

Variability in Bottle Gourd (*Lagenaria siceraria* M.)

B. MURALIDHARAN and V. KANTHASWAMY

Department of Horticulture,
Pandit Jawaharlal Nehru College of Agriculture and Research Institute,
(Affiliated to Tamil Nadu Agricultural University)
Karaikal-609 603, Tamil Nadu, India

Abstract

- The evaluation was carried out with twenty four genotypes obtained from diverse sources.
- The research was aimed to study the variances, heritability, and genetic advance for nineteen characters.
- yield and other character indicate that the major part of variability was due to genetic constitution.

Objectives

- To evaluate the *per se* performance of the genotype for yield and yield component characters in bottle gourd.
- To identify the high yielding genotypes with earliness.
- To study the nature and magnitude of variation in the genotypes in the expression of growth and yield characters.

Acknowledgment

To my Father
without him, I'm
Not

Introduction

- Bottle gourd [*Lagenaria siceraria*] belongs to the family Cucurbitaceae having chromosome number $2n = 22$.
- It is commonly grown in India for its immature edible fruits during summer and rainy season.
- The assessment of genetic variability importance in selecting the best genotype for making rapid improvement in yield and related characters
- To select most potential parent for making hybridization successful (Ahmed, *et al.* 2005).

Materials and Methods

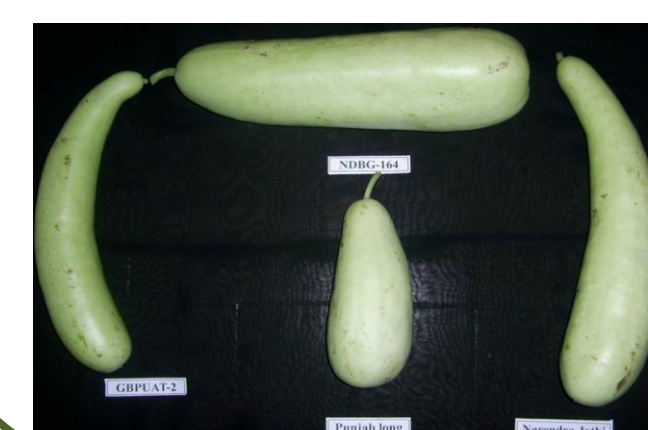
- The present investigation was undertaken in the Department of Horticulture at Pandit Jawaharlal Nehru College of Agriculture and Research Institute, Karaikal,
- The twenty four diverse genotypes were evaluated for *per se* performance, genotypic variability.
- The association and contribution of different characters towards fruit yield were also estimated for all the twenty four genotypes.
- Observations were recorded on various growth, yield and quality attributes of Bottle gourd genotypes from five tagged plants per treatment in each replication.
- Analysis of variance revealed the presence of significant differences among the genotypes for all the characters.

References

- Ahmed, N., Hakeem, Z. and Afroza, Baseerat 2005. Performance of bottle gourd genotypes under temperate conditions of Kashmir. Haryana J. Horti. Sci., 34 (3-4): 340-342.
- Burton, G.W.1952. Quantitative inheritance in grasses. *In* : Proc. 6th Int. Grassland Congr. 1: 277-283.

Result and Discussion

- Based on the *per se* performance. The genotype NDBG-164 was the best for fruit flesh thickness, fruit weight, yield per vine, estimated fruit yield.
- The two genotypes viz., NDBG-164 and Pusa sandesh were identified as promising types based on yield per hectare (estimated) ie. 35.40 t.ha⁻¹ and 30.30 t.ha⁻¹ respectively.
- The genotype NDBG-164 was the best for yield per vine (6.36 kg), fruit flesh thickness (2.60 cm) and fruit weight (3.24 kg).
- The genotype Pusa naveen was the best for days to first fruit harvest (56.80) and node number at first female flower appearance (11.30).
- High estimates of genetic coefficient of variation for vine length, number of primary branches, node number at first male flower appearance, fruit length, fruit width, fruit cavity, fruit flesh thickness, fruit weight, number of pickings, number of seeds per fruit, weight of 100 seeds and yield per vine indicate that the major part of variability was due to genetic constitution.



Conclusion

- Among the twenty four genotypes studied, genotype NDBG-164 has scored more values (11) followed by Pusa Sandesh (10) and Narendra Dharwar (9). Hence this concludes that, for development of bottle gourd hybrids these three genotypes can be used as one of the parental lines for heterosis breeding programme.