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Inheritance Studies in Bitter Gourd (*Momordica charantia* L.)*

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Bittergourd, a cucurbitaceous vegetable, is very popular in market as well as in kitchen garden and grown widely during all the three seasons, provided, the mild cold winter is available. No considerable work on inheritance study in bittergourd in Gujarat State has been reported till now. Hence, the present investigation was undertaken to study an inheritance of some qualitative characters in bittergourd.

The field trial was conducted at Regional Horticultural Farm, N. M. College of Agriculture, G.A.U., Navsari during monsoon 1989, using six parents viz., M_{10}, M_8, Coimbatore Long, Bittergourd Long Green, Arka Harit and M_1 (M_1, M_8, M_{10} are maintenance lines received from G.A.U.; Anand) which were crossed in one way diallel fashion and sown in Randomised Block Design with three replications. The qualitative characters, such as shape of fruits, colour of fruit and the surface of fruit of parents were observed and mode of inheritance of these characters into their offsprings were studied based on phenotypic observations.

Fruit shape

The parent M_{10} was medium long, M_8 was oblong, Coimbatore Long was long and thin, Bittergourd long Green was oblong, Arka Harit was small and spindle shape and M_1 was small and slightly oblong. The mode of inheritance from parents to offsprings was observed and revealed that the long shape was completely dominant over medium long and oblong fruits, medium long was completely dominant over oblong shape of fruit. Oblong shape was partially dominant over spindle shape. Similar results were also reported by Capinpin (1971) in bottle gourd, Sachan and Nath (1972) and Brar and Nandpuri (1974) in watermelon.

Fruit colour

Dark green, green and whitish green, three colours had been observed in parents. Inheritance study showed that dark green colour of fruit was fully dominant over green and whitish green. Same way, green colour was completely dominant over whitish green colour of fruit. These results are in accordance with those of Nath and Dutta (1970) in long and snap melon, Srivastava and

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Nath (1972) in bittergourd, Sachan and Nath (1972) in watermelon and Tyagi (1976), Patel (1989) in bottlegourd.

Fruit surface

Rought and Smooth, only two kinds of fruit surfaces were observed in parents. Their inheritance study revealed that the rough surface was fully dominant over smooth surface and thus all the resultant hybrids were found rough surfaced. These results are in confirmity with those reported by Patel (1989) in bottle gourd.

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