



On-Farm Comparison Results

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Year: 2002

Title: Accuracy of Combine Yield Monitor vs. Weigh Wagon vs. Scale

Crop: Corn/Soybeans

NSFGPP Operator: Bill Brabec, Dodge County

Private Industry Cooperator: Jerry Mulliken

Objective: Determine and document the accuracy of using a combine yield monitor vs. weigh wagon vs. certified scale in verifying crop yields.

Treatments: Determine yield and moisture with combine monitor vs. elevator scale weights and moistures with corn. Compare bushels determined by combine monitor vs. bushels delivered to elevator for soybeans.



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Results:

2002	<u>Method</u>	<u>Yield</u> bu/ac at 15.5%	<u>Moisture</u> %
	Elevator	192	18.6
	Monitor	197	18.0
	Prob>/T/	0.133 ns	0.014**



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Corn from 3 acres

<u>Harvest</u>	<u>Weight, lbs</u>		<u>Error, %</u>	
	<u>Speed, mph</u>	<u>Monitor</u>	<u>Scale</u>	<u>Observed</u>
2.5	6959	6540	6.4067	6.4067
3.0	5110	5040	1.3889	1.3889
3.5	6651	6500	2.3231	2.3231
4.0	5104	5000	2.0800	2.0800
4.5	6694	6760	- 0.9763	0.9763
5.0	<u>4502</u>	<u>4620</u>	<u>- 2.5541</u>	<u>2,5541</u>
Total	35,020	34,460	Ave. 1.4447	2.6215



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Soybeans from 500 acres

	<u>Bushels</u>		<u>Error, %</u>	
	<u>Monitor</u>	<u>Scale</u>	<u>Observed</u>	<u>Absolute</u>
	4347	4285	1.4469	1.4469
	4464	4519	- 1.2171	1.2171
	5109	4947	3.2747	3.2747
	3987	4157	- 4.0895	4.0895
	8368	8280	1.0628	1.0628
	3532	3562	- 0.8422	0.8422
	<u>82</u>	<u>85</u>	<u>- 3.5294</u>	<u>3.5294</u>
Total	29,889	29,835	Ave. - 0.5563	2.2089



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Summary: Calculated yields (bu/ac) were not significantly different between scale weights and monitor weights; however, grain moisture values averaged 0.6% lower with the yield monitor. For total yields, yields with monitor were slightly higher from the yield monitor. The absolute error was 2.6% for corn and 2.2% for soybeans. The observed error was 1.4% for corn and -0.6% for soybeans.