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EVALUATION OF RIDGE GOURD GENOTYPES FOR GROWTH, YIELD AND ITS ATTRIBUTING TRAITS

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ABSTRACT

The present study was conducted at the Research Farm of the Department of Vegetable Science, CCS Haryana Agricultural University, Hisar. Forty ridge gourd genotypes were used as experimental material and evaluated during the last week of February and the second week of March of 2023, to assess the mean performance of various traits. The study confirmed the effects as significant at the 5% level. Considerable variability for quantitative characters (fifteen) was observed for this study. The result revealed that the quantitative traits, among all the genotypes of ridge gourd observed in the last week of February and second week of March in 2023, the genotype IC-345576 was recorded superior for fruit yield and its contributing traits followed by the genotypes IC-341161 and IC-341122.

Key words: Ridge gourd, Genotypes, Quantitative traits, Mean performance

Introduction

Ridge gourd (*Luffa acutangula* L.) is originated in India and belongs to the family Cucurbitaceae with 2n=2x=26 chromosome number. It is commonly called as *Turai or turiya or heereka or beerakai*. It is also known as ribbed gourd, angled gourd, angled loofah, Chinese okra, silky gourd and vegetable gourd. It is an important tropical and subtropical cucurbitaceous vegetable (Bhat *et al.*, 2018). The genus includes seven species out of which only two are important commonly cultivated vegetables *viz*., ridge gourd and sponge gourd. Ridge gourd grown in the spring summer and rainy seasons. Ridge gourd belongs to genus *Luffa* derives its name from the product loofah, which is used in bathing sponges, scrubber pads, door mats, pillows and mattress. The fibre has also been shown to be an effective insulator for a variety of applications. Dry fruits with good storability are sometimes utilized for decorative purposes as well. Its green fruits at immature stage are cooked as vegetable. Ridge gourd fruits contain moisture (95.2 g), fat (0.1%), minerals (0.5 g), protein (0.5%), energy (17 kcal), calcium (18 mg), phosphorus (26 mg), carbohydrate (3%), iron (0.5 mg), carotene (33 mg) and vitamin C (5 mg) in per 100 g of edible marketable portion. Trypsin inhibitors are isolated from *Luffa acutangula* L. (Haldar *et al*., 1996). Recently, this crop has been tested for its antioxidant (free radical scavenging-FRS) activity confirming the great interest of the nutraceutical science (Ansari *et al*., 2005). Despite its economic and medicinal importance, adaptability and applications, this crop received less scientific attention in crop development programmes than other cucurbits. However, cultivation of ridge gourd has recently increased due to increased consumer knowledge of its anti-biotic and nutritional properties. Ridge gourd highly cross-pollinated vine vegetable crop with a broad range of variations were observed for most of the economically important traits. There is wide range of variability available among different ridge gourd genotypes for quantitative traits. A critical assessment of variability is required for any efficient breeding effort and allows for the identification of superior lines with desirable fruit production and quality. One of the most important needs for improved cultivars is varietal homogeneity. Variability, on the other hand, is greatly wanted in germplasm

collection and conservation efforts since genetic variation, whether existing or created, is the initial step in every crop development programme (Singh, 2000).

Materials and Methods

The study was carried out at Research Farm of the Department of Vegetable Science, CCS Haryana Agricultural University, Hisar during last week of February and second week of March (summer season), 2023. The experiment was laid out in a Randomized Block Design (RBD) with three replications. Each replication consisted of forty ridge gourd genotypes which were collected from different sources. The population of five plants per genotype was maintained by the sowing of seeds at a spacing of 2.50 m×0.6 m. The genotypes were evaluated for different growth, yield and its attributing traits *viz*., days to 50% germination, number of primary branches per vine, days to first male flower opening, days to first female flower opening, nodes to first male flower, nodes to first female flower, fruit length (cm), fruit diameter (cm), stem length of internodes (cm), number of fruits per vine, days to first fruit harvest, average fruit weight (g), vine length at final harvest (m), fruit yield per vine (kg) and fruit yield per hectare (q/ha). The data collected to statistical analysis adopting standard procedures of analysis (Panse and Sukhatme, 1967). The study executed mean performance on the data for quantitative traits using R software. The doebioresearch package was used for RBD design.

Results and Discussion

Days to 50% germination

Table 1 indicated that the days to 50% germination in ridge gourd genotypes, the last week of February, the minimum days (8.03) for 50% germination was recorded in the genotype IC-392535 which was significantly at par with Pusa Nasdar (8.20), IC-262231 (8.94), IC-355967 (8.94), IC-262258 (9.29), IC-355961 (9.64), IC-264971 (9.69), IC-355952 (9.93), IC-264908 (10.15), IC-429965 (10.23), Konkan Harita (10.38), Akola-01 (10.63), IC-355959 (10.65), IC-392538 (11.10), IC-265026 (11.46) and IC-429925 (11.46), while genotype IC-341110 recorded significantly maximum number of days (17.35) for 50% germination. Whereas, the genotype IC-355967 recorded minimum days (6.44) for 50% germination followed by IC-392535 (6.89), IC-355952 (6.95), Pusa Nasdar (7.13), IC-355961 (7.31), IC-262231 (7.92), IC-264971 (7.92), IC-355959 (8.02), IC-262258 (8.04), Konkan Harita (8.92), IC-341161 (9.22), Akola-01 (9.27), IC-265026 (9.30), IC-392538 (9.33) and IC-262265 (9.63), while genotype IC-341110 recorded significantly maximum number of days (15.90) for 50% germination in the second week of March. Similar findings were also reported by Kurre *et al.*, (2022).

Number of primary branches per vine

The maximum number of primary branches per vine was observed in the genotype IC-341161 (7.44) which was significantly at par with Konkan Harita (7.00), Pusa Nasdar (7.00), IC-341099 (6.96), IC-392544 (6.92), IC-278358 (6.78), IC-264830 (6.67), IC-264908 (6.67), IC-356037 (6.50), IC-429965 (6.33), IC-392538 (6.33), Akola-01 (6.22), IC-392535 (6.14), IC-265026 (6.11), IC-341116 (6.11), IC-355974 (6.09), IC-279691 (6.08), IC-262231 (6.00) and IC-392531 (5.94), while the minimum number of primary branches per vine was recorded in the genotype IC-355952 (4.67), in the last week of February. Whereas, in the second week of March, Pusa Nasdar (8.57) recorded maximum number of primary branches per vine followed by Konkan Harita (7.68), IC-341099 (7.54), IC-429965 (7.09) and Akola-01 (7.14), while the minimum number of primary branches per vine was observed in the genotype IC-345576 (2.99) as shown in Table 1. Similar results were also recorded by Bhargava *et al.*, (2017), Karthik *et al*., (2017), Harshitha *et al*., (2019), Chauhan *et al*., (2023) and Kurre *et al*., (2022).

Vine length (m) at final harvest

The data from Table 1 revealed that the vine length at the final harvest was significantly influenced by different ridge gourd genotypes. Among forty genotypes, the maximum vine length was observed in the genotype IC-341122 (5.13 m) which was found significantly at par with IC-264971 (4.73 m), IC-393305 (4.48 m) and IC-429965 (4.45 m), while the genotype IC-392535 (2.31 m) recorded minimum vine length at final harvest in the last week of February. In the second week of Marcg, the maximum vine length was recorded in the genotype IC-279691 (4.67 m) which was found significantly at par with IC-345576 (4.70 m) and IC-341122 (4.06 m), while the genotype IC-264830 (1.96 m) recorded minimum vine length. The present study had similar results with that of Rabbani *et al*., (2012), Khatoon *et al*., (2016), Karthik *et al*., (2017), Ramesh *et al*., (2018a), Chauhan *et al*., (2023), Kurre *et al*., (2022) and Harshitha *et al*., (2019).

