



Research Paper

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Performance of cabbage hybrids under rainfed mid-hill conditions of Uttarakhand

■ CHANDAN KUMAR¹, H.C. RATURI AND S.P. UNIYAL²

Members of the Research Forum

Associated Authors:

¹Department of Vegetable Science, G.B. Pant University of Agriculture and Technology, RANICHAURI (UTTARAKHAND) INDIA

²Department of Horticulture, Indian Institute of Agriculture Science, Banaras Hindu University, VARANASI (U.P.) INDIA
Email : chandankumarveg.sc@gmail.com

Author for correspondence :

H.C. RATURI

Department of Vegetable Science, Dr. Y.S. Parmar University of Horticulture and Forestry, Nauni, SOLAN (H.P.) INDIA

ABSTRACT : An experiment was undertaken during summer rainy season of 2009 and 2010 at Department of Vegetable Science, G.B. Pant University of Agriculture and Technology, Hill Campus, Ranichauri, Uttarakhand to evaluate of ten cabbage hybrids/varieties under mid - hill conditions of Uttarakhand. The pooled indicates considerable variation for vegetative characters, amongst which the maximum leaf area (1022.71 cm²) was observed in Varun, while the hybrid T -50 top ranked with respect to number of non wrapper leaves (14.98) and plant spread (68.56 cm). Golden Acre an open pollinated check variety took minimum number of days to maturity (44 days from transplanting). With respect to quality and yield parameters viz., the maximum ascorbic acid content (139.53 mg/100 g), head size (515.05 cm²) were recorded in blue diamond and NBH-Arun, respectively, whereas, T-50 measured the maximum head weight (2.106 kg) and yield (801.19 q/ha).

KEY WORDS : Performance, Cabbage, Hybrids, Profit, Varieties

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Among the cole crops, cabbage (*Brassica oleracea* var. *capitata* L. 2n = 2x = 18) grown in more than ninety countries throughout the world and consumed globally Singh *et al.* (2010). It is a rich source of protein comprising all essential amino acids, especially sulphur containing amino acids, minerals such as calcium, iron, magnesium, sodium, potassium, phosphorus and antioxidants, which are reported to have anti-carcinogenic properties (Singh *et al.*, 2009). Although, in developed countries more than 90 per cent cabbage area is under hybrid, while in India hybrids are confined to only 30 per cent of cabbage grown area. In Uttarakhand mid-hills, it is grown from April to November during the time its production is not possible under the agro-climatic condition of plains, as a result the cabbage growers in hilly areas fetch premium prices and immense potential in maximizing the profit and improving the socio-economic status of vegetable growers. The cabbage cultivars show great variation in respect of shape, size and colour of the leaves as well as texture of head and behave differently under different agro-climatic region. The hill farmers are growing the varieties

/ hybrids recommended for the irrigated condition of northern plains and these perform poorly during the summer- rainy season (off-season) under the different altitudinal zone of hills. Therefore, in order to maximize cabbage yield in it has become imperative to select the suitable varieties and workout cultural practices. Therefore, it is needed to evaluate the yield performance of some of the varieties of cabbage especially hybrids, under the agro-climatic condition of Uttarakhand to find out the best variety / hybrid for commercial cultivation at farmers field in order to maximize the profit.

RESEARCH METHODS

The studies were conducted in the research block of Department of Vegetable Science, G.B. Pant University of Agriculture and Technology, Hill Campus, Ranichauri, Uttarakhand during the year 2009 and 2010. Ranichauri is located at an elevation of about 2000 meters above mean sea level with 30018' N latitude and 78024' E longitude. It falls under mid-hills of Western Himalayas. The soil was silty clay loam (0-15 cm), acidic (pH 6.06), 326 kg ha⁻¹ available N, 17.70