

الرابع عشر

ESTMATING PHENOTYPIC AND GENOTYPIC PATH COEFFICIENT, AN APPLICATION ON WHEAT(*TRITICUM AESTIVUM* L.) GENOTYPES

By

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ABSTRACT

Two field experiments were carried out at agriculture research stations of Agriculture Research Center (ARC). In 2014/2015 -2015/2016 seasons, the six parental genotypes were planted and the six parents were planted in a field experiment using the randomized complete block design with three replications. With the trials conducted, the correlation coefficients and path analysis were calculated between grain yield and yield components of wheat genotypes. The results revealed that that Gimaza-7, 10 and Misr1 cultivars were the best yielding among the studied cultivars and the KafrElhamam location was the top yielding than the other location (Itay-Elbarood). Positive and significant genotypic and phenotypic correlation was found between yield and No. of tillers per plant (NTP), No. of spikelets/ spike (NSS) and No. of spike /plant. Also, results indicated that, based on path analysis, it could be concluded that the most important sources of variation in grain yield. Genotypic and phenotypic coefficient of variation was high for No. of spike per plant and No. of tillers/plant, suggested that these yield components may be a good selection criteria to improve yield of wheat genotypes.

Key words: ANOVA, Path analysis, genotypic Path, phenotypic Path, Wheat.

الملخص العربي

اجريت تجربتين حقليتين بمحطة البحوث الزراعية بمركز البحوث الزراعية في موسمي ٢٠١٤/٢٠١٥ و ٢٠١٥/٢٠١٦ لستة تراكيب وراثية زرعت في تجربة بتصميم قطاعات كاملة العشوائية بثلاث مكرارات . وتهدف الدراسة تحديد الارتباط ومعامل المرور بين محصول الحبوب ومكونات المحصول في القمح. اظهرت النتائج ان الصنف جميزة٧، ١٠ او مصر ١ الافضل في المحصول بين الاصناف المستخدمة. وكان كفر الحمام الاعلى محصولا من الموقع الاخر (ايتاي البارود). كان الارتباط الوراثي والمظهري معنوي وموجب بين المحصول وعدد الاشطاء/ النبات وعدد السنبيلات/ السنبلة وعدد السنابل / النبات. وايضا اظهرت النتائج بالنسبة لمعامل المرور ان معاملات المرور الوراثية والمظهرية عالية لعدد السنابل / النبات وعدد الفروع / النبات، ويقترح ان تكون هذه المكونات معيار جيد لتحسين محصول الحبوب في القمح.