

Evaluation of sugarcane varieties for drought tolerance

Carlini-Garcia L.A.^{1,2}; Pinto L.R.³; Souza S.A.C.D.³; Nunes D.³; Xavier, M.A.³; Bidóia M.P.³; Scarpari, M.S.³; Vencovsky R.⁴; Perecin D.⁵; Landell M.G.A.³

¹Centro de Grãos e Fibras - Instituto Agronômico de Campinas, Brazil; ²Pólo Centro Sul - Apta Regional, Brazil; ³Centro de Cana - Instituto Agronômico de Campinas, Brazil; ⁴Departamento de Genética - ESALQ/USP, Brazil; ⁵Departamento de Ciências Exatas - UNESP/Jaboticabal, Brazil

One of the biggest challenges in crop production is to maintain high productivity even in the presence of water deficits. In this context, eighty eight sugarcane varieties were evaluated under irrigated and drought conditions at Goianésia (State of Goiás, Brazil), during 2009/2010 crop season. For each water supplying method (irrigation and rain-fed), the varieties were allocated in randomized completed blocks design, with two replications, in a homogeneous area. Plots had three lines of two meters, spaced 1.5 m, and the stand was six plants by line. The traits evaluated were plant high (PH), stem diameter (D), fiber content (F), weight (W), and pol (P). Significant differences among varieties were found for all traits, but P. This is an indication that there are significant differences among genotypes to be exploited by the breeding program for most of the traits analyzed. Except for D, differences between irrigation and rain-fed methods were significant for all traits. The results obtained under irrigation were better, as expected. The interaction systems x varieties were significant for PH and W, which means that the performance of the genotypes were different according to the method of water supplying for these traits, what can be exploited in the breeding program.

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