

RESEARCH ARTICLE

EVALUATION OF PHENOTYPIC TRAITS RELATED TO GRAIN YIELD AND ADAPTABILITY STUDIES TO LOCAL CLIMATIC CONDITIONS OF BASTAR PLATEAUIN FINGER MILLET (*ELEUSINE CORACANA* L. GAERTN) GENOTYPE

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Received-02.07.2023, Revised-14.07.2023, Accepted-25.07.2023

Abstract: The current point of inquiry is named “Trait specific evaluation of advance generation genotypes for grain yield in finger millet (*Eleusine coracana* L. Gaertn)” took place at the New Upland Research Cum Instructional Farm, Lamker Under the S.G. College of Agriculture and Research Station, Jagdalpur, Bastar (C.G.) India, during *kharif* 2022. In Randomized Complete Block Design (RCBD). The experiment was conducted to phenotypically evaluate characteristics associated with grain yield. Total of 29 finger millet genotypes including 1 local check (CG Ragi 02) were examined for 4 qualitative characters and 12 quantitative traits, during *Kharif*-2022 and 16 descriptors were examined to establish the genotypes of finger millet as being morphologically different from one another. Descriptors are selected in accordance with the guidance for conducting DUS characterisation on finger millet, using PPV and FRA. The following descriptors were analysed for the research. The analysis of variance revealed very substantial differences between the 29 genotypes for each trait. A semi-compact ear is one of the genotypes which were looked at (49%), copper-coloured seeds (31%), pigmentation absent at the leaf juncture (69%), and seed shape round shape seeds (59%) were seen to be commonplace. In contrast, late span for days to 50% blooming is a quantitative feature (97%), Medium maturation (52%), medium range of plant height (90%), long range of flag leaf length (72%), medium leaf width (93%), medium finger length (59%), medium finger width (97%), medium finger number (100%), moderate test weight (97%) genotypes, high range harvest index (59%) genotypes, and high yield grain (38%) genotypes are all recorded.

Keywords: *Eleusine coracana*, Genotype, Qualitative traits

INTRODUCTION

Finger millet ranks fourth among all millets in the world and is nutritionally similar to wheat and rice. With a total grain yield of 4.5 million tons, finger millet is grown on 5 million hectares of land world-wide. The overall area of finger millet cultivation in India is 890.9 thousand hectares, with a production of 1238.7 thousand tons and a productivity of 1390 kg/ha. Karnataka, followed by Uttarakhand, Maharashtra, Tamil Nadu, and Andhra Pradesh, are the top states in India for cultivating finger millet. It can be grown in a variety of eco-geographical regions across the world and is used for food, fodder, and medicinal purposes. The crop also has great genetic diversity, suggesting that it may be bred to become better.

Characterization and assessment are essential precondition for both discovering sources of useful genes and for making the best use of germplasm. Since the existence of considerable genetic variability in the base material improves the possibility that desirable plant types will emerge, it is essential to have a full understanding of the kind and degree of genetic variation accessible in the gene

pool before beginning any systematic breeding effort.

MATERIALS AND METHODS

The current study was conducted at the Lamker Under Shaheed Gundadhoor College of Agriculture and Research Station, Jagdalpur (C.G.), New Upland Research cum Instructional Farm. The experiment was carried out in *Kharif* 2022, and the season's highest temperature was 32.41°C to a minimum up to 21.17°C. The experimental material for present investigation consists of twenty-nine advance generation genotypes of finger millet (*Eleusine coracana* L. Gaertn) including one local check variety (CG Ragi 02) for phenotypic assessment, and adaptability studies to local climatic conditions under All India Coordinated Research Project on Small millets. Five plants from each plot were randomly selected at the optimal stage of growth for finger millet during the experiment, in accordance with the DUS (Distinctness, Uniformity, and Stability) guidelines established by the PPV&FRA (Plant Variety Protection and Farmer's Rights Authority). In all, 16 variables were selected for the

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study, including 12 quantitative qualities and 4 qualitative aspects. The average of all the plants for a particular trait was evaluated in each replication.

