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EVALUATION OF RICE GENOTYPES UNDER DIRECT SEEDED CONDITION

Shirin Firoz Khan[1], P. V. Shende[2], Sapana B. Baviskar[3], Vandana S. Madke[4] and M. N. Dhawne[5]

ABSTRACT

A field experiment was conducted during *kharif* 2022, to study the evaluation of rice genotypes under direct seeded condition. The experiment was laid down in randomized block design (RBD) with eleven rice genotypes viz., SYE-68-15-34-31-12-35-13, SYE-930-8-25, SYE-94-32-9-17, SYE-335-4-37-9, SYE-309-39-13-18-5-23-20, SYE-1635-40-15-4-9-44-18, PKV-HMT (CH), PDKV Tilak (CH), PKV Ganesh (CH), PDKV Kisan (CH), Awishkar (CH) and three replications at research farm of Botany Section, College of Agriculture, Nagpur. The check PKV Ganesh recorded significantly more plant height (116.6 cm), total dry weight hill^{-1} (24.55 g), LAI (11.20), leaf area plant^{-1} (33.61 cm^2). Whereas, genotypes SYE-94-32-9-17 and SYE-309-39-13-18-5-23-20 recorded significantly highest number of tillers hill^{-1}, number of spikelets panicle^{-1}, number of panicles m^{-2} and grain yield kg plot^{-1}. But check Awishkar recorded early flowering and maturity.

(Key words: Rice, morpho-physiological parameters, yield)

INTRODUCTION

Rice (*Oryza sativa* L.) is the supreme cereal crop belonging to the genus of *Oryza*. Rice is the world second largest producing crop after wheat. Asia accounts for more than 90% rice production of world. Rice designated as "Global Grain" for its usage as foremost essential food supplements in various developed and developing nations around the globe (Katkani *et al*., 2023).

Rice (*Oryza sativa* L.) is the staple food for over half of the world population and it is ranked as the number one human food crop in the world. It is one of the major food crops consumed by 70 per cent of world population. It occupies 1/5th of the total land covered under the cereal crops. Rice which is mainly consumed as a whole grain supplies 20 per cent of daily calories and 15 per cent capita^{-1} protein for the world population. Eastern Vidarbha Zone is the major rice producing area of Maharashtra (52.41% of the state area). The early, midlate, late duration and aromatic rice varieties are very popular in Eastern Vidarbha Zone. In Vidarbha region the proportion of area under early, mid late, late varieties and aromatic rice varieties is about 30, 40, 25 and 5 per cent respectively. (Padole *et al*., 2018).

Direct seeding of rice refers to the process of establishing a rice crop from seeds sown in the field rather than by transplanting seedlings from the nursery. Day by day there is less rainfall, uneven distribution of rains, dry spell during the month of July-August and from second fortnight of September in Vidarbha region. Sometimes farmers use 40 to 50 days old rice seedlings for transplanting which later on suffers heavily due to disease pest infestation also. Rice crop suffer due to water stress at flowering and grain filling stage which resulted into low yields. To overcome this problem now farmers are slowly shifting to rice crop cultivation by direct seeding. Different rice cultivars growing in India for direct seeding condition in many states are having different morphological and yield traits.

MATERIALS AND METHODS

An experiment was carried out at research farm of Botany Section, College of Agriculture, Nagpur during *kharif* 2022 in Randomized Block Design (RBD) with eleven genotypes and three replications. Eleven rice genotypes *viz*., SYE-68-15-34-31-12-35-13, SYE-930-8-25, SYE-94-32-9-17, SYE-335-4-37-9, SYE-309-39-13-18-5-23-20, SYE-1635-40-15-4-9-44-18, PKV-HMT (CH), PDKV Tilak (CH), PKV Ganesh (CH), PDKV Kisan (CH), Awishkar (CH) were tested.The gross plot size was 5.10 m x 1.50 m and net plot size was 4.70 m x 1.30 m with spacing of 20 cm x 10 cm. Five plants from each plot were selected randomly and data were collected at 30, 60 and 90 DAS under direct seeded condition. Observations on plant height, number of tillers hill^{-1}, days to flower initiation, days to 50% flowering, days to maturity, total dry weight hill^{-1}, leaf area, LAI were recorded. Number of panicles m^{-2}, spikelet fertility, number of spikelets panicle^{-1}, grain yield plot^{-1} were also recorded after harvest. Data were statastically analysed as per method suggested by Panse and Sukhatme (1954).