Stem length of internodes (cm)

In the last week of February, the maximum stem length of internodes was observed in the genotype IC-356037 (22.82 cm) which was significantly at par with IC-429970 (21.31 cm), IC-392531 (20.57 cm), IC-341122 (20.46 cm), IC-262258 (19.97 cm) and IC-264971 (19.97 cm), while the minimum stem length of internodes was noted in the genotype Konkan Harita (12.41 cm). The

Table 1: Mean performance of days to 50% germination, number of primary branches and vine length at final harvest in ridge gourd genotypes.

Genotypes	DG		NPB		VL	
	LWF	SWM	LWF	SWM	LWF	SWM
IC-262188	11.75^{cdefghij}	10.84^{bcdefgh}	5.35^{defg}	4.73^{hijklmno}	3.36^{ijklmnop}	3.36^{bcdefghi}
IC-262231	8.94^{ijk}	7.92^{hijklm}	6.00^{abcdefg}	5.67^{defghijk}	2.91^{mnopq}	2.45^{jklm}
IC-262245	13.09^{bcdefgh}	9.63^{cdefghijklm}	5.64^{bcdefg}	5.55^{efghijk}	3.60^{ghijklm}	3.17^{cdefghijk}
IC-262265	12.06^{bcdefghi}	9.84^{bcdefghijkl}	4.68^{g}	3.08^{pq}	3.44^{hijklmnop}	2.72^{efghijklm}
IC-262258	9.29^{ijk}	8.04^{ghijklm}	5.16^{efg}	4.67^{ijklmno}	3.27^{klmnop}	2.63^{fghijklm}
IC-264830	12.03^{bcdefghi}	10.43^{bcdefghi}	6.67^{abcde}	6.22^{bcdefgh}	3.14^{lmnop}	1.96^{m}
IC-264908	10.15^{fghijk}	9.78^{bcdefghijkl}	6.67^{abcde}	6.11^{cdefghij}	3.49^{ghijklmnop}	3.06^{cdefghijkl}
IC-264971	9.69^{hijk}	7.92^{hijklm}	5.24^{efg}	5.00^{ghijklmno}	4.73^{ab}	3.63^{bcd}
IC-265026	11.46^{cdefghijk}	9.30^{defghijklm}	6.11^{abcdefg}	6.05^{cdefghij}	3.99^{cdefghij}	2.71^{efghijklm}
IC-278358	14.28^{abcd}	12.94^{ab}	6.78^{abcd}	6.22^{bcdefgh}	4.02^{cdefghi}	3.01^{cdefghijkl}
IC-279691	14.38^{abc}	12.35^{bcde}	6.08^{abcdefg}	5.44^{fghijk}	3.29^{jklmnop}	4.67^{a}
IC-341099	12.22^{bcdefghi}	10.48^{bcdefghi}	6.96^{abc}	7.54^{abc}	2.84^{opq}	2.68^{efghijklm}
IC-341110	17.35^{a}	15.90^{a}	5.58^{cdefg}	3.67^{opq}	4.35^{bcdef}	2.88^{defghijkl}
IC-341116	13.23^{bcdefgh}	11.94^{bcdef}	6.11^{abcdefg}	6.63^{bcdef}	3.13^{lmnop}	3.53^{bcde}
IC-341122	12.44^{bcdefghi}	9.95^{bcdefghijkl}	7.44^{a}	3.81^{mnopq}	5.13^{a}	4.06^{ab}
IC-341161	12.64^{bcdefghi}	9.22^{efghijklm}	5.53^{cdefg}	2.99^{q}	2.88^{nopq}	2.83^{defghijklm}
IC-345576	12.54^{bcdefghi}	11.20^{bcdefg}	5.89^{bcdefg}	5.85^{defghij}	3.55^{ghijklmn}	4.70^{a}
IC-355952	9.93^{ghijk}	6.95^{klm}	4.67^{g}	4.12^{klmnopq}	4.10^{bcdefgh}	3.21^{bcdefghijk}
IC-355959	10.65^{defghijk}	8.02^{ghijklm}	5.67^{bcdefg}	6.34^{bcdefg}	3.45^{hijklmnop}	2.38^{klm}
IC-355961	9.64^{hijk}	7.31^{ijklm}	5.77^{bcdefg}	5.07^{ghijklmno}	2.80^{pq}	2.83^{defghijklm}
IC-355967	8.94^{ijk}	6.44^{m}	5.63^{bcdefg}	4.57^{jklmnop}	4.37^{bcde}	2.60^{ghijklm}
IC-355974	14.14^{abcd}	11.04^{bcdefgh}	6.09^{abcdefg}	5.12^{fghijklmno}	4.18^{bcdefg}	2.49^{ijklm}
IC-356037	12.00^{bcdefghi}	10.14^{bcdefghijk}	6.50^{abcdef}	5.82^{defghij}	3.33^{ijklmnop}	2.19^{lm}
IC-392531	15.49^{ab}	12.08^{bcdef}	5.94^{abcdefg}	4.76^{hijklmno}	4.15^{bcdefgh}	2.41^{jklm}
IC-392534	13.58^{bcdefg}	12.43^{bcde}	5.77^{bcdefg}	6.32^{bcdefg}	3.81^{cdefghijkl}	3.06^{cdefghijkl}
IC-392535	8.03^{k}	6.89^{lm}	6.14^{abcdefg}	5.44^{fghijk}	2.31^{q}	2.99^{cdefghijkl}
IC-392538	11.10^{cdefghijk}	9.33^{defghijklm}	6.33^{abcdef}	6.14^{bcdefghi}	2.79^{pq}	2.92^{cdefghijkl}
IC-392544	13.63^{bcdefg}	12.69^{abc}	6.92^{abc}	5.89^{defghij}	2.85^{nopq}	3.21^{bcdefghijk}
IC-392555	12.45^{bcdefghi}	12.49^{bcd}	5.11^{fg}	5.22^{fghijklmn}	3.71^{efghijkl}	3.77^{bc}
IC-393298	12.28^{bcdefghi}	10.29^{bcdefghij}	6.22^{abcdef}	5.39^{fghijkl}	4.38^{bcde}	1.96^{m}
IC-393305	13.88^{abcde}	11.93^{bcdef}	5.52^{cdefg}	5.54^{efghijk}	4.48^{abc}	2.54^{hijklm}
IC-429925	11.46^{cdefghijk}	9.05^{fghijklm}	5.62^{bcdefg}	5.31^{fghijklm}	3.48^{ghijklmnop}	3.2^{bcdefghijk}
IC-429949	13.51^{bcdefg}	11.66^{bcdef}	5.88^{bcdefg}	3.76^{nopq}	3.76^{defghijkl}	2.72^{efghijklm}
IC-429965	10.23^{efghijk}	9.86^{bcdefghijkl}	6.33^{abcdef}	7.09^{abcde}	4.45^{abcd}	2.93^{cdefghijkl}
IC-429970	13.76^{abcdef}	11.15^{bcdefgh}	5.67^{bcdefg}	4.65^{ijklmno}	3.64^{fghijkl}	2.77^{defghijklm}
DARL/SS/238	13.64^{abcdefg}	11.81^{bcdef}	5.27^{defg}	4.65^{ijklmno}	3.81^{cdefghijkl}	3.27^{bcdefghij}
DARL/SS/60	13.34^{bcdefgh}	10.98^{bcdefgh}	7.15^{ab}	3.88^{lmnopq}	3.80^{cdefghijkl}	3.50^{bcdef}
Akola-01	10.63^{defghijk}	9.27^{defghijklm}	6.22^{abcdef}	7.14^{abcd}	3.20^{lmnop}	3.46^{bcdefg}
Konkan Harita	10.38^{efghijk}	8.92^{fghijklm}	7.00^{abc}	7.68^{ab}	3.92^{cdefghijk}	3.39^{bcdefgh}
Pusa Nasdar	8.20^{jk}	7.13^{jklm}	7.00^{abc}	8.57^{a}	3.54^{ghijklmno}	2.63^{fghijklm}
M.S.D.	**3.72**	**3.24**	**1.54**	**1.55**	**0.71**	**0.88**
SE(m)	**0.65**	**0.57**	**0.27**	**0.27**	**0.12**	**0.15**
SE(d)	**0.92**	**0.80**	**0.38**	**0.38**	**0.18**	**0.22**
C.V.	**9.41**	**9.68**	**7.75**	**8.64**	**5.91**	**8.86**

