

HARIMOHAN M. SRIVASTAVA¹, V.K. SHARMA², Y. BHARGAVA³

¹ Centre for R&D on Sugar & Bio-Fuel Crops, B-31, Sector-E, Aliganj Scheme, LUCKNOW – 226024, India

² Agricultural Research Station, SRIGANGANAGAR, (Rajasthan), India

³ Syngenta India Ltd., Seeds Division, 117027 Revenue Colony, PUNE – 411005, India

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GENETIC POTENTIAL OF SUGAR BEET GENOTYPES FOR ETHANOL PRODUCTION UNDER DIFFERENT AGRO-CLIMATIC CONDITIONS OF INDIA

ABSTRACT

Commercial cultivation of sugar beet started in India in 1970 with the installation of a beet-cum cane processing plant at Sriganganagar (Rajasthan). Interest of sugar industry was revived in 2004, due to interest of private beet sugar companies. The public and private sector are now interested in sugar beet for sugar and for bio-fuel (ethanol) production. The environmental conditions in a vast country like India vary a much in north and south regions. In view of the above, multi-location trials were conducted at different locations in India during 2006-07 crop season with some exotic and Indian genotypes with the objectives to study, a) ethanol production potential in these genotypes, b) to study the role of different agro-climatic conditions on the root yield, sucrose percent and ethanol production. Data of fourteen sugar beet genotypes from India, France, Sweden and USA were evaluated from four locations in RBD. Data on root yield /plot, Sucrose%, were recorded at harvest ethanol produced in liters /Qtls. of beet processed was calculated by Nazar Singh and Narang, R.S.,(1986) method. Significant differences among genotypes for root yield, and ethanol produced were observed. BTS-2, BTS-1, FD-IND-1, and Doreta performed well for ethanol production potential in Indian conditions. Large G x E interaction among varieties evaluated in sub-tropical vs. tropical climatic regions was observed. Two mega-environments were clearly demarcated for ethanol production regions. This paper discusses the stability of genotypes as assessed by biometrical models. Vast potential for sugar, and ethanol production capacity in different Beta genotypes are present under varying agro-climatic conditions of India and are discussed and described in this paper.

LE POTENTIEL GÉNÉTIQUE DE GÉNOTYPES DE LA BETTERAVE POUR LA PRODUCTION D'ÉTHANOL DANS LES DIFFÉRENTES CONDITIONS AGRO-CLIMATIQUES DE L'INDE

ABRÉGÉ

Version française pas disponible.

DAS GENETISCHE POTENTIAL VON ZUCKERRÜBENGENOTYPEN ZUR ETHANOLPRODUKTION UNTER DEN VERSCHIEDENEN AGROKLIMATISCHEN BEDINGUNGEN INDIENS

KURZFASSUNG

Deutsche Version nicht verfügbar.