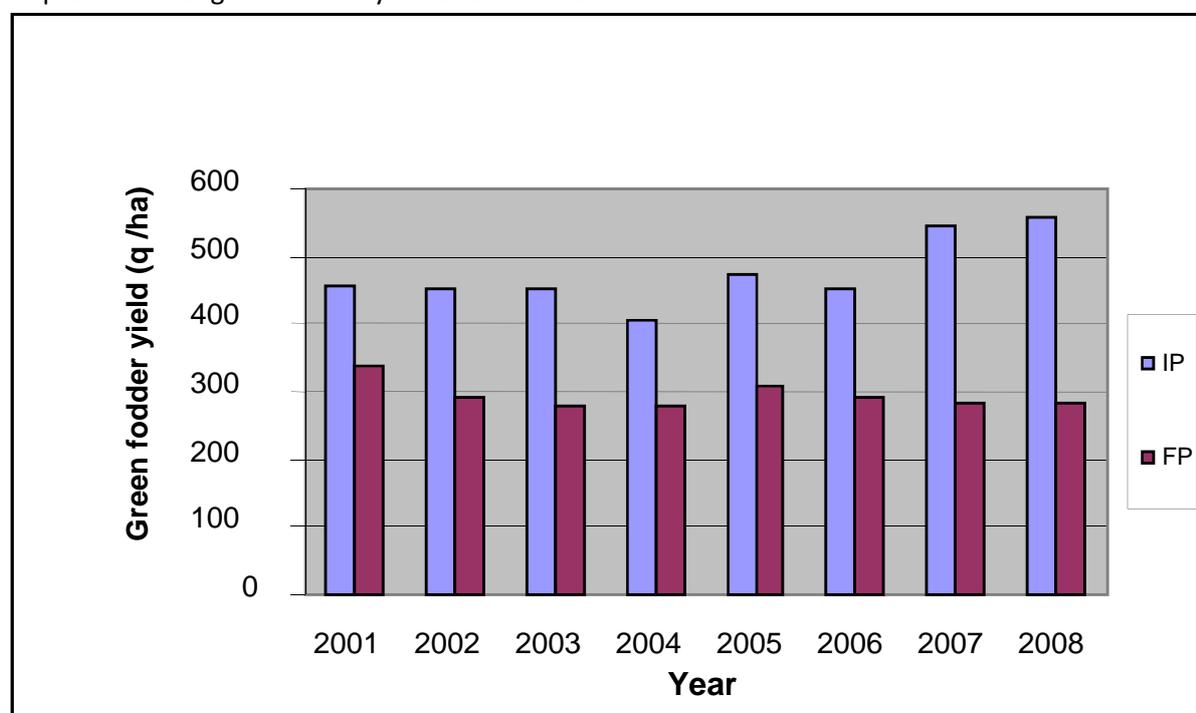


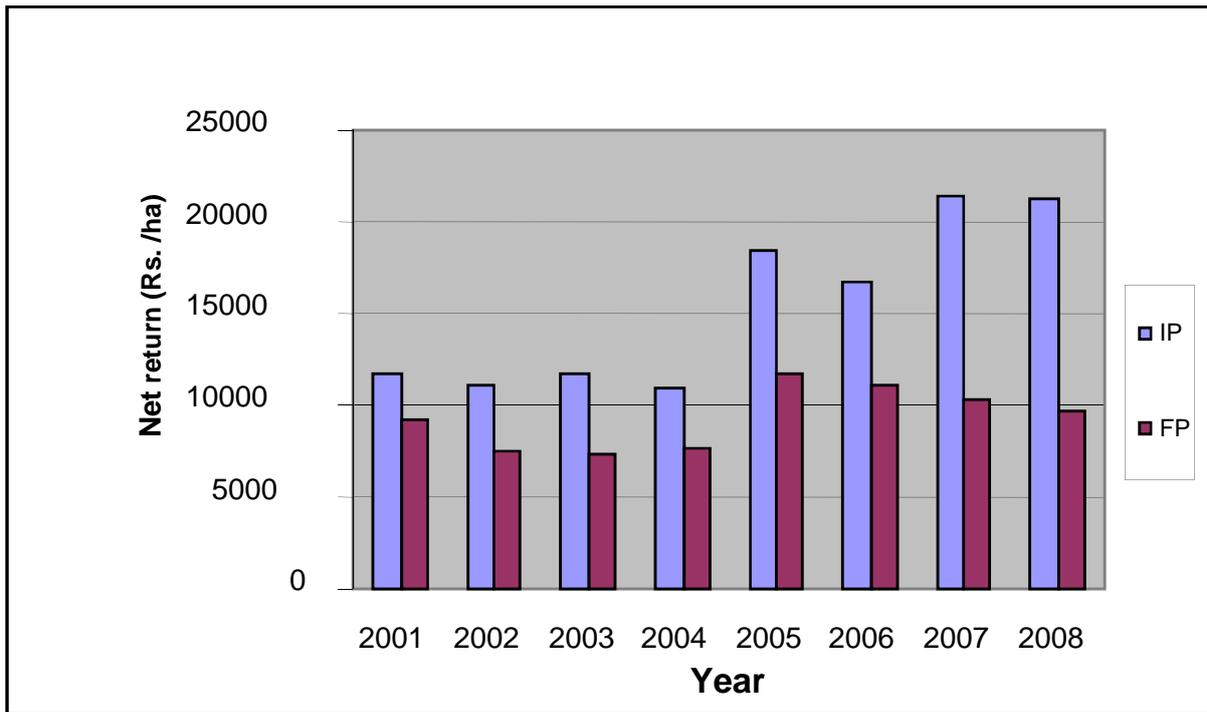
Sorghum cultivation for fodder in Uttarakhand - A success story

