

Backcross

This article was checked by pedagogue



This article was checked by pedagogue, but more than year ago.

Signature: Prof. Ondřej Šeda, M.D., Ph.D. (talk)



Backcross (Bc) refers to mating of heterozygous F1 generation individual with the homozygous parental generation individual. In the presence of complete dominance (**A** > **a**), the following genotypic and phenotypic ratios can be found in the Bc generation:

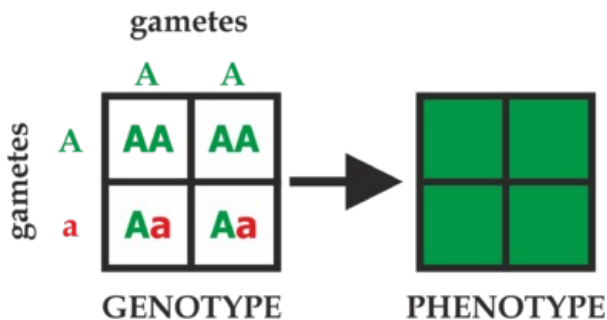
Monohybridism (*single locus / gene, two alleles*)

Bc – Monohybridism:

- ***Aa* × *AA***

Genotype ratio: 1 (***AA***) : 1 (***Aa***)

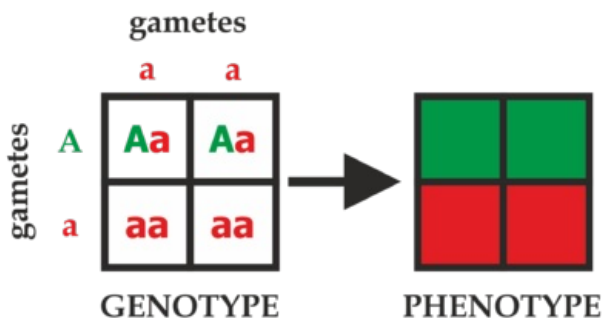
Phenotype ratio: *uniform*



- ***Aa* × *aa***

Genotype ratio: 1 (***Aa***) : 1 (***aa***)

Phenotype ratio: 1 (***Aa***) : 1 (***aa***)



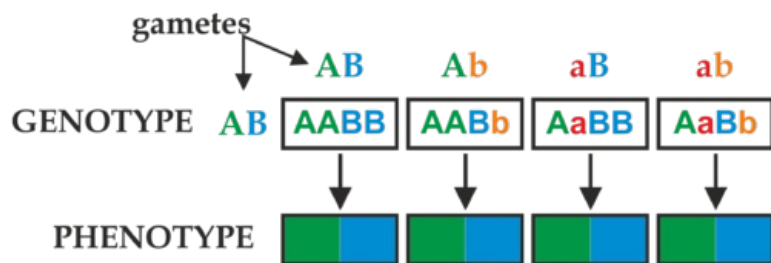
Dihybridism (*two loci / genes with two alleles each*)

Bc – Dihybridism:

- ***AaBb* × *AABB***

Genotype ratio: 1 (***AABB***) : 1 (***AABb***) : 1 (***AaBB***) : 1 (***AaBb***)

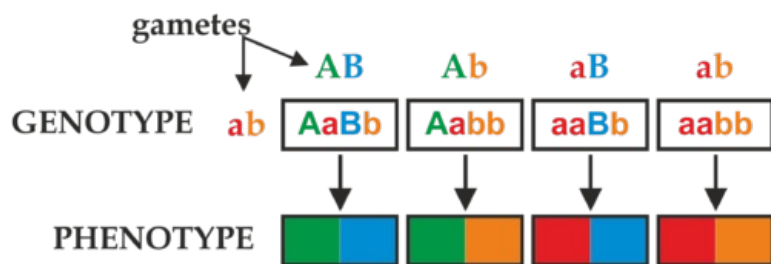
Phenotype ratio: *uniform*



▪ ***AaBb* × *aabb***

Genotype ratio: 1 (*AaBb*) : 1 (*Aabb*) : 1 (*aabb*) : 1 (*aabb*)

Phenotype ratio: 1 : 1 : 1 : 1



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