PRODUCTIVITY OF WHEAT AND MUNGBEAN IN TWO CROPPING SYSTEMS IN HIGH AND MEDIUM RAINFALL ZONES OF POTHWAR

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ABSTRACT

Crop yield and allowable cropping intensity in rainfed areas depends upon quantity of rainfall and its distribution. Soil water dynamics, crop yields and water use efficiencies were compared for two cropping systems mungbean-wheat and fallow-wheat, in medium (Fatehjang) and high (Islamabad) rainfall zones. Water contents of the soil profiles were 35 and 40 percent higher following summer fallow than following mungbean at Islamabad and Fatehjang, respectively. Mungbean yields were 0.43 Mg ha^{-1} at Islamabad and 0.69 Mg ha^{-1} at Fatehjang. Wheat grain yields were 14 and 46 percent higher following summer fallow than following mungbean at Islamabad and Fatehjang, respectively. At Islamabad yearly water use efficiency of the mungbean-wheat cropping system was 9.2 kg ha^{-1} mm seed yield compared to 6.7 kg ha^{-1} mm for fallow-wheat cropping system. At Fatehjang water use efficiency of mungbean-wheat 9.2 kg ha^{-1} mm as against 7.3 kg ha^{-1} mm for the fallow-wheat cropping system. Though wheat yield in mungbean-wheat cropping system was low but the over-all water use efficiency was higher than the fallow-wheat cropping system.