RESULTS AND DISCUSSIONS

Qualitative traits:

Plant pigmentation at the junction of the leaves, ear shape, seed color, and seed shape were the qualitative features that were examined in this study. At 50% blooming, plant pigmentation was seen. Plant pigmentation was used to categorize genotypes into two groups: present and missing. Nine genotypes (31%) of the twenty-nine genotypes were recorded for the present class, whereas twenty genotypes (69%) were recorded for the missing class. Early studies had shown that some genotypes displayed an unusual amount of black pigmentation at the nodes. In earlier study, found that 66.3% was green and 33.7% was purple *i.e.*, pigmented in 92 germplasms studied in Uttarakhand. Similarly, Malambane and Jaisil. (2015) also observed green (63.4%) and purple (36.6%) type plants in 82 accessions of finger millet. Similarly, Reddy *et al.* (2009) finger millet from eastern Africa was categorized as a green, pigmented germplasm accession. 65 percent of the plants included in the 1993 accession were of the green type, and 35 percent were of the pigmented kind. The current investigation is supported by these findings. Based on ear shape, five genotypes were identified: fist type, compact, semi-compact, open, and drooping. Twenty-nine genotypes were identified, of whom two genotypes have been documented for the first type (7%), ten for the compact type (34%), fourteen for the semi-compact form (49%) and three for the open shape (10%). Malambane and Jaisil (2015) categorized 82 accessions into four groups: fist inflorescence, a smaller group, long open inflorescences (54.9%), compact inflorescence (7.3%), and drooping inflorescence (2.4%). The majority of observed plants (68.0%) were found to have semi-compact forms, whereas 95 plants (19%), 52 plants (10.4%), and 13 plants (2.6%) had compact, open, and fist-like shapes, respectively (Fig 01). Parallely, examined ear shape is a significant yield contributing factor that also affects sub-race recognition. Black, light brown, copper brown, and dark brown were the four genotype classes that were determined by seed colour. Twenty-nine genotypes were documented, of which six genotypes were found in black seeds (21%), six genotypes in light brown seeds (21%), eight genotypes in dark brown seeds (28%) and nine genotypes in copper brown seeds (31%). In another study Malambane and Jaisil (2015) also recorded similar findings with our result. Three classes, round, reniform, and ovoid, of genotypes were created based on seed shape. Seventeen genotypes were found for round seeds out of the twenty-nine

genotypes. (59%), seven genotypes were recorded for reniform seeds (24%), five genotypes were recorded for ovoid seeds (17%). Round seeds are more likely than other shapes to germinate quickly. No plant's seed shape affects the varietal selection process. Earlier, investigated 92 germplasm accessions according to seed shape Round, reniform, and ovoid germplasm entry can all be categorized, round shaped seeds have a higher possibility of acceptance than other seed shapes, which supports the present findings. The majority (42.39%) of finger millet accession generated round-shaped seeds, followed by (32.61%) reniform and ovoid (25%).

Quantitative traits:

