

RESOURCE CONSERVATION TECHNOLOGY IN RICE WHEAT CROPPING SYSTEM

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ABSTRACT

Predominant cropping system in India is the Rice-wheat cropping system as both rice and wheat are main staple food for the people of the country. Threat to sustainable food production has resulted due to the continued adoption of exhaustive rice-wheat cropping system. In order to address the problems like stagnant productivity, increasing production costs, declining resource quality, receding water table and increasing environmental problems alternative technologies are the major drivers. For improving and sustaining higher yields there are various efficient technologies that can be adopted in rice wheat system. Various Resource conservation technologies are Laser land-levelling, direct seeded rice (DSR), Zero tillage (ZT), furrow-irrigated raised-bed system (FIRBS) etc. Zero tillage (ZT) generally saves irrigation water in the range of 20–35% in the wheat crop compared to conventional tillage (Aslam *et al.*, 1993). Adoption of furrow-irrigated raised-bed system (FIRBS) of wheat saves 25-30% seed, 30-40% water and 25% nutrients without affecting the yield (Jat *et al.*, 2012). Direct seeded rice (DSR) followed by zero tillage (ZT) wheat reduced the global warming potential of rice wheat system by 41% as compared to conventional system (Bhatia *et al.*, 2012). Happy Seeder technology provides an alternative to burning for managing rice residues. Direct seeded rice under double no till with laser land levelling reduced cost of cultivation and improved the crop yields and system productivity while conserving natural resources and should be practiced in different ecologies including upland, lowland, deep water and irrigated areas by large as well as small farmers.

KEYWORDS: Rice Wheat Cropping System, Resource Conservation Technology, Direct Seeded Rice, Zero Tillage