RESULTS AND DISCUSSION

Plant height (cm)

Plant height of various genotypes was recorded at three observational stages *viz.,* 30, 60 and 90 DAS and the

1 & 5. P.G. Students, Botany Section, College of Agriculture, Nagpur
2. Assoc. Professor, Botany Section, College of Agriculture, Nagpur
3&4. Asstt. Professors, Botany Section, College of Agriculture, Nagpur

data are presented in Table 1. Significant variation with a gradual increase (30-90 DAS) was observed in plant height at all the stages of crop growth. Plant height is an important character of the vegetative stage and indirectly influences yield components. At flowering stage, maximum tillers converted into reproductive development due to which height was affected severely. The data regarding the plant height at 30 DAS were found statistically significant. At 30 DAS the range of plant height was 52.00 to 66.20 cm. The check PKV Ganesh (66.20 cm) recorded significantly highest plant height. Whereas, genotypes SYE-335-4-37-9 (59.00 cm), check PKV-HMT (58.80 cm), SYE-930-8-25 (58.70 cm), SYE-94-32-9-17 (57.20 cm) recorded moderate in plant height during early stage of growth. Whereas, the genotype SYE-309-39-13-18-5-23-20 (52.30) followed by check Awishkar (52.00 cm) recorded significantly lowest plant height among all the genotypes.

At 60 DAS, The data presented in Table 1 indicated that mean plant height of rice genotypes at 60 DAS was found statistically significant and range recorded was 79.03 to 109.91 cm. Whereas, the check PKV Ganesh (109.91 cm) had significantly highest plant height followed by SYE-930-8-25 (100.79 cm) and SYE-94-32-9-17 (99.25 cm). However, the rice genotypes SYE-930-8-25 (100.79 cm), SYE-94-32-9-17 (99.25 cm) were found at par with check PKV Ganesh (109.91 cm). The check PDKV Tilak (95.82 cm), SYE-309-39-13-18-5-23-20 (92.77 cm) and PKV-HMT (91.93 cm) significantly recorded moderate plant height during tillering stage. Check Awishkar (79.03 cm) followed by PDKV Kisan (87.34 cm) recorded significantly lowest plant height.

Obsevation recorded at 90 DAS the range of plant height was recorded 84.00 to 116.6 cm. The significantly superior plant height was noted in check PKV Ganesh (116.6 cm). Moderate plant height was recorded in genotypes SYE-94-32-9-17 (109.05 cm), SYE-930-8-25 (106.00 cm). However, these genotypes were found at par with each other. Significantly lowest plant height was recorded in check Awishkar (84.00 cm) followed by PKV-HMT (92.05 cm). This might be due to their genetic constitution as compared to other genotypes.

Similar results were observed by Tangle *et al.* (2021), they reported that cultivar PKV Ganesh recorded highest plant height (119.00 cm). Srinivas *et al.* (2023) conducted an experiment with 35 rice genotypes under wet direct seeding condition. The range of plant height (cm) recorded minimum 69 cm to maximum 98 cm.

Number of tillers hill^{-1}

The data shown in Table 1 indicates that, mean number of tillers hill^{-1} in all rice genotypes under study showed significant differences. The significantly highest number of tillers hill^{-1} at 30 DAS was recorded in rice genotype SYE-94-32-9-17 (15.50) followed by check PKV Ganesh (14.75). However, genotypes SYE-335-4-37-9 (12.80) and PKV-HMT (12.75) recorded significantly lower number of tillers hill^{-1}. The check Avishkar (7.55) exhibited significantly lowest number of tillers hill^{-1}.