During last decade, a total of 175 frontline demonstrations (FLDs) on improved forage sorghum cultivation were organized on 114 ha at the fields of 99 farmers in the different villages of Udham Singh Nagar, Haridwar, Dehradun, Nainital and Champawat districts of Uttarakhand. The villages had variable soil and agro- climatic conditions ranging from clay to sandy and hilly soils. The agro-climatic conditions ranged from humid and hot climate during *kharif* season with above average rain fall in Udham Singh Nagar, Haridwar and Dehradun, while sub-humid and relatively cold climate in Nainital and Champawat districts. Sorghum was the major fodder crop of *Kharif* season in Uttarakhand, where dairy industry was well developed, especially in Udham Singh Nagar, Haridwar, Dehradun and, plain areas of Nainital and Champawat districts. Before the popularization of improved varieties of forages sorghum through the FLD programme, most of the farmers were using local cultivar, for fodder production and feeding to the cattle. The local cultivars used to give poor fodder yield, had high incidence of foliar and stem disease, thereby hampering the nutritive value of the fodder and ultimately reducing milk production. Seeds of improved varieties/hybrids of forage sorghum viz. Pant Chari 4, Pant Chari 5, CSV 15, HC 171, CSV 20, UTMCH 1302 and UTMC 532 along with inputs in the form of chemical fertilizers were given to the farmers for organizing the FLDs. Besides seed and inputs, folders/ literature on improved package of practices were also distributed to the farmers. To compare the impact of improved varieties, along with improved cultural practices (IP) and local varieties with farmers' adopted cultural practices (FP), were undertaken side by side. Merits of IP were demonstrated by comparing the cost of cultivation and net returns in rupees per ha with the FP. Based on the data, on an average a net return of Rs. 15,421/- per ha was received by the farmers by adopting the IP, while the net return of Rs. 9,289/- per ha was obtained from their own practices. The net returns was estimated on the basis of prevailing market rates of sorghum green fodder in the local markets (ranging from Rs. 30 to 50/- per 100 kg).

Impact of frontline demonstrations over the years, clearly revealed that there had been a gradual improvement in green fodder yield and net returns.



Sorghum fodder yield of improved cultivation over the years



Net returns obtained from the improved sorghum cultivation over the years

In comparison of traditional practice, where there was almost stagnation in yield and net returns. The steep rise in yield and net returns under IP was observed due to induction of more improved varieties/hybrids of multi-cut fodder sorghum viz. Pant Chari 6 and UTMCH 1302 (later on released as CSH 24MF), which had potential to yield green fodder to the tune of 50-70 t /ha in 2-3 cuttings. As result, the multi-cut forage sorghum has become very popular among the farmers of the State. To meet the demands of good quality seed of improved and new multi-cut cultivars, public-private partnership (PPP) was found to be a viable option for their commercial seed production and sale. The G.B. Pant University of Agriculture and Technology, Pantnagar and DSR, Hyderabad has taken a lead in this direction by signing a Memorandum of Agreement (MoA) with private seed company M/s Kirtiman Agro Genetics Ltd., Aurangabad for licensing them to produce and sell the hybrid seed of two multi-cut forage sorghum hybrids viz. CSH 20MF and CSH 24MF, developed by the All India Coordinated Sorghum Improvement Programme, Pantnagar.



Under the FLDs programme, a field day programmes were also organized, where the farmers had interactions with experts of sorghum on improved fodder production, cattle health and other crop related problems being faced by the farmers. The experts replied to the queries of the farmers. Most frequently asked questions were on problems of HCN content in sorghum fodder and how to produce seeds of improved fodder varieties at their

own. As a feedback, the opinion of their wives also realized of improving cattle's health and milk production by feeding fodder of Pant Chari 4 and Pant Chari 5. The cattle preferred more to eat fodder of these varieties. Some of the farmers also produced seeds of Pant Chari 5, CSV 15 and CSV 20 by leaving small portion of the plots up to maturity. They were satisfied with the grain quality.