



Inbreeding depression in bottle gourd [*Lagenaria siceraria* (Molina) Standl.]

YOGESH CHANDRA YADAV AND SANJAY KUMAR*

Department of Applied Plant Science (Horticulture), Babasaheb Bhimrao Ambedkar University (A Central University), LUCKNOW (U.P.) INDIA (Email: sanjay123bhu@gmail.com)

Abstract : The present investigation entitled inbreeding depression in bottle gourd [*Lagenaria siceraria* (Molina) Standl.] was carried out at Horticultural Research Farm, Department of Applied Plant Science (Horticulture), Babasaheb Bhimrao Ambedkar University, Lucknow during the year of 2008-10. In the present investigation, fifteen diverse genotypes of bottle gourd were used as experimental materials. The fifteen genotypes were AD-1, DK, PBOG-22, VRBG-1, VRBG-15, VRBG-40, VRBG-44, VRBG-88, VRBG-105, VRBG-107, VRBG-148, Pusa Naveen, PSPL and NDBG-104. The trail was conducted in Randomized Block Design with three replications. The row to row and plant to plant spacing were maintained at 2.0m x 1.0 m, respectively. The cross combination VRBG-112 x Pusa Naveen showed highest inbreeding depression for days to fifty per cent germination, PBOG-22 x Pusa Naveen exhibited highest inbreeding depression for days to first male flower anthesis, VRBG-40 x Pusa Naveen showed maximum inbreeding depression for days to first female flower anthesis, VRBG-18 x NDBG-104 showed maximum inbreeding depression for node number to first male flower, AD-1 x NDBG-104 showed highest inbreeding depression for node number to first female flower, DK x NDBG-104 showed highly inbreeding depression for vine length, VRBG-1 x Pusa Naveen exhibited maximum inbreeding depression for number of node per vine, DK x Pusa Naveen showed highest inbreeding depression for number of primary branches per plant, AD-1 x Pusa Naveen showed maximum inbreeding depression for length of fruit, AD-1 x NDBG-104 showed highest inbreeding depression for weight per fruit, VRBG-1 x PSPL showed maximum inbreeding depression for number of fruit per plant and VRBG-148 x NDBG-104 showed maximum inbreeding depression for fruit yield per plant.

Key Words : Inbreeding depression, Bottle gourd

View Point Article : Yadav, Yogesh, Chandra and Kumar, Sanjay (2012). Inbreeding depression in bottle gourd [*Lagenaria siceraria* (Molina) Standl.]. *Internat. J. agric. Sci.*, 8(2): 376-379.

Article History : Received : 26.03.2012; Revised : 10.04.2012; Accepted : 26.04.2012

INTRODUCTION

Bottle gourd [*Lagenaria siceraria* (Molina) Standl.] belongs to the family Cucurbitaceae. 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 crop. Bottle gourd is a warm season crop. It cannot tolerate high cold and frost. It is highly sensitive to photo period. Short days and humid climatic promote femaleness. It requires 18°C minimum temperature for seed germination and 20-30°C for growth and development of the plant.

The inbreeding depression to decrease in fitness and

vigour due to inbreeding. The degree of inbreeding is measured by inbreeding coefficient. The inbreeding depression is estimated when both F_1 and F_2 population of the some cross are available. The inbreeding depression may be high, medium, low and nil depending upon the crop-species.

MATERIALS AND METHODS

The experiment was carried out at Horticultural Research Farm, Department of Applied Plant Science (Horticulture), Babasaheb Bhimrao Ambedkar University, Lucknow during the year of 2008-10. In the present investigation, fifteen diverse genotypes of bottle gourd were used as experimental materials.

* Author for correspondence.