

Science & Technology

By Dr. Abhishek Sir



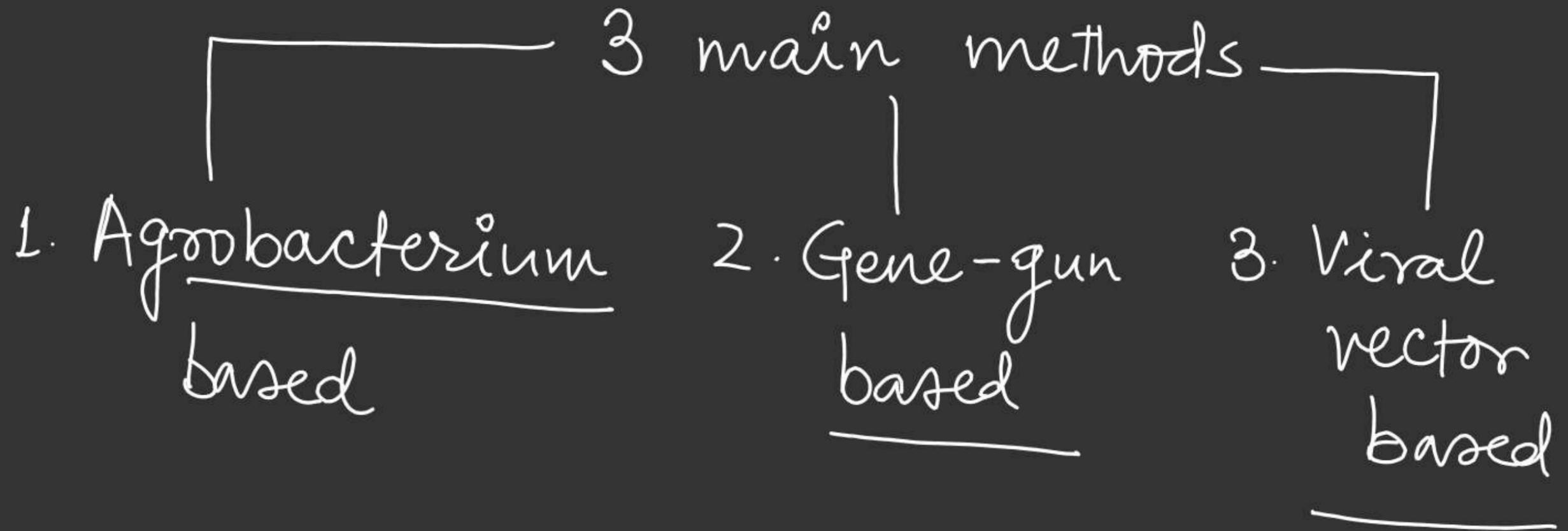
GM Crops

= Transgenic plants

which are
cultivated

→ GM Food → Food items obtained
from GM Crops

Methods to produce GM Plant

