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## **Evaluation of conservation tillage practices in sustainable vegetable production system of western Uttar Pradesh, India**

**R K Naresh, S P Singh, Purushottam, B Singh, Adil Nawaz and Vikas Kumar**  
Sardar Vallabhbhai Patel University of Agriculture & Technology, India

Conservation agriculture which include bed planting of crops, laser land leveling etc., have emerged as a major response to enhance crop yields and profitability of vegetable based cropping system. Therefore, present work was undertaken during 2010-11 & 2011-12 to establish an understanding of how conservation agriculture based management practices has proved to produce more at less costs and improve soil health. The results indicated that the precision leveled plots savings in water use in raised beds with residue retained and recommended dose of NPK were 19.2 % to 26 % in cabbage, 13.1% to 20.6% in okra, 17.3% to 24% in garlic and 14.7% to 22.5 % in turmeric as compared to traditional leveled flat beds with recommended dose of fertilizer treatment. Laser land leveled permanent raised beds with residue retained and recommended dose of fertilizers provided savings in time 79%, fuel 76%, labour 85% cost 80%, energy 83% and water 36% compared to conventional flat beds sowing. The bed planting saved about 13 and 18% in seed and fertilizer compared to conventional sowing. The conservation tillage practices especially raised beds laser land leveled without and with residue retained planting of vegetables provided higher yields (10 to 16.2 %); were cost effective (9 to 27%), respectively.

[r.knaresh@yahoo.com](mailto:r.knaresh@yahoo.com)