DG: Days to 50% germination; **NPB:** Number of primary branches per vine; **VL:** Vine length (m) at final harvest

Note: The genotypes with the same letter in the superscript are not significantly differ from each other at 5% level of significance (tukey post hock test)

Table 2: Mean performance of stem length of internodes (cm), days to first male flower opening and days to first female flower opening in ridge gourd genotypes.

Genotypes	SLI		DFMF		DFFF	
	LWF	SWM	LWF	SWM	LWF	SWM
IC-262188	19.12^{bcde}	13.21^{ghijkl}	48.12^{efghi}	46.78^{defghijk}	50.50^{hij}	53.85^{bcde}
IC-262231	17.40^{cdefgh}	15.10^{bcdefg}	42.92^{klmn}	41.05^{mnop}	45.54^{lmn}	45.59^{mno}
IC-262245	19.21^{bcde}	13.22^{ghijkl}	52.34^{abcde}	50.76^{abcd}	53.53^{def}	52.57^{defg}
IC-262265	14.92^{hijklmn}	16.20^{abcde}	48.88^{cdefghi}	46.90^{defghijk}	53.29^{efg}	52.57^{defg}
IC-262258	20.53^{abc}	13.57^{fghijk}	41.95^{lmno}	39.74^{opq}	44.39^{mnop}	44.61^{mnop}
IC-264830	18.58^{bcdefg}	11.42^{jklmno}	49.53^{bcdefgh}	47.21^{cdefghij}	53.57^{def}	53.03^{defg}
IC-264908	14.07^{ijklmn}	14.50^{defgh}	46.48^{ghijk}	44.77^{hijklm}	50.54^{hij}	46.75^{lm}
IC-264971	19.97^{abcd}	16.18^{abcde}	39.99^{no}	38.90^{pq}	42.89^{opq}	40.86^{r}
IC-265026	18.49^{bcdefg}	17.32^{ab}	47.24^{fghij}	45.36^{ghijkl}	49.80^{ij}	51.00^{ghij}
IC-278358	17.43^{cdefgh}	15.08^{bcdefg}	50.50^{bcdefg}	47.99^{abcdefghi}	55.10^{bcde}	52.50^{defg}
IC-279691	13.03^{klmn}	12.17^{hijklm}	52.05^{abcde}	49.69^{abcdef}	55.21^{bcde}	56.06^{ab}
IC-341099	14.55^{hijklmn}	12.86^{ghijkl}	49.56^{bcdefgh}	46.22^{fghijk}	54.86^{bcde}	51.57^{efghi}
IC-341110	15.63^{fghijklmn}	13.78^{efghij}	53.47^{ab}	50.81^{abcd}	55.77^{abcd}	56.17^{ab}
IC-341116	14.36^{hijklmn}	15.87^{bcdef}	46.31^{ghijk}	44.05^{ijklmn}	48.77^{jk}	51.20^{fghij}
IC-341122	20.46^{abc}	15.01^{bcdefg}	50.38^{bcdefg}	49.10^{abcdefg}	53.64^{cdef}	55.59^{abc}
IC-341161	13.93^{jklmn}	11.32^{klmno}	52.5^{abcd}	51.79^{a}	56.54^{ab}	54.07^{bcd}
IC-345576	16.35^{efghij}	11.38^{jklmno}	50.98^{abcdef}	48.52^{abcdefgh}	51.85^{fghi}	51.66^{efgh}
IC-355952	19.08^{bcde}	12.72^{ghijkl}	41.85^{lmno}	40.81^{mnop}	44.54^{mno}	43.77^{opq}
IC-355959	19.00^{bcde}	10.89^{lmnop}	47.12^{fghijk}	43.02^{klmnop}	50.14^{hij}	49.81^{hijk}
IC-355961	12.89^{lmn}	12.13^{hijklm}	38.56^{o}	36.09^{q}	41.01^{q}	40.68^{r}
IC-355967	19.07^{bcde}	14.04^{efghi}	39.66^{no}	39.10^{pq}	42.03^{pq}	42.40^{pqr}
IC-355974	15.49^{ghijklmn}	8.83^{pq}	50.88^{abcdef}	48.95^{abcdefgh}	50.92^{ghij}	53.28^{cdefg}
IC-356037	22.82^{a}	11.97^{ijklmn}	48.33^{defghi}	43.02^{klmnop}	51.91^{fghi}	49.20^{jk}
IC-392531	20.57^{abc}	18.32^{a}	52.92^{abc}	47.41^{bcdefghij}	57.17^{ab}	57.20^{a}
IC-392534	16.10^{efghijkl}	9.63^{nopq}	46.01^{hijkl}	43.63^{jklmno}	51.72^{fghi}	48.63^{kl}
IC-392535	16.22^{efghijk}	13.94^{efghi}	37.98^{o}	36.04^{q}	41.08^{q}	40.18^{r}
IC-392538	14.92^{hijklmn}	13.9^{efghi}	47.23^{fghij}	44.92^{ghijklm}	52.27^{fgh}	47.97^{kl}
IC-392544	12.55^{mn}	12.09^{hijklm}	52.77^{abc}	51.18^{abc}	55.41^{bcde}	55.54^{abc}
IC-392555	17.18^{defghi}	8.14^{q}	52.35^{abcde}	50.61^{abcde}	54.92^{bcde}	52.81^{defg}
IC-393298	18.78^{bcdef}	13.11^{ghijkl}	49.84^{bcdefgh}	47.46^{bcdefghij}	52.44^{fgh}	54.63^{bcd}
IC-393305	17.00^{defghij}	9.08^{opq}	43.47^{jklmn}	42.75^{klmnop}	47.02^{kl}	41.90^{qr}
IC-429925	16.31^{efghij}	12.91^{ghijkl}	48.22^{defghi}	46.47^{efghijk}	51.96^{fghi}	49.26^{ijk}
IC-429949	14.97^{hijklmn}	14.11^{efghi}	53.21^{ab}	51.13^{abc}	56.02^{abc}	55.81^{ab}
IC-429965	16.19^{efghijk}	16.72^{abcd}	44.85^{ijklm}	43.73^{jklmno}	47.28^{kl}	46.47^{lmn}
IC-429970	21.31^{ab}	17.04^{abc}	52.63^{abc}	48.10^{abcdefghi}	56.19^{ab}	57.06^{a}
DARL/SS/238	15.75^{fghijklm}	14.23^{efghi}	52.40^{abcde}	49.78^{abcdef}	55.79^{abcd}	54.20^{bcd}
DARL/SS/60	14.71^{hijklmn}	12.20^{hijklm}	54.88^{a}	51.56^{ab}	57.89^{a}	53.35^{cdef}
Akola-01	15.50^{ghijklmn}	10.09^{mnopq}	41.79^{lmno}	40.10^{nopq}	44.12^{nop}	44.42^{mnop}
Konkan Harita	12.41^{n}	12.10^{hijklm}	40.79^{mno}	39.05^{pq}	44.29^{mnop}	44.04^{opq}
Pusa Nasdar	14.66^{hijklmn}	14.77^{cdefg}	41.79^{lmno}	41.22^{lmnop}	46.58^{klm}	44.14^{nopq}
M.S.D.	**3.24**	**2.44**	**4.29**	**4.18**	**2.41**	**2.35**
SE(m)	**0.57**	**0.43**	**0.75**	**0.73**	**0.42**	**0.41**
SE(d)	**0.80**	**0.60**	**1.06**	**1.03**	**0.60**	**0.58**
C.V.	**5.84**	**5.56**	**2.73**	**2.79**	**1.44**	**1.42**

