

## 利用各世代小区平均数的加权最小二乘法在玉米数量性状遗传分析上的应用

明道绪

四川农业大学数量遗传研究室, 雅安 625014

收稿日期 修回日期 网络版发布日期 接受日期

**摘要** 本文根据作者在参考文献 [3] 所提出的利用各世代小区平均数估计遗传参数的加权最小二乘法对玉米穗粒重的遗传特性进行了分析。结果表明: (1) 在本次试验中, 可用加性-显性-二基因互作模型来描述玉米穗粒重的遗传特性; 其加性效应 [d]、加性效应与显性效应的互作 [j] 在 $\alpha=0.01$ 水平上显著, 显性效应 [h]、显性效应与显性效应的互作 [i] 在 $\alpha=0.10$ 水平上显著, 加性效应与加性效应的互作 [i] 不显著; [d] 与 [h] 的差异在 $\alpha=0.10$ 水平上不显著, 但 ([d] + [h]) 与 ([i] + [j] + [l]) 在 $\alpha=0.05$ 水平上显著; (2) 与利用 6 个世代平均数相比, 利用 8 个世代小区平均数的加权最小二乘法既节约、又灵敏。

**关键词** 穗粒重, 遗传分析, 效应, 显著性, 加权最小二乘法, 小区平均数

分类号

## The Application of the Method of Weighted Least Squares on the Basis of Lot Mean s of Generations to Analyse the Quantitative Character of Maize

Ming Daoxu

Department of Quantitative Genetics, Sichuan Agricultural University, Yaan 625014

### Abstract

The kernel-weight per ear of maize is analysed genetically by means of the method of weighted least squares for estimating genetic parameters on the basis of lot means of generations [3]. The results are as follows. 1. In this experiment, the kernel-weight per ear of maize can be described genetically by means of the additive-dominance-dignic interaction-model. The additive effect [d] and the additive  $\times$  additive interaction [j] are significant at the level of 0.01; the dominance effect [h] and the dominance  $\times$  dominance interaction [i] are significant at the level of 0.10. But the additive  $\times$  additive interaction [i] is not significant. The difference between [d] and [h] is not significant at the level of 0.10. The difference between ([d] + [h]) and ([i] + [j] + [l]), however, is significant at the level of 0.05. 2. Comparing with the analysis of generation means including 8 generations ( $P < 0.01$ ,  $P < 0.10$ ,  $F < 0.05$ ,  $F < 0.10$ ,  $B < 0.05$ ,  $B < 0.10$ ), the method of weighted least squares on the basis of lot means of 6 generations is far more sparing and sensitive.

**Key words** Kernel-weight per ear. Genetic analysis. Effect. Significance. Method of weighted least squares. Lot mean.

DOI:

通讯作者

### 扩展功能

#### 本文信息

Supporting info

PDF(315KB)

HTML全文(OKB)

参考文献

#### 服务与反馈

把本文推荐给朋友

加入我的书架

加入引用管理器

复制索引

Email Alert

文章反馈

浏览反馈信息

#### 相关信息

本刊中包含“穗粒重, 遗传分析, 效应, 显著性, 加权最小二乘法, 小区平均数”的相关文章

本文作者相关文章

明道绪