

## Research Paper

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## Effect of dates of planting and spacing on growth and yield of broccoli

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**Abstract :** An experiment entitled effect of dates of planting and spacing on growth and yield of broccoli (*Brassica oleracea* var. *italica*) was carried out during *Rabi* season of 2009-10 at the field of Department of Horticulture, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola. The treatment combinations comprised of three dates of planting viz., 15<sup>th</sup> September, 30<sup>th</sup> September and 15<sup>th</sup> October and three spacings viz., 60 x 30 cm, 60 x 45 cm and 60 x 60 cm in a Factorial Randomized Block Design (FRBD) with three replications. The broccoli transplanted on the 1<sup>st</sup> date of planting i.e. 15<sup>th</sup> September reported significantly maximum yield (122.14 q ha<sup>-1</sup>) over the other dates of planting, while spacing 60 x 60 cm showed significantly maximum growth for height, number of leaves, stem diameter and leaf area. Interaction between dates of planting and spacing was significant in respect of curd yield/ hectare. Maximum curd yield /hectare (134.05 q ha<sup>-1</sup>) was obtained in D<sub>1</sub>S<sub>1</sub> – 15<sup>th</sup> September and S<sub>1</sub> – 60 x 30 cm combination

**Key words :** Broccoli, Date of planting, Spacing, Yield

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**B**roccoli [*Brassica oleracea* (L.) var. *italica*] belongs to the family Brassicaceae is an exotic vegetable crop. It is native to the Mediterranean region and cultivated in Italy. Broccoli like other cole crops prefer cool moist climatic conditions which helps in the developing quality heads. In recent years cultivation of broccoli has gained momentum in India and has become increasingly popular with Indian growers for last couple of years. Broccoli contains Indole-3-carbinol which helps to fight breast and lung cancer. Broccoli soup is a delicacy in big hotels and resorts which is more nutritious than other coles, such as cabbage, cauliflower. Time of sowing and transplanting are important factor influencing vegetable production to pin point. The exact time of sowing of seed in nursery and transplanted in field is essential for obtaining maximum yield along with quality of vegetable (Csizinszky, 1996).

Spacing of plant affects both total yield and the size of broccoli head. According to recent field tests, wider spacing contributes towards larger and heavier heads while, yield per hectare can be increased by close spacing. Hence, it is necessary to optimize proper plant spacing for obtaining higher yield with better quality.

## RESEARCH METHODS

The experiment was carried out at Horticulture farm, Department of Horticulture, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola during *Rabi* season 2009-10. Treatment comprised of three planting dates (D<sub>1</sub>- 15<sup>th</sup> September, 30<sup>th</sup> D<sub>2</sub> - September and D<sub>3</sub> - 15<sup>th</sup> October) and three spacing (S<sub>1</sub> - 60 x 30 cm, S<sub>2</sub> - 60 x 45 cm and S<sub>3</sub> - 60 x 60 cm ). The experiment was laid out in Factorial Randomized Block Design with three replications. Seedlings were transplanted in 3.6 x 3.6 m plots at different spacing and different dates of planting. Observations were recorded on plant height, number of leaves, stem diameter and curd yield from randomly selected plants in each treatment.

## RESEARCH FINDINGS AND DISCUSSION

The results obtained from the present investigation as well as relevant discussion have been summarised under following heads:

### Date of planting:

Plant height, number of leaves and stem diameter