遗传 1999 21 (2): 649-656 ISSN: 0379-4172 CN: 11-5450/R

# 选择作用下家鸡淀粉酶的遗传多态性研究 ——基因频率分化、相关效应估计和标记辅助选择试验 Plasma Amylase Polymorphism under Selection

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收稿日期 修回日期 网络版发布日期 接受日期

摘要 对“三黄”鸡4个品系的血液淀粉酶(Amy-1)基因频率进行了估计，结果表明：Amy-1基因频率具有明显的品系特异性，父系Amy-1A高；母系Amy-1B频率高。人工选择可能是导致两个具有相同遗传来源的品系（Ⅱ系和Ⅲ系）Amy-1基因频率发生分化的原因。利用线性模型估计了Amy-1基因的加性效应，结果表明：Amy-1B有利于产蛋性能，而Amy-1A有利于体重和蛋重的提高。标记辅助选择试验结果表明，选择Amy-1遗传型来改变家禽品系类型是可能的，但效果有限，因此，对Amy-1的选择应结合于综合的选择方案之中。

Abstract Gene frequencies at Amy-1 locus were estimated in 4 grand-parent lines of yellow broilers. The results indicated that the male lines exhibited higher frequency of Amy-1A while the female lines were featured by higher frequency of Amy-1B. Differentiation in gene frequencies at Amy-1 locus in line Ⅱ and Ⅲ, which were of identical origin, might be attributable to varied history of selection. Estimation of genotypic and gene effects suggested that Amy-1B was associated with higher laying performance, while Amy-1A was favorable for increased body and egg weights. It was also revealed that changing types of poultry lines by means of altering genotypes at locus Amy-1 was feasible, but its effect was limited. Accordingly, it is preferable to incoporate biochemical marker-assisted selection into complex programs of selection.

关键词 淀粉酶 遗传多态性 遗传标记 选择试验 Key words amylase genetic polymorphism selection experiments genetic makers

分类号

**Abstract**

**Key words**

DOI:

通讯作者