SLI: Stem length of internodes (cm); **DFMF:** Days to first male flower opening; **DFFF:** Days to first female flower opening

Note: The genotypes with the same letter in the superscript are not significantly differ from each other at 5% level of significance (tukey post hock test)

genotype IC-392531 (18.32 cm) reported a maximum stem length of internodes which was significantly at par with IC-265026 (17.32 cm), IC-429970 (17.04 cm), IC-429965 (16.72 cm), IC-262265 (16.20 cm) and IC-264971 (16.18 cm), while the genotype IC-392555 (8.14 cm) observed minimum stem length of internodes in the second week of March as shown in Table 2. Similar findings were also cited by Harshitha *et al*., (2019).

Days to first male flower opening

As shown in Table 2, the minimum number of days (37.98) for the first male flower opening was observed in the genotype IC-392535 which was at par with IC-355961, IC-355967, IC-264971, Konkan Harita, Akola-01, Pusa Nasdar, IC-355952 and IC-262258 (38.56, 39.66, 39.99, 40.79, 41.79, 41.79, 41.85, 41.95, respectively), while the maximum number of days (54.88) for the first male flower opening was observed in the genotype DARL/SS/60 in the last week of February. in the second week of March, the genotype IC-392535 reported the minimum number of days (36.04) for the first male flower opening which was significantly at par with IC-355961, IC-264971, IC-355967, IC-262258 and Akola-01 (36.09, 38.90, 39.10, 39.74 and 40.10, respectively), while the maximum number of days (51.79) for the first male flower opening was noted in the genotype IC-341161. Khatoon *et al*. (2016), Karthik *et al.*, (2017) and Bhargava *et al*., (2017), Triveni *et al*., (2020), Chauhan *et al*., (2023), Kurre *et al*., (2022) and Harshitha *et al*., (2019) also noted wide variation in days to first male flower opening for their respective genetic material.

Days to first female flower opening

As shown in Table 2, the minimum number of days (39.01) for first female flower opening was observed in the genotype IC-355961 which was at par with IC-392535, IC-355967 and IC-264971 (39.08, 42.03 and 42.89, respectively), while the maximum number of days (57.89) for the first female flower opening was observed in the genotype DARL/SS/60 in the last week of February. in the second week of March, the genotype IC-392535 reported the minimum number of days (40.18) for the first female flower opening which was significantly at par with IC-355961, IC-264971, IC-355967 and IC-393305 (40.68, 40.86, 42.40 and 41.90, respectively), while the maximum number of days (57.20) for the first female flower opening was noted in the genotype IC-392531. These findings are confirmed by Khatoon *et al*., (2016), Karthik *et al.*, (2017), Bhargava *et al*., (2017), Harshitha *et al*., (2019), Triveni *et al.*, (2020), Chauhan *et al*., (2023) and Kurre *et al.*, (2022).

Nodes to first male flower

The genotype IC-341161 reported minimum number of nodes (4.00) for first male flower which was significantly at par with IC-264908, IC-429949, Pusa Nasdar, IC-393298, IC-392535, IC-355967, IC-392555, IC-392544, IC-392538, IC-265026, IC-429965 and IC-355952 (4.27, 4.52, 4.59, 4.62, 4.64, 4.72, 5.08, 5.22, 5.25, 5.34, 5.47 and 5.57, respectively), while maximum number of nodes (9.53) for the first male flower was noted in the genotype IC-392534 in the last week of February. The minimum number of nodes (3.02) for the first male flower was observed in the genotype IC-341161 which was significantly at par with IC-264908, IC-393298, Pusa Nasdar, IC-355967, IC-392535, IC-429949, IC-392555, IC-392544, IC-392538 and IC-429965 (3.20, 3.45, 3.48, 3.58, 3.63, 3.67, 3.91, 3.96, 4.00 and 4.11, respectively), while the genotype Akola-01 observed the maximum number of nodes (7.78) for the first male flower in the second week of March, as shown in Table 3. These results are harmony with Gautam *et al.,* (2017), Chauhan *et al*., (2023), Kurre *et al.,* (2022) and Harshitha *et al*., (2019).

Nodes to first female flower

The genotype IC-355967 recorded minimum number of nodes (7.92) for the first female flower which was significantly at par with the genotypes IC-393298, IC-264908, IC-341161, IC-392544, IC-355952, IC-392555, IC-429949, IC-429965, IC-264830, IC-392535, IC-265026, IC-392538, IC-279691, IC-429970, IC-392531, IC-393305, IC-278358 and Konkan Harita (8.31, 8.36, 8.37, 8.47, 9.19, 9.24, 9.70, 9.89, 10.14, 10.21, 10.27, 10.27, 10.33, 10.38, 10.68, 10.95, 11.78 and 12.37, respectively), while the maximum number of nodes (19.00) for first female flower was recorded in the genotype Akola-01 in the last week of February. in the second week of March, the genotype IC-355967 observed minimum number of nodes (7.22) for the first female flower which were significantly at par with IC-341161, IC-264908, IC-392544,IC-393298, IC-355952, IC-429949, IC-264830, IC-392555, IC-392535, IC-429970, IC-279691, IC-265026, IC-392531, IC-429965, IC-393305, IC-392538 and IC-278358 (7.22, 7.28, 7.28, 7.71, 7.99, 8.43, 8.64, 8.67, 8.92, 8.93, 8.95, 8.97, 9.24, 9.48, 9.76, 9.80 and 10.26, respectively), while the maximum number of nodes (16.88) for the first female flower opening was noted in the genotype DARL/SS/238, as shown in Table 3. Similar results were noted by, Gautam *et al*., (2017), Chauhan *et al*., (2023) and Harshitha *et al*., (2019).

Days to first fruit harvest

With respect to the days to first fruit harvest in last week of February, the genotype IC-264971 reported minimum number of days (47.60) for first fruit harvest which was followed by IC-355952, IC-355961, IC-355967 and IC-392535 (51.62, 51.61, 48.57 and 50.08), while the

Table 3: Mean performance of nodes to first male flower, nodes to first female flower and days to first fruit harvest in ridge gourd genotypes.

