



LINKAGE AND LINKAGE MAPS

[FREQUENTLY ASKED QUESTIONS]

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FREQUENTLY ASKED QUESTIONS

Q-1. What is linkage?

A-1. Linkage means coexistence of two or more genes in the same chromosome.

Q-2. What is crossing over?

A-2. The phenomenon of exchange or interchanging between homologous chromosomal material or parts during cell division and it leads to recombination for that gene or character is called crossing over.

Q-3. What mean by genetic map distance?

A-3. The distance between two points on the genetic map of a chromosome is the average number of crossovers between them known as map distance.

Q-4. What is chiasma?

A-4. Chiasma is a position or point at which paired chromosomes remain in contact during the meiosis, and at which crossing over and exchange of chromosomal material or genetic part occur between the two homologous non-sister chromatids.

Q-5. Which phenomenon is very well responsible for incomplete linkage?

A-5. Incomplete linkage is due to crossing over or recombination

between chromosomal materials.

Q-6. What is complete linkage type?

A-6. In complete type linkage parental combinations appear together for two or more generations in continuous and regular manner.

Q-7. What is map-unit or centimorgan?

A-7. A map-unit or centimorgan meaning a recombination frequency of one percent between genes and used as a measure of distance between genes in the formation of genetic maps.

Q-8. Why linkage is so important phenomenon in heredity?

A-8. In heredity, linkage is very well responsible for reducing the possibility of variations\ among individuals unless the incidence of recombination or crossing over. So, similar traits or similarities are maintained for generations.

Q-9. Explain Mendel's second law.

A-9. Mendel's second law is famous as law of Independent assortment that means "Genes or factors for two or more traits can segregate independently during the formation of gametes, giving different traits an identical opportunity of occurring together"