The range for days to 50% flowering was from 69 DAS TO 92 DAS, with the general mean value of 79.88 DAS. Out of 29 genotypes, not a single genotype was recorded for the early category, 1 genotype recorded for medium category (56-70 DAS) and 28 genotypes recorded for the late category (>70 DAS). The medium flowering genotype was VL-402 (69 DAS), whereas late duration genotypes were VL-376 (71 DAS) followed by VL-409 (72 DAS), CFMV-1 (74 DAS) and PPR-1216 (75 DAS). Similar findings were discovered in the experiments conducted by Malambane and Jaisil (2015) reported that the time it would take for flowers to bloom would be between 45 and 92 days. These features shown significant variation and selection for maturity classes appropriate for cropping systems. Days to maturity range, was from 91 DAS to 120 DAS with the general mean value of 105.37 DAS. Early (<105 DAS), Medium (105-120 DAS), and Late (>120 DAS) genotypes were separated into three categories. Out of 29 genotypes, 13 genotypes were recorded for the early category (<105 DAS), 15 genotypes recorded for medium category (105-120 DAS) and 1 genotype recorded for the late category (>120 DAS). The genotypes which recorded for early maturity were VL-402 (91 DAS) followed by VL-409 (94 DAS), IIMR-FM-R21-8001 (95 DAS) and VR-1163 (98 DAS), whereas medium maturity genotypes were GPU-67 (106 DAS) followed by PR-1734 (107 DAS), TNEC-1341 (107 DAS) and GPU-105 (107 DAS) and the late duration genotypes was, BUFM-19-E-1 (121 DAS). Malambane and Jaisil (2015) noted a similar outcome that agreed with the findings of the current study. They asserted that the ranges for days to maturity were 65-139 days. These features shown significant diversity, making cropping system-appropriate maturity classes selectable. The range for plant height was from 76.33 cm to 109.83 cm with the general mean value of 95.92 cm. According to the guidelines, plant height is categorized into 5 classes *viz.* very short (< 40 cm), short (40.0- 80.0 cm), medium (80.1- 120.0 cm), tall (120.1- 160.0 cm) and very tall (>160.0 cm). Among the studied genotypes, no genotypes came under very short, tall and very tall category, 3 genotypes

under short class and 26 genotypes were recorded for medium class. The genotype VL-376, VR-1163 and TNEC-1341 recorded under short category. Genotypes which included under medium category were IIMR-FM-R21, GPU-67, WN-666 and PR-1734. The genotype VL-376 (76.33 cm) was shortest and among all genotypes, GE-6541 (109.83 cm) was the tallest plant and remained in the medium category. According to Patil *et al.* (2019), the F2 accession had the shortest plant (measuring 93.27 cm), while the F4 accession had the tallest plant (measuring 126.30 cm). The range for leaf width was from 0.95 cm to 1.33 cm with the general mean value of 1.14 cm. Leaf width play an important role in synthesis and translocation of photo-assimilates, affecting grain yield in finger millet, Similar to that, it was thought to be a significant source of micronutrients (Fe and Zn) that the seeds may remobilize. It was categorized in three classes viz. narrow (<1.0 cm), medium (1.0-2.0 cm), and large (>2.0 cm). Among 29 genotypes, 2 genotypes were included in narrow and 27 genotypes in medium class. The genotypes VL-376 and VR-1163 recorded under narrow category genotypes which included under medium category were CFMV-1, followed by, WN-666, PR-1734 and CG-RAGI 02 (Local check). Leaf length plays an important role in terms of supply of photosynthates to the grain, hence achieving yield potential. It is the most metabolically active organ in the synthesis of food material. The genotypes were divided into four classes: short (<15 cm), medium (15.0- 30.0 cm), long (30.1- 45.0 cm), and very long (>45.1 cm). Among 29 genotypes, 8 genotypes were recorded for medium and 21 genotypes were recorded under long class. The genotypes VL-376, followed by, GPU-105, TNEC-1341, KIFMG-211 recorded under medium category. Genotypes which included under long category were GPU-67, CG-Ragi 02, KMR-654 and PR-1734. Similar findings were found in the investigations carried out by, Goswami *et al.* (2015) GEC-961 had recorded highest flag leaf length (40.96 cm). The range for finger width was from 0.83 cm to 1.02 cm with the general mean value of 0.91 cm. The genotypes were divided into three classes: narrow (<0.7 cm), medium (0.7-1.0 cm), and wide (>1.0 cm). In the current experiment, among 29 genotypes, 1 genotype had wide finger width, and 28 genotypes had medium finger width while no genotype possessed narrow finger width. The genotypes GPU-105, followed by IIMR-FM-R-21-8012, PPR-1216 and VL-402 had medium finger width whereas, WN-666 genotype lie in the range of wide finger width. The range for finger length was from 6.00 cm to 10.30 cm with the general mean value of 7.89 cm. There were three categories for finger length: short (5 cm), medium (5-7 cm), and long (>7 cm). Among 29 genotypes, 17 genotypes recorded under medium category and 12 genotypes recorded under long category. The genotypes VR-

