

ΔG or R is due to:

1. artificial selection among ADULTS of parent generation
2. natural differences in FERTILITY among individuals of PARENT generation
3. natural differences in VIABILITY among individuals of OFFSPRING generation

| | |
|---|--|
| response to selection (R) | = change in population mean due to selection |
| | = mean phenotypic value of offspring generation — mean of whole parental generation before selection |
| measure of selection applied = selection differential = S | = mean phenotypic value of individuals selected as parents |
| | = expressed as a deviation from the population mean |

Selection

process in which certain individuals in a population are preferred to others for the production of the next generation

does **not** create new genes

AIM: to increase f (desirable genes)
 to decrease f (undesirable genes)

FORMS: on the basis of **phenotype**
 on the basis of **breeding value**

Basic on the basis of **breeding value**
 Effect:

changes the array of gene frequencies (although almost completely hidden)

→ can be observed through changes in the MEAN

How to compare **successive genera-**
 Describe **tions** at the same point in the life
 Change: cycle of the individuals

How to Describe Change:



