

عنوان مقاله:

Estimation of genetic parameters for quantitative and qualitative traits incotton cultivars (Gossypium hirsutum L. & Gossypium barbadense L.) andnew scaling test of additive– dominance model

محل انتشار:

دوفصلنامه اصلاح مولکولی گیاهان، دوره 2، شماره 1 (سال: 1393)

تعداد صفحات اصل مقاله: 19

نویسنده:

Gholamhossein Hosseini - Cotton Research Institute of Iran

خلاصه مقاله:

A complete diallel cross of nine cotton genotypes (Gossypium hirsutum L. & Gossypium barbadense L.) vizDelinter, Sindose-80, Omoumi, Bulgare-539, Termez-14, Red leaf (Native species), B-557, Brown fiber andSiokra-324 having diverse genetic origins was conducted over two years to determine the potential for theimprovement of yield, its components, oil and fiber quality traits by means of genetic analysis, combiningability, heritability and heterotic effects. The detailed studies were based on F1 generations where crossed seedsin the first year were used for F1 generation in the second year. The successful hybrids were recognized anddistinguished by morphological markers such as flower color, spot position and their colors in petal, fibercolor, seed linter, leaf color and their shapes. Analysis of variance for Simple Square Lattice Design (SSLD)showed highly significant differences ($P \leq 0.01$) among various genotypes which allowed genetic analysis byGriffing, Hayman and Hayman-Jinks, method. Additive- dominance model and related correlation (W_r , V_r)were adequate for majority of the traits and partially adequate for some traits. Majority of the traits wereinfluenced by non-additive gene action in F1 generation. These results are encouraging for practicalimprovement through hybrid breeding programs and the contributions of additive genes through selectionmethod. Significant variation for general combining ability (GCA) effects, specific combining ability (SCA)effects ($P \leq 0.05$) and high narrow sense heritability indicates the potential for improvement through selection.On the other hand, over-dominance gene action, low and moderate rate of narrow-sense heritability for .sometrails suggests that improvements should be made utilizing a combination and hybrid breeding approach

کلمات کلیدی:

Cotton, Hybrid, Genetics

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/450333>

