















## LAW -Mendel's Experiments on Pea Plant

Mendel after carefully study selected the pea plant for many reasons:

- The pea plants were easy to grow and maintain
- It has many clearly distinct and contrasting characters.
- The pea plant is an annual plant and so many generations of the plant can be studied in a short period of time.
- Peas are naturally self-pollinating but can also be cross-pollinated.

Mendel made a list of contrasting characters which he studied:

	Flower Colour	Plant Height	Seed Color	Seed Shape	Pod Colour	Pod Shape	Flower Position
Dominant Trait	 Purple	 Tall	 Yellow	 Round	 Green	 Inflated (full)	 Axial
Recessive Trait	 White	 Short	 Green	 Wrinkled	 Yellow	 Constricted (flat)	 Terminal

Mendel structured his experiments in a way that he would observe one pair of contrasting characters at one time. He began his experiments using purebred lines for contrasting characters.

He cross-pollinated two pure lines for contrasting characters and the resultant offsprings were called F1 generation(also called the first filial generation). The F1 generations were then self-pollinated which gave rise to the F2 generation of second filial generation.

## Principles Of Inheritance And Variations

- Introduction to Genetics
- Linkage and Recombination
- Mutation and Chromosomal Disorder
- Sex Determination

Understand the concept of Genetics here in detail.

### Results of Mendel's Experiments

Let us look at the results of Mendel's experiments on crossing a pure tall pea plant with a pure short pea plant.

- In the F1 generation, Mendel observed that all plants were tall. there were no dwarf plants.
- In the F2 generation, Mendel observed that 3 of the offsprings were tall whereas 1 was dwarf.
- Similar results were found when Mendel studied other characters.
- Mendel observed that in the F1 generation, the characters of only one parent appeared whereas, in the F2 generation, the characters of the other parent also appeared.
- The characters that appear in the F1 generation are called dominant traits and those that appear for the first time in the F2 generation are called recessive traits.