

Effect of tillage and zinc application methods on weeds and yield of maize

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Field trials were conducted at Agricultural Research Farm, NWFP Agricultural University Peshawar during summer 2006 to investigate the effect of tillage and Zinc (Zn) application methods on maize yield and its associated weeds. The experiment was laid out in randomized complete block design with split-plot arrangement having three replications. The main plot consisted of conventional tillage (CT) and reduced tillage (RT) while Zn application methods were assigned to the subplots which included seed priming (dry seed, soaking seed in water, 0.01, 0.02 and 0.03% Zn solutions), foliar spray of 0.01% Zn solution, soil application at the rate of 5 kg ha-1 and combination of soil application (@ 5 kg ha-1) plus foliar spray (0.01% Zn solution). Tillage significantly affected weed density (WD) and yield of maize. CT suppressed WD recorded 21 and 42 days after sowing (DAS). Likewise, CT also suppressed the major weeds (Cyperus rotundus, Digitaria sanguinalis, and Convolvulus arvensis). Higher grain yield was recorded in CT plots as compared to RT. Zinc application methods significantly affected WD recorded 42 days after sowing and grain yield of maize. The interaction between tillage and Zn application methods for WD recorded 42 DAS was also significant. Greater WD was recorded in RT as compared to CT. Mean of the interaction values indicated that WD was lower in CT as compared to RT irrespective of Zn application methods. Yield was higher in CT as compared to RT. Likewise water soaking and Zn application methods improved maize yield as compared to control. It is concluded that CT resulted in lower WD and higher yield of maize. Furthermore water soaking and Zn application methods enhanced grain yield of maize as compared to control.