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Effect of fodder demonstrations in rainfed multi-location conditions of Uttar Pradesh and Uttarakhand

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Introduction

Presently green fodder availability is 64.66 M tons and dry fodder (64.23 M tons.) in Uttar Pradesh, India., the green fodder deficit is 28.3% and dry fodder surplus by 14.1% respectively. Whereas, in Uttarakhand. Green fodder availability is 4.07 M tons and dry fodder 2.83 M tons, green fodder deficit is 48.1% and dry fodder 42.1%. There are many limitations affecting the forage production such as small holding of farmers and preferential need of food grains crops, limited availability of quality seed of improved varieties of fodder crops, low priority for investment in fodder production by the farmers. There is varied problem soils (acid, salt affected and water logged) prevailing in the area, lack of post harvest management for surplus fodder, no priority for fodder seed production by the farmers/seed producing agencies, no MSP for any of the fodder crops and lack of mechanization in fodder farming. Therefore, National Initiative on Fodder Technology Demonstrations will focus on increasing productivity through adoption of improved and appropriate technology best suited to the agro-climatic conditions in the zone in both arable and non-arable land. The objective of the technology demonstration is i). Accelerating production of fodder through promotion of fodder production, conservation and utilization enhancing the availability of the fodder throughout the year ii). Developing seed and planting material demonstrations units at KVK for fulfill the requirements of their vicinity. iii). Establishing back ward and forward linkages with different stake holders for profitable forage based life style husbandry.

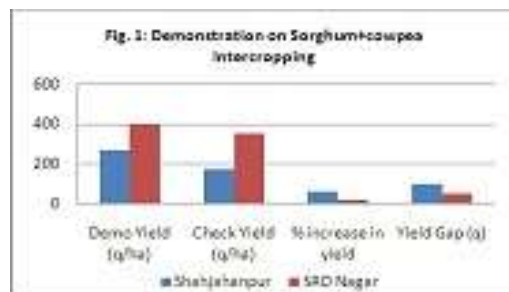
Materials and Methods

To make fodder availability round the year to the livestock is primary concern. This is because the balance ration is not being provided to the animals. Therefore, the productivity and profitability is getting down. The green fodder play very important role in breed, feed and management. For this purpose, a project launched National Initiative on Fodder technology Demonstration across the county by involving 100 KVKs of different varied soils and climatic conditions. To demonstrate the different models of fodder production which have been developed by the IGFRI, Jhansi. Under Zone IV, Kanpur.

Initially zone wise forage related constraints were identified. The micro level analysis on forages and other related aspects was done at KVK and ZPD level. 12 KVKs were identified such as Bahraich, Bareilly, Shahajhanpur, SantRavidas Nagar, Deoria, Sitapur-II, Basti, Lucknow and Pratapgarhin U.P. and Bageshwar, Haridwar and Uttarkashi in Uttarakhand, India. There after a brain storming session was organized at IGFRI, Jhansi. Further zone/ district specific technology modules were identified. The HRD programmes for KVK staff organized at IGFRI, Jhansi and other SAUs. The farmers were also trained at district level further technological modules have been executed at farmers' field by the KVKs. Convergence and linkages developed by IGFRI and ZPD based on the demonstrations laid out data collected and feedback generated by KVK. Forage production from arable lands from suitable fodder crops their varieties with improve package & practices, location specific inter cropping systems with sustainable yields, forage production system, assured supply of fodder under irrigated and rain fed conditions, utilizing problem soils (acid, salt affected, water logged sites) for fodder production and exploring possibilities for use of non-comparative land sue for fodder. In total 15.5 ha area covered under demonstrations by covering 170 farmers in different districts of U.P. and Uttarakhand during kharif 2014.

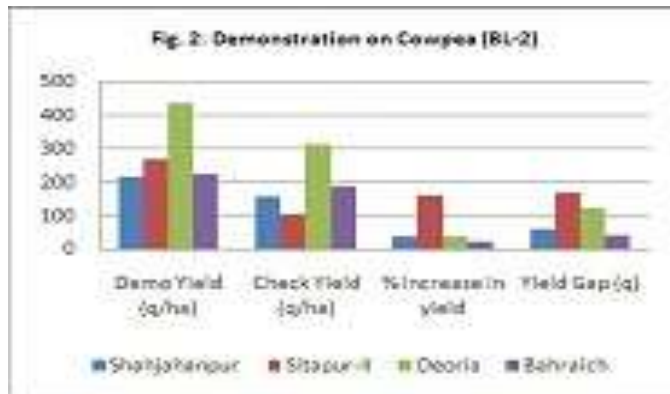
Results and Discussion

Uttar Pradesh: District Shahjahanpur and SRD Nagar laidout demonstrations on Sorghum (PC-6) + Lobia (BL-2) in an area of 2.0 ha covering 28 farmers. The demonstrated cultivar resulted green fodder yield of 332 q/ha which was 27% higher as compared to local check (261q/ha). MP Chari demonstrated at district Shahjahanpur and Deoria in an area of 4.0 ha covering 18 farmers. The demonstration resulted green fodder yield of 466 q/ha which was 16.5% higher as compared to local check (400q/ha) (Fig. 1).



District Shahjahanpur laid out demonstrations on maize (J-1006) in an area of 1.0 ha on 5 farmers' field. The demonstration resulted green fodder yield of 235 q/ha which was 42% higher as compared to local check (165q/ha). Maize (African Tall) demonstrated at district Sitapur-II on in an area of 0.72 ha by covering 08 farmers. Green fodder yield recorded 460 q/ha which was 48% higher as compared to local check. This variety is palatable, fast growing and soft in nature which is liked by the animals. Similar findings made by Singh *et al* (2007).

Cowpea (BL-2) demonstrated at district Shahjahanpur, Sitapur-II, Bahraich and Deoria in an area of 4.98 ha covering 32 farmers. The demonstration resulted green fodder yield of 287 q/ha which is 9% higher as compared to local check (264q/ha) (Fig. 2). Cowpea supply green fodder for longer period and improves soil health. Findings were similar by Arya *et al.* (1994).



Uttarakhand: Districts Bageshwar, Haridwar and Uttarakshilaid out demonstrations in an area of 2.2 ha of 63 farmers' field on maize (African Tall) resulted average green fodder yield 362.33 q/ha.

Conclusion

It is envisaged based on the results obtained in the sorghum+cowpea intercropping system which provides 20% higher green fodder yield and average yield gap of 71 q/ha over check. MP Chari resulted 46.0 tone green fodder, cowpea (BL-2) given 9% higher green fodder and average yield gap of 97 q/ha over check. Maize (J-1006) resulted 42% higher yield whereas the maize (African Tall) resulted 48% higher yield as compared to their local checks. Similarly, maize (African Tall) resulted yield of 36.2 tones green fodder in Uttarakhand. Hence, green fodder improved varieties have potential to enhance the yield advantages in all the crops demonstrated during kharif season. There are lot of options for fodder crops to be grown during kharif season to meet out the fodder demand under rainfed conditions of Uttar Pradesh and Uttarakhand.

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