

Table 10. Least square means for yield and fiber quality traits in the 2023 RBTN at Tallassee, AL. Planted on 21 May 2023 and harvested on 25 October 2023. (Cooperator: J. Koebernick)

Genotype	LINT YEILD	LINT PERCENT	MIC	HVI data				Fibrogram Data								QS1 ¹	QS2 ¹	QS3 ¹
				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 1510-28	1640	39.3	5.2	1.26	85.8	33.5	5.8	6.18	1.201	0.945	1.172	0.714	0.811	78.69	13.87	73.50	82.50	70.50
Ark 1510-31	1595	40.1	5.4	1.24	85.1	34.0	6.2	5.41	1.187	0.931	1.158	0.695	0.774	78.30	16.04	55.25	62.50	53.25
17020-22-9-9	1555	42.2	5.1	1.23	85.5	34.5	5.6	7.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	74.00	84.75	71.75
Ark 1519-16	1525	40.0	4.9	1.23	85.5	33.0	7.3	5.80	1.186	0.916	1.152	0.676	0.749	77.20	14.72	76.50	83.50	73.25
Ark 1512-32	1364	41.7	5.0	1.20	84.6	31.0	6.7	6.23	1.150	0.883	1.117	0.640	0.719	76.74	17.29	73.00	80.00	69.00
Ark 1514-34	1350	39.4	4.8	1.22	85.2	31.7	6.6	5.98	1.173	0.925	1.138	0.705	0.793	78.80	13.86	74.75	80.75	70.75
GA 2017132	1335	40.7	5.0	1.22	85.9	34.3	5.8	5.35	1.182	0.936	1.149	0.718	0.814	79.21	13.86	74.00	85.00	72.00
GA 2017126	1296	38.2	4.9	1.22	85.8	35.4	5.5	6.33	1.167	0.942	1.134	0.737	0.827	80.68	13.30	76.50	83.75	73.75
GA 2018139	1272	38.6	5.1	1.23	84.8	32.5	6.5	5.98	1.173	0.910	1.137	0.671	0.747	77.60	15.04	73.50	82.75	70.75
UA 222 CK	1258	40.5	5.2	1.19	85.2	32.7	7.2	6.30	1.150	0.898	1.115	0.675	0.743	78.01	14.55	73.00	80.00	69.00
OA-23106	1238	41.1	5.1	1.24	85.7	34.0	5.4	5.73	1.190	0.941	1.159	0.707	0.796	79.04	15.89	73.00	80.00	69.00
DP 493 CK	1192	41.0	4.9	1.20	84.6	34.0	5.5	6.48	1.138	0.887	1.107	0.652	0.738	77.91	15.45	74.00	85.00	72.00
GA 2017024	1111	39.3	5.1	1.24	85.2	34.3	5.8	5.48	1.188	0.931	1.156	0.697	0.788	78.30	15.57	55.50	63.50	53.75
PD 2017030	1108	37.4	4.9	1.26	85.8	36.0	5.5	4.98	1.215	0.958	1.184	0.726	0.826	78.84	13.99	88.00	88.75	85.25
DP 393 CK	1106	39.5	5.2	1.21	85.9	34.6	6.4	6.30	1.167	0.937	1.133	0.733	0.826	80.27	13.21	79.25	91.50	79.00
PD 20150002	1017	35.2	5.0	1.29	85.1	35.3	6.0	5.25	1.229	0.969	1.190	0.739	0.835	78.84	14.66	83.50	92.75	83.25
FM 958 CK	949	37.4	5.1	1.26	85.0	34.4	5.8	5.43	1.201	0.946	1.165	0.712	0.805	78.80	13.05	87.00	92.00	85.75
OA-23104	924	42.7	4.7	1.21	85.0	34.2	5.2	6.63	1.149	0.900	1.120	0.666	0.744	78.27	15.66	74.50	87.50	73.50
PD 20150030	914	32.7	4.6	1.28	85.1	34.7	5.4	5.35	1.218	0.956	1.183	0.717	0.806	78.49	15.33	73.50	82.50	70.50
OA-23105	734	42.7	4.8	1.20	85.4	36.1	5.1	6.05	1.156	0.905	1.125	0.675	0.766	78.26	15.15	73.75	84.00	71.50
Mean	1224	39.5	5.0	1.23	85.3	34.0	6.0	5.91	1.180	0.927	1.147	0.698	0.784	78.54	14.76	74.30	82.65	71.88
Entry (P>F)	<0.0001	<0.0001	0.5502	0.5499	0.5501	0.0502	0.0422	0.0421	0.0075	0.1050	0.0087	0.2099	0.2792	0.2264	0.8761	0.0989	0.2736	0.0649
R-square	0.66	0.71	0.19	0.20	0.20	0.34	0.38	0.42	0.49	0.44	0.49	0.44	0.40	0.44	0.34	0.37	0.28	0.39
Entry LSD (0.05)	333	1.9	NS²	NS	NS	1.5	0.4	1.10	0.047	NS	0.046	NS	NS	NS	NS	NS	NS	NS
CV (%)	20.1	6.3	3.9	2.2	0.5	3.9	10.7	9.0	2.2	2.7	2.2	4.2	4.6	1.2	7.5	10.7	9.4	11.4

¹QS1, 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).

²NS- Not significant at the 0.05 level of probability.