1163, followed by, VR-1171, PR-202, VL-202 recorded under medium category. Genotypes which included under long category were VL-402, followed by, GPU-67, IIMR-FM-R21-8006 and PPR-1216. Satish (2003) found a direct correlation between finger length and grain yield. The range for finger on main ear was from 5.25 to 7.67 with the general mean value of 6.23. Number of fingers on main ear was divided into three categories, low (<5), medium (5-8), and high (>8). Out of 29 genotypes, all twenty-nine genotypes were recorded under medium category. Highest value was recorded by genotype VL-376 (7.6), followed by VL-402 (7.3), WN-577 (6.9), CFMV-2 (6.7), lowest value was recorded by genotype PR-1734 (5.2). The range for productive tillers was from 1.00 to 1.50 with the general mean value of 1.20. Number of productive tillers was divided into three categories, low (1-3), medium (4-6), and high (>6). Out of 29 genotypes, all twenty-nine genotypes were recorded under low category. The highest value was recorded by genotype VR-1163 (1.50), followed by, KIFMG-211 (1.47), TNEC-1341 (1.37) and lowest value were recorded by genotype WN-666 (1). It has a mean value of 5.70 with a range of 1.10 to 13.40. Crop yield will be high in proportion to the number of productive tillers (Jayaram *et al.* 2007). The range for test weight was from 2.33 g to 3.10 g with the general mean value of 2.76 g. Test weight of a plant variety depends on the embryo size and seed storage reserves of which will have influence on germination and field emergence. Test weight was divided into three categories, low (<2 g), moderate (2-3 g), and high (>3 g). Among 29 genotypes, 28 genotypes were recorded for moderate category and 1 genotype was recorded in high category. The highest value was recorded by genotype VR-1171 (3.10 g), followed by IIMR-FM-R-21-8011 (2.96 g), VR-1163 (2.95 g), CFMV-2 (2.94 g). Lowest value was recorded by genotype VL-376 (2.33 g). The range for harvest index was from 16.51 % to 22.77% with the general mean value of 20.32. Harvest index was divided into two categories, low (<20.32%), and high (>20.32%). Among 29 genotypes, 12 genotypes were recorded for low harvest index and 17 genotypes were recorded in high harvest index. Lowest harvest index recorded by genotype VR-1171 (16.51%). And highest harvest index was recorded by genotype WN-577 (22.77%) followed by PR-1734 (21.93%), GPU-106 (21.78%). Similar observations were found in the studies performed by Goswami *et al.* (2015). The range for grain yield was from 1284.00 kg to 2049.33 kg with the general mean value of 1605.14 kg. Grain yield was divided into two categories, on the basis of mean performance, low (<1605 kg), and high (>1605 kg). Among 29 genotypes 18 genotypes were recorded for low grain yield and 11 genotypes were recorded in high grain yield category. The highest grain yield was recorded by genotype BUFM-19-E-1 (2049 kg),

followed by PR-137 (1803kg), WN-577 (1798 kg), WN-666 (1783kg), and the lowest grain yield were recorded by genotype VL-376 (1284kg). Wide variations in seed yield per plot were noted by Dasanayaka (2016), which is consistent with the present findings. Table 1 shows that all of the characters under consideration had substantial mean sums of squares between block, check, and test entries. There is significant genetic variation present in the material, as evidenced by the wide group of 29 finger millet genotypes' noticeable differences in a variety of parameters. The average performance of all genotypes is shown in table 2.

Adaptability studies to local climatic conditions:

The goal of the current inquiry was to determine how well genotypes might adapt to the specific climatic conditions of the Bastar Plateau. The following yield-attributing characteristics were compared between high yielding genotypes and the local check variety (CG-Ragi 02) on the basis of an adaptation study.

