

Category	: International Rice Research Conference
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Keyword 1	: Genetic gain
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Title of Entry	: Genetic Variability and Divergence studies for Gall midge Resistance, Earliness, Yield and Yield Components in Rice (<i>Oryza sativa</i> L.) Genotypes for Telangana State in India.
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Select only one type of presentation	: 15 minute oral presentation
Abstract	: The field experiment was conducted at Agricultural Research Station, Kunaram in Telangana State during the rainy season of 2017 to investigate genetic variability and divergence for gall midge resistance, earliness, yield and yield components as in some parts of Telangana State, major problem is high incidence of gall midge (Biotype 3) in rainy season under early as well as late planting conditions. Thirty two genotypes were studied under irrigated system with three replications in a RBD design. In general, phenotypic coefficients of variation (PCV) estimates were higher than genotypic coefficients of variation (GCV) estimates for all the studied characters displaying the influence of environment effect on the studied characters. The GCV and PCV were high for percentage of galls, number of grains per panicle, 1000-grain weight and grain yield, whereas, low for panicle length. Additive gene action was predominant for percentage of galls, number of grains per panicle, 1000-grain weight and grain yield as they registered high heritability coupled with high genetic advance values. Based on D2 analysis, 32 genotypes were distributed into twelve clusters with the cluster I containing maximum number of genotypes followed by cluster II. Highest inter cluster distances were observed between the clusters X and XII followed by III and XII, and VII and XII suggesting wide diversity between the traits. Cluster mean analysis revealed that genotype, WGL 1119 from the cluster V would be used in breeding programme to develop gall midge resistant, high yielding, early duration, non lodging, medium slender grain varieties as it recorded very low incidence of galls with high yield, early duration, short stature and less 1000-grain weight. The genotypes, KNM 2305 and

MTU 1001 from the clusters viz., VIII and X, respectively were identified as potential lines for developing high yielding, early and medium duration, long bold or long slender grain varieties. Among the traits studied, days to 50% flowering and 1000-grain weight manifested highest contribution towards total divergence, thus, these traits could be given due importance for further crop improvement in the present material. Key words: Rice, heritability, genetic advance, genetic divergence, galls, yield

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