Genotypes	NFMF		NFFF		DFFH	
	LWF	SWM	LWF	SWM	LWF	SWM
IC-262188	7.26^{cdefg}	5.60^{defghi}	13.11^{cdefghijkl}	11.69^{cdefghij}	59.46^{hijk}	60.46^{defghi}
IC-262231	7.32^{bcdef}	5.65^{defghi}	13.43^{cdefghijkl}	11.68^{cdefghij}	53.61^{nop}	51.92^{opqrs}
IC-262245	7.93^{abcde}	6.22^{cdefg}	14.58^{abcdefghij}	12.80^{bcdefg}	63.85^{cdefgh}	60.67^{defghi}
IC-262265	7.71^{bcdef}	7.44^{abc}	15.46^{abcdefgh}	13.4^{abcdef}	62.78^{efghij}	60.66^{defghi}
IC-262258	7.38^{bcdef}	6.42^{cdef}	14.26^{bcdefghijk}	12.23^{cdefghi}	52.37^{nopq}	52.01^{opqr}
IC-264830	5.65^{ghijklm}	4.28^{jklmnop}	10.14^{jklmn}	8.64^{hijklm}	63.09^{defghij}	60.51^{defghi}
IC-264908	4.27^{mn}	3.20^{pq}	8.36^{mn}	7.28^{lm}	56.04^{klmno}	53.79^{lmnop}
IC-264971	7.96^{abcde}	6.31^{cdefg}	13.89^{bcdefghijk}	11.79^{cdefghij}	47.60^{r}	47.87^{rs}
IC-265026	5.34^{jklmn}	4.70^{ijklmn}	10.27^{jklmn}	8.97^{ghijklm}	60.54^{ghijk}	58.67^{efghijk}
IC-278358	6.22^{fghijk}	5.21^{fghijk}	11.78^{efghijklmn}	10.26^{defghijklm}	62.67^{fghij}	61.16^{defghi}
IC-279691	5.64^{hijklm}	4.29^{jklmnop}	10.33^{jklmn}	8.95^{ghijklm}	68.22^{abc}	67.89^{a}
IC-341099	7.32^{bcdef}	5.80^{defghi}	12.6^{cdefghijklm}	10.68^{defghijkl}	67.58^{abcd}	61.65^{defgh}
IC-341110	6.97^{cdefghi}	5.20^{fghijk}	12.79^{cdefghijklm}	10.99^{cdefghijkl}	70.27^{a}	64.20^{abcd}
IC-341116	8.90^{ab}	6.84^{abcd}	15.58^{abcdef}	13.54^{abcde}	62.22^{fghij}	62.59^{cdef}
IC-341122	7.84^{bcde}	6.49^{bcde}	12.56^{cdefghijklm}	10.86^{cdefghijkl}	63.71^{cdefghi}	60.98^{defghi}
IC-341161	4.00^{n}	3.02^{q}	8.37^{mn}	7.22^{lm}	70.14^{a}	67.63^{ab}
IC-345576	6.66^{cdefghij}	5.12^{ghijkl}	13.43^{cdefghijkl}	11.53^{cdefghijk}	68.09^{abc}	64.29^{abcd}
IC-355952	5.57^{hijklmn}	4.28^{jklmnop}	9.19^{lmn}	7.99^{jklm}	51.62^{opqr}	50.31^{pqrs}
IC-355959	7.74^{bcdef}	5.99^{defgh}	16.96^{abc}	14.76^{abc}	59.31^{hijkl}	57.45^{hijklm}
IC-355961	7.53^{bcdef}	5.63^{defghi}	16.43^{abcd}	13.8^{abcd}	49.61^{pqr}	49.14^{qrs}
IC-355967	4.72^{klmn}	3.58^{nopq}	7.92^{n}	6.64^{m}	48.57^{qr}	47.39^{s}
IC-355974	6.15^{fghijkl}	4.68^{ijklmno}	13.1^{cdefghijkl}	11.29^{cdefghijk}	59.15^{ijkl}	58.36^{fghijkl}
IC-356037	8.26^{abc}	6.57^{abcde}	15.99^{abcde}	13.67^{abcde}	59.32^{hijkl}	56.75^{ijklmn}
IC-392531	7.11^{cdefgh}	5.49^{efghij}	10.68^{ijklmn}	9.24^{ghijklm}	68.67^{ab}	64.52^{abcd}
IC-392534	9.53^{a}	7.28^{abc}	15.52^{abcdefg}	13.41^{abcde}	64.16^{bcdefg}	59.60^{efghij}
IC-392535	4.64^{klmn}	3.63^{mnopq}	10.21^{jklmn}	8.92^{ghijklm}	50.08^{pqr}	47.96^{rs}
IC-392538	5.25^{jklmn}	4.00^{klmnopq}	11.27^{fghijklmn}	9.80^{efghijklm}	63.16^{defghij}	57.97^{ghijkl}
IC-392544	5.22^{jklmn}	3.96^{klmnopq}	8.47^{mn}	7.28^{lm}	70.53^{a}	66.80^{abc}
IC-392555	5.08^{jklmn}	3.91^{lmnopq}	9.24^{lmn}	8.67^{hijklm}	64.86^{bcdefg}	61.95^{defgh}
IC-393298	4.62^{klmn}	3.45^{opq}	8.31^{mn}	7.71^{klm}	63.02^{defghij}	62.92^{cdef}
IC-393305	6.35^{efghij}	4.83^{hijklm}	10.95^{ghijklmn}	9.76^{efghijklm}	54.79^{lmno}	51.42^{opqrs}
IC-429925	7.74^{bcdef}	5.96^{defgh}	13.88^{bcdefghijk}	12.49^{cdefgh}	58.5^{jklm}	55.27^{jklmno}
IC-429949	4.52^{mn}	3.67^{mnopq}	9.70^{klmn}	8.43^{ijklm}	68.25^{abc}	62.74^{cdef}
IC-429965	5.47^{ijklmn}	4.11^{klmnopq}	10.89^{hijklmn}	9.48^{fghijklm}	56.21^{klmno}	53.00^{mnopq}
IC-429970	6.46^{defghij}	4.86^{hijklm}	10.38^{jklmn}	8.93^{ghijklm}	66.01^{abcdef}	63.15^{bcde}
DARL/SS/238	7.42^{bcdef}	7.73^{ab}	18.05^{ab}	16.88^{a}	67.40^{abcde}	60.40^{defghi}
DARL/SS/60	7.97^{abcd}	6.80^{abcd}	15.11^{abcdefghi}	13.88^{abcd}	70.39^{a}	62.33^{cdefg}
Akola-01	7.85^{bcde}	7.78^{a}	19.00^{a}	16.54^{ab}	54.07^{mnop}	52.86^{nopq}
Konkan Harita	7.00^{cdefghi}	5.79^{defghi}	12.37^{defghijklmn}	10.65^{defghijkl}	56.74^{klmn}	54.03^{lmnop}
Pusa Nasdar	4.59^{lmn}	3.48^{nopq}	12.66^{cdefghijklm}	11.34^{cdefghijk}	56.80^{klmn}	54.21^{klmnop}
M.S.D.	**1.62**	**1.25**	**4.58**	**3.92**	**4.65**	**4.58**
SE(m)	**0.28**	**0.22**	**0.80**	**0.69**	**0.81**	**0.80**
SE(d)	**0.40**	**0.31**	**1.13**	**0.97**	**1.15**	**1.13**
C.V.	**7.51**	**7.21**	**11.16**	**10.95**	**2.32**	**2.38**

NFMF: Nodes to first male flower; **NFFF:** Nodes to first female flower; **DFFH:** Days to first fruit harvest

Note: The genotypes with the same letter in the superscript are not significantly differ from each other at 5% level of significance (tukey post hock test)

Table 4: Mean performance of number of fruits per vine, fruit length (centimeter) and fruit diameter (centimeter) in ridge gourd genotypes.

