

蛋鸡品系RAPD变异及其与杂种优势关系的分析 Studis of RAPD Variability of Chicken Lines and Its Relationship to Heterosis

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摘要 为探讨RAPD标记在家鸡杂种优势预测中的应用价值,分析了力康白壳蛋鸡纯系的RAPD变异及其与杂种优势的关系。5个纯系内和系间显示出低水平的变异。根据品系间遗传距离DS用UPGMA法进行聚类分析,品系a、e、d聚为一类,而h、l聚为另一类。简单线性相关分析表明,父系相似系数与F1代的60周龄产蛋数存在正相关而与蛋重的杂种优势率存在负相关;母系相似系数与产蛋数的杂种优势率存在高度负相关。但品系间遗传距离与各性状及其杂种优势率之间没有显著的相关关系。

Abstract To assess the value of RAPD markers for the prediction of heterosis in chicken, analyses of data from a crossbreeding experiment and RAPD assays of 5 Leghorn white shell lines (a, d, e, h, l) were conducted. The RAPD showed a low level of variability within and among 5 lines. The dendrogram was constructed by UPGMA based on inter-line genetic distance (DS), which indicted that 5 lines were clustered into two groups: one consisting of line a, e, d, and the other line h, l. The above results were consistent with the pedigree information of the pure lines. By using linear correlation, it was shown that similarity coefficient within paternal line was positively correlated with 60-week egg number and negatively correlated with the heterosis for egg weight, and that similarity index within maternal line was highly negatively correlated with the heterosis for egg number. However, no significant correlations between genetic distance and traits or their heterosis were found.

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