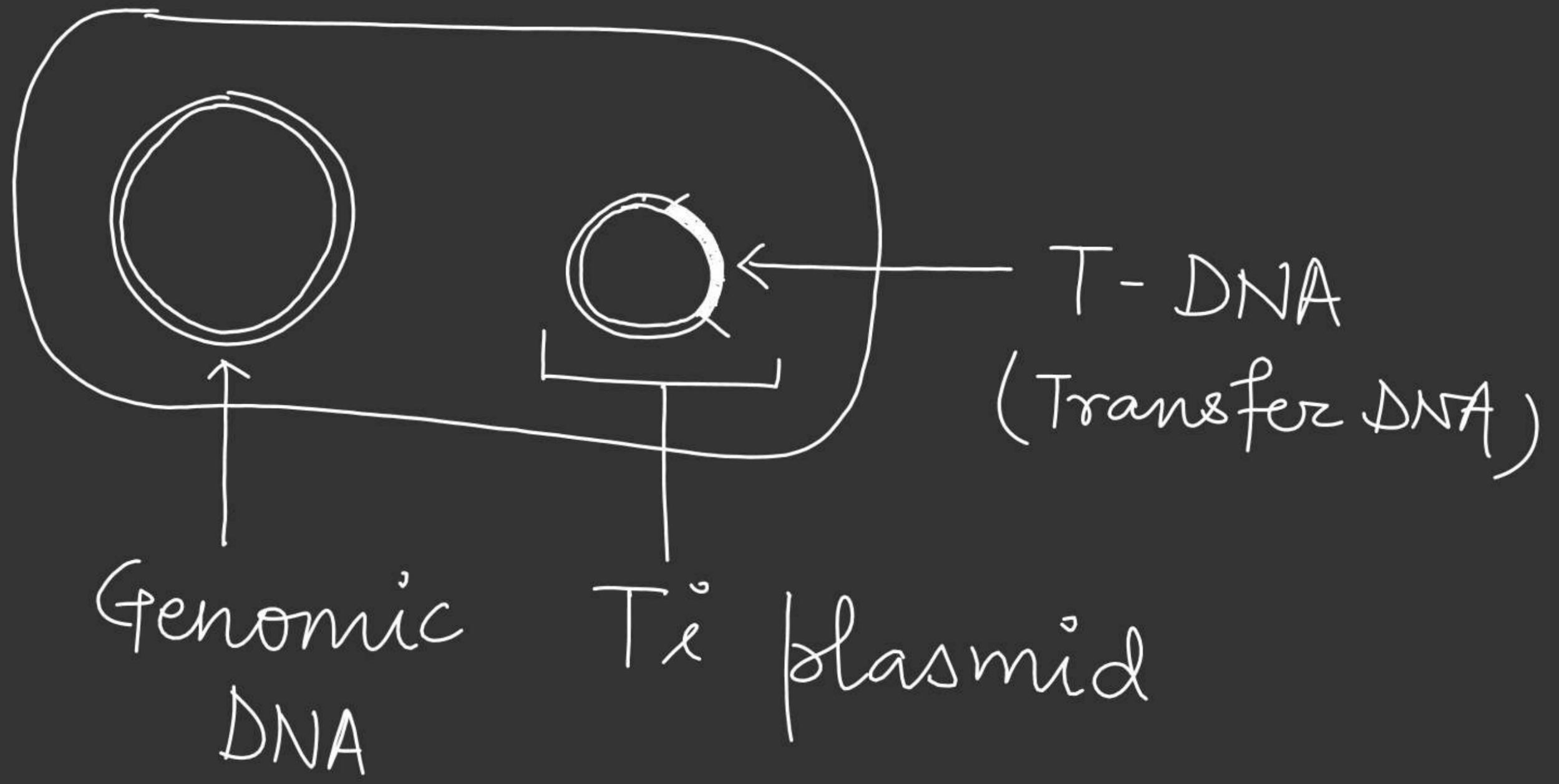


I. Agrobacterium tumefaciens

Nature's Genetic Engineer



Crown Gall
(= Tumor)



Genomic
DNA

Ti plasmid

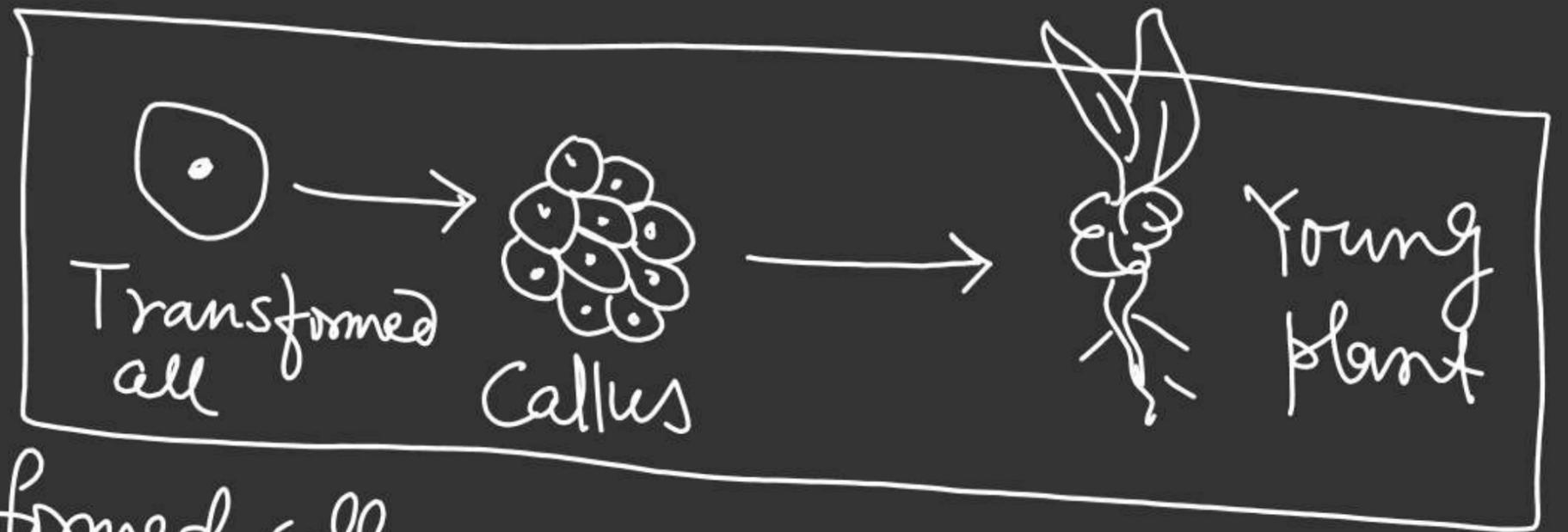
T-DNA
(Transfer DNA)

