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MIXED MODEL BASED CONDITIONAL ANALYSIS FOR COMPLEX TRAITS

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Abstract

Many cotton complex traits like yield and plant height are determined by their several component traits. Usually these traits are measured under a specific experimental design (i. e. RCB design) and a specific genetic model (additive and dominance model). We used the conditional model in conjunction with mixed linear model approaches which are helpful to plant breeders in dissecting the relationships between a complex trait and its component traits. In this presentation, we extended the use of mixed model based conditional analysis to more general cases such as genotype by environment (G×E) interaction models, additive-dominance (AD) models, and additive-dominance and additive × additive (ADAA) models, etc. The software package for this analysis has been developed and is available for use. We will demonstrate the use of the software package in this presentation.