Arable Beats Insurance Payout Odds

After a series of catastrophic frosts—and insurers who balked at damages—Arable helps a grower get paid in full.

LUXELARE Digital Agrinsurance

ARABLE

THE CUSTOMER

Luxelare Digital Agrisurance, Sinaloa, Mexico - creating technological solutions that have a direct impact on farm profitability

THE DEPLOYMENT

4 devices | 100 acres of potatoes, Coahuila, Mexico | 2020-2021

KEY TAKEAWAYS

- Arable saves environmental resources, and is a solution that adds value beyond the field in unexpected ways.
- Insurers want to pay the least amount on claims which leaves policyholders exposed to loss until they prove their case.
- With Arable's data, the grower received up to 30% more than they would have otherwise, saving the grower's financial year.

The Challenge

On September 30, 2020, an unusually early 12-hour deep freeze moved across Roberto Garza's 50-hectare field of potatoes in Coahuila, Mexico. An industrial engineer and serial entrepreneur, he and his father run Agropecuaria El Arranque along with other agribusinesses in the area. They have a reputation for working by the book, and with 40 years in the potato business, experience told them to give the vines 24 hours to recuperate and then accurately assess crop damage. The weather, however, had a mind of its own. Before the day was done, another 6-hour frost hit, followed by another that lasted four hours, restarting the wait over and over.

During this unprecedented climate event, Roberto called Julio López Lizárraga, CEO of Luxelare, a certified b-corp that provides digital insurance and crop monitoring tools like Arable that increase sustainability and profitability.

The two had connected on a drones forum and became business partners when Roberto first brought Arable to his field. As temperatures plunged that day, Julio told Roberto that immediate irrigation could raise core plant temperature by 1-2 degrees Celsius. Roberto applied a heavy 1" drip layer, but had to rotate sequentially through five sectors at a pace of 12-13 hours each. He then added nutrition to plants with less than 50% damage, in an effort to save the season.

"The frost was too hard. It was impossible to contain it," Roberto says, noting that the intense, unseasonal freeze was out of the ordinary. "Any measure we could have taken wouldn't have been enough." About 48 hours later, with half of his crop in ruin, he initiated an insurance claim.

The Goal

When the claims adjuster surveyed his potato field, Roberto was disappointed but not surprised by the assessment. “The first thing he said was, ‘We don’t see that much damage,’” Roberto says. He’d carried insurance for decades to secure bank funding, but now that it was go time, he faced an uphill battle. “The insurance company will always try to find a way to not pay. They look for what you did wrong, or what you could have done to prevent it.”

Roberto was determined to prove that the unpredictable frosts were catastrophic enough to kill half his plants and stunt the rest to production well below expected yield. There was a lot at stake. Agropecuaria El Arranque contracts with two global snack food companies that produce some of the world’s best loved potato chip brands. The crop die-off would not only hurt the bottom line, it could cost him customers—current and future— if he was unable to quickly overcome an obstacle like this, especially with increasingly volatile climate conditions. He needed to fight this fight and save his business.

The Strategy

A self-described idealist who is very focused on results, Roberto wanted bulletproof evidence. “That’s when we started looking for different ways to document the frost,” he says. “The first thing that came to mind was calling Julio and saying ‘Hey, how far back does the Arable information go on the platform? Can we use it to file an insurance claim?’”

The answer? Hourly data exported from the platform right from the start, and an emphatic ‘yes.’

Now friends as well as colleagues, Roberto and Julio live on opposite sides of Mexico in different growing climates. Coming together to find a solution, they started by examining gridded weather data. “The satellite passed during the frost and we were able to document it with an image,” Roberto says. “You can clearly see how the plants got really, really damaged, starting from the northeast and moving southwest.”

Arable’s data showed a clear drop in temperature (light blue line) below freezing at the end of September, followed by a sustained period of several days in early October where temperatures stayed below freezing. Crucially, the NDVI (dark blue line) took a nosedive after the frost, indicating severe and irrevocable damage to the plant canopy.

Despite the clear visual, the image was not enough proof for the insurance company. More detailed and accurate weather data would bring clarity and credibility. While digging deeper into the data, Roberto and Julio noticed a discrepancy between gridded weather information and what he observed firsthand in the field, sometimes by as much as 10 degrees C. This seemed like more than the usual inaccuracies they’d experienced with the models in mountainous regions that don’t take into consideration the variable topography. They later learned that the grounding of commercial flights during the pandemic caused inaccurate forecasting, but Arable was right on the money.

After turning to Arable, Roberto and Julio found the precise information they needed. “I’ve been working for years with satellite imagery and weather data,” Julio says. “The level of detail we achieved definitely gave us a whole new perspective because we were able to fill in the gaps in crop development and irrigation.”

Diagnostics from Arable’s precise infield irrigation, time, and temperature readings showed exactly what happened to the crop during swings between sunny (but cold) desert days and nights that slip well below freezing. “Ultimately, we were able to document that the frost lasted more than 12 hours in real time,” Roberto says. “Even when the air heated up, we could see on the Arable platform that the threshold was still just above 0 degrees.” Arable also sensed a dip in NDVI, another indicator of exactly when, where, and how dieback occurred in the canopy. “It was pretty clear that we had the information—and that we had everything supported and detailed.”

“For me, being able to monitor the field remotely is priceless. It’s the best of the seven different systems I’ve tried over the years.”

ROBERTO GARZA
POTATO GROWER

The Results

With proof on the Arable platform in the palm of his hand, Roberto recouped the maximum allowed for his loss from the insurance company. He ultimately received about MEX$4,500,000 ($210,000 USD). While it's a complicated question to answer, he thinks he would have received 20-30% less if he'd relied solely on satellite and manual records, which would have put a large dent in his margins.

"Without Arable, trying to get the insurance money back would probably have been a longer fight and a bigger problem," Roberto says. "It would have to have been documented in a different way. We would have had a manual log, not a digital one, which is easier to manipulate, so they probably would have said it wasn't proper data. The only evidence we would have had would have been the physical evidence of the damage, and that's about it."

The Outcome

A year later, Roberto still grows potatoes in unpredictable climate conditions, but he's increased the number of Arable devices in his field from four to six, with help from Julio and Luxelare. They're now using Arable to baseline and achieve water balance and nutrient efficiency. Since the field is an hour away from his house, and the whole acreage is a 90-minute drive from one end to the other on dirt roads, accurate infield sensing is key.

"For me, being able to monitor the field remotely is priceless," he says. "This technology just makes sense to me. I love the platform, the user interface, and the way it interacts. It's the best of the seven different systems I've tried over the years."

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