

大瓶螺分子群体遗传结构和杂种优势预测 Molecular Genetic Structure of Population and Heterosis Prediction of *Ampullaria gigas*

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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 用垂直板聚丙烯酰胺凝胶电泳, 对大瓶螺7个近交系的苹果酸脱氢酶、酯酶和 α -淀粉酶的酶谱进行观测, 以估算群体固定指数和任两近交系间的遗传分化指数; 用这7个近交系作半双列杂交, 以估算杂种一代一些重要经济性状的优势率。结果表明, 杂种一代某些性状的优势率与其双亲间的遗传分化指数存在极显著的直线回归关系。因此, 杂种一代优势率的大小一般可用其双亲间的遗传分化指数的大小加以预测。最后讨论了这种预测的理论依据和影响预测的因素。

Abstract: Isozyme electrophoregrams of MDH, EST and α -AMY were investigated with 7 inbred lines of *Ampullaria gigas*. The fixation indices of the population and genetic differential indices between the lines were estimated at molecular level. A half diallel hybridization was made with the line in order to estimate F1 heterosis for some important economic traits. The results showed that there was a linear regression between F1 heterosis and the genetic differential index of its parents. Therefor, F1 heterosis of a cross combination could be predicted by the index of its parents. Finally, the theoretical basis and influential factors the prediction were discussed.

关键词 [固定指数](#) [群体遗传结构](#) [杂种优势](#) [同工酶](#) **Key words** [Fixation indices](#) [Genetic structure of population](#) [Heterosis](#) [Isozyme](#)

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