



Tropentag, October 7-9, 2008, Hohenheim

“Competition for Resources in a Changing World:  
New Drive for Rural Development”

## The Impact of Common Dry Bean (*Phaseolus vulgaris*) Planting Dates and Densities on Weed Growth Characteristics

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### Abstract

Common bean (*Phaseolus vulgaris*) is one of the most susceptible plants to herbicides. Environmental concern increased the necessity of using non chemical weed control strategies against weeds in common bean. Planting dates and crop densities are two important cultural practices in growing beans. Appropriate planting date and crop density could reduce weed dry matter and increases crop competition abilities. A field experiment was conducted in Ferdowsi University of Mashhad, College of Agriculture Experimental Station at 2006 in order to study the effectiveness of different planting dates and crop densities on weed growth characteristics. Experiment was arranged as an split plot based on a completely randomised blocks design , with 3 replications in which the main plots were planting dates (April 25<sup>th</sup> - May 10<sup>th</sup> - May 24<sup>th</sup>) and the sub plots were different plant densities (10–20–30 plant m<sup>2</sup>). The results indicated that different planting dates and crop densities had significant reduction in weed biomass and decreasing weed growth rate. The minimum weed dry matter and growth rate was observed in planting date of April, 25<sup>th</sup> compare to other planting dates. However in this treatment the crop biomass and the crop growth rate were high. The maximum yield, dry matter and crop growth rate of common bean were obtained in crop density of 30 plants m<sup>2</sup>. Whereas, the least amount of weed growth rate and weed dry matter obtained in 30 plants m<sup>2</sup>. The minimum weed dry matter and weed growth rate and maximum crop growth rate, yield and biomass was obtained in treatment of 30 plants m<sup>2</sup> and planting dates of April 25<sup>th</sup>.

**Keywords:** Agronomic practices, common bean, *Phaseolus vulgaris*, weeds