Interaction Effects of Planting Date and Weed Competition on Yield and Yield Components of Three white Bean Cultivars in Semirom

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Abstract

Unsuitable planting and weed competition are the most important factors that greatly reduce the yield of bean. In order to study the effect of planting date on yield and yield components of three white bean cultivars in weed infest and weed free condition a factorial experiment with randomized complete block design and three replications was carried out at Semirom in 2009. The treatments were planting date (May10, May 25 and June 9) and white bean cultivars (Shekofa, Pak and Daneshkade) and two levels of weed infestation (weedy and weed free). Results showed that planting date, weed competition and cultivars had significant effects on yield and yield components of white bean. The 30-day delay in planting date reduced the number of pods per plant, seeds per pod, 100 seed weight and biological yield of white bean cultivars, 22.5, 18, 20.1 and 22.5 percent respectively. Also weed competition, reduced the number of seeds per pod, 100 seed weight and biological yield respectively by 13.5, 5.7 and 27.1 percent. Result of planting date and weed competition interaction effects indicated that the weed competition decreased grain yield (53%) in third planting date more than others and delay in planting date was companion with increasing weed density and dry weight in flowering stage of bean. Also Shekofa cultivar had highest grain yield (3379 kg/ha) at the first planting date and weed free condition.

Keywords: Cultivar, Planting Date, Weed density, White bean.

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