Table1. Juice quality analysis of sweet sorghum Genotypes of different origins

Genotypes	**FBY**	**SSWt**	**DSY**	**Brix**	**J.yld**	**Etoh**	***P***	***GR***	***SR***	***SC***	***TSS***
Acc371st	138.12	111.07	0.39	16.943	706	5763.95	82.72	23.32	3.125	13.4	16.2
Acc402nw	95.56	66.5	0.249	13.343	654	2532.98	85.56	20.29	3.125	15.4	18
acc392st	134.13	99.54	0.448	13.943	568	4130.69	88.16	15.3	2.05	13.4	15.2
acc213st	123.41	108.15	0.688	16.443	488	3698.67	84.35	29.4	4.166	14.17	16.8
acc42sw	96.23	78.24	0.463	15.043	398.45	2591.03	58.04	45.43	4.166	9.17	15.8
acc1-1sw	133.28	110.72	0.457	13.093	526.14	4261.16	85	16.34	2.5	15.3	18
acc282st	121.82	96.24	0.522	15.343	417.17	3554.99	87.86	25.41	3.125	12.3	14
acc222st	108.78	87.44	0.423	14.193	514.17	3391.03	76.9	24.19	3.125	12.92	16.8
acc001et	147.39	115.33	0.358	18.043	802.67	6474.19	79.88	18.41	2.5	13.56	17
acc31sw	119.95	96.43	0.419	16.543	447.54	4517.65	76	36.54	4.166	11.4	15
acc002et	127.85	101.72	0.437	15.343	441	4380.23	77.85	26.94	3.125	11.6	14.9
acc421nw	128.06	107.2	0.419	14.343	715.5	3985.67	70.37	32.89	3.125	9.5	13.5
acc251st	107.78	94.44	0.412	10.643	409.95	2541.31	59.06	39.19	4.166	10.63	18
acc221st	189.22	160.06	0.585	12.443	571.16	5542.17	68.5	22.81	2.5	10.96	16
acc1331sw	129.42	102.97	0.429	16.843	483.9	5167.69	67.33	41.25	4.166	10.1	15
acc61sw	119.1	97.61	0.419	15.843	460.29	4172.92	51.98	49.48	4.166	8.42	16.2
acc264st	103.67	83.56	0.523	19.043	463	3682.48	68.25	22.89	2.5	10.92	16
acc301st	166.28	138.95	0.528	15.643	601.38	6452.8	76.59	40.29	4.166	10.34	13.5
acc201st	88.52	71.72	0.312	16.293	679.17	3373.96	69.06	37.7	4.166	11.05	16
acc412nw	139.56	117.02	0.601	17.643	310.17	5113.04	77.5	31.5	3.125	9.92	12.8
acc1-1sw	164	133.95	0.512	15.593	607.48	5779.45	73.57	30.34	2.5	8.24	11.2
acc71sw	118.95	97.61	0.585	17.343	256.17	3770.74	62.4	33.39	3.125	9.36	15
acc72sw	118.89	91.53	0.436	16.043	705.17	3673.7	61.74	23.54	2.5	10.62	17.2
acc32sw	141.19	123.81	0.482	14.643	527.71	5499.78	67.29	27.32	3.125	11.44	17

acc161st	118.68	94.53	0.579	17.043	479.17	3677.81					
acc41sw	127.1	98.61	0.417	14.843	407.45	3962.43	54.3	29.14	2.5	8.58	15.8
acc171st	103.63	58.58	0.427	17.443	377	2114.81	68.8	40.37	4.166	10.32	15
acc101nw	106.48	94.67	0.422	15.943	545.87	4138.36	66.65	34.34	4.166	12.13	18.2
acc381st	160.11	127.98	0.489	15.243	560.12	5619.57	65.75	39.6	4.166	10.52	16
acc351st	129.06	102.17	0.574	16.843	513	4262.64	61.21	50.54	6.125	12.12	19.8
acc141nw	105.11	89.11	0.436	13.943	589	3155.15	100	40.6	4.166	10.26	10.26
acc52sw	92.22	70.28	0.515	18.693	424	2696.3					
acc174st	114.53	97.5	0.312	14.943	606	4508.49	57.87	48	4.166	8.68	15
acc32sw	138.57	118.07	0.427	14.043	667	4913.55	60.49	42.51	4.166	9.8	16.2
acc18st	132.33	160.78	0.545	18.043	715	7217.79	78.25	19.97	3.125	15.65	20
acc91nw	103.44	127.67	0.402	18.843	798	5812.03	69.33	33.76	4.166	12.34	17.8
acc151nw	106.41	122.61	0.313	15.393	803	5342.95	68.53	24.32	2.5	10.28	15
acc312st	74.34	89.06	0.471	16.243	360	2919.62	84.57	17.6	3.125	17.76	21
acc342st	102.72	122.41	0.558	12.393	402.67	2944.53	65.26	25.2	3.125	12.4	19
acc31sw	94.53	116.09	0.419	15.343	467.71	3920.73	69.16	38.86	4.166	10.72	15.5
acc122nw	81.61	105.9	0.376	13.643	373.67	3150.48	54.55	57.86	4.166	7.2	13.2
acc362st	108.33	134.5	0.544	14.393	557.67	4460.01	57.74	32.22	3.125	9.7	16.8
acc391st	94.33	114.45	0.406	16.893	383.35	4662.17	50.91	37.2	3.125	8.4	16.5
acc241st	86.34	107.5	0.391	16.243	427.12	3753.39					
acc243st	92.38	119.11	0.344	13.843	716.67	3572.05	61.19	43.28	3.125	7.22	11.8
acct51sw	92.72	122.81	0.673	11.843	658.67	2183.47	66.67	31.25	3.125	10	15
Mn1383	30.78	42.27	0.175	13.043	169.52	946.91	100	25.57	3.125	12.22	12.22
Ramada	37.11	49.77	0.203	13.443	190.96	1211.34	85	24.47	2.08	8.5	10
Gkahon	20.06	31.13	0.142	12.643	59.83	511.04					
Gkgaba	13.99	18.73	0.124	12.243	101.54	266.26	81.9	15.26	2.5	16.38	20

