

Research Paper

THE ASIAN JOURNAL OF HORTICULTURE

Vol. 6 | Issue 2 | December, 2011 | 465-467



Article history:

Received : 02.07.2011

Revised : 03.11.2011

Accepted : 13.11.2011

Effect of head size on yield and quality of cabbage cv. PRIDE OF INDIA seed crop

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Abstract : The 45 days old healthy seedlings of cabbage cv. PRIDE OF INDIA were transplanted in the mid July at Vegetable Research Station, Kalpa, District Kinnaur (HP) and the heads overwintered in trenches from November to March during two consecutive years 2007-08 and 2008-09. Cabbage seed production was done by head to seed method and the compact true to type heads were grouped into seven classes viz., S₁: 250-500g; S₂: 500-750g; S₃: 750-1000g; S₄: 1000-1250g; S₅: 1250-1500g; S₆: 1500-1750g and S₇: 1750-2000g including the weight of the stump. The experiment was planted in Randomized Block Design with three replications, after melting of snow in the last week of March to first week of April every year, at a spacing of 45 cm x 45 cm having plot size of 2.70x2.25 m with a population of 30 plants per plot. Significant differences were observed for all the traits studied except seed quality and maturity during both the years. The plants from larger heads produced more seed yield, number of branches, pods, seeds per pod, pod length and height, besides, being early in sprouting, flowering and pod formation with low mortality. However, seed quality measured in terms of 1000 seed weight and germination percentage as well as days to maturity was not affected by the head size. It was concluded that compact heads weighing more than one kilogram should be selected for high seed yield in cabbage.

Key words : Cabbage, Head size, Seed yield, Quality, Pride of India, Seed crop

How to cite this article : Dev, H. (2011). Effect of head size on yield and quality of cabbage cv. PRIDE OF INDIA seed crop, *Asian J. Hort.*, 6 (2) : 465-467.

Cabbage (*Brassica oleracea* var. *capitata*) is an important leafy vegetable grown extensively throughout the world. In India, it is cultivated as a winter crop. Cabbage is biennial in nature and its seed production is restricted to temperate areas concentrated at an altitude of 1500m to 3000m above sea level with dry weather during seed maturity and harvesting. In one season heads are produced which then require an exposure to cold treatment of 4-7^o C for 6-8 weeks or more for entering into reproductive phase. The dry temperate zone of North Western Himalayas is congenial for seed production of cabbage. Head to seed method is generally followed where heads after selection along with roots are stored in trenches for overwintering and seed so produced is of high quality. Due to slow rise in temperature from March to August and prevalence of dry condition at the time of seed maturity and ripening, the seed produced in this region is of high quality and excellent vigour. However, there is wide variation with respect to head size, which may affect the seed yield and quality. The present studies were carried

out during two consecutive years 2007-08 and 2008-09 at Vegetable Research Station, Kalpa, District Kinnaur (HP) with the objective to know the optimum size of heads to be used for better yield and quality of cabbage seed. Since it is a long duration, location specific and labour intensive seed crop, efforts to maximize the seed yield per unit area will go a long way in increasing the seed yield and boosting the income of the tribal farmers.

RESEARCH METHODS

The present investigations were carried out on cabbage cv. Pride of India during two consecutive years 2007-08 and 2008-09 at Vegetable Research Station, Kalpa, District Kinnaur (HP). The 45 days old healthy seedlings were transplanted in the mid July and the heads overwintered in trenches from November to March. Cabbage seed production was done by head to seed method and the compact true to type heads were grouped into seven classes viz., S₁: 250-500g; S₂: 500-750g; S₃: 750-1000g; S₄: 1000-1250g; S₅: 1250-1500g; S₆: 1500-