

Table 1. Least square means for yield and fiber quality traits over 5 locations in the 2025 RBTN.

Agronomic Data				HVI Data						Fibrogram Data						Quality Score			
Genotype	Entry	Lint Yield	Lint Percent	Mic	UHML	UI	Str	Elo	Short Fiber Index	UHMLf	MLf	UQLf	LHMLf	LQLf	Ulf	SFCf	QS1 ¹	QS2 ¹	QS3 ¹
	units:	lb/acre	%		in	%	g/tex	%	%	in	in	in	in	in	%	%			
Ark 1704-53	1	1286	42.3	4.6	1.28	85.0	31.0	6.9	4.7	1.232	0.936	1.203	0.662	0.718	75.9	17.7	66	62	72
Ark 1706-45	2	1289	42.9	4.8	1.25	85.0	31.1	7.4	5.4	1.206	0.923	1.176	0.665	0.731	76.5	18.1	57	59	65
Ark 1704-26	3	1317	43.8	4.8	1.21	84.2	31.1	7.1	6.3	1.151	0.874	1.121	0.618	0.663	75.9	19.6	44	52	53
Ark 1720-52	4	1341	43.2	4.9	1.24	85.1	31.3	6.7	5.6	1.192	0.915	1.162	0.663	0.728	76.7	17.8	52	58	59
Ark 1706-34	5	1246	42.9	4.7	1.24	85.4	31.7	6.7	5.6	1.200	0.925	1.171	0.674	0.738	77.0	16.6	63	68	69
TAM 18J-13	6	877	36.2	4.3	1.36	86.4	37.2	6.0	3.8	1.334	1.053	1.302	0.799	0.889	78.8	12.7	92	85	96
TAM 19J-04	7	844	36.5	4.1	1.38	85.5	34.4	5.4	3.8	1.326	1.011	1.293	0.721	0.773	76.1	15.8	85	77	89
TAM 19O-09	8	953	39.4	4.7	1.26	85.5	34.9	6.4	4.8	1.224	0.968	1.191	0.734	0.828	79.1	13.7	61	65	67
OA-25110	9	1251	42.5	4.7	1.25	85.0	33.0	5.5	5.3	1.208	0.932	1.175	0.683	0.750	77.1	16.2	58	59	65
OA-25111	10	1229	42.9	4.6	1.25	84.8	32.9	5.6	5.4	1.198	0.921	1.168	0.664	0.732	76.8	16.9	63	64	70
OA-25112	11	1096	42.6	4.6	1.25	84.8	33.8	5.7	5.1	1.206	0.938	1.174	0.694	0.775	77.7	15.7	64	63	71
OA-25113	12	1173	43.0	4.6	1.27	85.4	33.4	6.0	4.8	1.237	0.962	1.202	0.716	0.801	77.9	14.9	67	68	72
OA-25114	13	1186	44.3	4.9	1.23	85.1	32.1	6.8	5.4	1.191	0.931	1.159	0.695	0.783	78.1	15.7	56	61	63
GA 2023279	14	1260	44.3	4.8	1.25	84.9	32.6	6.0	5.4	1.209	0.929	1.177	0.672	0.736	76.7	17.2	65	65	71
DP 393	15	1207	40.8	4.9	1.24	85.1	33.3	6.7	5.5	1.188	0.925	1.157	0.684	0.771	77.8	16.1	50	57	58
DP 493	16	1142	42.4	5.1	1.17	83.6	31.7	5.8	6.6	1.119	0.845	1.085	0.595	0.642	75.5	20.6	36	43	48
FM 958	17	1087	40.0	4.9	1.23	84.8	33.6	5.9	5.4	1.189	0.920	1.157	0.675	0.752	77.2	17.1	56	60	63
UA 222	18	1185	40.7	4.8	1.24	85.4	32.1	7.1	5.3	1.206	0.939	1.175	0.694	0.783	77.8	15.7	60	65	65
Mean		1164	41.7	4.7	1.26	85.1	32.8	6.3	5.2	1.212	0.936	1.180	0.684	0.755	77.2	16.6	61	62	68
Entry (P>F)		<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	<0.0001	<0.0001	<0.0001
Location (P>F)		<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	0.0002	0.0001	0.0004	0.1181	<0.0001
EntryxLoc. (P>F)		<0.0001	0.0001	0.8160	0.0226	0.0006	0.2215	0.0081	<0.0001	0.0083	0.0130	0.0063	0.0273	0.0414	0.0617	0.1368	<0.0001	<0.0001	<0.0001
R-square		0.7369	0.9118	0.8587	0.8644	0.6548	0.7917	0.9097	0.7931	0.8487	0.7788	0.8476	0.6977	0.6493	0.5931	0.6194	0.7573	0.6567	0.7836
Entry LSD (0.05)		84	1.2	0.2	0.02	0.9	1.1	0.3	0.7	0.035	0.041	0.035	0.051	0.073	1.5	2.4	15	12	13
CV (%)		15.7	2.4	4.1	2.3	1.0	3.6	4.2	11.8	2.8	4.2	2.9	7.4	9.8	2.0	15.9	17.0	15.0	12.3

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 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)