to remotely program their controller for precise end gun water management for field corners. Chemical applications are also monitored and can be controlled via the FieldNet Web portal.

Lindsay released FieldNet Mobile in March 2010, because growers had said they weren't always around a computer, but they always had their cell phones.

In recent meetings, company officials found that over half of the growers had smart-phones.

“This was probably our number one request from our customers that had FieldNet: ‘Hey, how can I get this on my phone?’ We made it really simple to use, so all they have to do is log in, and it's really intuitive,” said Reece Andrews, Lindsay GrowSmart product manager.

In 2000, Lindsay created a division called GrowSmart to focus on technology products that save water, energy, time and labor.

Here's how FieldNet or FieldNet Mobile works:

A Lindsay technician installs a radio

remote telemetry unit (RTU), or a cellular RTU is installed. This RTU can go on almost any pivot, and a GrowSmart computer panel can be installed as well if more control is needed.

The cellular RTU connects directly to the Internet, while a radio RTU requires a bridge connected to an always-on Internet service located at a home or office. A radio repeater can be added to extend the range of communication with radio RTU equipped pivots.

The RTU has a retail price of \$800-\$950.

A four- or six-month subscription with FieldNet and FieldNet Mobile includes the cost of maintaining an integrated modem with cellular or radio signal.

The grower receives secure Internet access to the FieldNet website or a simplified version of the website via FieldNet Mobile.

“We just scaled down a few things that made sense on a smaller screen,” said Andrews, speaking of FieldNet Mobile.

Subscriptions are available for FieldNet Advanced that offer remote monitoring and control to start and stop the pivot. In addition, the Advanced system allows the grower to monitor pivot power, pivot direction, pivot position, water on/off, rate of water flow (from 0 to 100 percent), and chemical or fertiliz-

er application.

The Advanced subscription is compatible with all electric driven pivots and all pivot controllers.

The FieldNet Premier subscription offers remote control of all of these items, plus monitor and control of the application depth, monitoring of the power company load control, and alerts to the grower's cell phone. The Premier subscription also offers programmable pivot features.

The Premier subscription is available for all electric driven pivots, but only GrowSmart pivot controls.

Subscriptions are \$125-\$300 for four- to six-months.

Andrews says that growers have found several advantages using FieldNet and FieldNet Mobile.

Growers say they save about 75 percent of the time they had spent driving and checking pivots in person.

“If the grower is doing a lot of driving, they also save three-fourths of the fuel that is consumed,” he said. “The time savings and fuel savings can be big out there. The more pivots you have, the more time and labor you can save.”

The charts and graphs provide a great deal of information. For instance, a grower will begin to notice areas where the irrigator tends to get stuck or has problems. They can also program the irrigator to reduce the water flow so the crops aren't over-watered.

The charts provide great documentation and grower information.

“If you measure something, you get better at what you are doing with that resource,” said Andrews. “On a year-over-year basis, the grower basically improves the management of water application.”

The grower is also able to receive real-time alerts to match up with key stages in the crops' growing and reproductive cycles. This minimizes downtime at any critical stages.

Growers aren't always around a computer for monitoring and controlling irrigator pivots — but most have a cell phone available all the time.

With new developments from Lindsay, FieldNet Mobile makes it possible to monitor and control pivots just by scrolling and tapping with your finger on a smartphone.

For more information, visit <http://www.lindsayfieldnet.com>.

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