Observation recorded on number of tillers hill^{-1} at 60 DAS indicates significant variations. The most pronounced effect observed in genotype SYE-309-39-13-18-5-23-20 (25.10) followed by SYE-1635-40-15-4-9-44-18 (23.80) and check PKV-HMT (23.20) which recorded significantly higher number of tillers hill^{-1}. The check PDKV Tilak (21.40), PKV Ganesh (21.10) recorded significantly lower number of tillers hill^{-1}. Genotypes SYE-335-4-37-9 (12.80) and check Awishkar (15.20) recorded significantly lowest number of tillers hill^{-1} than all the genotypes.

At 90 DAS significantly highest number of tillers hill^{-1} was observed in rice genotype SYE-94-32-9-17 (31.60) followed by SYE-309-39-13-18-5-23-20 (31.00) as compared to check PDKV-Tilak (28.50).Genotypes SYE-930-8-25 (29.70), PDKV Tilak (28.50) and PKV-HMT (27.00) recorded significantly lower number of tillers hill^{-1}. Significantly lowest number of effective tillers was recorded in check PDKV Kisan (19.35) and Awishkar (20.20). Purane *et al.* (2020) reported that the genotypes PKV Ganesh and PKV Makrand recorded significantly more number of tillers. At 60-90 DAS range of number of tillers plant^{-1} recorded was 13.67-20.67.

Total dry weight hill^{-1}

Dry matter production is the result of balanced between photosynthetic activity and respiration loss of plant. The total dry matter production often indicates the potentiality of crop plants for yield, but its mobilization towards grain developments is important for grain yield.

Data pertaining to dry weight hill^{-1} recorded at different stages (30, 60 and 90 DAS) are presented in Table 1. The data recorded about the total dry weight hill^{-1} was found statistically and significant at 30 DAS. Significantly highest dry matter production hill^{-1} was noticed in rice genotypes SYE-335-4-37-9 (8.95 g) followed by check PDKV Kisan (8.40 g) and PDKV Tilak (8.20 g). The check PKV Ganesh (7.70 g), Awishkar (7.00 g) and SYE-335-4-37-9 (6.40 g) recorded moderately higher total dry weight hill^{-1}. However, significantly lowest total dry weight hill^{-1} was recorded in rice genotype SYE-94-32-9-17 (3.85 g) followed by SYE-68-15-34-31-12-35-13 (4.35 g) as compared to all superior checks.

At 60 DAS the range of total dry weight hill^{-1} recorded was 10.15-20.85 g. Differences were found significant in rice genotypes for total dry weight hill^{-1}. Significantly highest dry weight hill^{-1} was registered in check PKV Ganesh (20.85 g) followed by checks PKV-HMT (19.55 g), PDKV Tilak (19.43 g) over all genotypes. PKV-HMT (19.55 g) and PDKV Tilak (19.43 g) recorded moderately higher total dry weight hill^{-1}. However, these genotypes were found at par. Genotypes SYE-930-8-25 (10.15 g) followed by SYE-94-32-9-17 (12.12 g), check PDKV Kisan (15.07 g) exhibited significantly lowest total dry weight hill^{-1} among all other genotypes.

At 90 DAS, the range of total dry weight hill^{-1} recorded was 19.03-24.85 g. Significant differences were found in rice genotypes for total dry weight hill^{-1}. Significantly highest dry weight hill^{-1} was registered in check PKV-HMT (24.85 g) followed by check PKV Ganesh (24.55

g).Genotypes SYE-94-32-9-17 (21.95 g) and SYE-1635-40-15-4-9-44-18 (21.75 g) recorded moderate dry weight hill^{-1}. However, the check PDKV Kisan (19.03 g) recorded significantly lowest dry weight hill^{-1} than all the genotypes. Similar observation also recorded by Adigbo *et al.* (2018), they reported that total dry matter production ranges from 13.46 to 23.75 g amongst different upland rice varieties tested in anaerobic soil. Purane *et al*. (2020) were recorded significantly more dry matter production in genotype PKV-Ganesh and PKV Makrand.

