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STUDIES ON THE PERFORMANCE OF SOME MUTANTS OF CAVENDISH BANANA

MARY GEORGE, S. BALAKRISHNAN, G. R. P1LLAI and R. GOPALAKRISHNAN

Ba ıana and Pineapple R?search Station, Kannara, Kerala

Varietal testing is an important aspect in pomological improvement. Everybody Involved in production and processing of crops should be variety conscious to achieve desired results. So far as banana is concerned, the informations on the conparative merits of different varieties under Kerala conditions are at present scanty eventhough multitudes of varieties are being grown. The banana variety supporting the export programme in India is 'Robusta'. Recommendation of other mutants having better attributes than Robusta will be advantageous.

Ahmed and Ali (1973) have presented the comparative data of different characters and productivity of Basrai and Amritsagar varieties of banana and have reported that Basrai yields over 50 per cent than Amritsagar, although Amritsagar possesses better flavour. Alagiamanavalan *et. al* (1973) have found that the triploid seedless banana variety 'Wather' compared favourably with Dwarf Cavendish in appearance and quality.

Materials and methods:

To assess the performance and merits of four cultivars of Cavendish variety of banana, field experiments were conducted at Banana & Pineapple Research Station, Kannara during the year 1973-74 to 1975-76 with Giant Governor, Robusta, Peddapacha arati and Monsmari in Randomised Block design having five replications. Planting was done in September-October every year adopting spacing of 2.4 m x 1.8 m between rows and plants. Uniform application of farm-yard manure at 10 kg per plant a month after planting and fertilizers to supply 160 g N, 160 g P_2O_5 and 320 kg K_2O per plant in two split doses, as recomended in package of practices.

Observations on growth parameters, duration, yield and fruit characters were recorded. Ripe fruits were also analysed for qualities such as T. S. S., acidity and sugar.

Results and discussion.

The data on bunch weight, number of hands and fingers per bunch are presented in Table !. Observations recorded on growth parameters, duration and fruit qualities including results of analysis of data are presented in Table 2. The data reveal that in respect of mean bunch weight, treatment effect is significant

Table 1

Mean bunch weight, number of hands and fingers per bunch of different cultivars of Cavendish Banana

Variety	Mean bunch weight (kg.)				Mean No. of hands per bunch			Mean No. of fingers/bunch		
	1973-74	1974-75	1975-76	Pooled Analysis	1973-74	1974-75	1975-76	1973-74	1974-75	1975-76
Dwarf Cavendish	15.1	11.7	17.0	14.76	8.00	7.10	7.94	114.1	102.00	127.28
Robusta	14.0	12.7	15.0	12.91	7.80	7.00	7.94	111.5	91.5	119.74
Pedda Chakkerakeli	14.4	12.9	14.00	12.94	7.71	6.50	7.94	108.3	89.6	116.96
Musamari	15.00	12.5	19.0	15.76	8.00	7.30	8.46	114.8	103.2	132.26
CD at 5% level of significant	1.04	1.73	1.74	0.88	NS	0.52	NS	NS	NS	10.67

