



Sweet Sorghum an alternative energy Crop

Grant Agreement n° 227422

WP3
Deliverable 3.11:

*Ten to fifteen sweet sorghum
varieties (R-lines) with Al tolerance*

Composition of the consortium

CIRAD
ICRISAT
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The seven sorghum R-lines listed in table 1 are potential cultivars or male parents of experimental hybrids with tolerance to Al toxicity.

We also expect that 50% of the R-lines being developed from crosses with Brandes will also be Al tolerant. 225 RILs (Brandes x Wray) will be phenotyped for tolerance to Al toxicity in 2012.

We conducted an experiment in the 2010/2011 rainy season at the Al Phenotyping Site for performance at 40% Al saturation with 10 sweet sorghum cultivars contrasting for Al tolerance. However, there was heavy rainfall at the end of the cycle, which caused great environmental effect and prevented the collection of data. This experiment is being conducted again this rainy season 2011/2012 at two levels of Al saturation (0 to 40%).

Thus this list will be up dated with additional material tolerant to Al toxicity during the third period of the project.

Table 1. Seedling root growth at 27 μ M Al of seven sweet sorghum R-lines

Pedigree	Average daily growth* 1-3 days	Average daily growth* 3-5 days	Average daily growth* 5-7 days	Average growth 1-5 days	Average growth 1-7 days	Average relative** growth 1-5d	Média relative** growth 1-7d
CMSXS647	12,3	14,2	11,2	65,4	87,8	249,4	332,8
CMSXS 604	5,6	3,9	10,0	24,7	44,7	48,9	91,8
BRANDES	8,9	10,3	8,3	47,3	63,9	85,8	115,5
CMSXS639	3,8	3,1	1,4	17,6	20,4	101,7	112,0
CMSXS646	4,1	4,9	1,3	22,0	24,5	83,2	92,2
CMSXS626	2,0	2,5	1,2	11,0	13,4	23,5	28,3
BR 503 (Theis)	NA						
Tolerant Control	5,2	5,8	5,1	27,3	37,4	65,2	88,9
Susceptible Control	1,5	0,4	0,5	5,4	6,3	18,3	21,5

* growth mm ** Growth relative to initial root length day zero