Days to flower initiation

The data are presented in Table 2 indicates that mean days to flower initiation of rice genotypes was 95.27. Significant differences were found in rice genotypes for days to flower initiation. The data recorded about days to flower initiation was found statistically significant. The range of days to flower initiation recorded was 68.50-114.50 days. The early flower initiation was recorded in check Awishkar (68.50 days) followed by PKV Ganesh (84.50 days), PKV-HMT (91.00 days). The genotypes SYE-1635-40-15-4-9-44-18 (114.50 days), SYE-930-8-25 (108 days) and SYE-94-32-9-17 (106.50 days) were recorded late flower initiation as compared to all genotypes and checks.

Mahajan *et al.* (2012) reported that rice cultivar responsed dry direct seeded rice. Highest flower initiation was recorded in PR-120 rice cultivar as compared to IR-64, PAU-201 and IET-20653.

Days to 50% flowering

The data are presented in Table 2. Days to 50% flowering was determined by recording the number of days after sowing until 50% of plant in a plot had opened flower. The general mean (average days) for 50% flowering of rice genotypes was 105.27. The data recorded about days to 50% flowering was found statistically significant. The range of days to 50% flowering found to be 74-123 days. Genotype SYE-94-32-9-17 required significantly maximum days for 50% flowering (117 days) followed by SYE-930-8-25 (115 days) when compared with other genotypes. Genotypes SYE-68-15-34-31-12-35-13 (111 days) and SYE-335-4-37-9 (101 days) also recorded moderate number of days required for 50% flowering. However, significantly lowest days to 50% flowering was recorded in check Awishkar (74 days) followed by PKV Ganesh (98 days) than all other genotypes.

Similar results were noted by Purane *et al.* (2020), who revealed in their experiment that maximum days required for 50% flowering was noticed in PKV-Ganesh (124.6 days) and minimum in KJT-184 (103.6 days).

Days to maturity

The data are presented in Table 2 shows that days to maturity of rice genotypes was 134.41. Significant differences were found in rice genotypes for days to maturity. Days to maturity was recorded significantly highest by rice genotype SYE-1635-40-15-4-9-44-18 (150.05 days) followed by SYE-930-8-25 (147 days) and SYE-94-32-9-17 (146 days). Significantly days to maturity were found lowest in check Awishkar (100 days) and SYE-309-39-13-18-5-23-20 (126.05 days) among all the genotypes.

Variation in days required to maturity in rice genotypes was due to their genetic makeup. The range found to be 100 to 150.05 days. Different researchers reported different maturity in different rice varieties tested under different conditions. Similar results were noted by Purane *et al*. (2020), who revealed in their experiment that PKV-Ganesh required significantly highest days for physiological maturity (156.6 days). Genotypes RTN-5 (139.33 days) and KJT-184 (134.33) required lesser number of days for physiological maturity.

Leaf area plant^{-1}

Leaves play an important role in the absorption of light variations and using it in photosynthetic process. Hence, yield depends on leaf area of crop. The data shown in Table 1 indicates that, the leaf area plant^{-1} at different growth stages influenced by different genotypes. Leaf area plant^{-1} gradually increased from 30 DAS and reached maximum value at 90 DAS by all the genotypes. An observation recoded at 30 DAS indicates significant variation in leaf area plant^{-1}. Significantly highest plant leaf area was noted in PKV Ganesh (14.73 cm^2) followed by SYE-94-32-9-17 (13.49 cm^2). Check PKV-HMT (12.77 cm^2) and check Awishkar (12.68 cm^2) recorded comparatively moderate leaf area. However, lowest leaf area was recorded in rice genotype SYE-68-15-34-31-12-35-13 (8.50 cm^2).

