



## AGRONOMIC PERFORMANCE AND ECONOMICS OF Bt COTTON AS INFLUENCED BY INTERCROPS AND PLANT PROTECTION SCHEDULES

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### Abstract

A field experiment was conducted at the Main Agricultural Research Station, Dharwad, India, for three consecutive years under rainfed condition (2005-08) in medium black soil to evaluate different intercrops with Bt cotton under plant protection schedules for their agronomic performance and economics. Experiment was laid out in a split plot design consisting of four intercrops viz., Bt cotton + chilli (1:1), Bt cotton + chilli + onion (1:1:5), Bt cotton + redgram (2:1), Bt cotton + okra (1:1) as main plots and four plant protection schedules for bollworms viz., zero protection, protection for only cotton, protection for only intercrop/s and protection for both cotton and intercrop/s as subplots. The results showed that Bt cotton + chilli (1:1) produced significantly higher seed cotton yield (1440 kg/ha) over Bt cotton + redgram (2:1) intercropping (1008 kg/ha) and Bt cotton + okra (1:1) intercropping (1255 kg/ha). However, it was at par with Bt cotton + chilli + onion (1:1:5) intercropping system (1312 kg/ha). Plant protection for both main and intercrops showed significantly higher seed cotton yield (1328 kg/ha) than zero protection (1296 kg/ha) and was at par with protection only for cotton and only intercrops (1212 and 1186 kg/ha, respectively). Total yield was significantly higher in case of Bt cotton + okra (1:1) intercropping system (2466 kg/ha) and was on par with Bt cotton + chilli + onion (1:1:5) intercropping system (2348 kg/ha) than Bt cotton + redgram (2:1) intercropping (1412 kg/ha) and Bt cotton + chilli (1:1) intercropping (1820 kg/ha). Plant protection schedules for both main and intercrops showed significantly higher total yield (2112 kg/ha) than zero protection schedule (1970 kg/ha) and was on par with protection only for cotton and only for intercrops (1993 and 1983 kg/ha, respectively). Economic analysis indicated that net returns (Rs. 34059 /ha) and B:C ratio (2.55) were significantly higher in Bt cotton + okra (1:1) intercropping system. The study suggests that Bt cotton intercropped with okra is better with respect to overall productivity and economics.

**Key words :** Bt cotton, Intercropping, Okra, Chilli, Economics, Plant protection.

### 1. Introduction

Cotton is an important commercial fibre crop. It is grown on 32 million hectares in the world with a production of 56 metric tonnes. In India, the crop is grown on about 9.5 million hectares with a production of 310 lakh bales of 170 kg each which makes it next to China in

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