Plant height (cm)

In this present investigation plant height of local check variety (CG Ragi 02), were found (105.67cm) and grain yield was (1511 kg ha⁻¹), and other high yielding genotypes was with their plant height, and grain yield, BUFM-19-E-1 plant height (98.30 cm), grain yield (2049 kg), WN-577 plant height (96.20 cm), grain yield (1798 kg), WN-666 plant height (84.80 cm), grain yield (1783 kg), WN-660 plant height (85 cm), grain yield (1729 kg), VR-1163 plant height (76.73 cm), grain yield (1704 kg). On the basis of present investigation, it was found that all the genotypes which are showed high yield as compared to local check variety (CG Ragi 02) are low in plant height compared to local check (CG Ragi 02). These findings are in confirmatory to the findings of previous workers. Tall plants are favoured where fodder is the aim, whereas short plants are preferred where grains are the target (Jayarame *et al* 2007). The shortest plant, measured at 93.27 cm by Patil *et al.* (2019), was found in accessions F-2, while the tallest plant, measured at 126.30 cm, was found in F-4.

Days to 50% flowering

On the basis of the current analysis, it was discovered that the local check variety's days to 50% blooming were (77 DAS), and grain yield (1511 kg ha⁻¹), and other high yielding genotypes was with their days to 50% flowering time, and grain yield, BUFM-19-E-1, DFF (87 DAS), grain yield (2049 kg), WN-577, DFF (88 DAS), grain yield (1798 kg), WN-666, DFF (92 DAS), grain yield (1783 kg), WN-660, DFF (92 DAS), grain yield (1729 kg), VR-1163, DFF (76 DAS), grain yield (1704 kg). On the basis of present study, it was found that all the genotypes which are showed more time in days to 50% flowering are high in grain yield as compared to local check variety (CG Ragi 02). Similar results were documented by Anuradha and Patro. (2019),

while investigating the 10 genotypes of finger millet from all across India that were examined in *Kharif* 2017 at the Agricultural Research Station in Vizianagaram, Andhra Pradesh, revealed that of all genotypes, GPU-67 had the highest yield, but when the benefit of length is taken into account, VL-352 is a better culture since it had a comparable grain yield but was harvested much faster than GPU-67. With significant GAM, grain yield showed moderate heritability, demonstrating the presence of both additive and non-additive gene action. It demonstrated a substantial positive correlation with days to 50% blooming, showing that grain output can be increased by choosing genotypes with a lengthy duration. However, path coefficient analysis offers a clearer understanding of the simultaneous association and selection of several features.

Days to maturity

According to the results of the current experiment, the local check variety's days to maturity were (110 DAS), and grain yield (1511 kg ha⁻¹), and other high yielding genotypes was with their days to maturity, and grain yield, BUFM-19-E-1, DM (121 DAS), grain yield (2049 kg), WN-577, DM (111 DAS), grain yield (1798 kg), WN-666, DM (119 DAS), grain yield (1783 kg), WN-660, DM (118 DAS), grain yield (1729 kg). On the basis of present investigation it was found that all the genotypes which are showed more time in days to maturity are high in grain yield as compared to local check variety (CG Ragi 02). Supporting results were documented by Lad *et al.* (2020), while studying the 50 diverse genotypes of finger millet evaluated at Botany Farm, College of Agriculture, Pune, during *Kharif*, 2018. Found that traits like days to maturity, 1000 seed weight, the number of seeds produced per plant was shown to be significantly positively correlated with finger length.

Test weight (g)

In the current examination, test weights (g) of a local check variety (CG Ragi 02) were discovered, (2.76 g) and grain yield was (1511 kg ha⁻¹), and other high yielding genotypes was with their test weight, and grain yield, BUFM-19-E-1, TW (2.85 g), grain yield (2049 kg), WN-577, TW (2.97 g), grain yield (1798 kg), WN-666, TW (2.84 g), grain yield (1783 kg), WN-660, TW (2.84 g), grain yield (1729 kg), VR-1163, TW (2.95 g), grain yield (1704 kg). On the basis of present investigations, it was found that all the genotypes which are showed high yield as compared to local check variety (CG Ragi 02) are high in test weight as compared to local check (CG Ragi 02). On the basis of present studies, it was found that genotypes which is showed high test weight are also showed high grain yield, Result agreed with the findings of Mahanthesha *et al.* (2018) traits like 1000 seed weight, showed highly significant positive association with seed yield per plant.

