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标记辅助选择改良数量性状的研究进展 Advances on Marker-Assisted Selection in the Improvement of Quantitative Traits

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摘要 本文系统地介绍了近年来有关标记辅助选择改良数量性状的研究进展,主要包括标记辅助回交、指数选择与最佳线性无偏预测的理论和应用研究概况.理论与计算机模拟表明标记辅助选择比常规表型选择更有效,但在实际育种中并不理想.同时本文还就当前标记辅助选择存在的问题和前景进行了讨论。

Abstract:Recent advances on marker-assisted selection (MAS) in the improvement of quantitative traits are reviewed.These include theoretical researches and applications of marker-assisted backcrossing,index selection,and best linear unbiased prediction (BLUP) in animal and plant breeding.Theoretical and simulation studies show that marker-assisted selection can substantially increase the efficiency of selection in comparison to phenotypic selection,but is not yet a proven technology.Problems and prospects in MAS are also discussed.

关键词 标记辅助选择 数量性状 回交 指数选择 最佳线性无偏预测 Key words marker-assisted selection quantitative traits backcrossing index selection best linear unbiased prediction

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