Evaluation of rice fallows under zero till system with limited irrigation

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ABSTRACT

A field experiment was conducted on sandy loam soils to study the impact of weeds and limited number of irrigations in six different crops under zero till system in rice fallows during *Rabi*, 2021-22 at Agricultural College Farm, Naira, Andhra Pradesh, India. The experiment was laid out in spit-plot design, replicated thrice with three irrigations and six crops as subplot treatments. The weed count and weed dry weight ware non-significant with number of irrigations in six rice fallow crops at 20 and 40 DAS. At 60 DAS weed count weed dry weight and their interaction effect was significantly influenced with number of irrigations in six fallow crops. The Blackgram equivalent yield with number of irrigations in six fallow crops was significant. The interaction effect of Blackgram equivalent yield with number of irrigations and six fallow crops was significant. The highest Blackgram equivalent yield was noticed with four irrigations (1423 kg ha^{-1}) and decreased significantly and gradually with reduction in number of irrigations and recorded lowest Blackgram equivalent yield with two irrigations (1104 kg ha^{-1}). The Blackgram equivalent yield was 87.84 % with three irrigations and 77.58 % with two irrigations. The Blackgram equivalent yield was recorded significantly highest in Sorghum crop (2636 kg ha^{-1}) followed by Maize, Sunhemp, Fingermillet and Blackgram while the lowest was recorded in Mustard (347 kg ha^{-1}). The interaction effect with Blackgram equivalent yield was significant and recorded maximum with four irrigations in maize crop (2975 kg ha^{-1}) and minimum yield was recorded with two irrigations in Mustard crop (284 kg ha^{-1}) which was however, on parity with four irrigations (354.9 kg ha^{-1}).

Keywords: *Blackgram equivalent yield, Limited irrigation, Rice fallows and Zero-till system.*

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