

Cotton Picker Yield Monitors Versus Reality

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Field Analyzer

Beach 2&3

Overview

Compare

Difference

2021 Cotton: Harvest

[Field Analyzer Beta](#)

10/25/2021

AGRONOMIC DATA

TOTAL YIELD

278.7 bales

AVG. YIELD

2.22 bales/ac

AVG. SPEED

4.42 mi/h

AREA WORKED

125.58 ac

TOTAL SEED COTTON

343,009.38 lb

Layer: Yield

LEGEND



Google

Bayou Bartholomew

Bayou Bartholomew

Keyboard shortcuts

Map data ©2022 Imagery ©2022, Max

YIELD MONITOR BIAS: DOES IT EXIST?

Variety	Yield Monitor		Certified Scales		Bias(?)	% Change
	Lbs. Lint/A @36%	Rank	Lbs. Lint/A @36%	Rank		
NG4936B3XF	1740	1	1698	1	NS	-2%
ST5600B2XF	1435	2	1518	2	Underestimate	5%
NG4601B3XF	1321	3	1430	4	Underestimate	8%
NG5700B3XF	1298	4	1405	5	Underestimate	8%
ST4550GLPT	1272	5	1445	3	Underestimate	12%
ST5417B3XF	1221	6	1154	6	Overestimate	-6%

Consultant Replicated Variety Trial – 2019 Wisner, LA

18% swing from most severely under to over estimated entry.

YIELD MONITOR BIAS: DOES IT EXIST?

Variety	Yield Monitor		Certified Scales		Bias (?)	% Change
	Lbs. Lint/A @36%	Rank	Lbs. Lint/A @36%	Rank		
PHY332W3FE	644	1	732	1	Underestimate	12%
NG3729B3XF	624	2	687	4	Underestimate	9%
ST4990W3FE	606	3	599	9	NS	-1%
PHY390W3FE	589	4	716	2	Underestimate	18%
NG4936B3XF	574	5	661	7	Underestimate	13%
PHY400W3FE	565	6	684	5	Underestimate	17%
NG4098B3XF	544	7	667	6	Underestimate	18%
PHY443W3FE	538	8	690	3	Underestimate	22%
DP2038B3XF	518	9	508	10	NS	-2%
PHY480W3FE	463	10	627	8	Underestimate	26%

Consultant Replicated Variety Trial – 2020 Epps, LA

28% swing from most severely under to over estimated entry.

YIELD MONITOR BIAS: DOES IT EXIST?

Variety	Yield Monitor		Certified Scales		Actual Yield Based	Final
	Lbs. Lint/A @38%	Rank	Lbs. Lint/A @38%	Rank	On Turnout	Rank
DG 3535 B3XF	1059	9	1258	7	1435 @ 43.4%	6
DG 3644 B3XF	1222	4	1165	10	1308 @ 42.7%	10
DP 2115 B3XF	1465	1	1333	2	1600 @ 45.6%	1
DP 2127 B3XF	1045	10	1182	9	1384 @ 44.5%	8
NG 4936 B3XF	1202	7	1286	3	1383 @ 40.9%	9
NG 5150 B3XF	1285	3	1265	6	1434 @ 43.1%	7
PHY 400 W3FE	1069	8	1254	8	1477 @ 44.8%	3
PHY 411 W3FE	1221	5	1283	4	1529 @ 45.3%	2
ST 4990 B3XF	1345	2	1368	1	1460 @ 40.6%	4
ST 5091 B3XF	1214	6	1268	5	1444 @ 43.3%	5

LSU Core Block Variety Trial – 2021 Franklin Parish, LA

26% swing from most severely under to over estimated entry.

YIELD MONITOR BIAS: DOES IT EXIST?

