Selection of high yielding varieties of tomato for light soils environment during spring season

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(Received: May 02, 2014; Revised received: September 09, 2014; Accepted: September 10, 2014)

Abstract: The on farm trial was conducted during spring/summer season of 2010-11 at farmers fields of Kannauj district. The pilot area situated in the catchments area of river Kali. For assessment of tomato varieties, the adoption technology was refined with inclusion of selected varieties. Rupali variety of tomato was found superior and it gave highest yield by 277.00 g/ha closely followed by Naveen-2000 (266.00 q/ha). The lest yield was harvested by 181.40 q/ha from the use of conventional variety (Kuber Geeta). The highest net return of Rs. 292409/ha and BCR (1:8.15) were recorded by sowing of variety Rupali followed by cv. Naveen 2000 (Rs. 279089/ha and 1:7.80). The lowest net return of Rs. 145232/ha computed under local check cv. Kuber Geeta.

Key words: Assessment and refinement, BCR, Kuber geeta variety, Kali river catchments, Pilot area

Introduction

Tomato is one of the most widely grow vegetable crops in India. It is grown across the country as a common vegetable in farm gardens, home gardens, market gardens for fresh consumption and for processing purposes. In India it is grown on about 4.86 Lakh hectares land with a production of about 74.42 lakh tons. Maharashtra leads in the production of tomato followed by Karnataka and Bihar. Tomato is good source of vitamins. Tomato is used as cooked, commonly with other vegetables, curry, raw or is made into soups, salads, Chutneys, sauces and many other products.

Initially most of the important varieties were introduced from western countries and some of them became popular among the growers and consumers in different agroclimatic region of this country depending upon their adaptability. The Indian Agricultural Research Institute, New Delhi had introduced important tomato varieties from all over the world which were evaluated during early sixties of last century for various purposes (Mital et al., 1965). Randhawa et al. (1988) evaluated the tomato varieties for processing and found that Punjab Chhuahara tops the yield as well as in product quality for processing. Mathura et al. (1987) evaluated 20 varieties of tomato for Tripura conditions and variety S-12 gave the best performance under their agroclimatic conditions. Supe et al. (1989) reported the performance of tomato hybrids in Haryana and concluded that the Suttons Bragger gave maximum fruit weight and plant height while hybrid MTHH was the best performing hybrid since it had recorded highest yield. Several F₁ hybrids from private companies and research centres have recently come up and they are now gaining popularity due to high yield. Therefore, in this paper an attempt was made to compare the different varieties of tomato on farmers fields to judge their suitability under riverine environment of central Uttar Pradesh.

Materials and Methods

The on farm trial was conducted during spring season of 2010-11 at farmers fields of Digsra, Hardeopurwa and Salempur Bagia, of district Kannauj, situated in central plain zone of U.P. The soil of experimental site was sandy loam to loam having pH 8.0, organic carbon 0.23%, total nitrogen 0.02%, available P 9.00 kg/ha and available K 273 kg ha, therefore, the fertility status of experimental site was low. The problem of poor yielder tomato varieties cultivation in its growing tract of Jalalabad block of Kannauj district was sought out. Therefore, the varietal use was refined with the inclusion of different tomato varieties in the study. Tomato was grown with six varieties viz., conventional variety (Kuber Geeta), Rupali, Naveen 2000, Sardar 555, I.S. 9009 and Gotia. The all cultivars of tomato were planted in the first fortnight of March, 2010. The farmers were advocated to use all other recommended agronomic practices. The irrigations were given as and when required. The mature fruits of tomato was harvested between 3 May 2010 to 3 June, 2010. The OFT was conducted on six farmers fields.
Results and Discussions

Rupali variety of tomato gave highest fruits yield by 277.00 q/ha over all other test varieties of tomato. The variety Rupali gave 34.60% higher yield over the conventional variety (Kuber Geeta). Variety Naveen 2000 gave almost at par yield by 266.00 q/ha on farmers field during summer season. The mature fruits/plant and weight of fruits/plant were found higher under variety Rupali it was closely followed by Naveen 2000. The lowest mature fruits/plant and weight of fruits/plant were noted in the conventional variety (local variety). These results are in agreement with those reported by Supe et al. (1989).

The highest net return of Rs. 292409/ha was achieved from variety Rupali closely followed by Rs. 279089/ha, available from cultivation of variety Naveen 2000. The lowest net return of Rs. 145232/ha and BCR (1:5.00) were found under conventional variety due lowest fruits yield. The BCR under variety Rupali (1:8.15) and Naveen 2000 (1:7.80) was recorded almost statistically at par (Table-1).

References


