

# 'TAM Veracruz' Hot Jalapeño Pepper

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A complex of viral pathogens are responsible for the decline of profitable pepper (*Capsicum annuum* L.) production in Texas and other areas throughout the United States and the world (Villalón, 1981). 'TAM Veracruz' (TVC) is a pungent (hot), large-fruited jalapeño pepper with multiple virus resistance (MVR). It was developed by the Texas Agricultural Experiment Station (TAES), Weslaco, and released in 1989. TVC is resistant to tobacco etch virus (TEV), potato virus Y (PVY), pepper mottle virus (PeMV), tobacco mosaic virus (TMV), tobacco ring-spot virus (TRSV), and cucumber mosaic virus. The distinguishable jalapeño flavor, presence of outer-surface cuticular cracks on the fruit (Veracruz-type), and high capsaicin concentration make this pepper a potentially popular ingredient for salads and pickled products.

## Origin

The pedigree of 'TAM Veracruz' is shown in Fig. 1. Resistance to local Texas isolates of TEV, PVY, and TMV was found in 'Avelar', a nonpungent, small conical bell pepper from Brazil. Resistance to Texas isolates of TEV, PVY, and TMV was found in PI 342947, a small, 30- to 40-mm-long, pungent serrano-type pepper native to Mexico. Resistance to this virus complex, including PeMV and TRSV, was found in F<sub>2</sub> and F<sub>3</sub> progenies of 'Avelar' x PI 342947. Selected virus-resistant (VR) plants were designated TAES 7130 (1971 crosses). Concurrently in this screening program, VR plants were found in PI 264281, a pungent, small pimiento type, and AC2207, a pungent, long serrano type. Hybridization of PI264281 x AC2207 resulted in VR progeny designated TAES 71136. These two families (TAES 7130 and TABS 71136) served as the wide genetic base

for most of the MVR plants used in the Texas breeding program. Lines bearing pungent, jalapeño-type fruit were crossed to commercial jalapeño cultivars (Jalapeño 1158, Jalapeño 100, Jalapeño L, and TAM Mild Jalapeño-1) to amplify jalapeño flavor, aroma, and pungency, virus resistances, and tropically adaptive traits. Individual plant selections of the VR, pungent Veracruz type derived from TAES 76077 x 7585Fa through the F<sub>10</sub> yielded the desired type; 7585 was subsequently released as TAM Mild Jalapeño-1 (TMJ-1).

All virus inoculations were made by rubbing leaves with a virus suspension beginning with each F<sub>2</sub> generation. Seeds were harvested from selected, hand-pollinated VR plants. Individual plants were selected after each cross from among horticulturally desirable plants in inoculated resistant F<sub>2</sub> and F<sub>3</sub> segregating progenies. An individual F<sub>10</sub> Veracruz fruit type was selected, selfed, and increased under isolation with repeated viral inoculations. Seed from the most desirable

virus-free plants was increased. Selected progeny were screened for virus resistance for four more generations. All evaluations were conducted under experimental pedigree number TAES 79053 and became the progenitor for 'TAM Veracruz' (Villalón, 1991).

## Description

'TAM Veracruz' plants are slightly shorter and more compact than Jalapeño-M (JM) but taller than 'TAM Mild Jalapeño-1' and will grow between 0.50 and 0.70 m tall, depending on growing environment and cultural practices. A strong main stem and sturdy branches support a heavy set of large Veracruz-type jalapeño fruit. The fruit are uniform, 59 mm long x 29 mm wide, conical, cylindrical tapering to a blunt end, and medium to dark green, turning to bright red at full maturity (Fig. 2). Semismooth, epidermal cracks are a sign of maturity at the green stage. The fruit weigh between 8 to 12 g. The seed-bearing area (placental tissue) is large, with three to four locules, and the flesh is slightly thicker (3.9 mm) than that of JM and TMJ-1. The medium-to-large leaves and the dense thick canopy offer good cover to protect fruit from solar injury. 'TAM Veracruz' will set more fruit at high temperatures (38C) than JM. 'TAM Veracruz' has large, pungent fruit with skin cracks and strong jalapeño flavor and aroma and should be well suited for freshmarket consumption in salads or as a processed, pickled, whole, sliced, or diced product for picante sauce (Villalón, 1991). TMJ-1 pepper products may be added to reduce capsaicin levels for a milder sauce. Green jalapeño fruit can be dehydrated, crushed to a green pepper powder form, and also used as above to add color and pepper flavor to salads of other cooked dishes.