Principle

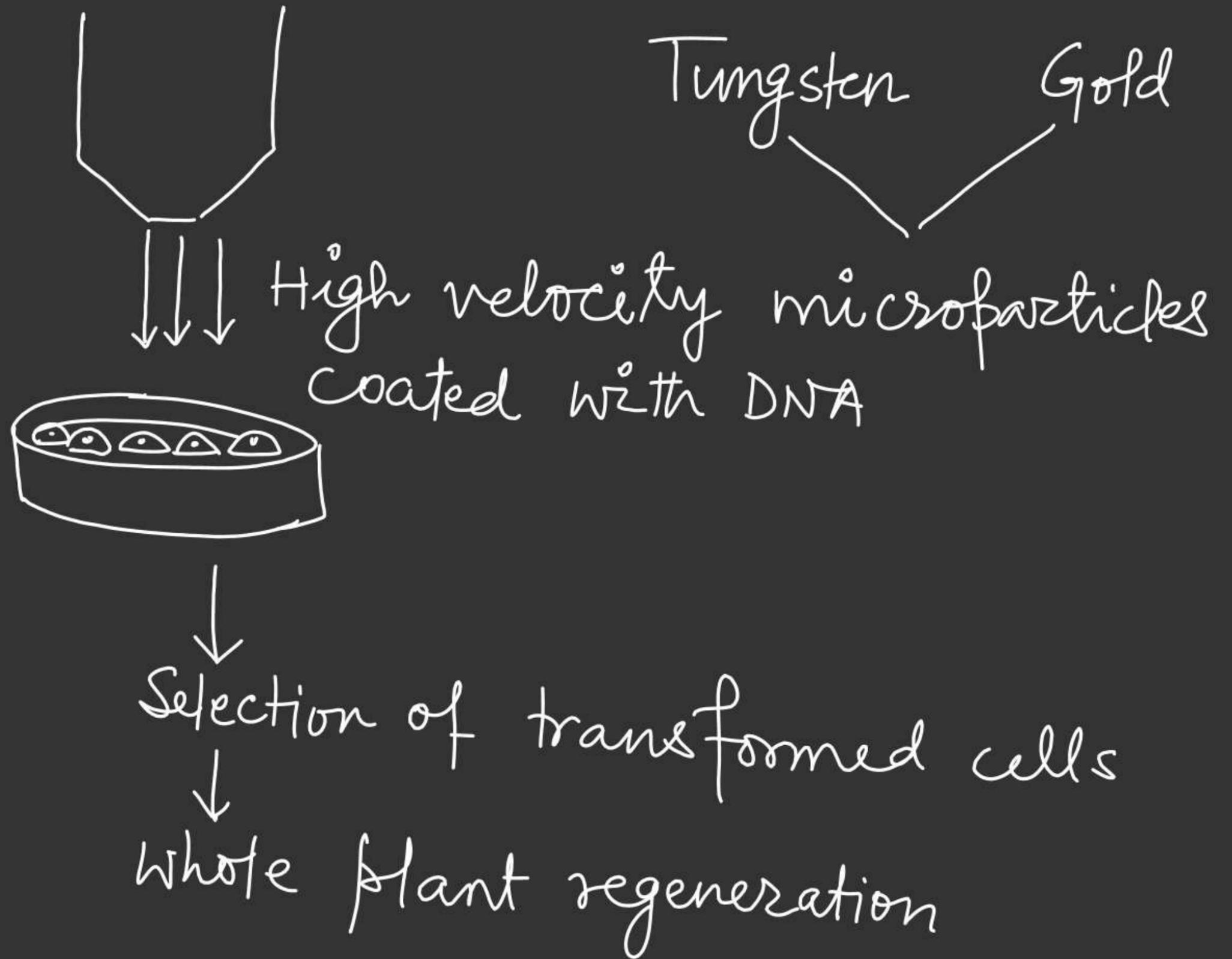
↳ Dictⁿ.