Variety	Yield Monitor		Certified Scales		Actual Yield Based		Final
	Lbs. Lint/A @42%	Rank	Lbs. Lint/A @42%	Rank	On Turnout	Rank	
DG 3535 B3XF	977	10	1186	10	1292 @ 45.8%	10	
DG 3644 B3XF	1225	7	1261	8	1292 @ 43.0%	10	
DP 2115 B3XF	1259	5	1238	9	1365 @ 46.0%	6	
DP 2127 B3XF	1215	8	1449	1	1558 @ 45.2%	1	
NG 4936 B3XF	1336	2	1410	3	1433 @ 42.7%	5	
NG 5150 B3XF	1239	6	1274	7	1331 @ 43.9%	7	
PHY 400 W3FE	1054	9	1283	6	1308 @ 42.8%	8	
PHY 411 W3FE	1288	3	1392	5	1469 @ 44.3%	3	
ST 4990 B3XF	1372	1	1411	2	1439 @ 42.8%	4	
ST 5091 B3XF	1260	4	1406	4	1493 @ 44.6%	2	

LSU Core Block Variety Trial – 2021 Madison Parish, LA

20% swing from most severely under to over estimated entry.

YIELD MONITOR BIAS: DOES IT EXIST?

Location	Trial Avg. Yield Monitor	Trial Avg. Scales	Trial Avg. Actual Lint	Avg. Bias %	Grower Est. TO%	Actual % TO	TO% Diff.
Epps, LA	567	657	723	27.5%	36.0%	39.8%	3.8%
Lake Village, AR	1058	1214	1341	26.7%	36.0%	38.0%	2.0%
Gilbert, LA	1213	1226	1445	19.1%	38.0%	43.4%	5.4%
Tallulah, LA	1223	1331	1398	14.3%	42.0%	44.1%	2.1%
Winnsboro, LA	1144	819	1072	6.3%	33.0%	43.1%	10.1%
Wisner, LA	1301	1389	1473	13.2%	36.0%	38.2%	2.2%
Average	1084	1106	1242	17.9%	36.8%	41.1%	4.3%



I KNOW THE YIELD MONITOR IS OFF... BUT
I COUNTED ROLLS

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Variety	Acres / 92" roll	Rolls / 40 acre field	Yield @ 4.25 bales/roll	RANK
DP1725B2XF	1.30	31	1569	1
DP2115B3XF	1.31	31	1557	2
DP2020B3XF	1.32	30	1545	3
DP2127B3XF	1.33	30	1533	4
ST5091B3XF	1.33	30	1533	4
DP2012B3XF	1.34	30	1522	6
DP2055B3XF	1.35	30	1511	7
NG4936B3XF	1.35	30	1511	7
NG3299B3XF	1.37	29	1489	9
DP2038B3XF	1.38	29	1478	10



DIVISION OF AGRICULTURE
RESEARCH & EXTENSION

University of Arkansas System

PHY400 vs DP2038

- 25.9% difference in bias.
- 7.9% more seedcotton per 94" bale vs. 2038.
- 5474 vs. 5074 lbs (94" bale)
- Final lint yield not statistically significant across 5 replicated locations.

Variety	Average Bale Moisture	Average Bias – Yield Monitor vs. Scale	Module Density lbs/ft ³
DG3456B3XF	10.5	-5.5%	13.99
DG3644B3XF	9.7	13.0%	14.48
DP1646B2XF	9.3	12.8%	13.91
DP2020B3XF	9.5	10.0%	14.19
DP2038B3XF	9.4	21.0%	13.50
DP2127B3XF	9.0	7.7%	13.73
NG3195B3XF	9.1	9.0%	14.26
NG4936B3XF	8.8	6.8%	13.68
PHY400W3FE	9.8	-4.9%	14.56
PHY411W3FE	9.8	13.7%	14.63
ST4993B3XF	9.5	-0.3%	14.56
ST5091B3XF	9.8	-0.6%	14.11

SUMMARY

- Cotton picker yield monitors must be calibrated multiple times a day (as harvest conditions and varieties change) to provide accurate data.
- Gin turnout (lint percent) varies with variety and will change final ranking.
- The weight and density of a round bale will vary with harvest conditions and by variety.
- Final gin recaps are the only true way to compare varieties on a field-by-field basis.

Questions

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