Origin and Release of Tomato Line 31-St-15 and ‘Conquest’ VFN

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Acknowledgment

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The Missouri Agricultural Experiment Station announces the release of tomato breeding line 31-St-15. A hybrid utilizing this line as a parent, 'Conquest' is also being released. 'Conquest' is a superior red fruited, disease resistant tomato bred for home and market garden use. The name signifies the continuing effort to control tomato diseases by genetic methods.
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Line 31-St-15

Description
Breeding line 31-St-15 has relatively good horticultural type. The fruits are red, approximately 6 oz. average size, globe shaped and rank above average in fleshiness. The fruits are also uniform ripening (uu) and show good tolerance to radial cracking; this tolerance was contributed by Missouri line 76-1-60-8. Maturity of line 31-St-15 is midseason.

Plants of line 31-St-15 are indeterminate with rangy vines and moderate foliage density.

Pedigree
Line 31-St-15 is an F₆ selection of Missouri line 76-1-60-8 X Step 431 (Florida). Numerous individual plant selections were made in the F₂ through F₅ generations for good horticultural type and crack tolerance.

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            Glamour
           /        \
       76-1-60-8
        /         \
       NY55-542 (Munger) 
     /             \ 
31-St-15 (F₆)       Step 431 (Florida) CAST MW 479-6-1-BK
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Hybrid ‘Conquest’ VFN

Description
‘Conquest’ VFN is similar in some characteristics and in disease resistance to ‘Better Boy’ VFN. However, additionally, it has uniform ripening (uu) fruit and is more tolerant of radial cracking. The fruits are red, 6.5 oz. average size, globe shaped, and rank high in color, firmness and flavor. Maturity is about 70 days.

Plants of hybrid ‘Conquest’ are indeterminate with moderate foliage density and possess high resistance to Fusarium oxysporum F. Lycopersici (Sacc.) Snyder and Hansen, Verticillium alboatrum and Meloidogyne species.
Pedigree

'Conquest' is an F₁ hybrid combination of the parental lines 31-St-15 and VFN8 (CA). Previous designations of the hybrid were 33-St-3VFN and STEP 652.

Performance

Hybrid 'Conquest' was extensively tested and critically evaluated in the Southern Tomato Exchange program for 3 years and in trials throughout Missouri for 8 years. In several trials it was judged “Best” entry. Its performance as compared to control cultivars 'Floradel' and 'Walter PF' during 1979 and 1980 follows:

<table>
<thead>
<tr>
<th>Entry</th>
<th>Marketable Yield (Tons/A.)</th>
<th>Color</th>
<th>Internal Fruit Quality</th>
<th>Flavor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conquest</td>
<td>34.4</td>
<td>11.5</td>
<td>3.5</td>
<td>3.4</td>
</tr>
<tr>
<td>Floradel</td>
<td>26.5</td>
<td>7.8</td>
<td>3.4</td>
<td>3.0</td>
</tr>
<tr>
<td>Walter PF</td>
<td>24.3</td>
<td>9.5</td>
<td>3.5</td>
<td>3.2</td>
</tr>
</tbody>
</table>

¹Data taken from Missouri Agricultural Experiment Station — STEP Reports for 1979 and 1980.

²Ratings made on 1 to 5 scale where 1 = poor and 5 = excellent.

In trials throughout Missouri, hybrid ‘Conquest’ has consistently outyielded Better Boy. In 1981 at the Southwest (Mo.) Research Center ‘Conquest’ yielded 56.8 T/A. as compared to 47.1 T/A. for ‘Better Boy’.

Availability of Seed

Limited foundation seed samples of line 31-St-15 are available upon written request to the Department of Horticulture, University of Missouri, Columbia, Mo. 65211. Seed of hybrid ‘Conquest’ should be available from commercial seed sources in 1983.

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