

Shrinkage and BLUP in plant breeders' trials - pros and cons.

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In mixed model analyses of early and late generation plant breeders' trials it is sometimes an open question as to whether genotype effects should be specified as fixed or random. We firstly set out the problem in the general framework of a mixed model and derive equations to quantify the shrinkage. Some examples from unreplicated early generation trials and from trials involving varieties in the last stages of release are used to illustrate the options available to the Biometrician and breeder and the consequential cost/benefit in terms of genetic gain.