

COMPARATIVE PERFORMANCE OF FORAGE PEARL MILLET GENOTYPES FOR FODDER AND GRAIN YIELD POTENTIAL AT HISAR AND ALL-INDIA LEVEL

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SUMMARY

Five promising genotypes of forage pearl millet namely; NDFB-11, NDFB-13, AFB-3, AFB-4 and JHPM 08-1 contributed by various Coordinating Centres under AICRP (FC) were evaluated against two national checks namely; Raj Bajra Chari-2 and Giant Bajra for assessing their fodder and grain yield potential in two separate trials during *kharif*-2010 at CCS HAU, Hisar. Both the experiments were sown at the farm area of Forage Section, CCS HAU, Hisar on 18th July, 2010 with 3 replications. The plot size was kept as 4.0 m x 3.0 m, with row to row distance of 30 cm. The same sets of entries were also tested at 16 different locations for fodder trial and at 14 locations for grain trial across the country during *kharif*-2010 (Anon., 2010).

Key words : Green fodder, Grain, performance, pearl millet

The data of green fodder was recorded at 50 % panicle emergence, while data for grain yield was recorded at maturity. The data so obtained was statistically analyzed. The results of both the experiments are given in Table 1 and Table 2.

(a) Fodder Yield

At Hisar, genotypes AFB-3 and JHPM 08-1 (Table 1) gave highest green fodder yield (GFY- 636.0 q/ha) as compared to the best check Giant Bajra (594.4 q/ha). However, at All-India level, none of the genotypes showed superiority over the national check Raj Bajra Chari-2 (465 q/ha). The mean GFY at Hisar (469.8 q/ha) was much higher than the mean GFY at All-India level (381.3 q/ha).

Location wise performance of the varietal trial on forage pearl millet (Table 2) revealed that the highest green fodder yield (642.9 q/ha) was recorded at BAIF, Urulikanchan, Maharashtra followed by Anand in Gujarat (591.7 q/ha) and Jalour in Rajasthan (542.4 q/ha).

Same genotypes *i.e.* AFB-3 (112.3 q/ha) and JHPM 08-1 (97.4 q/ha) which gave higher GFY also showed superiority for Dry Matter Yield over the best check Giant Bajra (85.1 q/ha) at Hisar (Table 1).

However, at national level, genotype JHPM 08-1 gave the highest DMY (95.7 q/ha) which is almost comparable with Hisar location (97.4 q/ha). The mean DMY at Hisar (75.3 q/ha) was almost comparable with the mean DMY at All-India level (76.6 q/ha).

Location wise performance of the varietal trial on forage pearl millet (Table 2) revealed that the highest dry matter yield (127.4 q/ha) was recorded at BAIF, Urulikanchan, Maharashtra followed by Ludhiana in Punjab (112.1 q/ha) and Ranchi in Jharkhand (98.9 q/ha).

(b) Grain Yield

The results of the grain trial (Table 1) revealed that, genotypes AFB-4 and NDFB-13 gave higher grain yield (22.5 q/ha) as compared to the best check Raj Bajra Chari-2 (18.1 q/ha) at Hisar whereas, at All-India level, genotypes AFB-3 (17.7 q/ha) and AFB-4 (17.3 q/ha) had the slight edge over the best check Giant Bajra (17.2 q/ha). Genotype AFB-4 also gave the high grain yield at Hisar location too as mentioned above. The mean grain yield at Hisar (18.4 q/ha) was considerably higher than the mean grain yield at All-India level (16.6 q/ha).

Location wise performance of the varietal trial

TABLE 1
Performance of Forage Pearl Millet genotypes for fodder and grain yield during *kharif*-2010 at CCS HAU, Hisar

Genotypes	GFY (q/ha)		DMY (q/ha)		Grain Yield (q/ha)	
	Hisar	All-India (16)*	Hisar	All-India	Hisar	All-India (14)*
NDFB-11	194.4	315.0	32.4	59.3	18.3	16.0
NDFB-13	383.3	306.1	60.0	70.4	22.5	16.5
AFB-3	636.1	357.4	112.3	78.8	19.4	17.7
AFB-4	527.8	396.0	86.2	78.1	22.5	17.3
JHPM 08-1	636.1	399.7	97.4	95.7	14.2	16.0
Raj Bajra Chari -2 (NC)	316.7	465.5	53.7	64.6	18.1	15.2
Giant Bajra (N.C.)	594.4	429.1	85.1	89.0	13.6	17.2
Mean	469.8	381.3	75.3	76.6	18.4	16.6
CD 5%	58.4		8.2		3.5	
CV %	6.9		6.0		10.5	

*Figures in parenthesis indicate number of locations.

TABLE 2
Location wise performance of forage pearl millet varietal trial for fodder and grain yield during *kharif*-2010

Locations across the country	GFY (q/ha) (17)*	DMY (q/ha) (16)*	Grain Yield (q/ha) (14)*
Ludhiana	484.1	112.1 (ii)	14.5
Hisar	469.8	75.3	18.4
Bikaner	303.1	56.3	10.2
Jalour	542.4 (iii)	-	8.6
Faizabad	289.2	64.9	10.5
Ranchi	350.3	98.9 (iii)	-
Bhubaneswar	285.1	64.4	-
Anand	591.7 (ii)	91.9	12.1
Jamnagar	171.0	47.1	6.4
Jabalpur	419.4	96.3	18.4
Rahuri	439.8	79.2	6.5
Urulikanchan	642.9 (i)	127.4 (i)	25.8 (ii)
Jhansi	255.7	51.7	22.3 (iii)
Hyderabad	182.4	48.3	-
Dharwad	250.4	62.0	2.8
Coimbatore	526.9	85.1	12.6
Mandya	277.2	64.1	62.7 (i)
Average	381.3	76.6	16.6

on forage pearl millet (Table 2) revealed that the highest grain yield (62.7 q/ha) was recorded at Mandya, Karnataka followed by BAIF, Urulikanchan, Maharashtra (25.8 q/ha) and Jhansi in Uttar Pradesh (22.3 q/ha).

The aforementioned results clearly revealed that on the basis of average performance taken over 17/14 locations across the country, Urulikanchan in Maharashtra could be the one of the best locations for attaining higher production of fodder, followed by Anand in Gujarat and Jalour in Rajasthan whereas, Mandya in Karnataka could be the one of the best locations for

attaining higher production of grain in forage pearl millet followed by Urulikanchan in Maharashtra and Jhansi in Uttar Pradesh, thus these locations can be used profitably as a commercial forage/seed production sites for attaining higher forage/seed production of forage pearl millet.

REFERENCE

Anonymous 2010-11 : Annual Report of AICRP (FC), Part-I: *Kharif*-2010. Published by Project Coordinating Unit, IGFRI, Jhansi.