Check PKV-Ganesh (27.73 cm^2) recorded significantly highest leaf area at 60 DAS over all the genotypes. Check PKV-HMT (26.27 cm^2), SYE-94-32-9-17 (25.49 cm^2), SYE-309-39-13-18-5-23-20 (24.99 cm^2) recorded moderately higher leaf area plant^{-1}. Genotypes SYE-68-15-34-31-12-35-13 (19.17 cm^2) and SYE-930-8-25 (19.46 cm^2) exhibited significantly lowest leaf area plant^{-1} over PKV Ganesh, PKV-HMT, PDKV Kisan.

At 90 DAS, significantly highest leaf area plant^{-1} was registered by check PKV Ganesh (33.61 cm^2) followed by genotypes SYE-94-32-9-17 (33.14 cm^2) and PKV-HMT (32.76 cm^2). Genotypes SYE-309-39-13-18-5-23-20 (31.27 cm^2), check Awishkar (31.17 cm^2) exhibited significantly moderate leaf area. Genotypes SYE-930-8-25 (22.59 cm^2), SYE-1635-40-15-4-9-44-18 (25.58 cm^2) and check PDKV Tilak (26.01 cm^2) exhibited significantly lowest leaf area plant^{-1}. Khan *et al*. (2015) recorded significantly more flag leaf area (22.26 cm^2) at seedling age of 25 days, while smaller flag leaf area plant^{-1} (19.77 cm^2) was attained at seedling age of 30 days.

Leaf area index

Leaf area index (LAI) is a dimensionless quantity that characterizes plant canopies. Leaf area index is the photosynthetic area of leave occupying by the plant. Data are given in Table 1. Leaf area index gradually increased from 30 DAS and reached maximum value at 90 DAS in all the genotypes. Observations recorded at 30 DAS indicated significant variation in LAI. Significantly highest leaf area index was noted in check PKV Ganesh (4.91) followed by SYE-94-32-9-17 (4.49) and check PKV-HMT (4.25). The check PDKV Tilak (3.65) and PDKV Kisan (3.92) recorded moderate LAI. Genotype SYE-68-15-34-31-12-35-13 (2.83) exhibited significantly lowest leaf area index among all other genotypes studied.

At 60 DAS, significantly highest leaf area index was observed in check PKV Ganesh (9.24) followed by check PKV-HMT (8.75) which was also recorded comparatively higher LAI. However, genotypes SYE-94-32-9-17 (8.49), SYE-309-39-13-18-5-23-20 (8.32) and check PDKV Kisan (8.26) recorded moderately higher leaf area index. Genotype SYE-68-15-34-31-12-35-13 (6.39) exhibited significantly lowest leaf area index over all other genotypes.

Observations recorded at 90 DAS the range of leaf area index was observed 7.53-11.20. Significantly highest leaf area index was observed in check PKV Ganesh (11.20) followed by SYE-94-32-9-17 (11.04) and check PKV-HMT (10.91). Genotype SYE-309-39-13-18-5-23-20 (10.42) and check PDKV Kisan (8.95) recorded moderately higher leaf area index. Genotype SYE-930-8-25 (7.53) exhibited significantly lowest leaf area index over all other genotypes.

Yield and yield parameters

Number of panicles m^{-2}

The data pertaining to number of panicles m^{-2} of rice genotypes are presented in Table 2 indicates that mean number of panicles m^{-2} of rice genotypes was 276.86. Significantly highest number of panicles m^{-2} was recorded in genotype SYE-309-39-13-18-5-23-20 (293.50) followed by SYE-94-32-9-17 (289), check PDKV Tilak (285.50), SYE-68-15-34-31-12-35-13 (274.50), SYE-930-8-25 (263.00). Significantly lowest number of panicles m^{-2} was recorded in rice genotype SYE-1635-40-15-4-9-44-18 (237) followed by check PDKV Kisan (241.50).

In present study number of panicles m^{-2} were ranged from 237 to 293.50. Present results are in accordance with the result reported by Ali *et al*. (2007), they reported that number of panicles m^{-2} ranged from 141 to 327.

