Embrapa’s Jalapeño Pepper Breeding for Mechanical Harvesting

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Jalapeño pepper major sauce processing industries
Embrapa and Private Sector Partnership - 2002

Products are also exported to South America, USA, Europe, Middle East and Japan
Jalapeño pepper harvesting

BRS Sarakura hand harvest – Goiás
Objective

Jalapeño pepper lines adapted to mechanized harvesting, pungent, concentrated fruit set/maturity

BRS Sarakura
Breeding program for mechanical harvesting

Started in 2015

Four cycles - individual plant selection based on progeny tests

Progeny tests in Brasília

Progeny tests in Catalão
Plant selection/ architecture

plant height (>60 cm), height of first bifurcation (>16 cm), plant growth habit, side shoots, earliness, yield = or > BRS Sarakura, and concentrated fruit set
Fruit traits

pungency (>30,000 SHU), °Brix (>7), pH, titratable acidity, fruit size, firmness and color of the ripe fruit
## Relative performance of CNPH 30375, 30377, 30607 and 30609

<table>
<thead>
<tr>
<th>Genotypes</th>
<th>Plant Height</th>
<th>Bifurcation</th>
<th>Earliness</th>
<th>Side shoots</th>
<th>Yield</th>
<th>Pungency</th>
<th>Brix</th>
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</thead>
<tbody>
<tr>
<td>Jal. Plus F1</td>
<td>X</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
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<tr>
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<tr>
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</table>

X = lower performance
✓ = superior performance
New tests with the mechanical harvester

Four selected lines are being cultivated in Brasília-DF for tests with Moses 1010-Etgar harvester.
Challenges go beyond breeding:

1. Adequate soil preparation
2. Uniform planting with uniform seedlings
3. Planting period and
4. High yielding adapted Jalapeño pepper lines
Thank you

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