



Sweet Sorghum an alternative energy Crop

Grant Agreement n° 227422

WP2
Deliverable 2.8:

Fifteen to twenty hybrid with sugar and grain yields developed for rainy and post rainy season



Composition of the consortium

CIRAD
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The genotype X seasonal interaction for candidate sugar traits is highly significant. Hence, to maintain productivity levels it is required to identify season specific hybrids in a given location, if sorghum is grown in more than one season (Table-1). The results of rainy season evaluation during 2011-12 reveal that the hybrids ICSA 401 x Ch 7 (4.7 t ha⁻¹), ICSA 25002 x ICSV 93046 (3.9 t ha⁻¹) and ICSSH 19 (3.7 t ha⁻¹) are found be promising with rainy season adaptation.

Table-1 List of rainy season adapted sweet sorghum hybrids

Genotype	Days to 50 % Flowering	Plant height (m)	Stalk yield (t ha ⁻¹)	Brix (%)	Sugar yield (t ha ⁻¹)
ICSSH 19	83	3.81	57.08	15.69	3.70
ICSA 309 x SSV 84	81	3.50	66.66	16.66	3.10
ICSSH 67	86	3.75	60.85	17.11	3.07
ICSA 475 x ICSV 25269	75	3.75	66.14	15.82	3.23
ICSA 309 x SSV 84	95	2.80	56.02	15.28	2.80
ICSA 401 x Ch 7	66	3.13	72.91	16.17	4.70
ICSA 25002 x ICSV 93046	74	3.20	71.93	15.67	3.93
ICSA 73 x Ch 7	78	3.20	71.15	17.23	3.20
ICSA 511 x Ch 7	72	3.00	62.94	16.33	3.32
ICSA 702 x ICSV 25280	59	3.00	58.25	18.08	3.40
ICSA 285 x Ch 1	56	3.00	53.49	18.67	2.97
ICSA 513 x Ch 1	55	2.87	47.90	16.08	2.54

The results of postrainy season evaluation during 2011-12 reveal that the hybrids ICSSH 72 (3.2 t ha⁻¹) and ICSSH 75 (3.1 t ha⁻¹) are found be promising with postrainy season adaptation. The sugar yield in postrainy season hybrids is lower probably due to lack of high BriX% female hybrid parents with postrainy season adaptation. The parents identified in deliverable 2.7 will be used in the crossing program to develop improved hybrids for postrainy season.

Table-2. List of postrainy season adapted sweet sorghum hybrids

Genotype	Days to 50 % Flowering	Plant height (m)	Stalk yield (t ha ⁻¹)	Brix (%)	Sugar yield (t ha ⁻¹)
ICSA 475 x ICSV 25269	65	2.6	61.4	14.9	2.1
ICSSH 28	64	2.7	45.2	15.8	2.4
ICSSH 39	64	2.6	48.3	15.2	2.8
ICSSH 72	72	3.2	56.4	16.2	3.2
ICSSH 75	74	3.1	55.9	16	3.1