

Accuracy of predicted breeding value \hat{u}_i for animal i :

□ Measured by the correlation $r_{u_i \hat{u}_i}$ of the true and the predicted breeding value

$$r_{u_i \hat{u}_i} = \frac{\text{cov}(u_i, \hat{u}_i)}{\sqrt{\text{var}(u_i) \cdot \text{var}(\hat{u}_i)}}$$

$$= \frac{\text{var}(\hat{u}_i)}{\sqrt{\text{var}(u_i) \cdot \text{var}(\hat{u}_i)}}$$

$$= \sqrt{\frac{\text{var}(\hat{u}_i)^2}{\text{var}(u_i) \text{var}(\hat{u}_i)}} = \sqrt{\frac{\text{var}(\hat{u}_i)}{\text{var}(u_i)}}$$

BLUP: $\text{cov}(u_i, \hat{u}_i) = \text{var}(\hat{u}_i)$

Use Reliability B_i instead of accuracy where

$$B_i = r_{u_i \hat{u}_i}^2$$

(Bestimmtheits mass)

$$= \frac{\text{var}(\hat{u}_i)}{\text{var}(u_i)} = \frac{\text{var}(u_i) - \text{PEV}(\hat{u}_i)}{\text{var}(u_i)} = 1 - \frac{\text{PEV}(\hat{u}_i)}{\text{var}(u_i)}$$

$$(e^2)_{ii}$$

$$\frac{\text{PEV}(\hat{u}_i)}{\text{var}(u_i)}$$