

Performance of new potato hybrids under Kashmir valley conditions

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ABSTRACT

Seven hybrids *viz.*, HB/82-372, HB/83-39, SM/85-50, SM/87-55, SM/87-185, SM/88-343 and SM/88-991, two commercial varieties *viz.* Kufri Jyoti and Kufri Giriraj and one local cultivar Hirpura were evaluated at Experimental Farm of Division of Olericulture, SKUAST (K), Srinagar over six years following RBD with four replications. Out of ten genotypes, the hybrid HB/83-39 showed highest per cent emergence at 45 days after planting (91.85%), highest tuber yield of 284.89 q ha⁻¹ and lowest late blight infestation. However, it was late in maturity by one week (120.38 days) as compared to Kufri Jyoti (112.60 days). The hybrid HB/83-39 is identified as potential genotype and could be recommended for commercial cultivation after further assessment.

Key words : Potato, Hybrids, Performance, Temperate conditions.

Potato is an important commercial crop mainly grown during summer as ware crop in Kashmir. Yield obtained from local and conventional varieties in this region is not upto the national level. However, there is a substantial scope for the improvement of yield owing to ideal climatic conditions. Hence, there is an immediate requirement for a variety, which yields more per unit area and fits well in the cropping system and climatic conditions prevailing here. Although Kufri Jyoti and other local varieties like Hirpura and Gulmarg special have been recommended for growing but during recent years, their yields have shown a declining trend besides falling susceptible to late blight and other diseases. So introduction of a high yielding, early maturing and disease resistant varieties would help in increasing potato production in this area.

Keeping above facts under consideration, present study was conducted to evaluate some hybrids developed by CPRI, Shimla in Kashmir Division against local checks to determine their production potential and subsequent recommendations for commercial growing in the valley.

MATERIALS AND METHODS

The experiment was conducted at the Experimental Farm, Division of Olericulture, SKUAST (K), Shalimar for continuous six years *viz.*, 97-98, 98-99, 99-2000, 2000-01, 2001-02 and 2002-03. The experimental material consisted of seven hybrids *viz.*, HB/82-372, HB/83-39, SM/85-50, SM/87-55, SM/87-185, SM/88-343 and SM/88-991 which were tested against standard checks *i.e.*,

Kufri Jyoti, Kufri Giriraj and local check Hirpura. The material was planted following Randomised Block Design with four replications. The tubers were planted in 3 x 2.4 m plots at a spacing of 60 x 20 cm and recommended package of practices were followed to raise a healthy crop. In general, the tubers were planted during the month of April, dehaulming was done during July and subsequently the crops were harvested two weeks after. The data was recorded on four parameters *viz.*, per cent emergence at 45 days after planting, maturity days, tuber yield (q ha⁻¹) and incidence of late blight. The data of six years was pooled (Table 1) and analysis was done as per procedure given by Panse and Sukhatme (1967).

RESULTS AND DISCUSSION

The results are based on the study of mean performance of the hybrids over six years (Anonymous, 2003). Analysis of data on percent emergence at 45 days after planting revealed no significant differences among hybrids/ varieties. However, the per cent emergence was found to be above 85 per cent in all hybrids as well as checks ranging from 88.98 per cent in HB/82-372 to 94.11 per cent in Kufri Jyoti. HB/83-39 recorded highest tuber yield of 284.89 qha⁻¹ and was found significantly superior to standard check Kufri Jyoti and local Hirpura. HB/83-39 was followed by SM/85-50 (269.71 q ha⁻¹) and HB/82-372 (261.91qha⁻¹) while lowest tuber yield was found in SM/88-991 (151.03 qha⁻¹) followed by SM/88-343 (163.08 qha⁻¹) and SM/87-185 (175.90 q ha⁻¹). The checks Kufri Jyoti and local Hirpura however, recorded the tuber yield of 248.72 qha⁻¹ and 199.00 qha⁻¹, respectively. The highest yielding genotype HB/83-39 recorded 36.17 q