

PERFORMANCE OF TRUE POTATO SEED (TPS) HYBRIDS IN GANGETIC ALLUVIAL ZONE OF WEST BENGAL

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ABSTRACT

The present experiment was conducted in the winter season during 2009-2010 and 2010-2011 at Seed Production Farm Adisaptagram, Govt of West Bengal, Hooghly, West Bengal with nine TPS collected from AICRP on potato, BCKV centre. The nine TPS hybrids were screened and evaluated for yield and other agronomic characters *viz.*, plant height, number of leaves per plant, number of tubers per plant, germination%, plant vigour, tuber weight gradation: 5g, 5-10 g, 10-20 g, 20-40 g, >40 g, tuber weight in g, yield per plant (g). Heritability was found high for all the characters except tuber weight gradation >40 g, indicating that these characters for TPS hybrids were less influenced by the environmental effects. Selection would be effective for improvement of these characters in potato raised through TPS. Correlation coefficient and path coefficient analysis clearly revealed that number of tubers per plant and tuber weight had significantly positive correlations with tuber yield per plant and also showed high positive direct effect on tuber yield per plant. Hence, these characters could be considered as indicator of high tuber yield per plant in TPS and selection for any of these two characters would result correlated response for tuber yield per plant. Plant height and tuber weight gradation 20-40 g had strong negative indirect effect on tuber yield per plant of TPS but strong to very strong negative indirect effects of tuber length via other characters lead to significantly negative correlation between tuber yield per plant (g) and plant height. Among the twelve characters studied, only two characters, *viz.*, number of tubers per plant and tuber weight were considered most reliable indicators of high tuber yield per plant in TPS. Selection or identification of promising TPS for tuber yield per plant was one of the most important jobs to be done from this experiment. The results revealed that TPS genotypes SM/04-816 identified as the highest performer in respect of yield per plant in both the year.

KEYWORDS: TPS, Potato, Correlation Coefficients, Genetic Advance, Path Analysis