Mn1500	30.4	36.08	0.176	12.043	235.21	852.36	79.08	24.32	2.5	10.28	13
Umbrella	30.64	33.13	0.18	12.643	247.14	897.57	74.45	27.08	3.125	11.54	15.5
Honey	29.53	36.2	0.171	14.843	221.88	1040.81	76.47	36.32	4.166	11.47	15
Rona	95.61	119.56	0.248	13.443	475.67	4060.82	60.63	32.22	3.125	9.7	16
EG002	50.74	66.67	0.224	17.443	401.67	2472.39	46.04	36.93	4.166	11.28	24.5
Brandes	112.11	131.93	0.473	16.743	632.54	5327.99	58.65	48	4.166	8.68	14.8
EG004	91.28	123.33	0.409	16.443	468.32	4137.27					
EG005	45	52.89	0.23	15.443	268.81	1777.58					
EG006	66.43	88.58	0.329	19.043	353.79	3373.2	73.03	17.29	2.5	14.46	19.8
Durado	33.18	48.71	0.172	11.743	148.67	1064.35	62.49	29.63	4.166	14.06	22.5
A22672	50.78	53.44	0.248	12.843	356.21	1691.77					
NGTJ-2	62.44	74.11	0.293	17.043	430.04	2892.44					
Karmifma	104.11	129.11	0.448	16.043	611.13	4685.43					
Acc006	27.11	44.78	0.195	11.243	103.67	603.43					
Melkam	49.11	65.44	0.38	20.443	136.17	1965.9					
acc003et	38.78	50.44	0.239	18.043	114.17	1640.94					
acc004et	179.45	203.11	0.996	18.443	572.17	8329.75					
acc005et	161.45	194.45	0.661	21.243	479.17	10143.22					
F-test	**22.74****	**123.25****	**6.72***	**22.35****	**1245****		**48.0****	**28.14****	**7.43***	**31.3****	**16.0****
LSD	**8.25**	**56.20**	**0.09**	**7.10**	**968.50**	**964**	**14.03**	**10.33**	**1.78**	**3.66**	**8.03**
CV	**13.21**	**15.90**	**11.00**	**18.02**	**14.75**	**12.02**	**0.71**	**18.90**	**24.94**	**12.31**	**10.71**

***Significant at 1% of probability ($P<0.01$); * Significant at 5% of probability ($0.05=<p<0.05$); ns - Not significant ($P>=0.05$). FBY: Fresh biomass yield; SSWt: Stripped stalk weight; DSY: Dry stalk yield; Brix: degree brix; J.yld: Juice yield; EtoH: Theoretical Ethanol yield; P:Purity%, GR: Glucose Recovery%; RS: Reducing sugar%; SC: Sucrose%; TSS: Total soluble sugarL.S.D = Least Significant Difference. C.V = Coefficient of Variation.*

Table 3. Estimates of genetic parameters of thirteen biofuel related quantitative traits in 68 sorghum accessions.

Traits	Grand	Range		SE	CV	PCV	GCV	H^2 (%)	GA	GAM%
	Mean	Min.	Max							
Purity %	68.37	46.04	100	3.37	2.13	0.33	0.252	61.05	25.09	36.70
Glucose Recovery (%)	33.54	15.26	57.86	0.75	13.75	0.33	0.252	51.94	10.81	32.23
Sugar recovery (%)	3.49	2.05	6.13	0.09	10.18	0.345	0.264	62.1493	2.14	61.32
Sucrose content (%)	10.83	7.2	17.76	0.17	17.42	1.02	0.792	77.2716	4.68	43.21
TotalSoluble Solids (%)	16.03	10	24.5	1.69	14.59	0.87	0.66	52.2801	5.57	34.75
Fresh biomass yield (Ton/ ha)	108.73	18.73	203.11	4.65	26.92	0.43	0.41	90.91	87.56	80.53
Stripped Stalk weight (Ton/ ha)	87.84	13.99	179.45	4.21	16.55	0.56	0.48	73.47	74.45	84.75
Dry Stalk yield (Kg/plant)	0.41	0.124	0.996	0	19.02	0.34	0.29	82.25	0.26	63.41
Brix (%)	15.43	10.64	21.24	0.18	6.48	0.21	0.2	50.7	6.05	39.21
Juice yield (gm/plant)	461.25	59.83	803	4.4	11.31	0.56	0.51	82.94	441.32	95.68
Ethanol yield (liter/ha)	3719.61	266.26	10143	18.92	22.75	0.54	0.52	61.13	2548.48	68.51

Note: SE= Standard error, CV= Coefficient of variance PCV = Phenotypic coefficient of variation, GCV = Genotypic coefficient of variation, H^2 = Broad sense heritability, GA= Genetic Advance, GAM= Genetic advance as percent of mean.