On the basis of the current analysis, it is recommended that these genotypes are more able to adapt to the specific climatic conditions of the Bastar Plateau and can be exploited in future breeding initiatives for agricultural development. Since genotypes differ in their stability and adaptability with respect to traits, studies on adaptation and stability should concentrate on the most important traits. In order to generalize the conclusions, this type of study should be conducted over many seasons, years, and locations. This study was found to be very useful to the local farmers, who were able

to select the best genotypes based on the study.

ACKNOWLEDGEMENT

The study was carried out as a component of an M.Sc. thesis at the S.G. College of Agriculture and Research Station at Jagdalpur, IGKV, Raipur, Chhattisgarh. ICAR-IIMR in Hyderabad and DRS, IGKV in Raipur provided funding for the project. The institutes' financial support and technical assistance with the study are sincerely acknowledged by the authors.

Table 1. Analysis of variance for yield attributing traits in finger millet

Sources of variation	D.F.	DF	DM	PH (cm)	LW (cm)	LL (cm)	FW (cm)	FL (cm)	NPE	NDT	TW (g)	HI (%)	GY (kg/ha.)
Replications	2	5.14	0.11	26.18	0.003	4.64	0.0030	0.075	0.258	0.001	0.007	0.047	40.80
Treatment	28	95.70**	149.26**	305.68**	0.027**	23.4**	0.0095**	4.199**	0.792**	0.054**	0.090**	5.913**	75592.47**
Error	56	11.71	18.40	14.66	0.002	1.62	0.0013	0.108	0.057	0.002	0.012	0.557	3914.89
Total	86	39.31	61.22	110.19	0.010	8.85	0.0040	1.443	0.303	0.019	0.038	2.308	27296.35

“**”Significant at 1% probability

Key words: DFF= days to 50% flowering, DM= days to maturity, PH= plant height, LW= leaf width, LL= leaf length, FW= finger width, FL= finger length, NPE= number of fingers on main ear, NPT= number of productive tillers, TW= test weight, HI= harvest index, GY= grain yield.

Table 2. Mean performance of finger millet genotypes under rainfed condition

S.No	Genotypes	DFF	DM	PH	LW	LL	FW	FL	FPE	NPT	TW	HI	GY
1	BUFM19-E-1	87.33	120.50	98.30	1.13	34.87	0.90	8.38	6.07	1.20	2.85	21.25	2049.33
2	VR 1163	76.33	97.67	76.73	0.96	33.09	0.97	6.00	6.33	1.50	2.95	19.24	1704.00
3	VR 1171	75.33	102.00	102.07	1.02	31.57	0.99	6.11	6.07	1.30	3.10	16.51	1654.67
4	PR 1734	82.67	107.00	85.19	1.10	28.40	0.85	8.17	5.25	1.20	2.64	21.93	1802.67
5	TNEC 1341	78.33	107.00	78.95	1.08	26.83	0.92	6.53	5.71	1.37	2.78	21.59	1585.33
6	TNEC 1342	77.67	99.67	101.08	1.19	28.07	0.85	9.77	6.33	1.27	2.83	21.54	1565.33
7	GE 6541	86.67	107.33	109.83	1.23	33.28	0.88	9.47	5.77	1.20	2.81	20.26	1496.33
8	KIFMG 211	82.67	110.50	98.53	1.13	27.45	0.90	6.65	6.13	1.47	2.68	19.28	1382.67
9	IIMR-FM-R21-8011	85.33	110.00	108.93	1.17	32.07	0.86	7.95	5.97	1.07	2.96	20.93	1555.67
10	IIMR-FM-R21-8006	78.33	101.33	83.29	1.17	34.41	0.96	7.43	6.30	1.00	2.89	20.22	1481.67
11	IIMR-FM-R21-8001	77.67	94.50	104.27	1.18	29.41	0.83	10.13	6.20	1.17	2.77	20.86	1580.33
12	IIMR-FM-R21-8012	86.33	110.00	109.78	1.26	32.11	0.95	7.83	6.20	1.37	2.44	21.19	1604.67
13	KMR 654	79.33	102.00	101.98	1.23	31.06	0.87	8.59	6.30	1.07	2.74	20.59	1521.00
14	KMR655	76.67	101.33	100.43	1.13	31.69	0.96	7.80	6.30	1.30	2.71	20.85	1565.33
15	VL 402	69.67	90.67	91.70	1.15	31.81	0.85	7.23	7.33	1.00	2.89	19.17	1595.00
16	VL409	72.00	94.33	87.77	1.16	29.29	0.97	6.92	6.50	1.20	2.54	19.13	1466.67
17	WN 577	87.67	110.67	96.20	1.13	32.62	0.86	8.34	6.93	1.07	2.97	22.77	1797.33
18	WN 660	86.00	112.67	105.57	1.15	32.50	0.89	6.77	6.23	1.20	2.81	21.19	1728.67
19	WN 666	92.00	118.67	84.80	1.03	35.19	1.02	8.33	5.33	1.00	2.84	21.59	1782.67

