

Table 1. Least square means for lint yield, yield components, oil and protein content, and fiber quality traits over 14 locations in the 2022 RBTN.

Entry <sup>1</sup>	Lint Yield	Lint Percent <sup>2</sup>	Lint Index	Boll Size <sup>2</sup>	Seed per Boll	Seed Index	Seed Oil <sup>3</sup>	Seed Protein <sup>3</sup>	MIC	UHM	UI	STRN	ELO	SFC	QS1 <sup>4</sup>	QS2 <sup>4</sup>	QS3 <sup>4</sup>
	lb/A	%	grams	grams	#	grams	%	%	mic	inch	%	g/tex	%	%			
Ark 1414-28	<b>1356</b>	40.57	7.31	5.44	29.66	10.57	—	—	4.62	1.236	<b>85.10</b>	33.74	6.30	5.63	60.53	65.04	66.23
Ark 1410-56	<b>1292</b>	39.20	7.43	5.57	28.92	11.37	—	—	4.62	1.235	<b>85.38</b>	34.58	6.14	5.51	61.49	67.77	66.81
Ark 1414-43	1284	39.41	7.11	5.26	28.68	10.75	—	—	4.59	1.260	85.04	34.05	6.03	5.54	66.66	67.33	72.11
CSX5432	1281	<b>45.29</b>	<b>8.08</b>	4.75	26.37	9.60	—	—	4.51	1.255	84.77	33.34	6.03	5.59	65.69	64.58	71.70
Ark 1414-47	1268	40.01	7.31	5.33	28.65	10.77	—	—	4.57	1.250	<b>85.13</b>	34.24	6.09	5.54	64.55	67.24	70.14
OA-22-2	1246	42.76	6.76	4.92	<b>30.59</b>	8.87	—	—	4.53	1.252	84.72	34.58	5.68	5.72	64.43	64.61	71.42
DP 393 CK	1244	40.46	7.54	5.49	28.99	10.91	—	—	<b>4.85</b>	1.204	84.53	33.23	6.77	6.06	46.60	55.46	54.90
Ark 1406-21	1235	41.69	6.98	5.27	<b>30.86</b>	9.58	—	—	4.73	1.231	84.81	33.05	6.43	5.76	57.14	61.48	63.78
AU72028	1227	40.40	7.23	5.39	29.56	10.52	—	—	4.76	1.208	84.46	33.01	6.26	6.17	48.84	55.61	57.03
MS 2010-28-27	1220	39.67	6.91	5.33	30.06	10.36	—	—	<b>4.79</b>	1.216	84.86	34.21	6.51	5.75	52.42	60.33	59.53
MS2010-87-44	1218	40.28	7.14	5.43	30.17	10.44	—	—	4.67	1.237	<b>85.16</b>	33.28	6.25	5.61	60.48	65.22	65.87
MS 2010-66-16	1214	42.72	7.72	5.61	<b>30.44</b>	10.20	—	—	4.66	1.198	84.87	33.58	6.08	5.96	50.24	59.17	57.52
AU90098	1210	40.97	7.56	5.45	29.05	10.72	—	—	4.63	1.227	84.72	32.82	5.94	5.92	57.04	60.38	64.01
OA-22-3	1209	43.24	6.65	4.82	<b>30.76</b>	8.60	—	—	4.58	1.223	84.66	34.62	5.80	5.96	55.70	60.79	63.74
Ark 1410-32	1202	38.84	7.34	5.46	28.52	11.35	—	—	4.38	1.224	84.82	32.78	5.78	5.93	58.45	61.90	65.10
MS 2010-87-37	1196	41.27	7.43	5.49	29.95	10.40	—	—	4.67	1.241	84.88	34.08	5.83	5.67	60.91	63.89	67.45
MS 2010-87-42	1185	40.25	7.23	5.40	29.47	10.60	—	—	<b>4.80</b>	1.224	84.75	32.92	6.20	5.79	53.08	59.12	59.81
MS 2010-96-8	1169	39.51	7.40	<b>5.81</b>	<b>30.54</b>	11.16	—	—	<b>4.77</b>	1.212	84.56	33.69	6.29	5.92	49.95	57.17	58.12
UA 222 CK	1155	39.71	7.52	5.50	28.56	11.28	—	—	4.72	1.224	84.63	31.69	<b>7.36</b>	5.93	53.14	58.19	60.11
TAM 17 WSH-12	1154	42.89	7.20	4.88	28.64	9.49	—	—	4.51	1.202	83.62	30.69	6.78	<b>6.84</b>	47.54	48.71	57.61
DP 493 CK	1122	41.01	6.90	5.22	<b>30.48</b>	9.75	—	—	<b>4.79</b>	1.195	83.59	32.20	5.72	<b>6.81</b>	42.27	46.97	53.09
TAM 17 SHK-43	1104	39.54	7.64	<b>5.80</b>	29.44	11.49	—	—	4.59	1.273	84.45	33.22	6.25	5.52	69.33	63.74	75.90
OA-22-1	1074	39.72	6.27	5.00	<b>31.12</b>	9.40	—	—	4.45	1.226	84.55	32.53	6.29	5.96	56.05	58.98	63.27
FM 958 CK	1070	38.20	7.14	5.61	29.54	11.36	—	—	4.67	1.237	84.45	33.51	5.96	5.79	58.48	59.63	66.10
TAM 17 WSE-66	934	36.22	7.07	<b>5.65</b>	28.41	<b>12.24</b>	—	—	4.18	1.371	<b>85.35</b>	<b>36.54</b>	5.79	4.48	<b>86.43</b>	<b>79.68</b>	<b>91.01</b>
TAM 17 WSG-51	926	34.91	6.54	5.57	29.15	<b>12.05</b>	—	—	4.16	<b>1.387</b>	<b>85.36</b>	34.64	6.36	4.39	<b>85.42</b>	<b>77.30</b>	<b>88.47</b>
TAM 17 WSE-68	922	35.68	6.86	5.55	28.27	<b>12.22</b>	—	—	4.10	1.354	<b>85.08</b>	34.93	6.09	4.55	<b>84.09</b>	75.32	<b>88.39</b>
<b>Mean</b>	1175	40.16	7.20	5.37	29.44	10.59	—	—	4.59	1.245	84.75	33.55	6.19	5.72	59.89	62.43	66.64
<b>Entry LSD (.05)</b>	69	0.42	0.18	0.16	0.94	0.24	—	—	0.09	0.013	0.32	0.51	0.10	0.28	4.30	3.66	3.60
<b>Entry (P&gt;F)</b>	<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
<b>Location (P&gt;F)</b>	<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	0.8222	<0.0001
<b>Entry x Loc. (P&gt;F)</b>	<0.0001	<0.0001	<0.0001	<0.0001	0.0005	<0.0001	—	—	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
<b>CV(%)</b>	15.71	2.68	6.37	7.66	8.21	5.98	—	—	5.13	2.87	1.02	4.10	4.40	12.88	19.18	15.65	14.46
<b>R-Square</b>	0.85	0.89	0.77	7.66	0.67	0.84	—	—	0.81	0.85	0.73	0.76	0.90	0.79	0.67	0.58	0.69
<b>Reps</b>	56	51	51	51	51	55	—	—	55	55	55	55	55	55	55	55	55

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

<sup>1</sup> Entry "TAM 18 SHA-27" not included at all locations and excluded from analysis over locations.

<sup>2</sup> Lint percent and boll size for Lubbock, Texas location excluded from from analysis over locations (boll samples included burr).

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

<sup>4</sup> 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).