Solution to
- Combining information from different sources
- Correcting for non-genetic factors

is the BLUP method.

☐ Linear Mixed Effect Model (LME)

$$y_{ijk} = \mu + \beta_j + u_i + e_{ijk}$$

observation

fixed effects used as corrections for non-genetic factors

random breeding value

random residual

--- as opposed to linear fixed effect models

$$y_{ij} = \mu + \beta_j + e_{ij}$$

fixed

random residual