FarmTRX™

WHITE PAPER

Testing **Yield Monitor** Accuracy
— a Real-World Field Study



Simplot GROWER SOLUTIONS

Precision agriculture has transformed farming from a field-level practice into a data-driven science, and at the heart of every farming operation is the question of yield. It's what pays the bills after all. These farmers ask themselves the same questions year after year:

- How much grain were we able to harvest across our fields?
- How did we do compared to previous years?
- Did the new variety change anything?
- Are the High and Low productivity zones still the same, or did something change?

The answers to these questions will inform major decisions about next growing season.

- Should you adjust seed or fertilizer rates?
- Choose a new variety?
- Add or remove a fungicide application?
- Or mostly keep things the way they are?

The stakes can be high, often involving *tens of thousands of dollars* in seed costs alone, and it's crucial to have an accurate understanding of how the variability across your fields affects yield performance, acre by acre.

Farmers in over 40 countries have used FarmTRX Yield Monitors for years to create precise yield maps for their fields. But exactly how accurate is the estimated yield data generated by the Yield Monitor compared to final, verified results?

FarmTRX regularly runs internal tests during product development, but last year we had an opportunity to test the Yield Monitor accuracy in a real-world field trial, conducted by an independent observer.

About agPROVE

agPROVE is the largest field-scale trial program in Western Canada. Since its start in 2007, over 1500 trials have been conducted across Canada.

The goal is to collect and evaluate relevant data to make effective agronomic decisions, and generate more consistent outcomes.

About Simplot Grower Solutions Canada

Simplot Grower Solutions Canada is a division of Simplot Company, a global agribusiness company, headquartered in Boise, Idaho, with more than 18,000 employees.

Simplot Grower Solutions Canada has retail locations and distribution facilities throughout Saskatchewan and Alberta, with its Canadian head office in Kindersley, Saskatchewan.



Field Day 2025, Showcase Lot on the Casson family farm.

A real-world benchmark: a 2025 variety study

For the past several years, FarmTRX has participated in a long-running crop variety study conducted by *Simplot Grower Solutions Canada*, a grower-focused agriculture retailer based in Saskatchewan. The study, **agPROVE**, is one of the largest independent field-scale trial networks in Western Canada. Organizers supply farmers with multiple seed varieties and use yield maps and soil sampling to evaluate commercial varieties, crop protection products, and best practices for precision agronomy.

FarmTRX grows 18 different varieties of canola as part of the agPROVE study, using the Showcase Lot on the Casson farm in Saskatchewan.

The objective of this program is in part to evaluate detailed yield performance of each variety and eventually identify improved, climate-resilient grain types.



For the 2025 agPROVE harvest, FarmTRX used the Yield Monitor Pro, coupled with a Header Height Sensor (HHS), which helps improve the accuracy of yield maps. The HHS tells the system to collect yield data only when the header is in the working position, and not when the operator is just driving the combine across the field with the header raised.

This created an ideal benchmarking opportunity to test the accuracy of our latest yield monitoring kit.

Because each crop variety was planted in known locations, and because the harvested grain was weighed independently, we could directly compare:

- In-field yield estimates from the FarmTRX **Yield Monitor Pro & Header Height Sensor** combo
- Final hopper weights measured using a certified **weigh wagon**