target plant ← engineered
cell with Agrobacterium Ti-plasmid ← of interest within
T-DNA
↓
Gene of interest transferred
↓
Regenerate the whole plant from transformed cell

into Agrobacterium cell

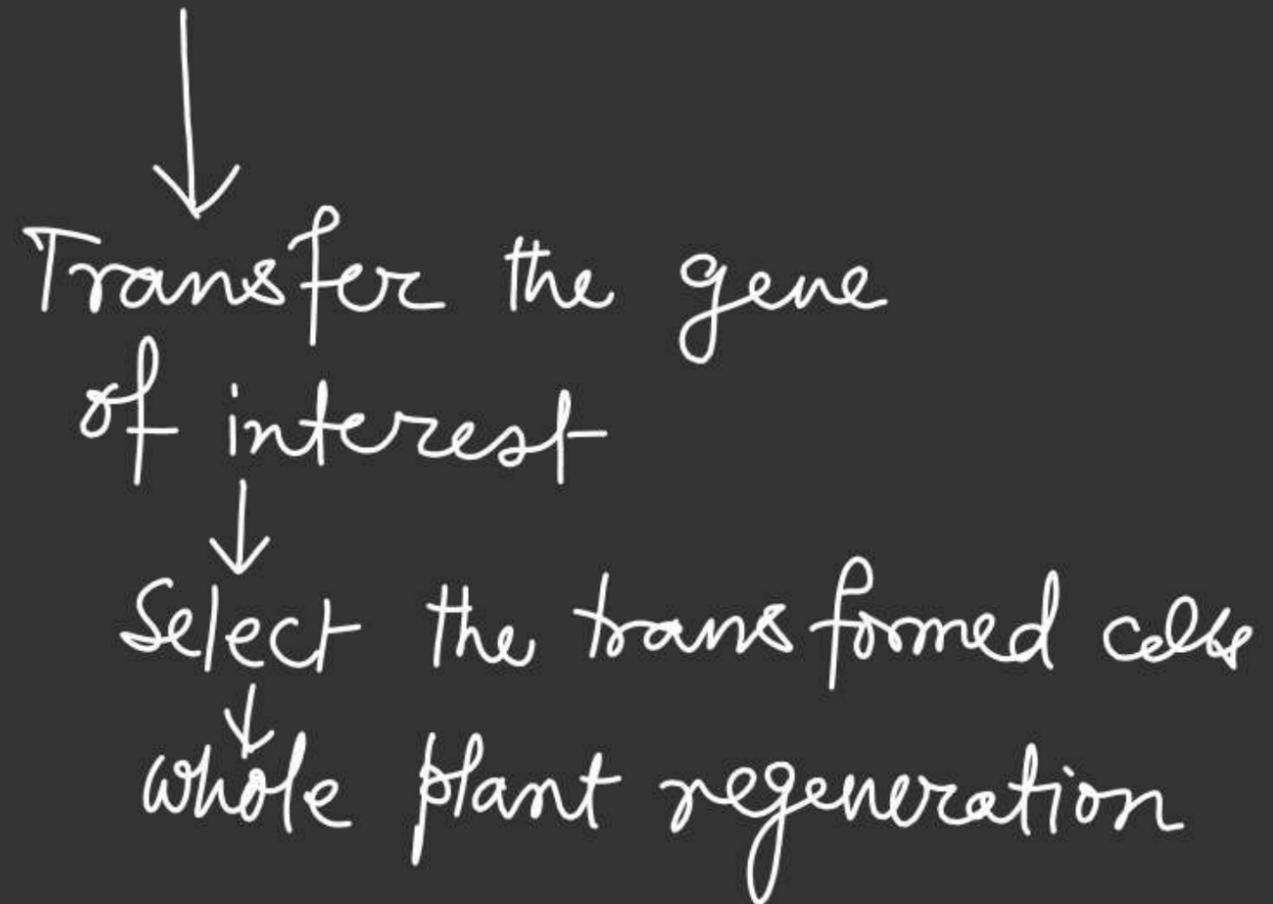


(2)
Particle
Bombardment
or
Gene-Gun
Method
or
Biolistics



(2) Viral Vector

- Tobacco Mosaic Virus
- Gemini Virus



Agrobacterium	Dicots mainly	
Gene Gun	Used for Monocots	(Can also work on Dicots)
Viral Vector	Both	

Datura

Solanaceae

(Night shade)

Bacillus

amyloliquefaciens

Bazstar



BARNASE gene

↳ Male fertile
Can be restored

⇒ sterility

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