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A Case Study

Role of zero tillage in Tungabhadra command area for direct seeded rice, maize and jawar crop

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ABSTRACT : A case study on zero tillage in Tungabhadra Command Area (TBP) in paddy, maize and jawar crop revealed that, in case of direct seeded rice (DSR) for paddy crop, the farmer received good yield of 78.75 q/ha and the yield was compared with normal method of transplanting; it was observed that, the yield data's were at par with each other. In the farmer view, the cost of cultivation has reduced drastically. They could manage to save Rs. 5000/- per acre and 20 per cent water saving as compared to normal method**.** In case of paddy-maize sequence in *Rabi* season 2011-12, the farmer have got comparatively good yield of 62.5 quintal/ha of maize compared to conventional method and there was almost Rs.4000/- to 5000/- saving in land preparation. In case of paddy-hybrid jawar crop sequence in *Rabi* season 2011-12, the farmer have got comparatively good yield of 55 quintal/ha of hybrid jawar and saved Rs.7000/- per acre compared with normal paddy growing. They expressed that paddy cultivation under normal method got labour intensive and need careful maintenance and observations but in this technology they could able overcome all these problems. In farmers view, because of excessive land preparations like ploughing, harrowing and puddling in case of paddy, leads to detoriation of soil physical properties and ultimately leads to lower yield. The farmers also expressed the constraints faced by them during the growing season that, maize and jawar crops were very sensitive to water logged and saline condition, so it needs land to be leveled good enough. Because of their uneven land, the downstream area was severely affected by water logging and salinity problem. They realized that for avoiding these problems in zero tillage, laser leveling is the only solution.

KEY WORDS : Direct seeded rice (DSR), Zero tillage, Laser leveling

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INTRODUCTION

In India, the problems of soil salinity and water logging are more common in the irrigated tracts of arid and semi-arid regions. The soil salinity is estimated to occupy an area of about 7 million hectares in the country (Bhumbla, 1971). Not much information is available on the extent and nature of these problems as no survey of the problem soils has been conducted in the country since long. In Karnataka, most of the salinity-affected area is in the irrigated commands. The extent of damage in the state is reported to be 10 per cent of the total irrigated area. The severely- affected command is the Tungabhadra Project (TBP) Area (26,018 ha), which alone accounts for over 61.4 per cent of the total saline lands in the state. The excessive use of irrigation water in this command area has led to the problems of salinity and water logging. This is also due to several such factors as type of soil, presence of salts in the soil, unscientific water management, cropping pattern and drainage. The problem is more pronounced in the Tungabhadra Command Area due to vertisols; and there also, it is alarmingly severe under the Left Bank Canal of the TBP Area. The area

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