- In a fixed linear effect model, only fixed effects can be included. In example:

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

- Fit the model to data:

for animal 12: $2.61 = \mu + herd_1 + e_{12,1}$

13: $2.31 = \mu + herd_1 + e_{13,1}$

⋮

27: $3.16 = \mu + herd_2 + e_{27,2}$

with unknown intercept μ and unknown herd effects $herd_1$ for herd 1 and $herd_2$ for herd 2.

- Result will be find numbers for μ, $herd_1$ and $herd_2$ such that the sum of the squared residuals (e_{ij}) is minimal. ⇒ Least Squares Type of estimation.
- It is not possible to include any variances of an effect into a fixed linear model
  ⇒ Solution are mixed linear effect models (LME)