Genotypes	NFV		FL		FD	
	LWF	SWM	LWF	SWM	LWF	SWM
IC-262188	21.52^{cdef}	18.15^{cdefghi}	18.24^{ghijklmno}	14.30^{mn}	3.22^{ghi}	3.47^{ghijk}
IC-262231	17.06^{fghij}	13.71^{hijklm}	18.20^{ghijklmno}	18.11^{cdefghijkl}	3.38^{defgh}	3.56^{fghij}
IC-262245	12.87^{ijklmn}	10.45^{klmno}	17.54^{ijklmno}	18.44^{bcdefghijk}	3.42^{defgh}	3.44^{ghijk}
IC-262265	16.18^{hijk}	13.44^{ijklmn}	19.60^{bcdefghij}	19.92^{bcde}	3.22^{ghi}	3.31^{hijk}
IC-262258	21.98^{cde}	18.29^{cdefgh}	21.75^{abcd}	21.81^{ab}	3.25^{ghi}	3.16^{hijk}
IC-264830	6.48^{p}	5.96^{o}	15.45^{nop}	16.26^{fghijklmn}	3.17^{ghi}	3.37^{ghijk}
IC-264908	16.23^{hijk}	14.06^{ghijklm}	17.38^{ijklmno}	19.67^{bcdef}	4.10^{abc}	3.95^{cdefg}
IC-264971	17.44^{efghi}	15.13^{fghijkl}	18.23^{ghijklmno}	19.23^{bcdefgh}	3.11^{hi}	3.34^{hijk}
IC-265026	14.66^{hijklm}	11.96^{klmn}	17.94^{hijklmno}	18.03^{defghijkl}	4.04^{abc}	4.38^{abc}
IC-278358	22.46^{cd}	17.91^{defghij}	18.25^{fghijklmno}	18.40^{bcdefghijk}	3.37^{efghi}	3.73^{efgh}
IC-279691	24.67^{abc}	20.03^{cde}	17.78^{ijklmno}	19.36^{bcdefg}	3.13^{hi}	3.30^{hijk}
IC-341099	10.83^{mnop}	9.36^{mno}	15.65^{mnop}	18.89^{bcdefghi}	4.17^{abc}	4.36^{abcd}
IC-341110	14.43^{hijklmn}	13.09^{jklmn}	16.42^{klmnop}	14.84^{lmn}	3.40^{defgh}	3.61^{fghi}
IC-341116	12.41^{jklmn}	10.34^{lmno}	15.27^{op}	15.06^{klmn}	3.29^{fghi}	3.35^{ghijk}
IC-341122	15.30^{hijklm}	13.21^{jklmn}	17.36^{ijklmno}	19.99^{bcde}	2.88^{hi}	3.17^{hijk}
IC-341161	27.89^{ab}	25.40^{ab}	16.61^{jklmnop}	15.62^{ijklmn}	3.98^{abcd}	4.37^{abcd}
IC-345576	28.58^{a}	27.27^{a}	17.75^{ijklmno}	19.07^{bcdefghi}	4.41^{ab}	4.50^{abc}
IC-355952	13.25^{ijklmn}	11.40^{klmn}	16.29^{klmnop}	16.88^{efghijklmn}	3.85^{bcdef}	3.77^{defgh}
IC-355959	21.18^{cdefg}	18.80^{cdefg}	17.27^{ijklmno}	15.92^{ghijklmn}	3.03^{hi}	3.22^{hijk}
IC-355961	16.56^{ghijk}	14.85^{fghijkl}	18.83^{defghijkl}	18.96^{bcdefghi}	2.93^{hi}	3.08^{ijk}
IC-355967	23.57^{bc}	19.63^{cdef}	21.33^{bcdef}	21.37^{abcd}	4.50^{a}	4.63^{ab}
IC-355974	23.50^{bc}	20.34^{cd}	16.31^{klmnop}	16.21^{ghijklmn}	3.24^{ghi}	3.72^{efgh}
IC-356037	14.12^{hijklmn}	11.20^{klmn}	13.98^{p}	13.56^{n}	3.18^{ghi}	2.98^{ijk}
IC-392531	25.46^{abc}	22.17^{bcd}	19.32^{cdefghijk}	18.79^{bcdefghij}	3.42^{defgh}	3.64^{fghi}
IC-392534	12.98^{ijklmn}	11.66^{klmn}	16.46^{klmnop}	15.89^{hijklmn}	3.11^{hi}	3.12^{ijk}
IC-392535	12.07^{klmno}	9.99^{mno}	17.44^{ijklmno}	17.45^{efghijklm}	2.77^{i}	2.90^{k}
IC-392538	27.37^{ab}	22.78^{abc}	17.31^{ijklmno}	17.28^{efghijklm}	3.11^{hi}	3.35^{hijk}
IC-392544	14.59^{hijklm}	21.29^{bcd}	18.72^{defghijklm}	15.66^{ijklmn}	3.40^{defgh}	3.51^{ghij}
IC-392555	12.95^{ijklmn}	10.72^{klmno}	20.96^{bcdefgh}	21.57^{ab}	2.88^{hi}	2.98^{ijk}
IC-393298	11.35^{lmno}	8.80^{no}	22.49^{ab}	19.82^{bcde}	4.32^{abc}	4.82^{a}
IC-393305	12.11^{klmno}	10.46^{klmno}	21.36^{bcde}	21.50^{abc}	2.99^{hi}	3.31^{hijk}
IC-429925	16.59^{ghijk}	14.13^{ghijklm}	22.27^{abc}	18.52^{bcdefghij}	2.95^{hi}	3.33^{hijk}
IC-429949	16.74^{fghijk}	13.90^{hijklm}	21.18^{bcdefg}	14.72^{lmn}	2.98^{hi}	3.49^{ghijk}
IC-429965	21.52^{cdef}	18.31^{cdefgh}	15.38^{nop}	16.08^{ghijklmn}	3.21^{ghi}	3.48^{ghijk}
IC-429970	18.11^{defgh}	15.27^{efghijk}	19.86^{bcdefghi}	18.07^{cdefghijkl}	3.92^{abcde}	4.32^{abcde}
DARL/SS/238	23.21^{bc}	18.36^{cdefgh}	16.23^{lmnop}	17.98^{defghijkl}	2.87^{hi}	3.06^{ijk}
DARL/SS/60	17.35^{efghi}	13.71^{hijklm}	18.21^{ghijklmno}	15.39^{jklmn}	4.28^{abc}	4.36^{abcd}
Akola-01	7.36^{op}	6.26^{o}	18.36^{efghijklmn}	16.37^{fghijklmn}	2.97^{hi}	3.10^{ijk}
Konkan Harita	9.66^{nop}	8.71^{no}	17.90^{hijklmno}	17.54^{efghijklm}	3.73^{cdefg}	4.16^{bcdef}
Pusa Nasdar	15.74^{hijkl}	12.64^{klmn}	24.58^{a}	24.58^{a}	3.08^{hi}	3.32^{hijk}
M.S.D.	**4.82**	**4.84**	**3.08**	**3.45**	**0.6**	**0.60**
SE(m)	**0.84**	**0.85**	**0.54**	**0.60**	**0.11**	**0.11**
SE(d)	**1.19**	**1.20**	**0.76**	**0.85**	**0.15**	**0.15**
C.V.	**8.48**	**9.87**	**5.10**	**5.83**	**5.35**	**5.08**

NFV: Number of fruits per vine; **FL:** Fruit length (cm); **FD: Fruit** diameter (cm)

Note: The genotypes with the same letter in the superscript are not significantly differ from each other at 5% level of significance (tukey post hock test)

maximum number of days (70.53) for first fruit harvest was recorded in the genotype IC-392544. the minimum number of days (47.39) for first fruit harvest was reported in the genotype IC-355967 which was significantly at par with the genotype IC-264971, IC-392535, IC-355961, IC-355952, IC-393305 and IC-262231(47.87, 47.96, 49.14, 50.31, 51.42 and 51.92, respectively), while the maximum number of days (67.89) for first fruit harvest was noted in the genotype IC-279691 in the second week of March, as shown in Table 3. These results are harmony with Harshitha *et al*., (2019), Khatoon *et al*., (2016), Bhargava *et al*., (2017), Chauhan *et al.,* (2023) and Kurre *et al*., (2022).

