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BRJH-111, shootfly tolerant high yielding *rabi* sorghum hybrid for Northern dry Zone of Karnataka

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ABSTRACT
A *rabi* sorghum hybrid, BRJH 111 was developed by crossing the male sterile line 104 A and restorer line BRJ 204 at the Regional Agricultural Research Station, Bijapur, Karnataka. The hybrid was evaluated in different locations of northern dry zone of Karnataka and also at all India level. The results revealed that the hybrid is not only high yielding but also highly tolerant to shootfly. The average grain yield was 25.0 q/ha and fodder yield was 56.0 q/ha. The maturity period was 110-115 days. The grains were white and bolder than CSH 15R. The hybrid, BRJH 111 performed better in all the situations *viz*., deep soils, shallow soils and even under irrigated conditions.

Key words: *Rabi* sorghum hybrid, BRJH 111, Shootfly, CSH 15R, DSH 4, M 35-1.

INTRODUCTION
Nearly 32 per cent of the actual produce of sorghum is lost due to insect pests in India (Borad and Mittal, 1983). Conventional methods for the control of shootfly are not practical and cost effective for subsistence farmers. Although many hybrids with high yielding potentiality have been released for *rabi* situation but none of them have been accepted by the farmers. One of the major defects of all these hybrids is susceptibility to shootfly. Breeding for resistance to shootfly is a slow process which requires several cycles of crossing to combine high level of resistance with high yield (Rana *et al.*, 1975). Efforts made in this direction have led to the development of *rabi* sorghum hybrid BRJH 111. This hybrid is not only high yielding but tolerant to shoot fly. The other advantage of this hybrid is that it performs well even under different cropping systems as it matures early. The performance of this hybrid in the northern dry zone of Karnataka is discussed in this paper.

MATERIALS AND METHODS
The hybrid, BRJH 111 was developed by crossing male sterile line 104A and restorer line BRJ 204 at the Regional Agricultural Research Station, Bijapur during the year 1997-98. After preliminary testing the seeds were multiplied and evaluated as BRJH 111 during the period from 1998-99 to 2002-03 in different locations (Hagari, Bijapur, Annigeri, Bagalkot and Gadag) of zone III in Karnataka. The hybrid was also evaluated in AICRP trials at all India level during *rabi* 2002-03. The total number of entries in all these trials ranged from 10-12. The popular variety M 35-1 and the recently released hybrid, CSH 15 R were used as checks. The CRBD with three replications was followed at all the locations. The recommended packages of practice were followed in each year at each location to raise the good crop. The observations on grain yield, fodder yield, number of days to flowering, plant height, 1000 grain weight, dead hearts due to shootfly and charcoal rot incidence were recorded.

RESULTS AND DISCUSSION
The hybrid, BRJH 111 was tested at four locations of zone III over a period of five years (1998-99 to 2002-03). The results revealed that it was not only high yielding but also highly tolerant to shootfly. It recorded an average grain yield of 26.9 q/ha with 17.7 per cent increase over popular check hybrid, CSH 15R. With respect to fodder yield it registered 56.8 q/ha with 2.9 per cent increase over CSH 15R (Table 1). In All India Coordinated trial it recorded an average grain yield of 18.4 q/ha, 15.0 q/ha and 43.8 q/ha in deep black soils, shallow soils and under irrigated conditions, respectively as against 16.8, 12.2 and 41.8 q/ha, respectively in case of CSH 15R (Table 2).

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