

Table 1. Least square means for lint yield, yield components, oil and protein content, and fiber quality traits over 11 locations¹ in the 2020 RBTN.

Entry	Lint Yield ²	Lint Percent	Lint Index	Boll Size	Seed per Boll	Seed Index	Seed Oil ³	Seed Protein ³	MIC	UHM	UI	STRN	ELO	SFC	QS1 ⁴	QS2 ⁴	QS3 ⁴
	lb/A	%	grams	grams	#	grams	%	%	mic	inch	%	g/tex	%	%			
Ark 1207-32	1286	42.04	8.21	5.32	28.53	10.24	17.87	21.02	4.63	1.25	85.32	31.11	7.14	5.45	71.95	71.12	74.84
Ark 1207-11	1243	40.97	7.65	5.08	28.85	9.71	18.81	20.14	4.77	1.21	85.21	32.48	7.11	5.73	61.00	66.64	65.45
Ark 1208-21	1216	41.78	8.75	5.24	26.41	10.93	18.61	21.91	4.70	1.24	84.95	31.94	7.60	5.77	68.84	67.78	73.35
Ark 1208-39	1211	41.56	8.67	5.00	25.37	10.88	18.71	20.94	4.66	1.23	84.99	31.01	7.38	5.89	66.83	67.23	71.36
TAM 14 B-72	1166	41.22	7.57	4.97	28.24	9.75	21.30	20.26	4.54	1.18	84.49	32.45	6.38	6.49	51.11	57.59	58.73
Ark 1214-42	1161	42.52	8.54	5.56	28.92	10.49	15.24	22.22	4.56	1.24	84.96	32.91	6.71	5.60	71.56	68.93	75.92
DP 393 CK	1149	40.88	8.31	5.60	29.34	10.61	17.83	20.55	4.87	1.19	84.65	33.02	7.19	6.05	50.27	58.37	57.18
TAM 14 E-12	1144	43.00	8.09	5.22	28.39	9.93	19.86	22.46	4.66	1.17	83.57	31.92	7.01	6.80	44.73	48.68	55.36
FM 958 CK	1125	40.73	8.38	5.47	28.22	10.80	18.34	20.86	4.64	1.20	84.51	33.38	5.76	6.20	56.66	60.24	63.86
DP 493 CK	1096	42.17	7.34	4.71	28.55	8.80	16.18	21.07	4.77	1.15	83.38	31.79	5.77	7.54	36.56	43.98	48.11
UA 222 CK	1054	40.81	8.32	5.49	28.21	10.94	19.74	20.37	4.66	1.23	84.68	31.80	7.74	5.86	64.54	64.00	69.97
PD 2012011	989	38.65	7.39	5.22	29.98	10.10	16.65	20.45	4.34	1.24	84.65	34.17	6.06	5.72	71.91	67.58	77.73
PD 2012066	879	39.92	7.74	5.07	27.96	10.30	17.31	22.51	4.61	1.22	84.37	31.77	6.42	6.20	61.02	60.48	68.05
PD 2013016	869	40.88	8.02	5.46	29.49	10.28	15.62	22.62	4.59	1.26	84.64	34.71	5.96	5.57	74.58	69.52	80.78
PD 2012037	844	39.35	7.66	5.20	28.81	10.25	15.31	22.05	4.42	1.25	84.65	32.63	6.37	5.50	74.19	67.81	79.24
PD 2013041	815	40.15	8.04	5.42	28.61	10.74	15.06	22.10	4.34	1.25	84.96	34.33	6.32	5.43	75.20	71.51	80.18
Mean	1078	41.04	8.04	5.25	28.37	10.30	17.65	21.34	4.61	1.22	84.62	32.59	6.68	5.99	62.56	63.22	68.76
Entry LSD (.05)	53	0.60	0.28	0.16	0.95	0.25	0.70	—	0.10	0.01	0.38	0.51	0.16	0.26	4.36	3.93	3.50
Entry (P>F)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0783	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Location (P>F)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0006	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0009	0.6943	<0.0001
Entry x Loc. (P>F)	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	0.0110	0.4739	0.5140	0.0002	0.0044	0.4480	0.2988	<0.0001	<0.0001	0.0006	0.0410	<0.0001
CV(%)	10.64	3.29	8.22	7.15	7.90	5.70	5.72	13.23	4.65	2.21	0.99	3.49	5.48	9.73	15.67	13.96	11.44
R-Square	0.91	0.76	0.95	0.77	0.82	0.73	0.84	0.35	0.75	0.83	0.76	0.74	0.88	0.85	0.73	0.63	0.75
Reps	36	39	43	43	43	43	16	16	39	39	39	39	39	39	39	39	39

Values in bold not significantly different from highest value according to LSD(0.05).

¹ Means for yield based upon 9 locations (Alexandria, LA, and Florence, SC, omitted due to missing plots and excess variability). Means for lint percent and fiber quality traits based upon 10 locations (no lint percent for Tallassee, AL, and no fiber data for Las Cruces, NM). Seed oil and protein content was measured at 4 locations only: Alexandria, LA, Lubbock, TX, Stoneville, MS (USDA), and, Tallassee, AL.

² Trial average for lint percent used to calculate lint yield at Tallassee, AL.

³ Percent oil and protein (by weight) determined by low-field ¹H time-domain nuclear magnetic resonance (TD-NMR) methodology (Horn, et al, 2011, J Am Oil Chem Soc, 88: 1521-1529).

⁴ QS1, QS2, and QS3 (Quality Score) - a measurement very similar to a selection index, adds the weighted values of selected fiber traits (length, mic, UI, strength) to provide a single measure (0-100) of desirable fiber qualities, and was calculated by weighting selected fiber traits as follows:

QS1 - fiber length (0.50), mic (0.25), UI (0.15), and strength (0.10)

QS2 - fiber length (0.20), mic (0.10), UI (0.40), and strength (0.30)

QS3 - fiber length (0.45), mic (0.25), UI (0.00), and strength (0.30).