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TILLAGE PRACTICES AND EFFECT OF SOWING METHODS ON GROWTH AND YIELD OF SOYBEAN CROP IN VERTISOL

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ABSTRACT

An experiment was carried out at BSP Research Farm, Jawaharlal Nehru Viswa Vidyalaya, Jabalpur during 2014-15, in order to assess the effect of tillage on soil physical properties growth and yield of soybean crop under different sowing methods. The soybean variety JS 97-52 was planted on clay loam soil under three different methods raised bed planter, conventional seed cum fertilizer drill and zero till drill. It was found that soil moisture content was higher in raised bed planter method as compared to other sowing methods. While bulk density and soil strength were relatively lower in ridge sowing plots as compared to seed cum fertilizer drill and zero till drill plots. The results of agronomic observations revealed that plant height, number of root/plant, depth of root, number of nodules/plant and total grain yield/ha were superior in raised bed planter, the second best was seed cum fertilizer drill, while seed zero till drill was found to be less effective. Soybean sown on ridges resulted in greater seed emergence 94.5%, plant height 78.3 cm, depth of root 50.96 cm, number of nodules/plant 135.58, which in turn caused greater grain yield 3137.25 kg/ha, the next best was seed cum fertilizer drill, while zero till drill was not effective as other two methods.

KEYWORDS: Tillage Practices, Sowing Methods, Emergence, Growth, Yield, Soybean

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