



## Research Note

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# Studies of different fertigation levels on morpho-physiological characters and yield of tomato under greenhouse condition

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**ABSTRACT :** The present study was carried out to examine the morpho-physiological and yield of tomato influenced by different fertigation levels of water soluble fertilizers during *Kharif* 2011-2012 at precision farming development centre I.G.K.V. Raipur (C.G.). Experiment was conducted in Randomized Block Design comprised of four treatments *viz.*, control, 60 per cent, 80 per cent, and 100 per cent fertigation levels under the polyhouse condition. Observations were taken on plant height, stem girth, chlorophyll content, dry matter production, days to first flowering, days to first fruiting and fruit yield. Results revealed that maximum yield was obtained with 80 per cent RDF.

**KEY WORDS :** Tomato, Chlorophyll content, Stem girth, Fertigation

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**T**omato (*Lycopersicon esculenum* Mill.) is one of the most important vegetable crop, which belongs to family Solanaceae and believed to be the native of western South America. It is grown for its edible fruits, which can be consumed either fresh as salads or consumed after cooking or utilized in the preparation of range of processed product like sause, kechup, puree, paste, powder, soup and canned whole fruits. Unripe green fruits are used for preparation of pickles and chutney. Tamato tops the list of processed vegetables and is a very good source of lycopene, ascorbic acid and veta-carotene, which are considered as good (Anonymouse, 2004.)

Studies have been conducted in the past involving inorganic fertilizers and plant growth regulators to improve the productivity potential in tomato, but still the expected potential has not been touched so far. Hence, it is urgently needed to enhance the productivity potential of this crop by using manure, fertilizers and combination of plant growth regulators and micronutrients. Fertigation of NPK (water soluble) nutrient along with optimum quantity of micro

nutrients are required for improving vegetative and reproductive characteristics leading to higher yield. The micronutrients play key role enhancing the growth and metabolic activities at specific growth stages. In view to study the impact of water soluble fertilizers on morphological, physiological parameters and yield of tomato genotypes an experiment was conducted.

The experiment was conducted in polyhouse of precision farming development centre, Indira Gandhi Krishi Vishwavidyalaya, Raipur (C.G.) during *Kharif* season of 2011-12. Experiment was comprised of four levels of fertigation *viz.*, 60 per cent, 80 per cent, 100 per cent and control. The design adopted for experiment was Randomized Block Design with three replications. The spacing between row to row and plant to plant was 45x60 cm. Observations were recorded on five randomly selected plants in each plot with different characters *i.e.* plant height, stem girth, chlorophyll content, dry matter production, days to first flowering, days to first fruiting and yield was also analysed at maturity. Statistical analysis was done as per the procedure given by Gomez and Gomez (1984).