

烟草数量性状遗传距离与杂种优势关系的研究 Relationship Between Genetic Distance and Heterosis in Tobacco

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摘要 利用8个数量性状计算了主成分遗传距离,对15个烟草品种进行了聚类,在4.37的阈值下可将15个亲本分为5大类,分类结果与品种地理来源无必然的联系,而与品种的血缘关系有一定的联系,可将烤烟和晒晾烟分开,在一定程度上反映了品种的遗传差异。F1产量杂种优势指数(F1/MP)与亲本间遗传距离(D2)相关系数不显著,二者呈抛物线关系。在D2<5.63的范围内,二者呈一直线关系,二者相关系数为0.511**,达极显著水平,在此范围内随D2增大,优势指数增大,杂种优势增大,当D2>5.63时,亲本间D2增大,优势指数呈下降趋势。建议在杂种优势利用中选择遗传距离中等偏小的品种做亲本。

Abstract: Fifteen tobacco parental cultivars of 24 hybrids were classified into five groups on 4.37 clustering level by the genetic distance calculated on 8 agronomic quantitative characters. The relative cultivars were clustered into the same group. The result of correlation analysis showed that there was a parabola relationship between genetic distance (D2) and yield heterosis (F1/Mp). When D2 < 5.63, the correlative coefficient was significant (r = 0.511**), and the heterosis increased with the increasing of genetic distance. When D2 > 5.63, the heterosis decreased with the increasing of genetic distance. Therefore, in order to obtain higher heterosis of yield in tobacco, it might be better to choose cultivars with small to medium genetic distance as crossing parents.

关键词 [烟草](#) [数量性状](#) [遗传距离](#) [杂种优势](#) **Key words** [Tobacco](#) [Quantitative characters](#) [Genetic distance](#) [Heterosis](#)

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