Vegetable Grafting

An efficient tool to alleviate stresses in vegetables

- **Tolerance to different biotic and abiotic stresses in commercial cultivars of fruiting-vegetables can be enhanced by grafting onto resistant rootstocks**

Grafting methods and rootstocks

- **Grafting methods:** Single cotyledon in cucumber; side and cleft grafting in tomato
- **Ideal grafting condition:** Temperature 25-30°C and RH 85 to 95 per cent
- **Grafting success:** 89 to 92 percent in cucumber; 92 to 96 percent in tomato

Tomato

- Tomato grafting onto wild tomato (*Solanum pimpinellifolium*) rootstock (IIHR-1939) was promising under normal and moderate water deficit (-20%) condition.
- Arka Vikas and RF-4A rootstocks were promising under severe water deficit (-40%) condition.
- These rootstocks also have good tolerance to soil borne diseases.
- Grafting reduced water demand from 44 to 36 litre to produce 1 kg tomato.

Cucumber

- Cucumber grafting onto wild Cucurbita rootstock (fig-leaf gourd) was promising for increasing cold tolerance.
- Grafting onto Cucurbita hybrid rootstock (NS-55) was promising under normal as well as water deficit (-20 and -40%) conditions.
- Besides, tolerance to soil-borne diseases and high temperatures increased.
- Grafting reduced water demand from 35 to 26 litre to produce 1 kg cucumber.

- Grafted cucumber use at farmers' field increased yield by 50%.
- Grafted plants use is less risky and more profitable due to healthy plants with more fruiting.
- Use of grafted cucumber incurs an extra cost of Rs. 60,000 per acre but the increase in net return will be more than Rs. 150,000.

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