



Tropentag, September 17-19, 2014, Prague, Czech Republic

“Bridging the gap between increasing knowledge and decreasing resources”

Performance of Sugarbeet Sown in Sudan under Comparatively High Temperatures (May-July)

SALAHELDIN ABDELGADIR MUKHTAR ELTAHIR¹, AHMED OBEID¹, HAYDER ABDELGADER²

¹*Sugarcane Research Center-Guneid, Sudan*

²*Agricultural Research Corporation, Crop Protection Research Center, Sudan*

Abstract

This study was carried out in seasons 2012 and 2013 in the Sugarcane Research Center-Guneid, Sudanese Sugar Company, Sudan following attempts of mixing sugarbeet with sugarcane in cane mills. The overall idea was to synchronise the maturity of beet crop (5 to 6 months of age) with the beginning of cane crushing season (factory start-up at November) where sugarcane quality was usually low. However ambient temperature in these months was relatively high (max temp.: 40–45 and min temp.: 20–25°C). In the first season sugarbeet cultivar (Posada) was sown on three sowing dates: May 21, June 6 and 21 and in the second season it was sown on May 15, 30, June 15, 30 and July 15. Harvest was programmed at three crop ages: 5, 5.5 and 6 months. In the first season some deaths of seedlings occurred and in the second season there was complete failure of germination for May 15 and 30 sowing dates. Otherwise, no significant differences between treatments were shown; however, tuber yield was relatively low in the two seasons recording 23 to 40 t ha⁻¹ compared to the sown sugarbeet in winter months (October-December) that usually yielding 60 to 80 t ha⁻¹ tuber. Beet plants were still green and growing at harvest where high leaf weight (fodder) was recorded. Sugarbeet quality was relatively high. Brix, pol and estimated recoverable sugar (ERS) % recorded 17.95, 15.74 and 13.24 in average respectively. The study emphasises the need for more research in the subject including selection of proper sugarbeet cultivars. Crop management operations such as pre watering before sowing and water stoppage (dry-off) at harvest should be thoroughly investigated.

Keywords: Brix, cultivars, ERS, pol, pulp, sowing dates, sugarbeet cultivars, tuber yield