COMBO VIRUS TOLERANCE

Advanta’s Success Story for Okra Combined Virus Tolerance

Okra, popularly known as Bhendi (Abelmoschous esculentus (L.) Moench) is now number one vegetable crop being grown in the Indian sub-continent. The crop is also getting popularity among the vegetable consumers across the globe. Apart from its high fibre content, Okra is a good source of Vitamin A, B, C and rich in protein & minerals. In India, currently Okra is grown in 0.53 million hectares and have an annual production of approximately 7 million metric tonnes. The hybrid Okra market in India has reached to a remarkable potential of 2200 Tonnes with highest share of Advanta Seeds. Advanta has become #1 Okra seed company by delivering High Combined Virus Tolerant Hybrids with unique combination of plant type coupled with excellent fruit qualities.

WHAT WAS THE MAJOR CHALLENGE FOR OKRA GROWERS?

Regomovirus [Yellow Vein Mosaic Virus (YVMV)]
- Intertwined network of yellow vein with green patches of the leaves
- Pods turn yellow under severe YVMV pressure

ELCV (Enation Leaf curl virus)/
OLCV (Okra Leaf Curl Virus)
- Leaf becomes cup shape, petiole bending and stem thickening
- Under severe infestation, plant turns stunted & fruit turns bulging like Capsicum
- OLCV is now prevalent in almost all Okra growing areas of the country

WHAT WAS THE CRITICAL NEED?

Combined Tolerance for both the Viruses to offer as package for Okra growers’

WHAT ADVANTA HAS ‘DELIVERED’?

- Yield loss up to 50-90% depends on the severity for both the diseases
- YVMV tolerance is available in most of the commercial products but doesn’t have combined tolerance to OLCV which results into an average yield loss up to 30-80%, depends on severity
- Combined high tolerance to both the Viruses
- Advanta developed ‘First Combo Disease Tolerance’ in Okra
- Have commercialized many products with ‘Combo Tolerance’; Taj, Mona, Venus Plus, Prince, Lavanya, Jaani, Navya, Raadhika & ADV216
- Added ‘Key Horticultural Traits’ to Combined Tolerance for both the Viruses
- Number of pickings increased from 25 to 40.
- Extended crop life cycle up to 120 days.
- Decrease in Chemical Sprays (5-5) resulting into approximately 20 % cost savings.
- Increase in overall yield by 20-50 % (depends on disease severity) leads to higher returns.
- Okra became a lucrative crop for the vegetable growers.
- Because of the extended crop life cycle, few farmers are adopting ratoon crop.
- Commercial seed production yield also got increased.
- Combo tolerance (YVMV+OLCV) became an ‘Industry Benchmark’

**YIELD DIFFERENCES**

<table>
<thead>
<tr>
<th>Plant Type</th>
<th>Yield (kg/ha)</th>
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<tbody>
<tr>
<td>Combo Virus Tolerance</td>
<td>183, 253, 263, 263, 122, 183, 102, 96, 33, 37</td>
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<tr>
<td>YVMV tolerance</td>
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**WHAT ADVANTA HAS ‘DELIVERED’?**

- **Medium Tall Plant**
  - Stature: Raadhika
  - Deep Cut Leaves: Navya

- **Jaani**
- **Raadhika**
- **Navya**