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RESEARCH ARTICLE

Assessment of standard heterosis for crop advancement in bottle gourd [*Lagenaria siceraria* (Molina) Standl]

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SUMMARY

Thirty six F_1 hybrids of bottle gourd and fifteen parental lines were carried out to assess the extent of standard heterosis over standard variety *i.e.* Pusa Meghdoot. The observations were recorded on twelve characters *viz.*, days to fifty per cent germination, days to first male flower anthesis, days to first male flower anthesis, node number to first male flower, node number to first female flower, vine length (m), number of nodes per vine, number of primary branches per plant, length of fruit (cm), weight per fruit (kg), number of fruits per plant and fruit yield per plant. The positive and significant heterosis is desirable for vine length, number of nodes per vine, number of primary branches per plant, length of fruit, weight per fruit, number of fruits per plant and fruit yield per plant. The negative and significant heterosis is desirable for days to fifty per cent germination, days to first male flower anthesis, days to first female flower anthesis, node number to first male flower, node number to first female flower. Most of the crosses showed positive and significant heterosis over standard variety. The cross combinations DK x NDBG-104 and PBOG-22 x Pusa Naveen for days to fifty per cent germination, VRBG-18 x NDBG-104 for days to first male flower anthesis, VRBG-105 x PSPL and VRBG-18 x NDBG-104 for days to first female flower anthesis and DK x PSPL for node number to first male flower, PBOG-22 x NDBG-104 for node number to first female flower, AD-1 x NDBG-104 showed negative and significant heterosis over standard variety. As negative heterosis is desirable for these characters. The cross combinations AD-1 x NDBG-104 for vine length, VRBG-1 x PSPL and DK x PSPL for number of nodes per vine, VRBG-1 x PSPL and AD-1 x Pusa Naveen for number of primary branches per plant, VRBG-44 x NDBG-104 and VRBG-112 x PSPL for length of fruit, VRBG-148 x NDBG-104 for weight per fruit, DK x Pusa Naveen for number of fruits yield per plant and VRBG-44 x Pusa Naveen for fruit yield per plant showed highly positive and significant heterosis over standard variety.

Key Words **:** Heterosis, Studies, Bottle gourd

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Bottle gourd is monoecious, annual having vine with long ribbed stem and strong tendrils. Flower open at night being a monoecious crop bottle gourd is strictly cross pollinated. The time of anthesis in bottle gourd is in between 5.00 and 8.00 pm both the male and female flower open at the same time. The shape of bottle gourd fruits are cylindrical, round, oval and oblong. The bottle gourd fruit in the green stage are used as vegetable, which is available throughout the year and also preparation of some delicious sweets impregnated with sugar solutions. It is highly digestive and reduces cough. Its oil extracted from mature seeds are used to remove headache. Its continuous use gradually cures eye trouble. The fruits at maturity are hard shelled, smooth surfaced and green to whitish green or tan in colour and variously striped or mottled.

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