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RESEARCH PAPER

Effect of male sterility inducing cytoplasm on hybrid mean performance for bioenergy traits in sweet sorghum [*Sorghum bicolor* (L.) Moench]

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Abstract : Influence of male sterility inducing cytoplasm on mean performance with respect to ethanol yield and its attributing traits in sweet sorghum was studied in 48 hybrids developed by crossing six A- lines *viz.,* ICSA 631, ICSA 731, ICSA 324, ICSA 500, ICSA 38 and ICSA 84 and their corresponding B- lines with four R- lines *viz.,* SEREDO, ICSV-700, ICSV 111 and E 36-1 in a line × tester mating design. The 16 parents and their 48 hybrids were grown separately in contiguous blocks in single row of 3m length with 0.15 m × 0.60 m spacing in simple lattice design with two replications at the experimental plots of Gandhi Krishi Vignana Kendra (GKVK), University of Agricultural Sciences (UAS), and Bangalore. Presence of significant cytoplasmic differences in hybrid means performance for mean cane height, mean cane weight, juice yield, juice extraction per cent and ethanol yield. No definite trend favouring any particular cytoplasm was observed.

Key Words : Male sterility inducing cytoplasm, Cytoplasmic difference, Sweet sorghum, Bioenergy

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