

Table 4. Least square means for yield and fiber quality traits in the 2025 RBTN at Tallassee, AL. Planted on 29 April 2025 and harvested on 6 November 2025.(Cooperator: Jenny Koebernick)

Genotype	Agronomic Data					HVI Data						Fibrogram Data						Quality Score			
	Entry	Lint Yield	Lint Percent	Boll Size	Seed index	Mic	UHML	UI	Str	Elo	Short Fiber Index	UHMLf	MLf	UQLf	LHMLf	LQLf	Ulf	SFCf	QS1 <sup>1</sup>	QS2 <sup>1</sup>	QS3 <sup>1</sup>
	units:	lb/acre	%	g	g		in	%	g/tex	%	%	in	in	in	in	in	%	%			
Ark 1704-53	1	1198	41.9	6.1	11.0	5.0	1.24	85.1	30.9	<b>6.4</b>	5.6	1.188	0.903	1.163	0.640	0.699	76.0	18.7	68	66	73
Ark 1706-45	2	1208	<b>42.8</b>	5.9	10.6	5.3	1.21	84.6	31.6	<b>7.0</b>	6.3	1.155	0.879	1.125	0.630	0.682	76.0	19.0	53	57	60
Ark 1704-26	3	1410	<b>42.7</b>	6.1	10.2	<b>5.4</b>	1.18	84.4	31.1	6.9	6.5	1.125	0.855	1.093	0.608	0.660	75.9	20.2	43	52	51
Ark 1720-52	4	1236	<b>43.3</b>	6.1	10.1	<b>5.5</b>	1.18	84.2	30.7	<b>6.4</b>	6.8	1.120	0.848	1.085	0.603	0.645	75.6	20.3	41	49	49
Ark 1706-34	5	1103	42.0	6.1	11.3	5.1	1.20	85.6	32.1	<b>6.3</b>	6.0	1.168	0.901	1.138	0.653	0.735	77.3	16.8	57	66	62
TAM 18J-13	6	910	36.0	6.3	<b>13.4</b>	4.8	1.33	<b>86.9</b>	<b>38.1</b>	5.6	<b>3.8</b>	<b>1.313</b>	<b>1.048</b>	<b>1.275</b>	<b>0.815</b>	<b>0.920</b>	<b>79.9</b>	<b>12.0</b>	<b>95</b>	<b>94</b>	<b>97</b>
TAM 19J-04	7	1037	36.5	<b>6.8</b>	<b>12.9</b>	4.5	<b>1.36</b>	<b>86.6</b>	34.7	5.0	<b>3.8</b>	<b>1.323</b>	<b>1.023</b>	<b>1.288</b>	0.755	0.821	77.4	<b>14.4</b>	<b>96</b>	<b>89</b>	<b>95</b>
TAM 19O-09	8	972	39.5	6.2	11.8	5.3	1.21	84.8	34.4	<b>6.3</b>	5.4	1.173	0.924	1.133	0.705	0.806	<b>78.8</b>	<b>14.8</b>	56	61	63
OA-25110	9	1035	41.6	5.8	10.3	5.2	1.20	84.8	33.0	5.4	6.0	1.158	0.888	1.120	0.648	0.712	76.8	16.8	55	60	62
OA-25111	10	1087	<b>42.3</b>	5.5	9.8	5.2	1.20	84.6	32.7	5.2	6.2	1.145	0.881	1.113	0.635	0.714	76.9	17.4	52	57	60
OA-25112	11	1038	40.7	5.6	9.9	5.2	1.20	84.3	33.7	5.5	6.4	1.148	0.874	1.113	0.625	0.686	76.3	18.5	52	55	61
OA-25113	12	1157	42.4	5.7	9.8	5.2	1.23	85.7	34.1	5.6	5.6	1.193	0.930	1.160	0.690	0.780	78.0	15.9	65	70	68
OA-25114	13	1162	<b>44.1</b>	6.1	9.7	<b>5.5</b>	1.18	84.1	32.1	<b>6.7</b>	6.2	1.123	0.865	1.090	0.623	0.711	77.0	18.0	40	48	49
Chee-1	14	1404	<b>44.2</b>	6.3	10.3	5.3	1.23	85.4	32.1	5.7	5.8	1.188	0.911	1.155	0.655	0.713	76.9	17.7	61	66	65
DP 393	15	1187	39.7	6.1	11.1	5.3	1.20	85.6	33.1	<b>6.4</b>	5.5	1.163	0.916	1.135	0.695	0.787	<b>78.6</b>	15.3	52	64	57
DP 493	16	1186	41.6	5.9	9.6	<b>5.7</b>	1.12	82.5	30.9	5.4	6.9	1.053	0.796	1.015	0.553	0.616	75.7	21.9	19	29	35
FM 958	17	1370	42.4	6.1	9.7	5.6	1.14	83.4	32.4	5.6	7.0	1.078	0.806	1.043	0.563	0.583	74.9	22.1	26	38	38
UA 222	18	1378	40.9	5.9	10.4	5.2	1.21	85.3	32.0	<b>6.6</b>	5.9	1.165	0.903	1.135	0.660	0.750	77.4	16.9	56	63	61
<b>Mean</b>		<b>1171</b>	<b>41.3</b>	<b>6.0</b>	<b>10.6</b>	<b>5.2</b>	<b>1.21</b>	<b>84.9</b>	<b>32.8</b>	<b>6.0</b>	<b>5.9</b>	<b>1.165</b>	<b>0.897</b>	<b>1.132</b>	<b>0.563</b>	<b>0.723</b>	<b>77.0</b>	<b>17.6</b>	<b>76</b>	<b>60</b>	<b>61</b>
<b>Entry(P&gt;F)</b>		<b>0.0602</b>	<b>&lt;0.0001</b>	<b>0.0006</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>0.0005</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>	<b>&lt;0.0001</b>
<b>R-square</b>		<b>0.4315</b>	<b>0.9149</b>	<b>0.5299</b>	<b>0.6399</b>	<b>0.6711</b>	<b>0.8799</b>	<b>0.6891</b>	<b>0.7458</b>	<b>0.8756</b>	<b>0.7569</b>	<b>0.8511</b>	<b>0.7820</b>	<b>0.8409</b>	<b>0.7217</b>	<b>0.6164</b>	<b>0.5264</b>	<b>0.6054</b>	<b>0.8395</b>	<b>0.8041</b>	<b>0.8386</b>
<b>Entry LSD(0.05)</b>		<b>NS<sup>2</sup></b>	<b>0.9</b>	<b>0.4</b>	<b>0.6</b>	<b>0.3</b>	<b>0.03</b>	<b>1.0</b>	<b>1.4</b>	<b>0.3</b>	<b>0.7</b>	<b>0.038</b>	<b>0.045</b>	<b>0.040</b>	<b>0.054</b>	<b>0.088</b>	<b>1.664</b>	<b>2.9</b>	<b>12</b>	<b>10</b>	<b>10</b>
<b>CV(%)</b>		<b>19.1</b>	<b>1.9</b>	<b>5.6</b>	<b>5.1</b>	<b>4.4</b>	<b>2.0</b>	<b>0.9</b>	<b>3.7</b>	<b>4.4</b>	<b>10.0</b>	<b>2.8</b>	<b>4.2</b>	<b>3.0</b>	<b>7.0</b>	<b>10.2</b>	<b>1.8</b>	<b>14.1</b>	<b>17.9</b>	<b>14.6</b>	<b>13.1</b>

<sup>1</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 the 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)

<sup>2</sup>NS-Not significant at the 0.05 level of probability.