o The F2 generation actually consists of **three types of plants**. (Instead of the **apparent two**types). They were:

1. Tall homozygous (pure) : **TT** – 25%

2. Tall heterozygous (hybrid) : **Tt** – 50%

3. Dwarf homozygous (pure) : **tt** – 25%

Phenotypic ratio of monohybrid cross: 3 : 1 (3 tall : 1 dwarf)

Genotypic ratio of monohybrid cross: 1 : 2 : 1 (1 homozygous tall : 2 heterozygous tall : 1 homozygous dwarf)

Mendel's explanations for his monohybrid cross:

Ø The Tall and Dwarf traits in plants are determined by a pair of contrasting **factors** (or **determinants**). *These determinants or factors are now known as Genes*.

Ø If a plant possesses the determinant for tallness (T) the plant will be tall in its phenotype.

Ø Similarly, if a plant possesses the determinant for dwarfness (**t**) the plant will be phenotypically dwarfed.

Ø The determinants for each character will occur in a pair and are received from their parents.

Ø If two alternatively expressing traits are brought tougher by sexual reproduction, only one will express in its heterozygous (**Tt**) condition.

Ø The one which expresses in its heterozygous condition is called Dominant trait **(T).**

Ø The other whose expression is suppressed or masked is called Recessive trait (**t**).

Ø In the case of plant height, from monohybrid cross, Mendel concluded that Tall is dominant and Dwarf is recessive.