Trials conducted throughout Texas, New

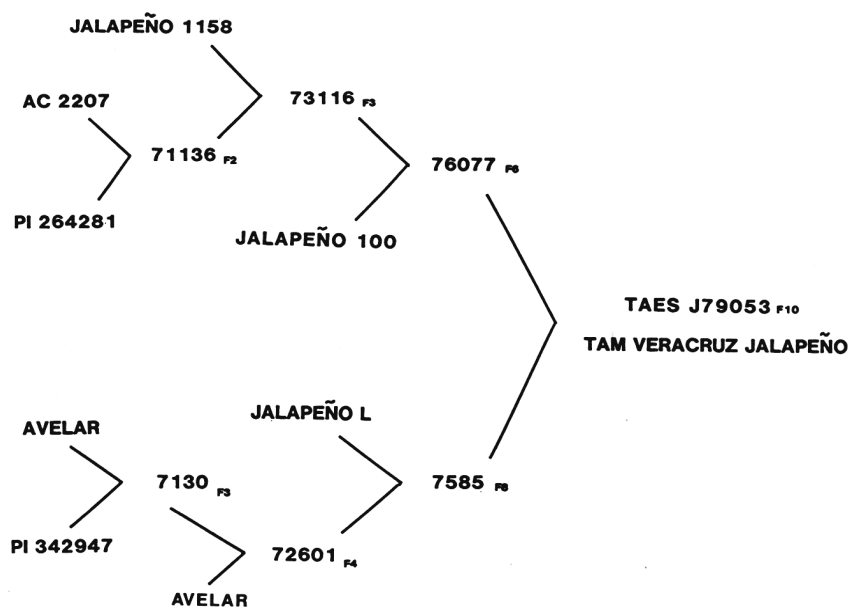


Fig. 1. Pedigree of 'TAM Veracruz' jalapeño pepper.

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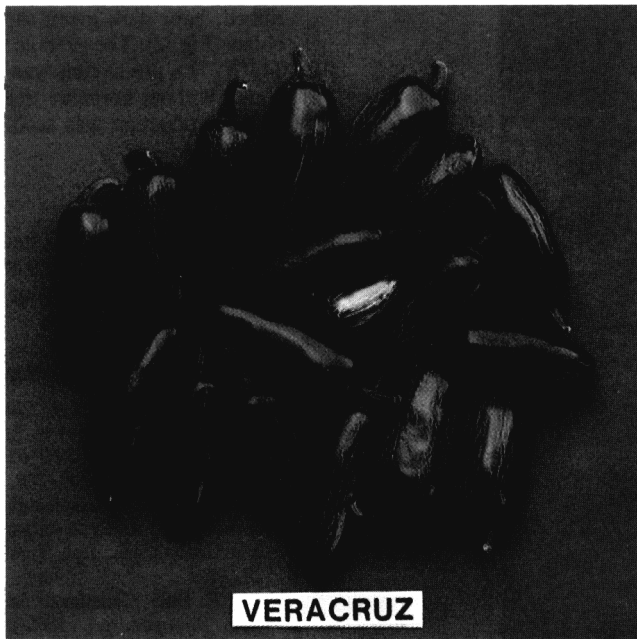


Fig. 2. 'TAM Veracruz' hot jalapeño pepper.

Mexico, and California indicate that 'TAM Veracruz' is well adapted in these areas. Average marketable fruit yields obtained from four locations for 3 years were 22.9 t·ha<sup>-1</sup> for 'TAM Veracruz' and 12.6 t·ha<sup>-1</sup> for JM.

#### **Availability**

'TAM Veracruz' was released as an exclusive to Petoseed Co., Box 4206, Saticoy, CA 93003; phone 8051647-1188. Application is being filed for plant protection under the Federal Plant Protection Act.

#### **Literature Cited**

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