



**Barani Agricultural
Research Station,
Fateh Jang**
Cell: 0321-6005853
barsfatehjang@yahoo.com



alikh Ali Nawaz
Economic Botanist

OVERVIEW

Barani Agricultural Research Station, Fatehjang was established in 1993 that is situated at longitude and latitude 33.54998° E 72.57929° N at an elevation 495 m, with annual rainfall ranges from 700 - 875 mm (High rainfall zone)

Sorghum (*Sorghum bicolor*)

Seventeen crosses were attempted and thirteen were successful. Data regarding different parameters such as Days to 50% flowering, Days to 50% maturity, Grain yield and Fodder yield was taken. Moreover, 09F1, 06F2, 05F3, 04F4, 04F5 and 06F6 generations of sorghum comprising a total of 34 entries were studied and 09F1, 05F2, 04F3, 03F4, 03F5 and 04F6 entries were selected for further evaluation in their next generations. Whereas, four genotypes along with two check varieties (Chakwal Sorghum & JS-2002) were evaluated for their yield (grain & fodder) performance and disease resistance in A-Trial. The results indicated that the genotype 17FS-01 produced highest grain yield (571.76 kg/ha) and 17FS-04 produced highest green fodder yield (34.72 t/ha).

Table 1: Grain Yield of Candidate Lines

S #	Candidate Lines	Yield Kg/ha
1	17FS01	571.76
2	17FS04	472.22
3	17FS02	395.83
4	Chakwal Sorghum	458.33
5	JS-2002	402.78

S #	Candidate Lines	Yield t/ha
1	17FS04	34.72
2	17FS02	33.33
3	17FS01	30.09
4	Chakwal Sorghum	30.56
5	JS-2002	31.02

Table 2: Fodder Yield of Candidate Lines

lowest grain yield was observed in Check variety, Arooj (427.08 kg/ha).

Table 4: Yield Data of Mash Candidate Lines

S #	Candidate Lines	Yield Kg/ha
1	15CM-703	552.08
2	15CM-708	541.67
3	Arooj	427.08

Table 5: Yield Data of Mash Candidate Lines

S #	Candidate Lines	Yield Kg/ha
1	MS-18001	548.61
2	MS-18055	496.53
3	MS-18028	388.89

Mung (*Vigna radiate* L.)

Seventeen promising lines of Mung were evaluated for their grain yield performance. Analysis of yield data showed that entry MG-18069 showed the highest grain yield (715.28 kg/ha) followed by the MG-18024 (680.56 kg/ha) and lowest grain yield was shown by entry MG-18033 (368.06 kg/ha).

Table 3: Yield Data of Mung Candidate Lines

S #	Candidate Lines	Yield Kg/ha
1	MG-18069	715.28
2	MG-18024	680.56
3	MG-18033	368.06

Mash (*Vigna mungo* L.)

Seven Mash lines in National Uniform Yield Trial were assessed for their grain yield performance. Analysis of yield data exhibited that in NUYT mash entry MS-18001 showed the highest grain yield (548.61 kg/ha) followed by the genotype MS-18055 (496.53 kg/ha) and lowest grain yield was shown by genotype MS-18028 (388.89 kg/ha).

While twelve Mash entries were assessed for their grain yield performance. Analysis of yield data revealed that Entry no. 15CM-703 showed the highest grain yield (552.08 kg/ha) followed by Entry no. 15CM-708 (541.67 kg/ha) and

Guar (*Cyamopsis tetragonoloba* L.)

Four Guar promising lines were assessed for their grain, green fodder and dry matter yield performance. The entry No. C showed the highest grain yield (2034 kg/ha) followed by the entry No. B (1764 kg/ha). The entry No. "A" excelled in respect of green fodder yield (32 t/ha) and dry matter yield (16 kg/ha), while entry No. "B" showed lowest fodder yield and entry No. "C" showed lowest dry matter yield.

Table 6: Grain Yield of Guar Candidate Lines

S #	Candidate Lines	Yield Kg/ha
1	Entry C	2034
2	Entry B	1764
3	Entry D	1680

Table 7: Fodder Yield Data of Guar Candidate Lines

Cowpea (*Vigna unguiculata* L)

Ten cowpea lines in Micro Yield Trial were assessed for their grain yield performance. Analysis of yield data exhibited that in CYT the entry CO-054 showed highest grain yield (565.97 kg/ha) followed by the entry CO-067 (506.94 kg/ha) and lowest grain yield was observed in entry CO-058 (312.50 kg/ha).

S #	Candidate Lines	Yield t/ha
1	Entry no. A	32
2	Entry no. D	31
3	Entry no. C	30

Table 8: Yield Data of Cowpea Candidate Lines

S #	Candidate Lines	Yield Kg/ha
1	CO-054	565.97
2	CO-067	506.94
3	CO-058	312.50

Publications

1. Arshad W., A. Nawaz, S. Ali, M. Zeeshan, M. I. Khan, A. Batool, M. A. Mian, M. Tariq and S. Rehman. 2018. Fatehjang-2016 A high yielding and rust resistance wheat variety for rain-fed areas of Punjab. J. Agric. Res. 56(3): 173-179.
2. M. Zeeshan, G. Nabi1, S. Ali, M. Hussain, Saadia, A. Ali, M. I. Khan, W. Arshad, A. Batool. 2018. Evaluation of groundnut (*Arachir hypogaeae* L.) lines for their yield potential and adaptability under rainfed conditions. Int. J. Bio. Sci. (Acceptance letter attached).

List of Senior Scientists

Name of Officer & Designation	BS	Place of Posting	Mobile No.	E-mail Address
Mr. Ali Nawaz, Economic Botanist	18+165/SP	Barani Agri. Research Station, Fatehjang	0300-9702230	barsfatehjang@yahoo.com

Radio Talks **Nil**