

(6)

Genotypic Value V_{ijkl} :

From genetic model: $Y_{ijklm} = V_{ijkl} + E_{ijklm}$

It follows that:

$$V_{ijkl} = \frac{1}{N} \sum_{m=1}^N Y_{ijklm}$$

because average of E_{ijklm} is 0

$$\frac{1}{N} \sum_{m=1}^N E_{ijklm} = 0$$

Genotypic values for single loci A and B

V_A :



V_A the genotypic value of locus A alone

$$V_A = \mu_A + BV_A + D_A$$

same for locus B

$$V_B = \mu_B + BV_B + D_B$$