

# MUTATION

1. Sudden change in heritable of genetic material of an organism is called Mutation

Words given by - Hugo de Vries

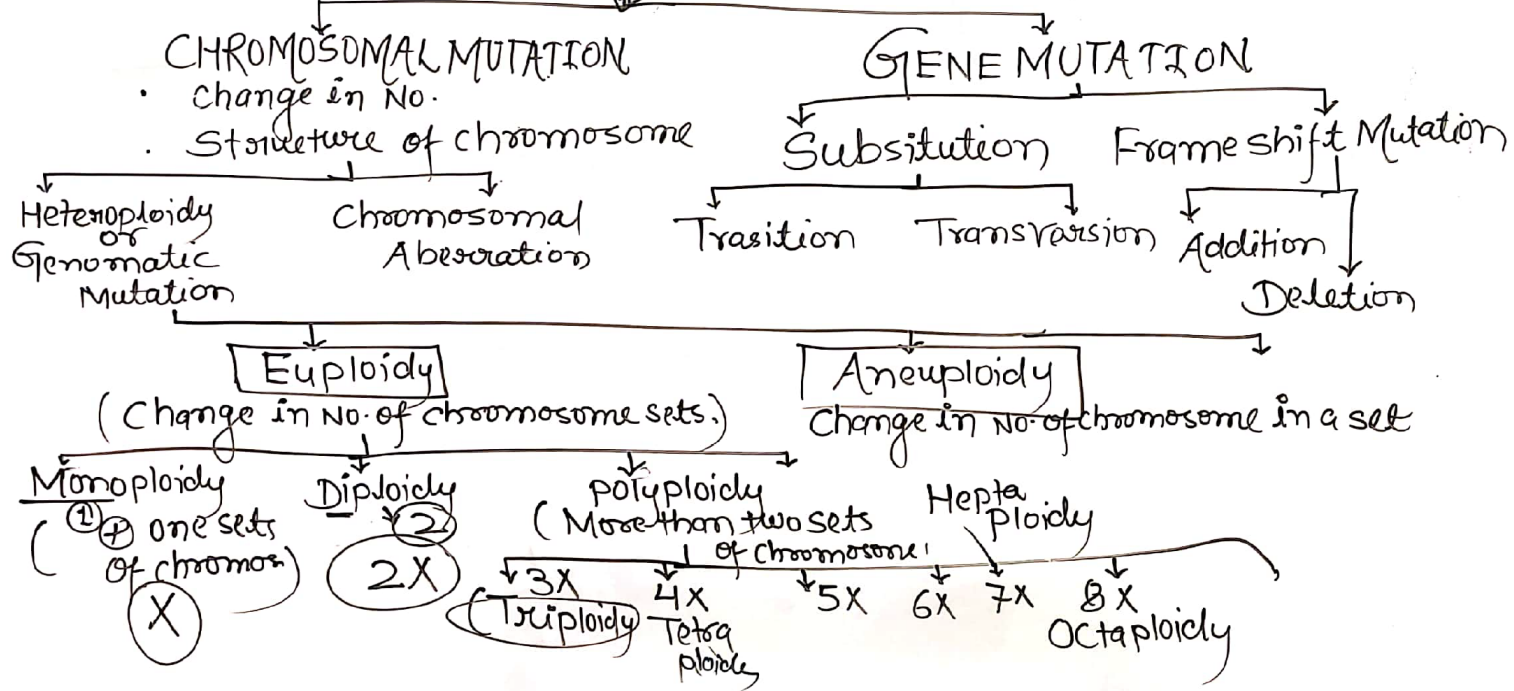
② Beadle and tatum ⇒ Neurospora → Fungi  
 U.V. ray / X rays 'Ascomycetes'  
 Wild Neurospora (prototroph)  $\xrightarrow{\text{U.V rays}}$  Mutant Neurospora (Auxotroph)  
 "One gene-one enzyme"

M.S Swaminathan

Wheat Varieties → Wheat ⇒  $\gamma$ -Rays

→ IARI (Delhi) Sharbati sonora, Pusa lemma

# TYPES OF MUTATION



PARTHANOCARPY FRUITS  $\rightarrow$  Banana (कमल)

Example

eg  $\rightarrow$  Seedless  $\rightarrow$  Grapes

Triticum Aestivum  $\times$  Rye (Secale Cereale)  
 (Wheat)  $6x = 42$   $2x = 14$

Sterile Triticale  
 $4x = 28$   
 $\downarrow$  Colchicine

Fertile Triticale  
 $8x = 56$

# A NEUPLOIDY

Loss and addition of chromosome in a set of chromosome.

TYPES OF Aneuploidy (addition)

(Hypodaneuploidy)

"Hyperaneuploidy"

①

MONOSOMY

Loss of one chromosome from one set

$$2n-1$$

②

Double Monosomy

$$(2n-1-1)$$

③\*

Nullisomy

$$(2n-2)$$

(loss of two Homologous chromosome)

①

Trisomy  $(2n+1)$

Addition of one chromosome in one set

②

Double trisomy  $(2n+1+1)$

Addition of chromosome in each set

③

Tetrasomy  $(2n+2)$

Addition of two chromosome in each set

\* (Meiosis)

