

ATE

10

→ Glucose oxidase gene was taken from fungal source *Talaromyces flavus* & transformed into cotton & tobacco plant & they become resistant to *Rhizoctonia* & partially resistant to *Verticillium* wilt.

because Glucose oxidase gene produce Hydrogen peroxide which is toxic to *Rhizoctonia* fungus.

→ *Arabidopsis thaliana* with antipathogenic compounds, they were cysteine protein inhibitor and trypsin protein inhibitor. These proteins are important for nematodes and help in transfer of information & by transforming *Arabidopsis thaliana* plant become resistant against *Rotylenchus reniformis* nematode.

→ In tobacco plants Glutamate decarboxylase gene was transformed & it become resistant to Root knot nematode.

→ In tobacco plants a bacterial gene Ubi1 transformed in tobacco plants & this gene produce toxic compounds 4-Hydroxybenzoic acid glucosides & plant become resistant to many diseases, especially of wilts.

→ In Canola an antimicrobial peptide gene is transformed & Canola become resistant against Blackleg disease of Canola.

→ In Peanuts a transformed with antifungal enzymes genes resistant against Sclerotinia sclerotiarum

⇒ Transgenic plants transformed with Nucleic acid that lead to resistance and to silencing of pathogen gene.

→ If you insert nucleic acid sequences

⇒ Transfer of Coat protein Genes of viruses :-

→ when in Genome of tobacco plants when a nucleic acid sequence or genes are transformed with tobacco etch virus protein coat genes then those plants of tobacco became resistant against some virus.

→ Similarly if you take double stranded RNA's genes of Yeast and insert in the genome of many plant then plants become resistant against many viruses.

→ If you take Tobacco Mosaic virus coat protein gene & insert in tobacco then

tobacco become resistant against many viruses
 → when squash plant ~~is~~ transformed with Cucumber mosaic virus coat proteins gene then Squashes become resistant against cucumber mosaic viruses.

→ when coat protein gene of Papaya ring spot transform in Papaya it become resistant against some virus.

→ Same work in case of Soya bean.
 • Mosaic virus for Soya bean, Citrus tristeza virus & Cucumber Mosaic virus.

→ other than Coat protein Genes.

1) Tomato yellow leaf curl virus.

2) Cucumber Mosaic virus

3) Tomotato leaf roll virus.

4) Potato virus Y.

5) Raspberry bushy dwarf virus.

6) Tobacco mosaic virus

when in these plants RNA replicase genes are transformed then plants show resistant against these viruses.

→ when Non structured protein genes were transformed then plants also become resistant against these viruses.