EFFECT OF GA$_3$ AND NAA ON GROWTH AND YIELD OF SEED POTATO

Birbal, R.K. Singh, Vinod Kumar and V.S. Kushwah$^1$

$^1$Central Potato Research Station, Gwalior-474006, MP, India

An experiment was conducted at Gwalior during cropping season 2004-05 to compare the field grown plants treated with GA$_3$-10 ppm (Dip) and NAA-50 ppm (two sprays at 25 and 50 days after planting) with untreated plants in terms of their morphology, tuber number and yield. For pre-planting treatments, tubers were dipped in GA$_3$ solution for 30 minutes and then spread on the floor, while the tubers of NAA and control were left on the well-ventilated floor for sprouting. In randomized block design tubers were planted at 60 x 20 cm spacing in plot size of 21 x 24 m with eight replications. Recommended package of practices were followed. The haulms were destroyed at 80 DAP. The GA$_3$ application recorded significantly higher plant height (25.70 cm) and number of stems per plant (5.10) at 30 DAP. Plant growth regulators made significant differences in number and weight of tubers. The GA$_3$ gave significantly higher number and weight of seed size (20-80 g) tubers than rest of the treatments. Similarly, the total number and weight of tubers per hectare was highest (3.61 lacs and 211 q/ha) with GA$_3$ treatment followed by NAA (3.21 lacs and 193 q/ha) over control (2.80 lacs and 174 q/ha). The increment in yield by number and weight was 22% and 18% with GA$_3$ while, it was 12.77% and 10% with NAA over control. The control treatment recorded significantly higher number of under size tubers (<25 g) compared with GA$_3$ and NAA however, the increase was more pronounced with GA$_3$. 