Effect of NAA, 4-CPA and boron on growth and yield of green chilli (*Capsicum annuum* L.) var. Lam 353 in summer

P Kiranmayi, K Uma Jyothi, K Usha Kumari, V Sudha Vani and D R Salomi Suneetha
Dr. Y. S. R. Horticultural University, India

During summer months, there is a drastic reduction in plant growth, fruit set and yield in chilli due to high temperatures. In chilli, high temperatures during day time (above 30°C), coupled with warm nights (above 17°C), causes abscission of flowers and poor fruit set thereby reducing the yield considerably. Warm winds cause drying of stigma and high temperatures reduce pollen viability and stigma receptivity. Plant growth regulators and micronutrients have profound effect on growth and yield of summer chilli. Hence, the present investigation entitled “Studies on the effect of NAA, 4-CPA and boron on growth and yield of green chilli (*Capsicum annuum* L.) Var. Lam 353 in summer” was carried out during summer, 2013 at Horticultural College and Research Institute, Dr. Y. S. R. Horticultural University, Venkataramannagudem, West Godavari District, Andhra Pradesh. The studies were carried out with 16 different treatments involving two growth regulators (NAA and 4-CPA) and micronutrient boron individually and in combinations, at two different concentrations sprayed at 60, 90, 120, 150 and 180 DAS. The experiment was laid out in a randomized block design (RBD) with three replications. With regard to growth characters, the plants sprayed with 20 ppm NAA + 0.05% boron (T9) recorded maximum plant height (83.33 cm), maximum plant spread (137.33 cm), maximum number of primary branches (17.0) and minimum number of days to 50% flowering (63 days) compared to other treatments. Similarly, the plants sprayed with 20 ppm NAA + 0.05% boron also recorded the highest fruit set percentage (30.33%), maximum number of fruits per plant (124), fruit girth (2.98 cm) and mean fruit weight (2.24 g). The highest green chilli yield per plant (263.5 g) with an estimated yield of 145.9 q/ha was observed in the plants sprayed with 20 ppm NAA + 0.05% boron (T9). It was followed by the treatment 20 ppm NAA (T2) with 260.3 g/ plant and 141.69 q/ha respectively and were found on par with each other and significantly superior to control. While in the control, it was 128.4 g per plant with an estimated yield of 70.98 quintals per hectare. The highest benefit : cost ratio (4.29) was obtained with combination of 20 ppm NAA + 0.05% boron (T9), followed by 20 ppm NAA (T2) with 4.21.