N. S. Not significant

Table 2

Growth parameters, duration and fruit qualities of different cultivars of banana

Characters	Giant Governor	Robusta	Peddapacha arati	Monsmari	CD at 5% level
Mean bunch weight (kg.)	14.76	12.91	12.94	15.76	0.88
Compactness of hands and fingers	Compact	Compact	Loose	Compact	. .
No. of hands per bunch	8.0	8.0	8.0	8.0	N. S.
No. of fingers per bunch	15.0	14.0	14.0	16.0	0.92
Average No. of fingers per bunch	120.0	110.0	112.0	128.0	7.626
Pedicel	Medium	Medium	Short	Medium	. .
Length of fingers (cms)	15.1	13.6	12.5	16.8	1.02
Girth of fingers (cms)	10.5	10.0	10.0	11.0	N. S.
Fingers angular or round	Angular	Angular	Angular	Angular	. .
Fingers tip round or pointed	Round	Round	Round	Round	. .
Average weight of finger (gm)	123.0	117.3	115.5	128.1	4.66
Fruit colour when green	Green	Green	Green	Green	. .
Fruit colour when ripeness	Yellowish green	Yellowish green	Yellowish green	Yellowish green	
Rind thick or not	Thick	Thick	Thick	Thick	. .
Peel pulp ratio	2.66	2.77	2.72	2.44	N. S.
Colour of pulp	Cream	Cream	Cream	Cream	. .
Consistency	Soft	Soft	Soft	Soft	. .
Taste	Sweet	Sweet	Less sweet	Sweet	. .
Flavour	Good	Good	Good	Good	. .
T. S. S. (Brixo)	27.0	26.0	26.0	28.0	0.89
Total sugars (per cent)	18,8	18.5	16.6	20.0	1.10
Reducing sugar (per cent)	7.49	7.40	6.50	7.69	0.02
Non-reducing sugar (per cent)	11.31	11.10	11.10	12.31	0.41
Titrable acidity	0.152	0.192	0.236	0.128	0.01
Sugar acid ratio	123.0	96.0	70.0	156.0	27.21
Duration:					
I. Planting to flowering (days)	231.0	236.0	244.0	237.0	N. S.
2. Flowering to harvest	89.0	85.0	91.0	86.0	N. S.
3, Total duration	320.0	321.0	335.0	323.0	N. S.

N. S. Not significant

for all the three years. Among the four cultivars, Monsmari leads the rest although on a par with Giant Governor in all the years. The pooled analysis of data also shows that Monsmari is significantly superior in respect of bunch weight to all the other varieties, the second best being Giant Governor. In respect of mean number of hands per bunch, there is significant difference in the year 1974-75 only and all the treatments are on par, Monsmari being superiormost. The results are significant in the year 1975-76 only for mean number of fingers per bunch. For this character also, Monsmari leads the rest.

It is seen that Monsmari is liable to produce bunches of better weight than other varieties tried. At the same time, it is similar to other varieties in production of hands and fingers. But the fruits are larger due to better length and weight of fingers Besides, the ripe fruits of Monsmari possess higher sugar content and lesser acidity. The duration of the varieties except Peddapacha arati is also the same. Because of its attributes, there is immense scope for popularising Monsmari in almost aii banana growing tracts of Kerala consisting of plains and high ranges.

Summary

Three field experiments to assess the performance of four mutants of Cavendish banana (Giant governor, Robusta, Peddapacha arati and Monsmari) revealed that the cultivar 'Monsmari' was more productive than other cultivars tried, the next best being Giant Governor. The ripe fruits of Monsmari had high sugar content and lesser acidity compared to other varieties.

സംഗ്രഹം

കാർഷിക സവ്വകലാശാലയിൻ കീഴിലുള്ള കണ്ണാറ വാഴ കൈതച്ചക്ക ഗവേഷണ കേന്ദ്രത്തിൽ 1973-76 വർഷങ്ങളിൽ കാവൻഡിഷു് ഗ്രൂപ്പിൽപ്പെട്ട ചില വാഴയിനങ്ങളായ ജയൻറു് ഗവർണ്ണർ, റൊബസ്റ്റ, പെദ്ധപ്പച്ച rarajtofml , മോൺസു്മേരി എന്നിവയുടെ ഉല്പാദന ശേഷി ഗുണങ്ങൾ എന്നിവ പഠിച്ചതിൽ എല്ലാ കൊല്ലങ്ങളിലും ഉല്പാദനത്തിൽ മോൺസു്മേരി മികച്ചതായി കണ്ടു. കൂടാതെ, മോൺസു്മേരിയുടെ പഴത്തിൽ കുറഞ്ഞ അമ്ലാംശവും, കൂടുതൽ പഞ്ചസാരയും അടങ്ങിയിരിക്കുന്നതായും കാണപ്പെട്ടു.

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