

Genetic analysis of F₂ population of tomato for studying quantitative traits in the cross between Bushbeef x Nagina

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ABSTRACT:

This study aims to determine the genetic components like Vg (Variance of genotype), Vp (Variance of phenotype), GCV (Genotypic co-efficient of variation), PCV (Phenotypic coefficient of variation), Hb (Heritability) and GA% (Genetic advance in percentage of means) in F₂ generation of the cross Nagina x Bushbeef-steak for predicting quantitative traits. Data was collected on P₁, P₂, F₁ and F₂ generation for various yield components and were analyzed. Analyzed data showed relatively high difference between, GCV, Vp and PCV for the traits: Flowers/cluster, Fruits/cluster and Fruit weight and relatively low difference was noted for Vg, GCV and Vp, PCV values in the traits: Fruit diameter, Fruit length and fruits/plant. Highest value of GCV (79.90%) and PCV (92.79%) were noted in the trait: yield/plant and the lowest values of GCV (14.68%) and PCV (16.78%) were noted for fruit-length. Highest value (84.08%) of broad sense heritability % (Hb%) was noted in fruit diameter and the lowest value of heritability (27.58) was noted for the trait fruits/cluster. Moderate value of heritability (74.13%) along with low value (15.22) of GA% was noted for yield/plant.

Keywords:

Tomato, F₂, Genetic analysis, Heritability, Genetic advance.