



Research Paper

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Evaluation of processing potato genotypes for growth, yield and yield attributes under Chhattisgarh condition

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ABSTRACT : An experiment was conducted to evaluate the different processing potato cultivars/genotypes for growth, yield and yield attribute under Chhattisgarh condition. The experiment was laid out in a randomized block design with three replications and nine treatments/genotypes during *Rabi* 2009-10. The results revealed that the highest per cent emergence was recorded in Kufri Chipsona-1 (93.26%), the maximum number of leaves plant⁻¹ was counted in Kufri Surya (335.35), significantly the maximum number of shoots plant⁻¹ (5.36) and tallest plant (62.66) was found in Kufri Chipsona-1 at 60 DAP, no mark differences was observed among all the treatments as regard number of stolen plant⁻¹ but relatively higher number of stolen plant⁻¹ was noted in Kufri Surya (31.52) at 60 DAP and Kufri Chipsona-1 (33.02) at 75 DAP, tuberization efficiency was found relatively higher in Kufri Chipsona-1 (3.75 g), the highest number of marketable (11.56) and unmarketable (4.11) tubers as well as tuber yield plant⁻¹ of marketable (440 g) and unmarketable (57.7 g) was counted in Kufri Chipsona-1. The highest total yield (280 q/hac.) was recorded in Kufri Chipsona-1.

KEY WORDS : Potato, Varietal evaluation, Growth, Yield, Yield attributes

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Potato (*Solanum tuberosum* L.) belongs to family Solanaceae is a most important crop among the vegetables. The crop finds prime position in the economy of poor and marginal farmers and plays a significant role in nutritional security producing more food per unit area and time as compared to wheat, rice and maize in short period of time. Potato contains substantial energy of edible protein 2.8 g, starch 16.3 g, total sugar 0.6 g, crude fibre 0.5 g, carbohydrate 22.6 g, and vitamin C 25 mg per 100 g fresh weight of tubers. It also provides more calories per unit area per unit time than any other major food crop which has many industrial uses. Thus, it is the most suitable non-traditional crop to address the issues of hunger and malnutrition. According to Swaminathan *et al.* (1999), beside its significance to human food security potato is also a crop with fascinating genetic traits and cultural history.

In India the potato is grown in almost all states except

Kerala under diversified agro climatic conditions. About 90% of the total potato area is located in the subtropical plains, 6% in the hills and 4% in the plateau region of peninsular India (Chadda, 2005).

Potato in India is grown under diverse agro-climatic conditions where planting and harvesting periods are different. In the hills, it is grown during March-April to August-September, while in the Indo-gangetic plains; it is grown during October-November to January-February. In certain states, like Karnataka, Maharashtra, Jharkand and hills of Chhattisgarh it is grown during *Kharif* season from June-July to September-October. The general climatic requirements for potato cultivation are similar to that of temperate to sub tropical regions. About 18-20°C temperature is favourable for tuberization. Tuberization is adversely affected when temperature rises about 30°C. Thus, finally open sunny days coupled with cooler nights are favourable for high bulking of