Harvesting Diverse ROI with Advanced Grain Cart Technology

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Jeremy Wilson remembers strategically scattering a stack of handwritten harvest notes on the kitchen table, searching for a missing piece to their yield data puzzle. Manually matching semi loads of grain to a specific field on their 1,200-acre corn and soybean farm near Olney, Ill., is a tedious, time-consuming task.

HARVEST

Topcon Products
Topcon Agriculture Platform (TAP), GT 560, and CL-55

"When something didn't make sense, we'd pull the pages out of our notebooks and lay them all out and think, 'Ok we loaded the white semi first. Then we loaded the blue one. Then we'd try and remember the next color,'" Wilson recalls. "I've never lost a load of grain, but I've scratched my head a few times wondering where it came from," Wilson says.

The collection and application of harvest data should provide answers, rather than create more questions, especially when they cost farmers time and money.

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But Wilson and other growers are solving harvest headaches with advanced grain cart technology that simplifies validation of crop yield and weight data. Accuracy and automation are saving diesel fuel, increasing flexibility with equipment operators and streamlining crop insurance processing and payment.

Logistical Dream

Looking for a more reliable, less risky way to document the decision-making harvest data, Wilson added Topcon's Smart Cart system in 2021 to his Kinze 840 grain cart, which includes a Digi-Star GT 560 indicator and Topcon's CL-55 cloud connectivity device.

As grain is harvested and loaded into the grain cart, the technology tracks exact weight going into and coming out of on-farm storage. The data automatically uploads to the cloud, which Wilson accesses through Topcon's TAP platform to identify which crop came from which field.

"If there is a load that has the wrong field ID, we can go back into TAP to look at the cookie crumb of where that cart went or what it did and resolve the issue. We've got the date, the time and the location of every load," he says.

"I'd spend at least 10 hours a year on harvest data maintenance. The amount of time it takes me to record and summarize production off every field has been cut in half, if not closer to two-thirds."

Scaled Savings

In addition to saving "paperwork labor" time, Wilson is also reducing the cost of unnecessary trips to the grain elevator.

"We're saving upwards of 100 gallons of diesel fuel during harvest because I have enough confidence in the accuracy of the weight being captured on the grain cart," he says. "At $4 a gallon, we're saving $400, which may not seem like much, but we'll keep every dollar in our pocket than we can."

Washington, Ind., farmer Greg Boyd is achieving similar benefits, on a larger scale. Farming 6,000 acres of primarily corn and soybeans, the third-generation grower relies on two X9 John Deere combines and four J&M grain carts for harvest – each equipped with the Smart Cart system.

The operation also has a fleet of semis that run flatbed freight throughout the year. During harvest, Boyd will utilize a dozen or so to move grain from their fields to the elevator, and he's been able to maximize transport time more effectively.

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"Since adding Smart Cart in 2022, we've improved our efficiency because if we're switching fields, the operator in the grain cart can communicate with the semi driver and know exactly how many pounds or bushels are coming off each field," Boyd says. "Now we're sending a full truck load to the elevator and getting the back on the road."

During harvest, Boyd spends most of his time running the grain elevator and the ability to trace incoming loads using data from the grain cart quickly resolves any discrepancies.

"The data upload is instantaneous. If a driver pulls in and he's not sure which field the load is from, I can pull it up online and see exactly what was taken off the cart and which field it came from," Boyd says. "If there's any confusion, I can check the poundage and confirm the number."

Operator Savings

Fewer fuel-ups and more efficient grain hauling are data-driven benefits of Smart Cart, but the system is also providing operator flexibility.

In the heat of harvest, the ability to maximize available labor and minimize training time is essential for Wilson. He relies on his son and another employee to manage fall responsibilities, which can quickly change from comfortable to chaotic.

"Fall 2022 was so fast and furious for us, especially soybean harvest," Wilson recalls. "I was driving the grain cart, and I could log in, pull in the data and create the spreadsheets and they were done," Wilson says. "We've got the date, the time and the location. When we've got all the time stamps and everything is in succession, it's easier to sort."

It's also easier for Wilson to confidently rotate equipment operators during harvest, especially since he's moved from running the grain cart to the cab of their Gleaner S77 combine.

