

Effect of tillage and weed management options on productivity and profitability of cotton - wheat system

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ABSTRACT

Three tillage options (zero, rotary and conventional tillage) and three weed management practices (metribuzin, sulfasulfuron and control) were evaluated under raised and flat bed planting systems at research farm of DWR Karnal. The seed cotton yield was at par under FIRB and flat bed planting systems. The Seed cotton yield was also at par among three tillage options i.e. Zero, rotary and conventional. Zero and rotary tillage practices save diesel and labour cost and more important time for field preparation. The wheat yield was similar in both the planting systems. The yield was numerically lower under zero tillage compared to rotary and conventional practice. The wheat yield was very poor in without herbicide plots due to more no. of weeds infestation whereas the yield was similar under both the herbicides. All the three tillage options (zero, rotary and conventional) were at par in profitability under FIRB system whereas under flat bed system, the highest profit was recorded for cotton-wheat system under rotary tillage followed by zero and conventional practice. The total cost of production was more in case of conventional sowing due to more no. of tractor operations for field preparation. Zero and rotary tillage is found to be beneficial for cotton sowing after wheat harvest which will reduce the cost of production without an adverse effect on seed cotton yield. Rotary tillage is superior to zero and conventional tillage for wheat sowing after cotton. Overall, the profitability of cotton-wheat system was higher under flat bed compared to raised bed and in rotary tillage compared to zero and conventional.

Key words: Tillage options, Weed management, Cotton -wheat system.

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