

## Effect of Integrated Weed Management Systems on Yield Quality and Quantity of Sugarcane in Khuzestan

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### Abstract

In order to evaluate the effect of integrated weed management on the yield quality and quantity of Sugarcane, variety CP69, a field experiment was conducted during 2009-2010 at the Argo-Industrial farm of Deabel-e-Khozaie located on the Southeast of Ahvaz. The research was a randomized complete block design (RCBD) with 3 replications, including 9 different control methods in three groups (i.e. Chemical, Agronomical and Integrated) with three replications. The control methods were 1: the combination of Atrazin and Ametrin+2.4D by the ratio of 5kg and 2.5kg + 2litre; 2: The combination of E.P.T.C +Metribuzin by the ratio of 8litre +2kg. 3: The combination of Tebuteyouran + Atrazin and Ametrin + metribuzin by the ratio of 2liter + 2kg and 3kg + 2kg in the hectare, respectively (Chemical Control). 4: only Sugarcane leaves; 5: only cultivation; 6: The combination of Bagas and mud (Agronomical). 7: The integration of Atrazin and Sugarcane leaves. 8: The combination of E.P.T.C and cultivation; 9 The combination of Tebuteyouran + Atrazin by the ratio of 2liter + 2kg and mud + bagas, respectively (integrated methods). The yield quality and quantity and yield components of Sugarcane and the weed's status were calculated. Results showed that the highest Cane's diameter, weight of main stem, cane yield and sugar yield were obtained in integrated method, treatment No. 8 (including herbicide & cultivation). Also, the best sugar quality including sugar purity and polarity was obtained in this treatment (i.e. method No. 8). In addition, based on these results we found that integrated approaches had a higher quality and quantity for sugarcane yield compared to other methods (i.e. chemical & agronomical methods). Therefore, for ideal weed management and reduction of herbicide use, the integrated herbicide with interrow cultivation was the best weed management method in sugarcane.

**Keywords:** *Sugarcane, Integrated weed management, Cane yield, Brix.*