

Question → Differences between Genotype and phenotype.

Genotype

1. It is the genetic make up of individual which determines the character.
2. It can be ascertained from the ancestry of progeny of the individual.
3. Individuals having identical genotype usually have the same phenotype provided they are present in the same environment.
4. Mendelian genotypic ratio is represented by 1:2:1.

phenotype.

1. Expresses the characters of individual like form, sex colour and behaviour etc.
2. It can be observed directly from the individuals.
3. Individuals having identical phenotype may or may not have the same genotype.
4. Mendelian phenotypic ratio is expressed as 3:1.

Question → Differences between Homozygous and Heterozygous.

Homozygous

1. The homozygous individual possesses identical alleles of a gene eg - TT.
2. It produces only one of gametes (e.g - T only)
3. The individuals breed true to the particular character i.e all the offspring possess the same genotype and phenotype when such parents are self pollinated

Heterozygous

1. The heterozygous individual possesses dissimilar or contrasting alleles of a gene (eg - Tt)
2. It produces two types of gametes (e.g - T and t)
3. produces three different genotypes when self pollinated which may have two or three different phenotypes.

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