



**Seventh framework programme
Food, Agriculture and Fisheries, and Biotechnology**

Specific International Co-operation Actions
Small or medium scale focused research project



Sweet Sorghum an alternative energy Crop

Grant Agreement n° 227422

Deliverable 2.4:

*Ten donors for stalk sugar traits
identified from sorghum Reference
collections*

Composition of the consortium

CIRAD
ICRISAT
EMBRAPA
KWS
IFEU
UniBO
UCSC
ARC-GCI
UANL
WIP



A total of 156 reference collections, 75 Parbhani-Nagpur collections were screened for two seasons (2010 rainy and post-rainy) and 165 collections from Generation Challenge Program were screened in 2010 post-rainy season (2011 rainy season is in progress) for sugar yield and related traits at ICRISAT, India and the following 15 high °Brix% and sugar yield lines were identified. Based on the data from the screenings, here after are the lines which can be used as donors for stalk sugar traits adapted to rainy (table 1) and post rainy (table 2) season

Table 1: Reference collection lines with high Brix% + sugar yield + rainy season adaptation

N°	Genotype	Days to 50% Flowering	Plant height (m)	Stalk weight (t ha ⁻¹)	Brix(%) at maturity	Sugar yield (t ha ⁻¹)
1	GCP_Sb_0223	110	3.5	86.60	19	3.8
2	IS 23254	110	4.2	67.24	16	3.8
3	GCP_Sb_0026	103	3.9	54.00	16	3.7
4	GCP_Sb_0167	106	3.6	87.40	17	3.6
5	IS 11026	89	3.7	80.04	16	3.3
6	GCP_Sb_0075	90	3.8	63.68	16	3.0
7	GCP_Sb_0509	69	3.6	66.44	19	3.0
	RSSV 9 (check)	74	3.1	53.54	16	2.7

Table 2: Reference collection lines with high Brix% + sugar yield + post-rainy season adaptation

N°	Genotype	Days to 50 % Flowering	Plant height (m)	Stalk weight (t ha ⁻¹)	Brix(%) at maturity	Sugar yield (t ha ⁻¹)
1	GCP_Sb_0016	76	2.3	33.4	15.5	1.3
2	IS 40942	73	2.0	29.8	15.8	1.32
3	GCP_Sb_0033	95	2.0	27.8	15.8	1.1
4	GCP_Sb_0002	83	2.0	26.4	15.5	1.0
5	GCP_Sb_0108	77	1.9	31.4	18.0	1.0
6	GCP_Sb_0087	95	2.1	25.1	15.0	0.9
7	GCP_Sb_0139	74	1.9	26.4	15.0	0.8
8	GCP_Sb_0187	89	1.8	23.5	16.7	0.8
	RSSV 9 (check)	61	1.8	20.3	15.0	0.7