



Effect of inorganic fertilizers and organic manures on growth, quality and yield of ashwagandha (*Withania somnifera* Dunal) cv. Jawahar Ashwagandha-20

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ABSTRACT

A field experiment was conducted at the Research plot, Dhanvantari upwan, Department of Dravyaguna Vigyan, National Institute of Ayurveda, Jaipur during *Rabi* season of the year 2011-2012 to study the effect of inorganic fertilizers and organic manures on ashwagandha cv. JA-20 with respect to growth, quality and yield attributing parameters. The experiment was carried out in Randomized Block Design with factorial concept. The experiment consisting of six treatment combinations, comprising of two inorganic fertilizer level *viz.*, control (A_0) and 20-20-00 kg NPK/ha (A_1) and three organic manures level *viz.*, control (B_0), FYM @ 2 kg/m² (B_1). All the combinations were replicated four times. All growth, quality and yield attributing characters under study were significantly affected by inorganic fertilizers and organic manures. Plant height, Number of leaves, length and width of leaves and number of branches, root length, root diameter, Fresh and dry weight of root and seeds weight were recorded in application of 20:20:00 NPK kg/ha (A_1). Tallest plant was recorded in treatment B_1 (FYM @ 2 kg/m²). The application of vermicompost @ 1.3 kg/ha (B_2) significantly increased the number of leaves, leaf length, number of branches, root length and diameter. Maximum fresh weight and dry weight root and seeds weight were recorded in treatment B_2 (vermicompost @ 1.3 kg/ha). The interaction effect of inorganic fertilizers and organic manures ($A \times B$) for the various characters studied was non significant except number of branches and fresh weight of root. The treatment combination of $A_1 B_2$ showed synergistic effect and gave maximum number of branches and fresh weight of root per plant.

Key words : Ashwagandha, Inorganic, Organic, FYM, Vermicompost

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