

Efforts to Introduce Sugar Beet Crop in Sudan for a Sustainable Improvement of Agricultural Production in Rural Communities



Hayder Abdelgader¹, Salaheldin Abdelgadir Mukhtar Eltahir², Basim Abbas³, Adil Abdelrahim¹

¹Agricultural Research Corporation, Crop Protection Research Center, Sudan

²Sugarcane Research Center-Guneid, Sudan

³University of Gezira, Sudan

The industrial processing of agricultural products play an important role to improve farmers income. The sugar industry in particular has such a positive economic impact on farmers in Sudan. **Sugar cane** is the main crop for producing sugar in Sudan at the moment, and delivers about 50 % of Sudan needs for sugar.

Sugar beet *Beta vulgaris* L.), is an important alternative for sugar production, it needs less water and has a shorter cultivation period



The study focused on the suitability of various varieties of sugar beet to be cultivated in different parts of Sudan
six locations

- * Two varieties were released
- * Early sowing gave the best yield.
- * 19-20 irrigations with an average of 200 – 300 m³
- Optimum population = 83333 plant/ha.
- In Guneid all tested varieties gave yield comparable to world yield. The highest yield was for Valentina. Sugar % was affected with sowing date and crop age.
- * Highly sensitive to weed infestation
- * **Insect Attack: *Spodoptera exiguae***, three population peaks

Location	Sugar %	Sugar Yield (T/ha)	Root Yield (T/ha)
Gezira (Sowing 1)	16.05	17.99	112.2
Gezira (Sowing 2)	16.03	13.61	85
Hamadab (N. Sudan)	18.78	13.05	69.5
Halfa (East Sudan)	16.72	15.86	99.1
Hudeiba (N. Sudan)	14.05	13.9	94.6
Dungola (N. Sudan)	17.85	14.6	82.3
Overall mean	16.59	14.6	90.5

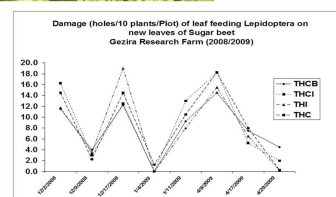
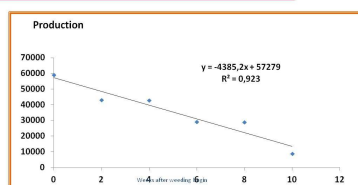
Number of varieties tested
(Various location and various periods)

Location	2008/2009	2007/2008	2006/2007	2005/2006	2004/2005	2003/2004	2002/2003
Dongola	4				26	18	2
Hudeiba	4					20	18
Hamadab	4	9	9	7			
Gezira	4						
Halfa	4						



Summer Sugar beet Experiment
(Guneid)

Sowing date	Age (month)	Root yield (ton/fed)	Leaves yield	Pol% beet	ERS%	Pulp
25/5/2013	5	19.8	8.3	17.2	14.7	1.79
	5.5	18.9	5.8	15.1	12.6	4.44
	6	18.9	5.8	15.5	13.0	2.30
9/6/2013	5	17.7	6.3	15.2	12.7	2.96
	5.5	17.1	5.8	15.3	12.8	2.94



The study indicated that sugar beet can successfully be grown in Sudan for sugar production and can play an advantage role in improving the economy of rural communities.