Number of fruit per vine

As shown in Table 4, significantly maximum number of fruits was recorded in the genotype IC-345576 (27.80 and 28.58) which was followed by IC-341161, IC-392538, IC-392531 (26.80 and 27.89, 25.87 and 27.37, 24.40 and 25.46), while the minimum number of fruits was recorded in the genotype IC-264830 (6.53 and 6.48) in the last week of February. In second week of March, the genotype IC-345576 (26.37 and 27.27) reported maximum number of fruits per vine which was significantly at par with IC-392531 and IC-392538 (23.07and 25.40, 22.23and 22.78), while minimum number of fruits was recorded in the genotype IC-264830 (5.75 and 5.96). Similar results were reported by Harshitha *et al*., (2019), Yadav *et al*., (2017), Chauhan *et al*., (2023) and Kurre *et al*., (2022).

Fruit length (cm)

In the last week of February, the maximum fruit length was noted in the genotype Pusa Nasdar (24.58 cm) which was significantly at par with IC-393298 (22.49 cm), IC-429925 (22.27 cm) and IC-262258 (21.75 cm), while the genotype IC-356037 (13.98 cm) reported the minimum fruit length. In the second week of March, the genotype Pusa Nasdar (24.58 cm) recorded maximum fruit length which was significantly at par with IC-392555 (21.57 cm), IC-393305 (21.50 cm), IC-355967 (21.37 cm) and IC-262258 (19.92 cm), while the minimum fruit length was recorded in the genotype IC-356037 (13.56 cm) as shown in Table 4. These findings are confirmed by Rabbani *et al.,* (2012), Khatoon *et al*., (2016), Bhargava *et al*., (2017) and Karthik *et al*., (2017), Chauhan *et al*., (2023) Kurre *et al*., (2022) and Harshitha *et al*., (2019).

Fruit diameter (cm)

In the last week of February, the genotype IC-355967 (4.50 cm) reported maximum fruit diameter which was at par with IC-345576 (4.41 cm), IC-393298 (4.32 cm), DARL/SS/60 (4.28 cm), IC-341099 (4.17 cm), IC-264908 (4.10 cm), IC-265026 (4.04 cm), IC-341161 (3.98 cm) and IC-429970 (3.92 cm), while the minimum fruit diameter was observed in the genotype IC-392535 (2.77 cm). the maximum fruit diameter was recorded in the genotype IC-393298 (4.82 cm) which was significantly at par with IC-345576 (4.50 cm), IC-355967 (4.63 cm), IC-265026 (4.38 cm), IC-341161 (4.37 cm), DARL/SS/60 (4.36 cm), IC-341099 (4.36 cm) and IC-429970 (4.32 cm), while minimum fruit diameter was recorded in the genotype IC-392535 (2.90 cm) in the second week of March, as shown in Table 4. Kurre *et al*., (2022), Chauhan *et al*., (2023) and Harshitha *et al*., (2019) also observed wide variation in fruit diameter for their respective genetic material.

Average fruit weight (g)

The genotype IC-262265 (102.59 and 104.85 g) noted maximum average weight of fruit which was at par with IC-355967, IC-279691, IC-278358, IC-262188, DARL/SS/60, Pusa Nasdar, IC-341110, IC-262258, IC-265026, IC-392531, IC-429970, IC-341161, IC-355961, IC-264908, DARL/SS/238, IC-392544, Akola-01, IC-355959, IC-345576, IC-262245, IC-264971, IC-429965, IC-264830, IC-392538, IC-341116 and IC-262231 (101.99 and 103.20 g, 100.30 and 102.05 g, 100.94 and 98.40 g, 99.84 and 100.04 g, 97.41 and 100.62 g, 97.34 and 98.21 g, 96.95 and 98.96 g, 96.39 and 99.19 g, 95.33 and 95.17 g, 95.29 and 96.03 g, 95.28 and 96.35 g, 95.18 and 96.17 g, 94.21 and 100.84 g, 93.23 and 93.14 g, 93.03 and 93.40 g, 92.76 and 96.66 g, 92.14 and 94.12 g, 91.91 and 92.17 g, 90.59 and 87.96 g, 89.01 and 90.73 g, 87.52 and 88.16 g, 87.43 and 93.70 g, 84.30 and 83.67 g, 84.21 and 83.76 g, 84.01 and 84.54 g, and83.97 g,), while the minimum average weight of fruit was reported in the genotype IC-392535 **(**66.90 and 65.75 g) in the last week of February and the second week of March, as shown in Table 5. These findings are confirmed by Rabbani *et al.,* (2012), Karthik *et al.,* (2017), Bhargava *et al.,* (2017), Chauhan *et al.,* (2023) and Kurre *et al.,* (2022).

Fruit yield per vine (kg)

The data presented in Table 5, the maximum fruit yield per vine was recorded in the genotype IC-341161 (2.65 kg) which was at par with IC-345576 (2.60 kg), IC-279691 (2.47 kg), IC-392531 (2.42 kg), IC-355967 (2.40 kg), IC-392538 (2.29 kg), IC-278358 (2.27 kg), DARL/SS/238 (2.17 kg) and IC-262188 (2.15 kg), while the minimum fruit yield per vine was recorded in the genotype IC-264830 (0.47 kg) in the last week of February. In the second week of March, the maximum fruit yield per vine was recorded in the genotype IC-341161 (2.44 kg) which was significantly at par with IC-345576 (2.40 kg), IC-279691 (2.05 kg), IC-341161 (2.19 kg), IC-392531 (2.14 kg), IC-392544 (2.05 kg) and IC-355967 (2.03 kg),

Table 5: Mean performance of average fruit weight (gram), fruit yield per vine (kg) and fruit yield (q/ha) in ridge gourd genotypes.