20	GPU 105	77.33	107.00	95.98	1.21	26.73	0.83	8.42	6.00	1.23	2.70	21.12	1709.00
21	GPU106	88.33	110.33	97.31	1.31	35.86	0.96	9.18	5.53	1.20	2.41	21.78	1782.67
22	PPR 1216	75.00	100.67	101.91	1.13	36.19	0.85	7.53	6.13	1.07	2.73	21.67	1718.67
23	PPR1272	82.00	114.00	93.57	1.27	34.32	0.99	9.04	6.47	1.20	2.75	19.81	1511.00
24	GPU67	77.67	105.67	84.00	1.13	30.39	0.88	7.28	6.30	1.07	2.89	19.05	1382.67
25	VL376	71.33	98.00	76.33	0.95	26.68	0.98	6.50	7.67	1.30	2.33	17.93	1284.00
26	PR202	76.00	101.67	102.97	1.14	34.56	0.90	6.35	6.53	1.23	2.64	20.58	1590.00
27	CFMV1	74.67	103.00	91.40	1.01	31.75	0.97	7.73	6.07	1.00	2.74	18.46	1437.00
28	CFMV2	79.33	107.67	107.25	1.33	32.43	0.89	10.30	6.77	1.20	2.93	18.51	1703.67
29	Local check (CG Ragi 02)	77.00	110.00	105.67	1.02	30.55	0.96	7.99	5.90	1.23	2.76	20.37	1511.00
	Mean	79.88	105.37	95.92	1.14	31.56	0.91	7.89	6.23	1.20	2.76	20.32	1605.14
	Min	69.67	90.67	76.33	0.95	26.68	0.83	6.00	5.25	1.00	2.33	16.51	1284.00
	Max	92.00	120.50	109.83	1.33	36.19	1.02	10.30	7.67	1.50	3.10	22.77	2049.33
	SE(d)	2.51	3.13	5.17	0.06	1.71	0.04	0.46	0.28	0.07	0.12	0.89	86.26
	C.D.	7.15	8.98	14.69	0.19	4.88	1.31	1.31	0.81	0.21	0.34	2.53	245.03
	C.V.	5.46	5.18	9.33	10.39	9.43	10.18	10.18	7.98	11.16	7.50	7.48	9.30

Key words: DFF= Days to 50% flowering, DM= Days to maturity, PH= Plant height (cm), LW= Leaf width (cm), LL= Leaf length (cm), FW=Finger width(cm), FL=Finger length (cm), FPE= Finger per ear, NPT= No. of Productive tillers per plant, TW=Test weight (1000 grain) (g), HI= Harvest index, GY= Grain yield ha



Fig 1: Pictorial representation of ear shape

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