

Valley Insights®

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LOCATION:

Terra Gold Farms
Near Othello, Washington, about 1-1/2
hours southwest of Spokane

PROFILE:

Farms between 5,000 and 8,000 acres
each year, depending on commodity prices
Main crops are potatoes and onions, with
corn, timothy, triticale and alfalfa in rotation
All land is irrigated

Water from the Columbia Basin Irrigation
Project and deep wells

EQUIPMENT:

- 50% Valley® pivots and 50% other brand of pivots
- Valley 365® on all Valley pivots and remote telemetry respective of other brand pivots
- Valley Insights® - including on-pivot sensors/plant insights on four pivots

VISUAL DETECTION:

- Early crop stress due to plugged sprinklers, blown out regulators and incorrect nozzle sizes
- Plant health variation
- Weed, fungus and pest conditions

ACTION TAKEN:

- Changed nozzles and regulators
- Modified fertilizer and pesticide application
- Added fungicide or pesticide applications to some fields and eliminated applications in others

RESULTS:

- Fast detection of issues
- Determined soil and plant needs
- Healthier potato crops

Valley Insights® Helps Terra Gold Farms Focus on Irrigation, Fertigation and Pest Control Applications

Austin Ochoa says he was basically born in the dirt, and he always knew he would be a farmer. So, when he graduated from Washington State university with a major in agronomy, he became the fifth generation to operate Terra Gold Farms. Today he is the chief operating officer and head farm manager.

Terra Gold Farms irrigates every acre, pumping about 80% of their water from the Columbia Basin Irrigation Project, with the remaining coming from deep wells. Each pump station irrigates five to ten pivots, so they can control the water level on the main ditch in the canal.

They use Valley 365 Connected Crop Management telemetry to manage and control their pivots respectively, and they appreciate the timesaving benefits new technology offers.

Ochoa's main crops are potatoes and onions, and he uses Valley Insights specifically on his potato crops. Valley Insights uses imagery to determine crop health concerns related to irrigation and other factors. It does this by feeding the imagery into algorithms with artificial intelligence technology to detect anomalies, and then notifies the grower about what's happening so they can take proper action, saving time and resources, and increasing profitability.

"We could pinpoint some of our problem areas to see if we have plugged sprinklers, blown out regulators, or even wrong nozzle sizes on some of our towers or drop hoses," says Ochoa. "We were able to go and get some of those fixed before it was too late, before you could even see it with the naked eye."



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Spotting Nutrient Issues

This year, Terra Gold Farms had potatoes in some fields that had rill irrigation before they purchased it. Rill irrigation uses siphon tubes in small ditches. While the irrigation method is gone, that land is still seeing the effects of those ditches and different fertilizing practices. The former owners also planted potatoes more often than the four-year rotation that the Ochoa's practice. It all adds up to nutrient loss in the soil.

Ochoa says Valley Insights helped take the guesswork out of where and when to fertilize.

"What we notice is that we can really see a different yield and quality in some of those spots. In the past we'd see it visually, and then go in with extra compost or fertilizer to get them back to normal. But with Valley Insights, we can see that there really is a difference in crop quality, and we can fertilize according to what it shows us."

On-Pivot Scanners/Plant Insights

Valley Irrigation partnered with Prospera Technologies to develop Valley Insights, and together they are continuously improving the features for growers, so they can detect and even prevent issues.

Sensors were installed on four of the pivots at Terra Gold Farms. Ochoa said it was a real benefit for them because the technology could continuously look for issues as the pivots circled the fields.

"We could catch outbreaks before they even happened, or before they could do damage," he says. "We were able to catch a Colorado Beetle infestation a lot sooner. Also weeds and other insects."

Ochoa used the data captured from the Valley Insights sensors to change applications through their pivots. "I would move up my fungicide or pesticide application, or I'd even take them out if I wasn't seeing anything on those images. I actually got rid of at least one application. It took some of the guesswork out of that."

The Future of Farming

"I will definitely keep using Valley Insights in the future, especially on my potato crop," Ochoa says. "It could help save yield, and I can follow it to see any patterns to help me pinpoint a problem before it gets out of hand."

"In my opinion, this is the future of farming."

