# Breeder's Gains

$$\Delta G = \frac{i r \sigma_g}{Y}$$

$\Delta G$: Genetic gain per cycle

$i$: Selection intensity

$r$: Selection accuracy

$\sigma_g$: genetic standard deviation

$Y$: Length of time over cycle

# Breeder's Risk

$$SR = \frac{i(1-r)\sigma_{gxe}}{T}$$

$SR$: Selection Risk

$i$: Selection intensity

$r$: Selection accuracy

$\sigma_{gxe}$: genetic by environmental standard deviation

$T$: Number of trials