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RESEARCH PAPER

Effect of different fertigation levels on morpho-physiological characters and yield of capsicum under greenhouse condition

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Abstract : The experiment was carried out at Precision Farming Development Centre (PFDC), Department of Horticulture, Indira Gandhi Krishi Vishwavidyalaya, Raipur (C.G.) during *Kharif* 2011-12. Experiment was conducted in RBD design comprising of four treatments *viz.*, control, 60 per cent, 80 per cent and100 per cent. fertigation levels under the polyhouse condition . Observations were taken plant height, stem girth, secondary branches ,dry matter production, days to first flowering, days to first fruiting and fruit yield. Significantly maximum fruit yield per ha was obtained with T_3 (80% RDF) and minimum in control.

Key Words : Fertigation, Polyhouse, Dry matter accumulation, Flavour

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INTRODUCTION

Capsicum (*Capsicum annum* L.) is one of the important vegetables grown in India as well as in the world, because of its nutritive value, flavour and colour and is considered as one of the major commercial crops of the world. Different varieties are grown for vegetables, spices, condiments, sauces and pickles. The genus *Capsicum* consists of about 20 species and only four species are under cultivation. Capsicum is consumed as fresh, dried or processed form. The sweet pepper (*Capsicum annuum* L.) is an annual plant belonging to the Solanaceae family. It is day-neutral plant. The root system is a highly branching, located upto the 20–30 cm soil layer. The regenerative capacity of the sweet pepper root system is low. The stem is herbaceous early in the growing season and lignified at the base by the time of fruit maturation.

Fertigation allows nutrient placement directly into root zone around the plants through a dripper network with the help of emitters near the consumptive use of plants during critical periods of nutrient requirement. Thereby, losses of water and nutrient can be minimized substantially as fertigation is economically feasible, socially and environmentally acceptable. Fertilizers (water soluble) used for nitrogen, phosphorus and potas there were a significant difference in days to flowering, days to fruiting, number of branches per plant, plant height, number of fruits per plant, length and diameter of fruit and total yield (Nagalakshmi *et al.*, 1990).

Green house technology enables protecting the plants from adverse climatic conditions and providing optimum conditions of light, temperature, humidity, CO_2 and air circulation for the growth of plants to achieve maximum yield and best quality. Thus, a greenhouse is covered structure with transparent material that protects plants from vagaries of weather or environment *i.e* wind, precipitation, excess solar radiation, temperature extremes and also to some extent from attack of pest and diseases. Fertigation system is most suitable approach for cultivation of capsicum.

MATERIALS AND METHODS

The experiment was conducted in polyhouse of precision farming development centre, Indira Gandhi Krishi Vishwavidyalya, Raipur (C.G.) during *Kharif* season of 2011-12. Experiment comprised of four levels of fertigation *viz.*, 60

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