14.1 Notes

Vocab

Character: A heritable feature that varies among individuals

Trait: A variant of a character

True-Breeding: A kind of breeding wherein the parents would produce offspring that would carry the same phenotype

Hybridization: The crossing of two true-breeding varieties

P Generation: The true-breeding parents

F1 generation: The hybrid offspring from the P Generation

F2 Generation: The hybrid offspring from the F1 Generation

Alleles: The alternate versions of a gene

Dominate Allele: Determines the appearance of an organism

Recessive Allele: Has no impact on appearance

Law of Segregation: The two alleles for a heritable character segregate (separate from each other) during gamete formation and end up in different gametes

Punnett Square: A device for predicting the outcome of breeding between two organisms

Homozygote: An organism that has a pair of identical alleles for a gene encoding a character

Homozygous: Having two identical alleles of a particular gene or genes

Heterozygote: An individual having two different alleles of a particular gene or genes, and so giving rise to varying offspring

Heterozygous: Having two different alleles of a particular gene or genes

Phenotype: The set of observable characteristics of an individual resulting from the interaction of its genotype with the environment

Genotype: The genetic constitution of an individual organism

Testcross: A genetic test for heterozygosity in which an organism of dominant phenotype

Monohybrids: A hybrid that is heterozygous with respect to a specified gene.

Monohybrid Cross: A cross between two organisms with different variations at one genetic locus of interest

Dihybrids: Individuals heterozygous for the two characters being followed in the cross

Dihybrid Cross: A cross between two individuals with two observed traits that are controlled by two distinct genes

The Law of Independent Assortment: Alleles of two or more genes are inherited independently within the gametes

Notes

Gregor Mendel = Discovered genes

Stamens = Part of a flower that produces pollen

Genetic Traits don’t mix together Ex: A blue and a yellow flower wouldn’t make a green flower

More like a deck of cards than bucket of paint

* Note: Breeding would be shuffling instead of mixing

Organisms inherit two of each gene

* One from mom and one from dad

Gene = A section of DNA that codes something

Allele = Different version of a gene

Homozygous = Has two of the same allele

Heterozygous = How two different alleles

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Phenotype = What an organism looks like

|  |  |
| --- | --- |
|  |  |
|  |  |

Monohybrid Cross = Dihybrid Cross =