

## Studies on sugarcane based intercropping system for additional return in western Uttar Pradesh

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### ABSTRACT

The present investigation was carried out by Sardar Vallabhbhai University of Agriculture and Technology, Krishi Vigyan Kendra, Baghra, Muzaffarnagar (S.V.P.U.A. and T., Meerut), U.P., at the progressive farmers field of Distt. Muzaffarnagar, for two crop seasons i.e. 2006-07 and 2008-09 to find out the feasible remunerative intercrop in intercropping system with preseasonal sugarcane. The results indicated that the gross monetary return was higher in sugarcane + gladiolus. intercropping system in comparison to cucumber, okra and Frenchbean. The maximum sugarcane yield (900 q/ha) was in found French bean intercropping with sugarcane and soil health also improved. Among the intercropping system sugarcane with gladiolus was more remunerative in respect of net return.

Prakash Satya, Yadav, K.G. and Kumar, Ashok (2011). Studies of sugarcane based intercropping system for additional return in western Uttar Pradesh. *Internat. J. agric. Sci.*, 7(1): 77-79.

**Key words :** Intercrop, Additional return, Frenchbean, Gladiolus, Sugarcane, Net return and Gross return

### INTRODUCTION

Muzaffarnagar is known as sugarcane district of Uttar Pradesh. About 68 per cent area is covered by sugarcane. The cost of production of sugarcane is increasing day by day. The increasing cost of production was mainly on account of increase in the inputs such as fertilizer, irrigation water, plant protection and human labour charges. The increasing cost of production of sugarcane and reducing profit has compelled scientists and farmers to think about the cropping system which are economically feasible. In Western U.P., sugarcane provides considerable scope for intercropping with short duration horticultural crops and thus productivity of sugarcane and overall profitability of the sugarcane growers. Keeping this in view, the present investigation was carried out with the suitable and profitable intercrops with sugarcane to the Western U.P.

### MATERIALS AND METHODS

The field investigation was undertaken on sandy loam soil having 7.6 pH and organic carbon 0.56 per cent at the progressive farmers field of Distt. Muzaffarnagar, U.P. as autumn and spring sugarcane in 2006-07 and 2008 to 2009 with object to find out remunerative and compatible intercrop in sugarcane. The treatments of comprising of

two intercrop autumn intercropping system viz., sugarcane + gladiolus, sugarcane + Frenchbean and two intercrop spring intercropping system viz., sugarcane + okra and sugarcane + cucumber along with sole crop of sugarcane. In sugarcane + cucumber intercropping the cucumber nursery of cucumber was prepared at protected place by frast and after sowing of spring sugarcane cucumber plants were transplanted at the 2x2 meter in first week of February. Irrigation, cultural operations and plant protect measures were provided as per the recommendation and need of the component crops.

The economic analysis net return, gross return and B:C ratio were carried out based on cost of cultivation, sugarcane yield and intercrop yield. The gross return (Rs./ha) accrued due to different treatments were worked out by considering market prices during the experimental year.

The net returns (NR) in Rs./ha of each treatment = Gross Return (GR) of treatment – Cost of cultivation of treatment.

$$\text{B.C. Ratio} = \frac{\text{GR of a treatment}}{\text{Cost of cultivation}}$$

### RESULTS AND DISCUSSION

The findings of the present study as well as relevant

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