

Table 3. Least square means for lint yield and fiber quality traits in the 2023 RBTN at College Station, Texas. Planted 3 May 2023 and harvested on 2 October 2023. (Cooperator: Lori Hinze)

Genotype	LINT YIELD	LINT PERCENT	MIC	HVI data				Fibrogram Data								QS1 <sup>1</sup>	QS2 <sup>1</sup>	QS3 <sup>1</sup>
				UHM	UI	STR	ELO	Short Fiber Index	UHMLf	MLf	UQLf	LHMLf	LQLf	Uif	SFCf			
units	lb/acre	%	units	in	%	g/tex	%	%	in	in	in	in	in	%	%			
Ark 1510-31	994	37.6	4.4	<b>1.18</b>	83.4	31.7	5.4	<b>7.48</b>	1.102	0.813	1.075	0.540	0.532	73.80	<b>23.87</b>	68.50	71.00	<b>74.00</b>
Ark 1512-32	975	<b>41.0</b>	4.2	1.15	83.1	31.0	5.7	<b>7.75</b>	1.076	0.791	1.048	0.524	0.529	73.50	<b>24.44</b>	59.25	67.25	66.50
GA 2017024	954	38.4	4.3	1.17	83.3	31.2	4.9	<b>7.80</b>	1.092	0.806	1.066	0.538	0.555	73.80	<b>23.61</b>	61.75	74.50	66.75
Ark 1519-16	893	37.3	3.8	1.16	82.4	31.6	<b>6.0</b>	<b>7.80</b>	1.078	0.792	1.044	0.529	0.528	73.50	<b>24.62</b>	55.25	61.75	64.25
PD 2017030	878	36.8	4.4	<b>1.21</b>	<b>85.2</b>	<b>35.0</b>	4.9	5.88	<b>1.162</b>	<b>0.892</b>	<b>1.138</b>	<b>0.642</b>	<b>0.723</b>	<b>76.80</b>	18.18	66.75	68.00	<b>73.25</b>
GA 2017132	844	38.8	4.4	1.17	83.9	<b>34.1</b>	5.2	6.90	<b>1.113</b>	0.835	1.083	0.578	<b>0.622</b>	<b>75.00</b>	20.94	64.00	71.75	70.00
OA-23106	828	<b>39.5</b>	4.4	1.16	83.0	30.6	5.0	<b>7.60</b>	1.085	0.800	1.054	0.535	0.536	73.70	<b>23.88</b>	54.50	65.25	62.75
DP 393 CK	826	38.0	4.1	1.15	<b>84.1</b>	<b>33.0</b>	5.7	6.70	1.101	0.835	1.074	<b>0.586</b>	<b>0.637</b>	<b>75.70</b>	20.23	<b>82.50</b>	<b>87.25</b>	<b>83.75</b>
Ark 1514-34	787	36.1	3.8	1.17	83.0	30.9	5.4	<b>7.70</b>	1.094	0.800	1.058	0.534	0.524	73.10	<b>24.04</b>	63.25	67.00	70.25
PD 20150002	783	33.8	4.3	<b>1.22</b>	<b>84.0</b>	<b>33.9</b>	5.2	6.38	<b>1.148</b>	<b>0.856</b>	<b>1.120</b>	<b>0.584</b>	0.600	74.50	21.11	68.25	70.75	<b>74.50</b>
OA-23105	783	<b>39.9</b>	4.1	<b>1.18</b>	83.3	32.5	4.8	7.40	1.104	0.815	1.071	0.547	0.558	73.80	<b>23.27</b>	67.25	75.00	<b>72.50</b>
Ark 1510-28	756	37.1	4.0	<b>1.18</b>	<b>84.6</b>	31.9	5.3	6.78	<b>1.133</b>	<b>0.851</b>	<b>1.102</b>	<b>0.595</b>	0.612	<b>75.10</b>	20.84	<b>69.00</b>	76.50	70.75
UA 222 CK	711	36.8	4.2	1.14	83.5	31.6	<b>6.0</b>	7.35	1.080	0.806	1.051	0.554	0.582	74.60	<b>22.63</b>	55.50	68.00	61.25
