

## Impact of frontline demonstrations on rainy (*kharif*) sorghum

The efforts made by the Extension unit of the Indian Institute of Millets Research (formerly DSR) to disseminate latest developed sorghum technologies for enhancing production and productivity and to meet requirement of the sorghum farmers by organizing frontline demonstrations (FLDs) in farmers' fields in different sorghum growing regions of the country with the help of All India Coordinated Sorghum Improvement Project and State Agricultural Universities. The project also aimed to involve the scientists in demonstrations of their product to the farmers (user of the technologies) and to have first hand feedback on its performance and problems for its further refinement. Thus, FLD is one of the important programmes conducted to evaluate and demonstrate the production potential of recently released sorghum cultivars in the farmers' fields. Besides, it helps in building confidence of the farmers to adopt the latest technologies and collecting valuable feedback to modify the research programme based on experience obtained during the field demonstrations. Now-a-days, the farmers prefer for dual purpose cultivars to meet the requirement of mainly both fodder and food. The farmers' choice is also varies locations to locations. Keeping these in view, several FLDs on sorghum were organized during two years at different locations. A few salient results are highlighted hereunder in brief.

During *kharif* 2009-10, 254 FLDs on sorghum were organized in 29 districts across the seven different sorghum growing states *viz.*, Maharashtra, Karnataka, Madhya Pradesh, Andhra Pradesh, Rajasthan, Gujrat and Tamil Nadu. Latest national and state released cultivars; SPH 1148, CSH 23, CSV 20, CSV 23, CSV 17, PJ 1430, CSV 15, JJ 1022, GJ 42 and CoS 28 were undertaken. They gave 12 to 67% higher grain and 1 to 64% stover yields over the local checks. On an average, the demonstrated cultivars could earn 56.21 per cent more net returns than that of the local checks. It was also resulted into 24% more benefit-cost (B:C) ratio than the local checks.

During *kharif* 2010-11, 125 frontline demonstrations on sorghum were organized in 14 districts across the six different sorghum growing states *viz.*, Maharashtra, Madhya Pradesh, Andhra Pradesh, Rajasthan, Gujrat and Tamil Nadu with latest sorghum cultivars namely, CSH 23, SPH 1148, CSV 20, CSV 23, CSV 17, CSV 15, SU 1080 and CoS 30 along with local cultivar as a check. Results indicated that the demonstrated sorghum cultivars gave 14% to 90% more grain yield and 4% to 56% stover yield over the local checks across the locations. On an average, the demonstrated cultivars gave net returns of Rs.19,548/- on the cost of Rs.11,598/- per ha, which is 45 per cent more than the local check.

### Overall performance of *kharif* FLDs

Latest *kharif* sorghum cultivars; CSH 23, SPH 1148, CSV 20, CSV 23, CSV 17, CSV 15, SU 1080, PJ 1430, JJ 1022, GJ 42, CoS 28, and CoS 30 were introduced in Maharashtra, Karnataka, Madhya Pradesh, Andhra Pradesh, Rajasthan, Gujarat and Tamil Nadu states through frontline demonstrations. Overall, they yielded 78% more grain and 60% stover than the local cultivars which were resulted into 51 per cent more net returns than the local cultivars. The area under sorghum reduced drastically from 10.25 m ha in 1999-2000 to 5.82 m ha in 2014-15. However, due to concerted efforts made by the scientists, extension workers, developmental agencies and farmers, average productivity of *kharif* sorghum has now reached from 847 kg /ha to 907 kg /ha during the same period.