

WESTERN IOWA GROWER ADOPTS REALCOVERAGE TECHNOLOGY, GAINS CONFIDENCE IN CHANGING PARAMETERS AND GETS 9X BETTER COVERAGE

Background: Innovation for Survival and Efficiency

As a fourth-generation farmer, Corey McIntosh knows innovation is key to survival in agriculture. In Missouri Valley, Iowa, his 4,000 acres of corn and soybeans face constant pressure from rising input costs, weed resistance, and environmental threats. After learning about RealCoverage at the Nebraska Ag Expo, Corey resonated with the fact that, if he wanted to improve his spray efficiency and cut costs, he would need to measure and control how much product was actually on the plants he was spraying.

Challenge: Picking the Right Nozzle, Travel Speed, and Boom Height

Corey's primary concerns surrounded his choices of nozzles, travel speed, and boom height. He always knew the importance of using the right nozzle, and he did a lot of research before choosing them. But when it came down to it, he didn't know if his choice was actually performing the way the nozzle booklets had made it seem.

For boom height, it was hard to find the right balance—spraying higher caused more drift but allowed for the right overlap, while spraying lower reduced drift but also decreased overlap due to the PWM system on his CASE Patriot 3340 sprayer.

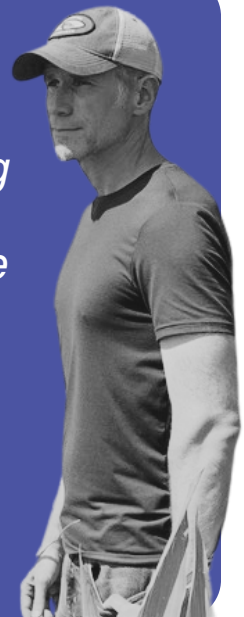
Corey had also heard about spraying slower, but with acres to cover and good wind windows being hard to find in Missouri Valley, the right speed to use was also an open question.

Solution: Real-World, In-Field Data

Corey chose to install a unit on his sprayer for the 2025 season. With RealCoverage's software report Corey was able to measure how much coverage was on each leaf he was trying to spray. Functional at speeds up to 18 mph, seeing droplets as small as 150 microns, looking up to 3 ft into the canopy, and being able to measure coverage on crops or weeds, RealCoverage gave him a way to optimize his spray with confidence.

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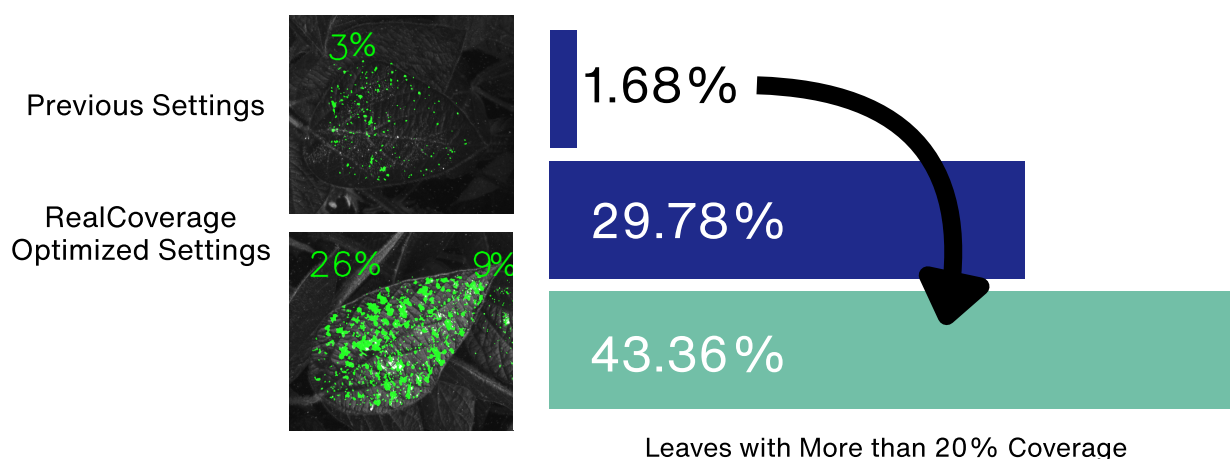
Now that we are starting to get a feel for our baseline, it looks like we have a lot of room for improvement... I am thinking about all sorts of variables now.



Once Corey saw the coverage that his old choices were delivering, he used RealCoverage to see which combinations of parameters worked best. Since RealCoverage provides a representative picture of coverage it only needs to monitor a portion of the boom in the worst spot. This allowed him to buy three of each nozzle type he wanted to try and test them out on different parts of his fields before upgrading the rest of his boom.

Results: 9X Better Coverage

With the new nozzles, boom heights, and speeds, Corey more than doubled his average coverage. With high coverage being critical for Liberty, Corey was able to go from 1.7% of his weed leaves having more than 20% coverage, to 43.4% of weed leaves having more than 20% coverage. All just by optimizing his physical spray settings.



Future: Further Optimizations To Come

Corey was surprised by how much he learned and changed in one season now that he could track his spray effectiveness. The 9X increase in coverage gave him the comfort that he was getting the most out of his sprays. With real-world data to consult, Corey now feels confident changing parameters and is looking forward to optimizing other elements of his spraying.

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I was getting a chem shuttle refilled at [the] co-op, these guys have always been complimentary of our weed control. I asked them, “What percentage of leaf surface area do you think you are covering with your sprayers?” One of their best operators said he thought 50% coverage. The salesman next to him said it would definitely be more than 60%. They were shocked when I told them we were at 9 to 10%...

*As you’ve said, **nobody has had ever had a way to quantify this before.** We are really looking forward to making improvements.*