Number of spikelet $panicle^{-1}$

The data in respect to number of spikelet $panicle^{-1}$ of rice genotypes are presented in Table 2. Significant differences were found in respect to number spikelet $panicle^{-1}$ of rice genotypes. Significantly highest number of spikelet $panicle^{-1}$ was recorded in genotype SYE-309-39-13-18-23-20 (167.90) followed by SYE-94-32-9-17 (161.70). However, numerically moderate number of spikelet $panicles^{-1}$ was recorded in check PKV-HMT (133.00) and SYE-68-15-34-31-12-35-13 (131.30). The check PDKV Kisan (121.60) and SYE-335-4-37-9 (125.20) exhibited significantly lowest number of spikelet $panicle^{-1}$ over all other genotypes.

In present investigation number of spikelet $panicle^{-1}$ of rice genotypes were found in the ranged from 121.60 to 161.70 under direct seeded condition. Higher number spikelet $panicle^{-1}$ was noted in genotypes SYE-309-39-13-18-23-20 (167.90), SYE-93-32-9-17 (161.70). Presents results are supported by Bele *et al*. (2022), they reported range of number of grains $panicle^{-1}$ from 78.36 to 125.48.

Spikelet fertility (%)

The data pertaining to spikelet fertility of rice genotypes are presented in Table 2. Numerically higher spikelet fertility was recorded in genotype SYE-94-32-9-17 (95.45%) followed by genotype SYE-309-39-13-18-5-23-20 (92.80%), check PDKV Kisan (92.40%), check PKV Ganesh (89.05%). However, the rice genotypes SYE-94-32-9-17 (95.45%), SYE-309-39-13-18-5-23-20 (92.80%), check PKV-HMT (90%), PKV Ganesh (89.05%), PDKV Kisan (92.40%) were found significantly and moderatly superior as compared to other genotypes. Genotype SYE-1635-40-15-4-9-44-18 (81.40%) recorded significantly lowest spikelet fertility.

Similar result showed that Malarvizhi *et al*. (2010) reported spikelet fertility in the range of 86.2 to 93.35 in different rice cultivars and hybrids studied.

Grain yield $plot^{-1}$ (kg)

The data pertaining to grain yield kg $plot^{-1}$ of rice genotypes presented in Table 2 showed significant differences in respect to grain yield $plot^{-1}$ (kg) of rice genotypes under direct seeded condition. Significantly highest grain yield $plot^{-1}$ was recorded in genotype SYE-309-39-13-18-23-20 (2.78 kg) followed by SYE-94-32-9-17 (2.78 kg) and check PDKV Tilak (2.27 kg). Check PKV-HMT (2.08 kg), PKV Ganesh (1.59 kg) and check Awishkar (2.07 kg) were found moderate in grain yield. However, significantly lowest grain yield $plot^{-1}$ was recorded in check PDKV Kisan (1.34 kg) and SYE-1635-40-15-4-9-44-18 (1.38 kg).

Similar results were noted by Purane *et al*. (2020), who reported that the significantly highest grain yield $plot^{-1}$ was observed in genotypes PKV-Ganesh (3.52 kg), followed by PKV-Makrand (3.43 kg) but KJT-184 (2.94 kg) recorded significantly lowest grain yield $plot^{-1}$ than all other genotypes studied.

Table 1. Plant height, number of tillers hill^{-1}, leaf area plant^{-1}, leaf area index, total dry weight hill^{-1} of rice genotypes under direct seeded condition

