

## Effect of planting methods, organic nutrient sources and bio-fertilizers on growth and yield of *Kharif* onion (*Allium cepa* L.)

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**ABSTRACT :** The experiments were conducted at the Village- Rawar, near College of Agriculture, Gwalior (M.P.) during two consecutive years of *Kharif* seasons in 2013-14 and 2014-15 to evaluate the effect of planting methods, organic nutrient sources and bio-fertilizers on growth characters of *Kharif* onion in Gwalior conditions. Results revealed that the growth parameters like plant height, number of leaves per plant, diameter of neck, length of leaf, width of leaf and the yield attributing characters like bulb diameter, bulb scale and weight per bulb in seedlings transplanted on ridges resulted significantly higher values at 40, 60, 80, 100 and 120 DAT over those transplanted in furrow and flat beds. Furrow planting method was also found significantly superior to flat planting method for all the growth parameters. Among all the treatments of organics, application of poultry manures @ 4.2 t/ha resulted in significantly higher values of these growth characters. The second best treatment was S<sub>4</sub> (VC 4.2 t/ha) followed by S<sub>2</sub> (FYM 25.0 t/ha). The PSB inoculated seedlings produced more leaves per plant, wider leaf, whereas, diameter of neck was superior under *Azospirillum* inoculated seedlings. Seedlings inoculated with PSB transplanted on ridges with 25.0 t FYM/ha and PSB 5 kg/ha accrued the highest net monetary return amounting Rs. 97060/ha followed by P<sub>3</sub>S<sub>2</sub>B<sub>2</sub> (Rs. 93790/ha) while the highest B:C ratio of 2.65 was obtained by ridge transplanting with 12.5 t FYM/ha and PSB 5 kg/ha.

**Key Words:** Onion (*Allium cepa* L.), furrow planting method, flat planting method, ridge transplanting, organic nutrient sources, bio-fertilizer, growth parameters, yield, B:C ratio.