

Table 1. Least square means for lint yield, yield components, oil and protein content, and fiber quality traits over 12 locations¹ in the 2021 RBTN.

Entry	Lint Yield	Lint Percent	Lint Index	Boll Size	Seed per Boll	Seed Index	Seed Oil ²	MIC	UHM	UI	STRN	ELO	SFC	QS1 ³	QS2 ³	QS3 ³
	lb/A	%	grams	grams	#	grams	%	mic	inch	%	g/tex	%	%			
MS 2010-28-27	1210	41.85	7.44	5.44	30.64	9.54	15.13	4.82	1.216	84.76	34.47	6.55	5.61	64.52	66.18	70.48
MS 2010-87-37	1194	41.31	7.53	5.45	30.02	9.80	14.07	4.83	1.223	84.93	34.98	5.73	5.48	67.74	68.90	73.02
MS 2010-66-16	1183	42.03	7.68	5.58	30.67	9.65	14.53	4.71	1.213	84.86	34.58	6.20	5.69	65.68	67.20	71.17
MS 2010-87-42	1163	41.75	7.77	5.65	30.52	9.91	14.31	4.80	1.210	84.94	34.60	6.01	5.66	64.26	67.33	69.70
MS 2010-96-9	1157	42.54	8.03	5.82	30.91	9.99	13.94	5.07	1.185	84.59	34.71	6.59	6.00	50.70	59.58	58.05
DP 393 CK	1155	40.54	7.51	5.48	29.57	10.06	16.03	4.94	1.174	84.60	33.94	6.94	6.05	50.24	59.13	57.46
Ark 1311-18	1150	42.86	7.80	5.39	29.73	9.47	14.06	4.64	1.250	84.71	33.99	6.59	5.44	74.76	69.39	79.37
CSX5432	1144	44.95	8.25	4.90	27.81	9.08	15.04	4.62	1.250	84.53	34.34	6.08	5.68	75.69	68.80	81.14
Ark 1308-58	1136	40.69	7.66	5.74	30.71	10.34	17.48	4.67	1.243	84.92	32.88	7.39	5.49	73.83	70.17	77.83
Ark 1317-31	1130	39.74	7.42	5.80	31.08	10.44	17.69	4.49	1.240	84.84	34.80	6.74	5.67	74.53	70.95	79.53
LA19073070	1118	40.15	7.35	5.83	31.86	10.18	14.21	4.87	1.146	85.05	36.32	6.88	5.28	46.51	62.33	54.40
OA-11	1117	42.46	7.52	5.14	29.10	9.32	15.82	4.93	1.168	84.71	34.23	7.24	5.70	49.07	59.36	56.08
MS 2010-87-5	1116	41.85	7.68	5.70	31.16	9.79	13.89	4.83	1.204	84.88	34.65	6.15	5.62	61.44	65.70	67.12
DP 493 CK	1111	42.07	7.15	5.31	31.36	8.93	16.00	4.88	1.164	83.49	33.11	5.79	6.91	45.01	49.30	55.42
Ark 1301-16	1106	41.24	8.36	6.20	30.70	10.98	16.81	4.93	1.222	84.90	33.27	7.12	5.58	64.30	66.33	69.04
UA 222 CK	1072	40.13	7.56	5.49	29.43	10.37	18.42	4.78	1.223	84.42	32.88	7.62	5.93	65.40	63.44	71.48
TAM 14E-12	1067	41.74	7.58	5.43	29.90	9.70	19.05	4.75	1.177	83.45	32.79	6.71	6.63	50.06	50.54	60.20
TAM 14B-72	1066	40.51	6.94	5.20	30.28	9.34	20.19	4.56	1.179	84.26	33.45	6.12	6.12	55.49	58.42	63.24
GA 2016090	1065	41.56	7.53	5.63	31.11	9.80	14.98	4.67	1.216	84.55	34.83	5.96	5.83	66.33	65.77	72.95
OA-133	1062	39.89	6.80	5.20	30.52	9.39	16.50	4.86	1.191	84.07	33.96	6.20	6.20	54.52	57.00	62.86
Ark 1309-56	1058	42.55	8.21	5.85	30.39	10.26	14.18	4.89	1.252	84.94	36.01	6.33	5.28	74.50	72.61	79.66
OA-13	1032	41.31	7.50	5.30	29.30	9.83	14.78	5.03	1.177	84.62	35.57	6.72	5.67	49.98	60.27	57.84
FM 958 CK	1022	39.46	7.40	5.68	30.35	10.46	17.72	4.75	1.191	84.21	34.62	5.82	6.06	57.14	59.42	65.38
GA 2016029	1012	42.00	7.66	5.65	31.06	9.60	13.56	4.83	1.222	84.71	35.31	6.05	5.81	65.83	66.98	72.21
GA 2015026	1001	40.98	6.95	5.18	30.62	9.14	13.85	4.62	1.227	84.74	33.74	6.20	5.71	70.34	67.83	75.51
LA19073002	996	39.66	7.17	5.61	31.14	10.03	15.96	5.05	1.138	83.58	33.32	6.04	6.59	34.94	45.82	46.04
TAMLBB16507	972	38.49	7.27	5.84	30.91	10.81	18.96	4.36	1.224	84.32	34.57	5.95	5.94	67.67	64.63	74.80
TAMLBB17206	893	37.89	6.98	5.69	31.01	10.67	16.75	4.56	1.219	84.39	34.04	5.76	6.13	67.18	64.52	73.89
Mean	1090	41.15	7.53	5.54	30.42	9.89	15.85	4.78	1.205	84.53	34.28	6.41	5.85	60.99	63.14	67.71
Entry LSD (.05)	76	0.51	0.23	0.19	1.31	0.28	0.85	0.10	0.01	0.36	0.57	0.14	0.34	4.75	4.05	3.91
Entry (P>F)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<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	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.3555	<0.0001
Entry x Loc. (P>F)	<0.0001	<0.0001	<0.0001	0.0012	0.0474	<0.0001	0.0034	<0.0001	<0.0001	0.0010	<0.0001	<0.0001	<0.0001	<0.0001	0.0004	<0.0001
CV(%)	14.96	2.98	7.31	8.07	10.35	6.84	6.07	4.73	2.45	0.99	3.81	4.94	12.91	18.00	14.81	13.33
R-Square	0.86	0.87	0.71	0.77	0.65	0.89	0.86	0.73	0.76	0.70	0.74	0.88	0.69	0.66	0.55	0.67
Reps	36	45	45	45	45	45	10	41	41	41	41	41	37	41	41	41

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

¹ Means for lint yield based upon 9 locations (lint yield for Lubbock, TX, and Stoneville, MS USDA-2, was excluded due to excessive variability, and yield for Maricopa, AZ, was excluded due to mechanical problems with plot picker). Means for SFC based upon 10 locations (SFC was not measured at Las Cruces, NM, and Stoneville, MS USDA-1). Means for remaining fiber traits were based upon 11 locations (HVI fiber results were not available for Las Cruces, NM). Means for percent oil content were based upon 3 locations (Lubbock, TX, Stoneville, MS USDA-1, and Tallahassee, AL).

² Percent oil (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).

³ 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).