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# Effect of weed management techniques on weeds, yield and economics on rice based cropping systems

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**ABSTRACT :** A field experiment was conducted at the Agronomy Research Farm of Narendra Deva University of Agriculture and Technology, Kumarganj, Faizabad (U.P.) during two consecutive crop seasons of 2008-09 and 2009-10. The experiment was laid out in Split Plot Design with three replications. The twelve treatment combinations comprised of six cropping systems *viz.*, rice-wheat, rice-chickpea, rice-fieldpea, rice-mustard, rice-linseed, rice-berseem, were kept in main plots and two weed control treatments *viz.*, two hand weeding (20 and 40 DAS) and weedy check in rice crop and one hand weeding at 30 DAS and weedy in *Rabi* crops were kept in sub-plots. The hand weeding was done with the help of *Khurpi*. In rice crop lower weed density was recorded in rice-chickpea cropping system followed by rice-wheat cropping system at all the stages of crop growth during both the years. Significantly lower weed dry weight was recorded in rice-mustard cropping system as compared to other cropping system at all the stages of crop growth during both the years. Application of 2 HW (20 and 45 DAS) gave highest grain yield of 44.42 q /ha<sup>-1</sup> in rice-berseem cropping system during first year and 43.40q/ha<sup>-1</sup> in rice-chickpea during second year. The lowest grain yield of 12.32 and 14.30 q /ha<sup>-1</sup> was obtained in weedy plot of rice-fieldpea cropping system during respective years. In *Rabi* crops significantly lower weed density and dry weight was recorded in one hand weeding compared to weedy check plot at all the stages of crop growth during both the years.

**KEY WORDS :** Weed density, Yield, Economics, Cropping system

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