"The system has auto log, so I don't have to worry about the operator pushing a start or stop button to document a weight," Wilson says. "The only training I do now is how to keep the PTO running if the tractor idles. All told, I'm saving close to $1,000 in opportunity cost because instead of operator training, I'm doing something more productive with that time."

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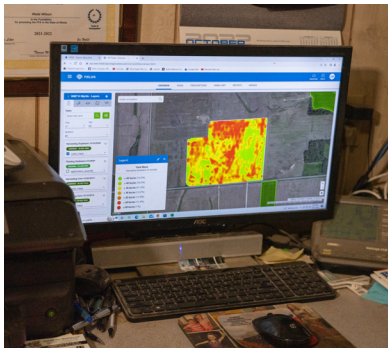
'Easy Button' for Crop Insurance

Wilson understands the stress of assembling harvest data for an insurance claim – both as a farmer and an adjuster. After a wet spring and dry growing season decimated their 2019 corn crop, Wilson worked with their adjuster to economically recoup what Mother Nature had taken.

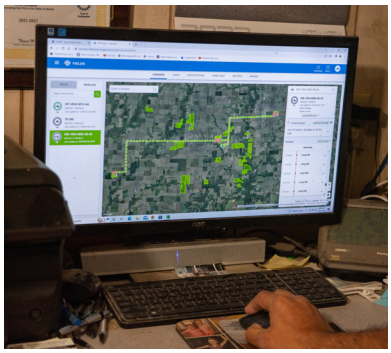
"I still remember the process I went through to settle that claim. I had list after list of all these records of everything we did and the process of cross-checking our information with scale tickets that went to the elevator," Wilson says. "I've been a loss adjuster and I know the patience and persistence it takes to gather all the information and make sure it's right."



But recent updates to the USDA's crop insurance requirements added electronic records of grain cart data as a viable source of harvest information for claims. The expansion, along with the 2022 collaboration between Topcon and MyAgData, is adding efficiency to the processing and payment of crop insurance claims.

"Crop insurance is an important tool that got me from 2019 to 2020, but I don't buy it because I want to use it. I buy it so that if I must use it, I can make it to the next season," Wilson says. "The ability now to electronically flow information straight to my loss adjuster for settling claims moves it to another level because my annual grain cart data is less than 1% error of what we're actually delivering to the elevator."

For Choteau, Mont., farmer Doug Weist, further automating the crop insurance process holds economic promise on his 4,000-acre small grains operation. He's been collecting yield data for nearly a decade and added Smart Cart in 2000.



"We're a single combine, single grain cart operation, so we're pretty efficient. But my end goal is to close the digital loop on my farm data with crop insurance," Weist says. "I am using MyAgData in conjunction with the TAP platform, and the objective with Smart Cart is to have it verify my yields at the end of the year because I'm already verifying my planted acres digitally."

Typically, Weist validates his yield data by taking scale tickets from his grain cart and digitally verifies how many pounds came of each field when he creates harvest reports. The approach produces accurate data for crop insurance reporting, but Weist sees opportunity with electronic grain cart data to create an "easy button" that decreases turnaround time for payment of claims.

After submitting a claim for a crop failure in fall 2022, Weist compared the data he collected off his grain cart with the amount the adjuster calculated, and they were nearly identical.

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"We measured all our bins, did all the calculations, and then I mentioned Smart Cart and our adjuster was blown away," Weist says. "Instead of having to pull up, print and organize records for the agent, which is a big deal, even for a small farm like mine, I want to get to the point where whatever I report is accepted as accurate.

"If it triggers a payment, it triggers a payment. In my opinion, that would cut down on a lot of fraud, because the data is instant."

If the data from Smart Cart gains traction with adjusters as a crop insurance reporting tool, Weist is optimistic that processing and payment of claims will take weeks instead of months.

"Ideally, as soon as we get done harvesting, there could be a check in my bank account within a week or two," he says. "I waited until January 2023 for payment of my failed crop from the prior fall in a year when I could have used that money."

Watch the **Wilson video** and **Boyd video** on this project.
Check out the **Topcon Agriculture YouTube channel** for more videos.