Variety	Weigh Wagon (Lbs)	FarmTRX (Lbs)	Weight Difference (Lbs)	% difference (Absolute)	Yield Monitor Accuracy, in %
DK401	2386	2354.8	31.2	1.31	98.7
DKLL801	2700	2621.5	78.5	2.91	97.1
L330	2472	2484.6	-12.6	0.51	99.5
BY720	2466	2464.6	1.5	0.06	99.9
CP24L3C	2036	2054.0	-18.0	0.88	99.1
L356PC	2118	2184.3	-66.3	3.13	96.9
L330PC	1942	1951.8	-9.8	0.50	99.5
Cp25l3c	2216	2182.6	33.4	1.51	98.5
Cs4100ll	2308	2248.7	59.3	2.57	97.4
Dkll801	2232	2228.9	3.1	0.14	99.9
BY7202LL	2610	2549.9	60.1	2.30	97.7
CP24L3C	2244	2243.9	0.1	0.01	100.0
L356PC	2240	2281.8	-41.8	1.87	98.1
L330PC	2000	2062.6	-62.6	3.13	96.9
Cp25l3c	2276	2268.8	7.2	0.32	99.7
Cs4100ll	2200	2168.5	31.5	1.43	98.6
P1540L	2160	2134.1	25.9	1.20	98.8
P516L	2128	2105.2	22.8	1.07	98.9
P505MSL	2030	2035.1	-5.1	0.25	99.7
Total	**42,764**	**42,625**		**1.32**	**98.7%**

The question was simple: how closely would they match?

The results: 98.7% Accuracy

The results were clear. After calibration, the FarmTRX Yield Monitor Pro achieved on average 98.7% accuracy compared to actual measured weight.

98.7%
Yield Monitor Accuracy in **REAL-WORLD** Field Trial

Each individual hopper load varied slightly compared to the Yield Monitor measurement—mostly within a percentage point or two up or down—but the field-level comparison is what matters most for agronomic decisions.

A single swath can be influenced by terrain, operator behavior, or crop density shifts. Simply driving the combine uphill or downhill can skew results temporarily as the grain pools away from, or towards the grain elevator. But precision agriculture decisions aren't made on single passes—they're made on patterns across acres.

Conclusion

When the entire dataset was evaluated, the FarmTRX system demonstrated remarkable consistency. It accurately estimated total yield AND provided location-specific insights about the fields that allowed the program administrators to continue to refine and optimize their operations.

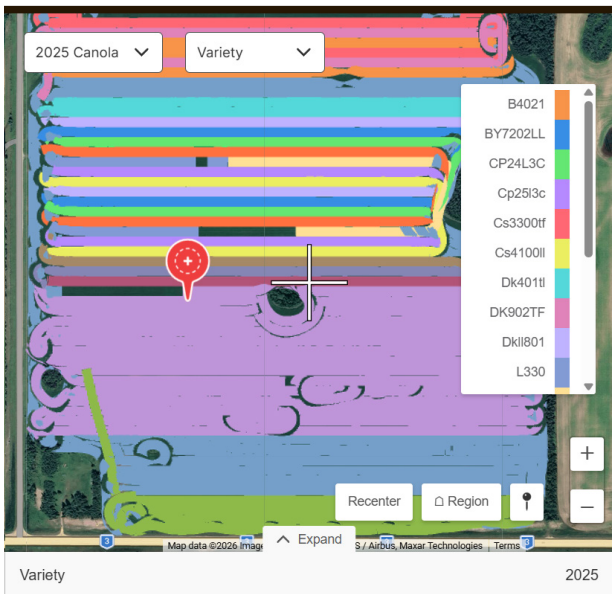
Yield Monitor consistency

It's not possible for any vendor to guarantee 100%, or even 98.7% accuracy, in every situation but it's important to emphasize that this agPROVE test result was not an anomaly.

Real-world benchmarking of FarmTRX systems across multiple farms, combine models, and crop types has consistently resulted in high accuracy rates when the device has been properly calibrated.

That level of precision enables farmers to:

- Make confident variable-rate input decisions
- Evaluate seed performance accurately
- Identify underperforming zones
- Build reliable multi-year yield histories



18 different canola varieties harvested in single rows on the Showcase Lot on the Casson family farm. These varieties are part of the 2025 ***agPROVE*** *Field Trial; displayed in Climate FieldView™*

FieldView is a trademark of Climate LLC.

Built by and for precision farmers

FarmTRX systems are designed for growers who want affordable retrofits, brand-agnostic compatibility, easy installation, and accurate results. Our yield monitoring solutions are farm-tested and built by and for precision farmers who demand data they can trust.

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