POTENTIAL OF SWEET SORGHUM AS CROP ROTATION TO RENEW SUGARCANE

[1]BOLONHEZI,D.; [2,5]CASALETTI, R. V.; [2]ABDO, M.B.N.; [1]FINOTTO, E.L.; [3,5]FERREIRA NETO, L.A.; [4,5]PEIXOTO, W.M.; [2]MUTTON, M.A.

[1]APTA/IAC, Brasil; [2]UNESP/Jaboticabal, Brasil; [3]UFGD, Brasil; [4]MOURA LACERDA, Brasil; [5]Bolsista de Iniciação Científica

Brazil is the world's largest exporter of bioethanol from sugarcane, but the production of 15 billions litters in 2010 was not enough to supply the consumption of more than 12,5 millions flex-fuel vehicles and to supply the mixture with gasoline (blends up to 25%). Consequently, the prices of bioethanol increase fast between harvest seasons. Regarding there are around 1 million hectares of sugarcane fields, available every year to renew, the sweet sorghum could be a good source of raw material to produce bioethanol during the spring/summer seasons, because it has many advantages, such as; high % soluble sugars (16-23%), high biomass (40-70 Mg ha^{-1}),propagation by seeds and short cycle. In order to examine the potential of three sweet sorghum hybrids, two field trials were installed in the growing season (2010/2011) at Experimental Stations of APTA, located in Ribeirao Preto city (22/11/2010) and Pindorama city (27/12/2010), Sao Paulo State, Brazil. The experimental design was split-plot in time with four replications, in which the main treatments were the three sorghum hybrids (Chopper, PAC8381 and Sugargraze) and secondary treatments were the dates of evaluations after sowing (50,57,64,71,78,85, 92 and 99 DAS). It were evaluated the yield fresh and dry biomass of leaves and stalk, stalk diameter, height plant, number and size of internodes, soluble sugars (brix) and fiber. The results showed significant differences on biomass, cycle and soluble sugars (%) between hybrids. It was observed that the brix was higher in Ribeirão Preto than Pindorama. The hybrids PAC8381 and Sugargraze showed the highest yield fresh biomass (60 t ha^{-1} at 70 DAS) while the hybrid Chopper has presented the shorter cycle until flowering and has showed the highest brix (15%) at 78 days after sowing. In conclusion, sweet sorghum has a great potential to anticipate the harvest season up to 45 days.

Supported by CNPQ (proc. #551441/2010-0) and "Advanta Seeds Company"