



## Research Paper

### Article history :

Received : 19.08.2013

Revised : 04.10.2013

Accepted : 19.10.2013

# Influence of plant density and nutrient management on growth, yield and quality of radish (*Raphanus sativus* L.) cv. 'PUSA CHETKI'

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**ABSTRACT :** An experiment on influence of plant density and nutrient management on growth, yield and quality of radish (*Raphanus sativus* L.) cv. 'Pusa Chetki' was carried out at B. A. College of Agriculture, Anand in the year 2010-11. The results revealed that wider spacing (30 x 15 cm) recorded significantly higher number of leaves (13.96), fresh weight of leaves (113.7 g), leaf area (203.99 cm<sup>2</sup>), length of root (19.2 cm), volume of root (105.4 cm<sup>3</sup>), diameter of root (4.0 cm), fresh weight of root per plant (134.3 g), moisture content (97.2 %) and dry weight of root (3.1 g) at 60 DAS. Though the closer spacing secured the highest leaf area index (0.55, 0.73 and 0.79, respectively at 30, 45 and 60 DAS), number of plants per square meter (49.00 and 35.61, respectively at 15 days and at the time of last picking), leaf : root ratio (0.87) and fresh root yield (29.0 t/ha). Higher fertilizer application (50 : 50 : 50 kg N:P:K + 5 t FYM + 1.25 t vermicompost + 0.5 t castorcake/ha) significantly improved all the growth, yield and quality parameters as compared to the control. The interactions between spacings and fertilizers were found significant in respect to growth and yield attributes of radish, while it was found non significant in quality parameters. The maximum leaf area (238.8 cm<sup>2</sup>) was recorded in the treatment combination of S<sub>3</sub>F<sub>5</sub>, while maximum leaf area index (2.73) was observed in treatment combination of S<sub>1</sub>F<sub>5</sub> at 60 DAS. With respect to yield attributes, the highest volume of root (125.3 cm<sup>3</sup>) and fresh weight of root (160.1 g) were noticed under treatment combination S<sub>3</sub>F<sub>5</sub>. Likewise, treatment combination of S<sub>2</sub>F<sub>5</sub> recorded the highest leaf : root ratio (1.1). However, maximum yield (38.58 t/ha) was recorded in closer spacing with more source of fertilizer (S<sub>1</sub>F<sub>5</sub>).

**KEY WORDS :** Radish, Spacing, Fertilizers, growth, Yield, Quality

**HOW TO CITE THIS ARTICLE :** Sharma, U.G., Vihol, N.J. and Chavda, J.C. (2013). Influence of plant density and nutrient management on growth, yield and quality of radish (*Raphanus sativus* L.) cv. 'PUSA CHETKI'. *Asian J. Hort.*, 8(2) : 671-676.