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种畜生产性能测验的评定中采用简化动物模型的BLUP法研究

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摘要 本文是探讨采用简化动物模型计算最优线性无偏预测值(BLUP)的方法。BLUP是一种评定种畜 遗传价值的有效方法，但是如果涉及的动物很多，则需要解较大系列的方程，常使计算代价 很大，而采用一种减少评定种畜育种植的元素数的等价线性模型，可以大大简化计算。这里 利用普通动物模型和简化动物模型，以包括父亲和外祖父后裔测验资料的一组简单数据为例 ，对比说明这两种解法计算的BLUP值的恒等性。一般采用包括父亲和外祖的简化模型与普通 模型比较，方程组的阶数可缩小30-50%左右，解亲缘系数矩阵的逆阵和混合模型方程组所需时间减少到10%左右，计算机的存储记忆也大大减少。

关键词 性能测定,BLUP

分类号

Study on BLUP with Reduced Animal Model in Evaluation of Performance Tested Male s

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Abstract

This study is computed in best linear unbiased prediction (BLUP) with the reduce d animal model.BLUP is a powerful method to evaluate genetic value of animals,bu t the computation is sometimes costly because of the large set of equations to b e solved.Equivalent linear models with a reduced number of elements of breeding values can reduce computations substantially.Using a general animal model and a reduced animal model predictions of additive genetic merit are described for the case of sire and maternal grandsire.A simple numerical example is used to illus trate the identity of the two solutions.The reduced animal model can be useful f or evaluation of males that have been performance-tested and have ,in some case, progeny that have been tested as is the case with beef cattle.

Key words Perfermance-tested BLUP

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