

Table 1. Least square means for lint yield and fiber quality traits over 9 locations in the 2023 RBTN.

Genotype	LINT YIELD	LINT PERCENT	HVI Data					Fibrogram Data									QS1 <sup>1</sup>	QS2 <sup>1</sup>	QS3 <sup>1</sup>
			MIC	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	%	%				
Ark1519-16	1215	39.7	4.8	1.21	84.1	32.3	7.1	6.39	1.143	0.868	1.110	0.614	0.662	75.80	19.71	59.94	67.61	65.86	
Ark1510-28	1192	38.5	4.9	1.23	85.1	33.2	5.9	5.93	1.179	0.900	1.148	0.646	0.700	76.30	18.35	66.36	74.33	69.39	
Ark1512-32	1165	41.1	4.9	1.20	84.3	31.9	6.5	6.63	1.137	0.861	1.107	0.606	0.652	75.60	20.10	56.42	67.97	61.83	
Ark1510-31	1155	39.6	5.2	1.21	84.3	33.1	6.2	6.51	1.147	0.865	1.117	0.606	0.644	75.30	20.30	53.58	65.14	59.31	
OA-23106	1130	40.1	4.9	1.23	84.8	33.3	5.5	5.91	1.177	0.897	1.147	0.639	0.694	76.10	18.58	57.56	67.11	63.83	
17020-22-9-9	1121	40.4	4.7	1.20	84.0	33.6	5.8	6.67	1.130	0.855	1.098	0.602	0.651	75.60	20.06	57.56	68.78	64.78	
Ark1514-34	1118	39.1	4.8	1.20	84.3	31.8	6.5	6.63	1.135	0.862	1.103	0.611	0.659	75.80	19.53	57.39	68.22	63.28	
GA2017132	1111	40.0	4.9	1.21	84.7	34.4	5.8	6.07	1.153	0.887	1.120	0.644	0.706	76.80	17.99	63.33	70.94	69.44	
OA-23104	1093	41.7	4.7	1.22	84.2	34.7	5.4	6.19	1.156	0.881	1.125	0.628	0.682	76.10	18.86	55.14	69.67	61.58	
GA2017126	1090	39.0	4.9	1.19	84.4	34.1	5.9	6.44	1.132	0.865	1.101	0.617	0.671	76.30	19.17	49.22	62.92	57.67	
OA-23105	1083	41.6	4.8	1.22	84.2	34.9	5.5	6.32	1.151	0.870	1.118	0.613	0.660	75.60	19.51	61.28	72.94	66.67	
DP393CK	1069	39.4	5.0	1.19	84.4	33.8	6.3	6.47	1.132	0.865	1.101	0.620	0.676	76.30	19.21	72.86	82.03	75.47	
PD2017030	1060	37.7	4.9	1.24	85.6	35.5	5.6	5.42	1.197	0.931	1.166	0.686	0.763	77.60	16.65	66.47	73.11	72.86	
GA2018139	1057	39.2	4.9	1.20	84.0	32.7	6.2	6.88	1.132	0.849	1.102	0.585	0.619	74.80	21.52	61.33	69.42	67.28	
UA222CK	1036	39.1	4.9	1.20	84.3	32.5	7.1	6.53	1.144	0.865	1.113	0.608	0.653	75.50	20.07	59.11	68.22	64.47	
GA2017024	1005	39.4	4.9	1.22	84.2	33.7	5.6	6.52	1.151	0.871	1.120	0.612	0.655	75.50	19.80	52.08	66.75	58.36	
DP493CK	971	40.5	4.9	1.18	83.5	32.9	5.6	7.23	1.108	0.826	1.076	0.566	0.594	74.50	21.79	75.36	75.89	78.69	
FM958CK	963	37.9	4.9	1.23	84.2	34.2	5.8	6.30	1.157	0.879	1.124	0.623	0.675	75.90	19.27	71.94	74.53	76.50	
PD20150002	921	35.8	4.8	1.27	84.7	34.4	5.8	5.37	1.201	0.923	1.169	0.660	0.722	76.50	17.61	64.08	73.03	71.11	
PD20150021	857	33.7	4.7	1.25	84.5	34.2	5.4	5.63	1.186	0.909	1.151	0.658	0.713	76.60	17.91	68.67	74.14	72.31	
Mean	1071	39.2	4.9	1.22	84.4	33.6	6.0	6.36	1.152	0.876	1.121	0.622	0.673	75.93	19.30	61.48	70.64	67.03	
Entry (P>F)	<0.0001	<0.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
Location (P>F)	<0.0001	<0.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.0015	
Entry x Loc. (P>F)	<0.0001	<0.0001	0.0020	0.0028	0.0022	<.0001	<.0001	<.0001	0.0008	0.0030	0.0006	0.0157	0.0156	0.0083	0.1191	0.0002	0.0112	0.0015	
R-square	0.90	0.98	0.21	0.85	0.75	0.80	0.89	0.78	0.78	0.80	0.77	0.79	0.78	0.77	0.75	0.60	0.55	0.56	
Entry LSD (0.05)	86	0.3	0.1	0.02	0.4	0.5	0.1	0.36	0.020	0.020	0.017	0.023	0.036	0.78	1.45	5.08	3.83	4.36	
CV (%)	17.5	1.9	4.1	2.6	1.1	3.6	5.2	11.7	3.1	4.5	3.2	7.5	10.5	1.9	14.3	11.5	6.2	9.1	

<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).