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Effect of soilless growing media, biofertilizers and fertigation levels on greenhouse tomato production

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ABSTRACT : Tomato is an important cash crop of the vegetable growers in mid hill region of the Himachal Pradesh in India. Mainly the crop is raised during rainy season and the produce fetches off-season prices because of non availability of tomatoes in the markets of neighboring states which are comparatively plain areas and are not fit for growing tomatoes during rainy season. But the outdoor production of tomato faces many biotic and abiotic hurdles due to the coincidence of monsoon season with tomato fruit production. Major constraint is high rainfall coupled with high relative humidity favoring occurrence of many diseases and insect-pest attack which severely reduces the productivity and quality of the tomato fruits and growers do not get premium prices for their produce in spite of off-seasonality. Hence, the only viable alternative is to grow tomato under protected conditions. The climate of the mid hills also favours for its cost effective production due to the use of low cost plastic greenhouses with natural ventilation. Therefore, a study was conducted to standardize different soil less and soil based growing media along with biofertilizers and fertigation levels for growing tomato (*Solanum lycopersicum* L. cv NAVEEN 2K+) in plastic greenhouses for higher productivity per unit area and superior quality of the produce during 2008 and 2009. The results comparing different treatment combinations, gave useful indication on the possibility of increasing yield, quality and component traits and decreasing occurrence of soil born diseases by using soil less growing media (Vermicompost: sand; 2:1) along with seedling treatment of *Azotobacter* and fertigation dose of 300 kg NPK per ha.

KEY WORDS : Tomato, Soilless growing media, Biofertilizers, Fertigation, Greenhouse

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