Genotypes	Plant height (cm)			Number of tillers hill^{-1}			Leaf area plant^{-1}(cm^2)			Leaf area index			Total dry weight hill^{-1} (g)		
	30 DAS	60 DAS	90 DAS	30 DAS	60 DAS	90 DAS	30 DAS	60 DAS	90 DAS	30 DAS	60 DAS	90 DAS	30 DAS	60 DAS	90 DAS
SYE-68-15-34-31-12-35-13	56.80	89.41	96.03	8.10	17.00	23.60	8.50	19.17	27.60	2.83	6.39	9.20	4.35	18.02	22.06
SYE-930-8-25	58.70	100.79	106.00	8.30	19.40	29.70	9.96	19.46	22.59	3.32	6.48	7.53	4.70	10.15	21.07
SYE-94-32-9-17	57.20	99.25	109.05	15.50	19.50	31.60	13.49	25.49	33.14	4.49	8.49	11.04	3.85	12.12	21.95
SYE-335-4-37-9	59.00	90.01	94.07	12.80	12.80	23.75	10.94	22.94	29.05	3.64	7.64	9.68	8.95	16.04	19.58
SYE-309-39-13-18-5-23-20	52.30	92.77	97.35	8.00.	25.10	31.00	12.49	24.99	31.27	4.16	8.32	10.42	6.40	17.43	19.08
SYE-1635-40-15-4-9-44-18	53.50	88.57	90.09	12.10	23.80	25.70	11.41	21.41	25.58	3.80	7.13	8.52	5.95	17.00	21.75
PKV-HMT (CH)	58.80	91.93	92.05	12.75	23.20	27.00	12.77	26.27	32.76	4.25	8.75	10.91	5.70	19.55	24.85
PDKV Tilak (CH)	55.90	95.83	104.25	12.10	21.40	28.50	11.00	21.61	26.01	3.65	7.20	8.66	8.20	19.43	20.55
PKV Ganesh (CH)	66.20	109.91	116.6	14..75	21.10	24.25	14.73	27.73	33.61	4.91	9.24	11.20	7.70	20.85	24.55
PDKV Kisan (CH)	56.50	87.34	98.08	12.05	15.95	19.35	11.79	24.79	26.86	3.92	8.26	8.95	8.40	15.07	19.03
Awishkar (CH)	52.00	79.03	84.00	7.55	15.20	20.20	12.68	22.68	31.17	4.22	7.56	10.38	7.00	17.07	20.95
SE(m)±	**2.04**	**3.81**	**1.77**	**0.49**	**0.71**	**0.49**	**0.55**	**0.76**	**1.49**	**0.18**	**0.25**	**0.49**	**0.13**	**0.73**	**0.52**
CD at 5%	**6.02**	**11.41**	**5.22**	**1.46**	**2.10**	**1.44**	**1.61**	**2.28**	**4.38**	**0.54**	**0.74**	**1.46**	**0.38**	**2.16**	**1.54**

Table 2. Days to flower initiation, days to 50% flowering, days to maturity, yield and yield contributing parameters of rice genotypes under direct seeded condition

Genotypes	Days to flower initiation	Days to 50% flowering	Days to maturity	Number of panicles m^{-2}	Spikelet fertility (%)	Number of spikelet $panicle^{-1}$	Grain yield kg $plot^{-1}$
SYE-68-15-34-31-12-35-13	101.00	111.00	141.00	274.50	85.73	131.30	1.80
SYE-930-8-25	108.00	115.00	147.00	263.00	84.60	137.00	1.87
SYE-94-32-9-17	106.50	117.00	146.00	289.00	95.45	161.70	2.70
SYE-335-4-37-9	91.00	101.00	131.33	249.00	83.83	125.20	1.71
SYE-309-39-13-18-5-23-20	88.00	99.00	126.05	293.50	92.80	167.90	2.78
SYE-1635-40-15-4-9-44-18	114.50	123.00	150.05	237.00	81.40	125.60	1.38
PKV-HMT (CH)	91.00	103.05	135.00	265.00	90.00	133.00	2.08
PDKV Tilak (CH)	102.00	111.00	140.00	285.50	87.98	148.70	2.27
PKV Ganesh (CH)	84.50	98.00	127.00	259.50	89.05	124.30	1.59
PDKV Kisan (CH)	93.00	105.00	134.05	241.50	92.40	121.60	1.34
Awishkar (CH)	68.50	74.00	100.00	270.00	86.16	144.90	2.07
SE(m)±	**0.97**	**0.79**	**0.66**	**24.11**	**2.36**	**10.88**	**0.46**
CD at 50%	**2.86**	**2.33**	**1.94**	**71.12**	**6.96**	**32.10**	**1.37**

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