

# Parental, F1, F2 Generation

In the following interpretation, we consider autosomal localization of genes , monogenic inheritance of the trait and complete dominance and recessivity .

## Parental generation

### Monohybridism

**The parental generation** (parental generation) in the hybridization experiment **must always be homozygous for the gene/trait under investigation** . In the case of monohybridism , this means that if, for example, males are dominant  $AA$  homozygotes in the gene under study, then females must be recessive  $aa$  homozygotes .

 For more information see *Monohybridismus*.

### Dihybridism

When monitoring two genes simultaneously (dihybridism), the genotype of the parental generation entering the hybridization trial can be:

1.  $AABB \times aabb$
2.  $AAbb \times aaBB$

### Trihybridism

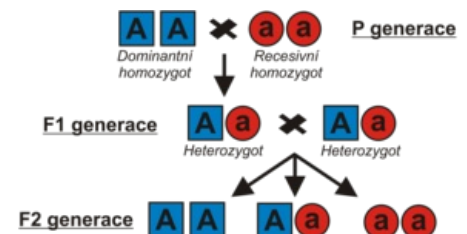
With simultaneous monitoring of **three** genes (trihybridism), the genotype of the parental generation entering the hybridization experiment can be:

1.  $AABBCC \times aabbcc$
2.  $AAbbCC \times aaBBcc$
3.  $AABBcc \times aabbCC$
4.  $aaBBCC \times AAbbcc$

## F1 generation

Gametes carry a reduced (haploid) number of chromosomes ; their fusion creates the **F1 generation** (first filial generation - first generation of offspring). **The F1 generation is always uniform; these are heterozygotes in all monitored loci :**

1. monohybridism – genotype  $Aa$
2. dihybridism – genotype  $AaBb$
3. trihybridism –  $AaBbCc$



## F2 generation

## Links

### Related articles

- Allelic interactions
- Genotype
- Phenotype
- Monohybridism
- Dihybridism
- Backcrossing