Genotypes	AFW		FYV		FYH	
	LWF	SWM	LWF	SWM	LWF	SWM
IC-262188	99.84^{abcd}	100.04^{abcde}	2.15^{abcdefg}	1.82^{cdef}	128.89^{bcdefg}	108.96^{cdef}
IC-262231	82.35^{bcdefghij}	83.97^{abcdefghijk}	1.40^{ijklmnop}	1.15^{ijklmnop}	84.31^{ijklmno}	69.11^{ijklmnop}
IC-262245	89.01^{abcdefghi}	90.73^{abcdefghi}	1.14^{mnopqrstu}	0.95^{klmnopqrs}	68.69^{mnopqrst}	56.75^{klmnopqr}
IC-262265	102.59^{a}	104.85^{a}	1.66^{ghijkl}	1.41^{efghijkl}	99.60^{ghijkl}	84.63^{efghijkl}
IC-262258	96.39^{abcdef}	99.19^{abcdef}	2.11^{bcdefg}	1.81^{cdefg}	126.71^{bcdefg}	108.75^{cdefg}
IC-264830	84.30^{abcdefghij}	83.67^{abcdefghijk}	0.54^{v}	0.50^{s}	32.72^{u}	29.92^{r}
IC-264908	93.23^{abcdefghi}	93.14^{abcdefghi}	1.51^{hijklmno}	1.31^{fghijklmn}	90.80^{hijklmn}	78.55^{fghijklmn}
IC-264971	87.52^{abcdefghi}	88.16^{abcdefghij}	1.53^{hijklmn}	1.33^{fghijklmn}	91.65^{hijklmn}	79.70^{fghijklmn}
IC-265026	95.33^{abcdef}	95.17^{abcdefghi}	1.40^{jklmnopq}	1.14^{ijklmnop}	83.67^{jklmnop}	68.25^{ijklmnop}
IC-278358	100.94^{ab}	98.40^{abcdef}	2.27^{abcde}	1.76^{cdefgh}	136.02^{abcde}	105.77^{cdefgh}
IC-279691	100.30^{abc}	102.05^{ab}	2.47^{ab}	2.05^{abcd}	148.43^{ab}	122.70^{abcd}
IC-341099	80.89^{defghij}	79.65^{cdefghijk}	0.87^{rstuv}	0.75^{opqrs}	51.95^{qrstu}	44.79^{opqr}
IC-341110	96.95^{abcdef}	98.96^{abcdef}	1.40^{jklmnopq}	1.29^{ghijklmn}	83.92^{jklmno}	77.23^{ghijklmn}
IC-341116	84.01^{abcdefghij}	84.54^{abcdefghijk}	1.04^{nopqrstuv}	0.88^{mnopqrs}	62.50^{nopqrstu}	52.53^{mnopqr}
IC-341122	75.92^{ghij}	76.91^{ghijk}	1.16^{lmnopqrst}	1.02^{jklmnopqrs}	69.72^{lmnopqrs}	61.04^{jklmnopqr}
IC-341161	95.18^{abcdefg}	96.17^{abcdefghi}	2.65^{a}	2.44^{a}	159.40^{a}	146.56^{a}
IC-345576	90.59^{abcdefghi}	87.96^{abcdefghij}	2.60^{ab}	2.40^{ab}	155.73^{ab}	143.69^{ab}
IC-355952	75.80^{hij}	77.92^{fghijk}	1.00^{opqrstuv}	0.89^{lmnopqrs}	60.21^{opqrstu}	53.27^{lmnopqr}
IC-355959	91.91^{abcdefghi}	92.17^{abcdefghi}	1.95^{cdefgh}	1.75^{cdefgh}	116.75^{cdefgh}	104.51^{cdefgh}
IC-355961	94.21^{abcdefgh}	100.84^{abc}	1.56^{hijklm}	1.50^{efghij}	93.57^{hijklm}	89.68^{efghij}
IC-355967	101.99^{a}	103.20^{ab}	2.40^{abcd}	2.03^{abcd}	144.21^{abcd}	121.51^{abcd}
IC-355974	81.33^{cdefghij}	79.23^{efghijk}	1.91^{defghi}	1.60^{defghi}	114.55^{defghi}	96.12^{defghi}
IC-356037	82.41^{bcdefghij}	80.65^{cdefghijk}	1.16^{lmnopqrst}	0.91^{lmnopqrs}	69.52^{lmnopqrs}	54.18^{lmnopqr}
IC-392531	95.29^{abcdef}	96.03^{abcdefghi}	2.42^{abc}	2.14^{abc}	145.55^{abc}	128.36^{abc}
IC-392534	81.15^{cdefghij}	83.24^{bcdefghijk}	1.05^{mnopqrstu}	0.97^{jklmnopqrs}	63.19^{nopqrst}	58.17^{jklmnopqr}
IC-392535	66.90^{j}	65.75^{k}	0.81^{stuv}	0.66^{pqrs}	48.47^{rstu}	39.45^{pqr}
IC-392538	84.21^{abcdefghij}	83.76^{abcdefghijk}	2.29^{abcde}	1.90^{bcde}	137.25^{abcde}	114.48^{bcde}
IC-392544	92.76^{abcdefghi}	96.66^{abcdefgh}	1.35^{klmnopqr}	2.05^{abcd}	81.18^{klmnopq}	123.22^{abcd}
IC-392555	74.45^{ij}	75.31^{ijk}	0.96^{pqrstuv}	0.81^{nopqrs}	57.76^{opqrstu}	48.38^{nopqr}
IC-393298	78.03^{fghij}	79.12^{efghijk}	0.89^{qrstuv}	0.70^{pqrs}	53.52^{pqrstu}	41.76^{pqr}
IC-393305	75.01^{hij}	78.72^{efghijk}	0.91^{pqrstuv}	0.82^{nopqrs}	54.37^{opqrstu}	49.38^{nopqr}
IC-429925	78.52^{efghij}	79.49^{defghijk}	1.30^{klmnopqrs}	1.12^{ijklmnopq}	78.12^{klmnopqr}	67.22^{ijklmnop}
IC-429949	75.59^{hij}	76.23^{hijk}	1.26^{klmnopqrs}	1.06^{jklmnopqr}	75.39^{klmnopqr}	63.58^{jklmnopq}
IC-429965	87.43^{abcdefghi}	93.70^{abcdefghi}	1.88^{efghij}	1.71^{cdefgh}	112.85^{efghij}	102.93^{cdefgh}
IC-429970	95.28^{abcdef}	96.35^{abcdefghi}	1.72^{fghijk}	1.47^{efghijk}	103.51^{fghijk}	88.36^{efghijk}
DARL/SS/238	93.03^{abcdefghi}	93.40^{abcdefghi}	2.17^{abcdef}	1.71^{cdefgh}	130.25^{abcdef}	102.83^{cdefgh}
DARL/SS/60	97.41^{abcde}	100.62^{abcd}	1.69^{fghijk}	1.38^{efghijklm}	101.46^{fghijk}	82.90^{efghijklm}
Akola-01	92.14^{abcdefghi}	94.12^{abcdefghi}	0.68^{tuv}	0.59^{qrs}	40.68^{stu}	35.36^{qr}
Konkan Harita	66.93^{j}	67.49^{jk}	0.64^{uv}	0.59^{rs}	38.79^{tu}	35.22^{qr}
Pusa Nasdar	97.34^{abcdef}	98.21^{abcdefg}	1.53^{hijklmn}	1.24^{hijklmno}	91.62^{hijklmn}	74.53^{hijklmno}
M.S.D.	**19.35**	**21.33**	**0.51**	**0.53**	**30.31**	**31.73**
SE(m)	**3.38**	**3.73**	**0.09**	**0.09**	**5.30**	**5.55**
SE(d)	**4.78**	**5.27**	**0.13**	**0.13**	**7.49**	**7.84**
C.V.	**6.67**	**7.26**	**10.00**	**11.96**	**9.95**	**11.95**

AFW: Average fruit weight (g); **FYV:** Fruit yield per vine (kg); **FYH:** Fruit yield (q/ha)

Note: The genotypes with the same letter in the superscript are not significantly differ from each other at 5% level of significance (tukey post hock test)

while minimum fruit yield per vine was recorded in the genotype IC-264830 (0.50 kg). These results are confirmed by Triveni *et al*., (2020), Harshitha *et al*., (2019), Chauhan *et al.*, (2023) and Kurre *et al.*, (2022).

Fruit yield (q/ha)

In the last week of February, the maximum fruit yield per hectare was recorded in the genotype IC-341161 (159.40 q/ha) which was at par with IC-278358 (136.02 q/ha), IC-279691 (148.43 q/ha), IC-345576 (155.73 q/ha), IC-355967 (144.21 q/ha), IC-392531 (145.55 q/ha), IC-392538 (137.25 q/ha) and DARL/SS/238 (130.25 q/ha), while the minimum fruit yield per hectare was noted in the genotype IC-264830 (32.72 q/ha). Whereas, the maximum fruit yield per hectare was reported in the genotype IC-341161 (146.56 q/ha) which was significantly at par with IC-345576 (143.69 q/ha), IC-279691 (122.70 q/ha), IC-392531 (128.36 q/ha), IC-392544 (123.22 q/ha) and IC-355967 (121.51 q/ha), while minimum fruit yield per hectare was recorded in the genotype IC-264830 (28.05 and 29.92 q/ha) in the second week of March, as shown in Table 5. Similar findings were also cited by Harshitha *et al*., (2019), Kurre *et al*., (2022) and Chauhan *et al*., (2023).

Conclusion

Among all the genotypes of ridge gourd studied in the last week of February and second week of March in 2023, the genotype IC-345576 was recorded superior for fruit yield and its contributing traits followed by the genotype IC-341161 and IC-341122.

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