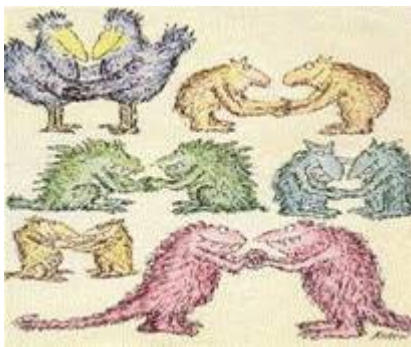


Non-Random Mating

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What is non-random meeting?

Normally in human beings people select their life partners based on the [traits](#) which can be seen visibly. People value the family, religion, culture and society. It is mostly a non-random selection only. People mate with person with similar traits like color, stature, appearance and the good natured personality.



Nonrandom mating occurs when the probability that two individuals in a population will

mate is not the same for all possible pairs of individuals.

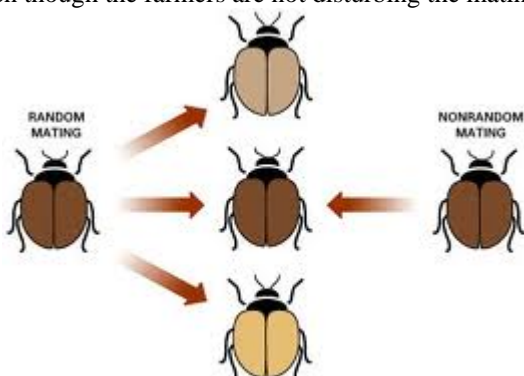
Two forms of non-random mating

1. **Inbreeding** - Mate with close relatives. This is a common breeding.
2. **Outbreeding** -Mate with distant relatives. This is less common breeding.

[Animal breeders](#) also follow the same trend for the mating of their animals. They mainly try to get improved varieties and want to create new characters in organisms. They keen on the mating should not be random. So they select the improved varieties with mere careful observations.

After selecting the mates for their own animals based on the desired characters farmers plan to increase the desired characteristics for many generations. If discriminated characteristics are inherited genetically, evolution would be consequence. But sometimes their prediction may go wrong. So their intention of creating new organisms with the desired traits won't get fulfilled.

Even though the farmers are not disturbing the mating pattern of animals artificially, most animals properly select their mate



and then only mate with them. They do not prefer random mating. This

pattern of selection was noted by [Darwin](#) and he explained about this in his book named Descent of Man and Selection in Relation

to Sex. He described that mating by selection is a powerful tool of evolution similar in its effect to the natural selection. But all biologists did not accept Darwin's observation and it was a rejected hypothesis then. But over the years many research proved that Darwin was correct.

Results of random mating would be the principal key to understand the non-random mating. If the [gene pool](#) is not disturbed with any of the natural evolutionary process, it won't get changed and the frequencies will remain same as demonstrated by Hardy Weinberg. 2 alleles (A and a) control the mating pattern and a trait has 9 possible mating patterns in the random mating pattern.

AA X AA	Aa X AA	aa X AA
AA X Aa	Aa X Aa	aa X Aa
AA X aa	Aa X aa	aa X aa

The offspring genotype frequencies with random mating will be 25% [homozygous dominant](#) (AA), 25% homozygous recessive (aa), and 50% heterozygous (Aa). If no other evolutionary changes occur this ratio continues for generations.

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Reference Links:

- <http://faculty.buffalostate.edu/penalobj/bio405/outline6.html>
- http://en.wikipedia.org/wiki/Charles_Darwin
- <http://en.wikipedia.org/wiki/Mating>
- <http://163.16.28.248/bio/activelearner/18/ch18c3.html>

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