

Progeny Records

(18)

Animal	offspring 1	offspring 2	...	offspring M	\bar{y}_i
1	y_{11}	y_{12}	...	y_{1M}	$\bar{y}_i = \frac{1}{M} \sum_{k=1}^M y_{ik}$
2					
...					
i					
...					
N					

Observations :

$$\bar{y}_i = \frac{1}{M} \sum_{k=1}^M y_{ik}$$

Goal: Predict breeding value u_i for parent i based on M offspring records.

$$\hat{u}_i = b (\bar{y}_i - \mu)$$

$$b = \frac{\text{cov}(u_i, \bar{y}_i)}{\text{var}(\bar{y}_i)}$$