FM 958 CK	666	36.5	4.3	1.16	83.6	32.8	5.0	7.40	1.097	0.810	1.066	0.549	0.539	73.80	<b>24.08</b>	<b>69.00</b>	67.00	<b>76.25</b>
GA 2018139	632	37.5	4.1	1.14	82.9	31.2	5.4	<b>7.90</b>	1.063	0.780	1.033	0.518	0.507	73.30	<b>25.20</b>	62.75	69.75	69.25
OA-23104	629	39.0	4.0	<b>1.18</b>	83.0	32.4	4.8	<b>7.55</b>	1.100	0.810	1.072	0.538	0.539	73.60	<b>23.37</b>	63.00	69.50	69.25
DP 493 CK	587	37.9	4.1	1.15	82.5	30.4	4.9	<b>8.00</b>	1.069	0.779	1.035	0.512	0.501	72.90	<b>25.31</b>	<b>77.25</b>	75.75	<b>80.25</b>
17020-22-9-9	575	38.0	3.9	1.12	82.2	30.5	5.0	<b>8.53</b>	1.036	0.752	1.003	0.494	0.484	72.50	<b>26.37</b>	42.50	57.75	53.75
PD 20150021	568	32.2	4.0	<b>1.19</b>	82.7	32.6	4.8	<b>7.58</b>	1.111	0.814	1.077	0.540	0.535	73.30	<b>23.72</b>	62.00	67.25	69.25
GA 2017126	550	36.2	4.1	1.16	83.4	32.4	5.2	7.35	1.094	0.812	1.064	0.551	0.565	74.20	<b>23.06</b>	58.00	64.00	67.00
<b>Mean</b>	<b>761</b>	<b>37.4</b>	<b>4.1</b>	<b>1.17</b>	<b>83.3</b>	<b>32.1</b>	<b>5.2</b>	<b>7.39</b>	<b>1.097</b>	<b>0.813</b>	<b>1.067</b>	<b>0.549</b>	<b>0.560</b>	<b>74.00</b>	<b>23.10</b>	<b>63.50</b>	<b>69.75</b>	<b>69.78</b>
<b>Entry (P&gt;F)</b>	<b>0.1646</b>	<b>&lt;0.0001</b>	<b>0.3124</b>	<b>0.0034</b>	<b>0.0004</b>	<b>0.0005</b>	<b>&lt;0.0001</b>	<b>0.0014</b>	<b>0.0020</b>	<b>0.0025</b>	<b>0.0013</b>	<b>0.0044</b>	<b>0.0044</b>	<b>0.0136</b>	<b>0.0493</b>	<b>0.0007</b>	<b>0.0004</b>	<b>0.0018</b>
<b>R-square</b>	<b>0.32</b>	<b>0.42</b>	<b>0.32</b>	<b>0.56</b>	<b>0.54</b>	<b>0.56</b>	<b>0.86</b>	<b>0.52</b>	<b>0.53</b>	<b>0.53</b>	<b>0.57</b>	<b>0.49</b>	<b>0.48</b>	<b>0.42</b>	<b>0.42</b>	<b>0.55</b>	<b>0.54</b>	<b>0.53</b>
<b>Entry LSD (0.05)</b>	<b>NS<sup>2</sup></b>	<b>1.9</b>	<b>NS</b>	<b>0.04</b>	<b>1.2</b>	<b>2.0</b>	<b>0.2</b>	<b>1.05</b>	<b>0.050</b>	<b>0.054</b>	<b>0.051</b>	<b>0.060</b>	<b>0.101</b>	<b>1.98</b>	<b>4.22</b>	<b>14.00</b>	<b>10.00</b>	<b>11.80</b>
<b>CV (%)</b>	<b>10.2</b>	<b>5.3</b>	<b>3.0</b>	<b>2.1</b>	<b>0.8</b>	<b>4.4</b>	<b>10.5</b>	<b>6.6</b>	<b>2.4</b>	<b>3.4</b>	<b>2.5</b>	<b>5.4</b>	<b>7.1</b>	<b>1.3</b>	<b>8.0</b>	<b>13.4</b>	<b>8.9</b>	<b>9.6</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 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.