

'Jaloro' Hot Yellow Jalapeño Pepper

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Several viral diseases 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). 'Jaloro' is a pungent (hot), yellow, jalapeño pepper with multiple virus resistance (MVR). It was developed by the Texas Agricultural Experiment Station (TAES), Weslaco, and released in 1992. 'Jaloro' is resistant to local isolates of tobacco etch virus (TEV), potato virus Y (PVY), pepper mottle virus (PeMV), tobacco mosaic virus (TMV), tobacco ringspot virus (TRSV), and cucumber mosaic virus (CMV). This is the first yellow jalapeño pepper cultivar ever developed. It combines the attractive bright yellow pigmentation with the jalapeño shape. Its high capsaicin concentration makes this pepper a potentially popular ingredient for salads and pickled products.

Origin

Resistance to local Texas isolates of TEV, PVY, and TMV was found in AC2207, a small, 30- to 40-mm-long, pungent, serrano-type pepper native to Mexico. Resistance to Texas isolates of TEV, PVY, and TMV was also found in segregating PI 264280, a pungent, small, pimiento-type pepper obtained from the PI collection at Experiment, Ga. Resistance to the virus complex, including PeMV and TRSV, was found in F₂ and F₃ progenies of PI 264280 x AC 2207 (Fig. 1). The source of resistance to PeMV and TRSV is unknown. Selected virus-resistant (VR) plants were designated TAES 71136 (1971 crosses). This is one of several family series that served as the wide genetic base for most of the MVR plants used in the Texas pepper breeding program. Heritable resistance to this virus complex was found in 1973 in progeny from hybridization of Jalapeño 1158 (unknown

origin) x TAES 71136. In addition, VR jalapeño fruit types were crossed to 'Jalapeño L' (Petoseed Co.) in 1976 to amplify the long jalapeño fruit genes. The resulting TAES 76064 VR lines were crossed in 1981 to 'Caloro'—a small, hot, yellow wax pepper developed by

Paul Smith (Univ. of California–Davis) to complement the genes for yellow flesh, flavor, aroma, pungency, earliness, and prolificness, and to amplify TMV resistance. (There are many strains of TMV). A series of individual plant selections of TEV-resistant, hot, yellow jalapeño types through the F₆ yielded the desired type.

All virus inoculations were made by rubbing leaves with a virus suspension beginning with each F₂ generation. Seeds were harvested from selected, hand-pollinated VR plants. Individual plants were selected after each cross from horticulturally desirable plants in inoculated resistant F₂ and F₃ segregating progenies. An individual F₆ yellow jalapeño fruited plant was selected, selfed, and increased under isolation with repeated viral inoculations. Resistance to a local isolate of CMV (from segregating TAES 71136) and a Florida isolate of tomato mosaic virus was found during these screenings. Seed from the most desirable virus-free plants was increased. Selected progeny were screened for virus resistance for five

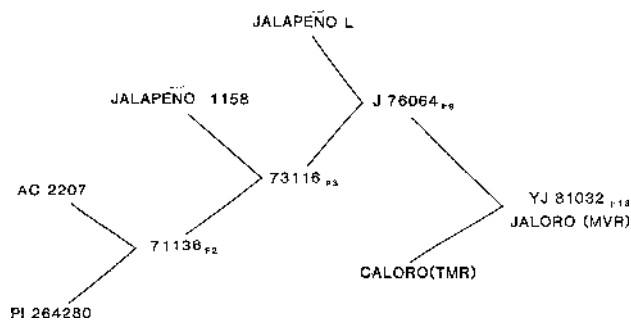


Fig. 1. Pedigree of 'Jaloro' with multiple virus resistance.

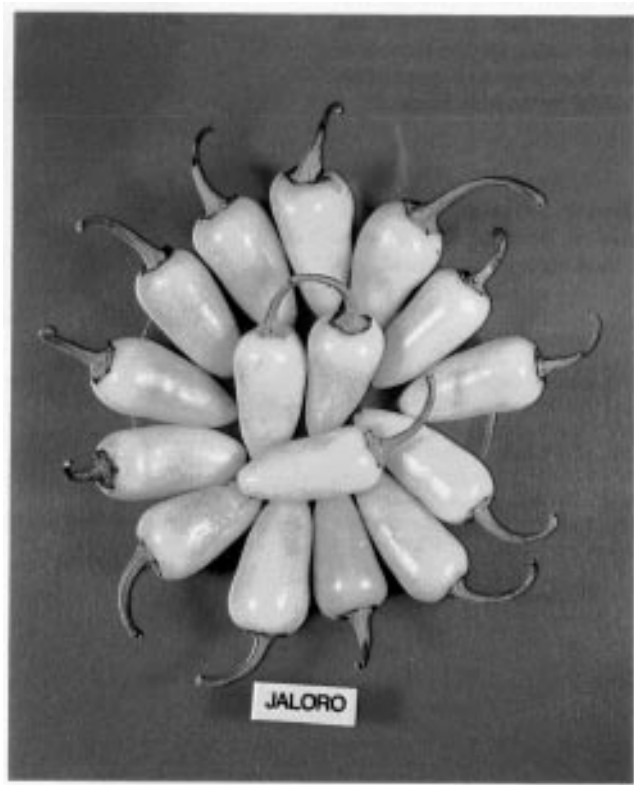


Fig. 2. Fruit of 'Jaloro' yellow jalapeño pepper.

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more generations. All statewide evaluations were conducted under experimental pedigree TAES YJ 81032 and became the progenitor for 'Jaloro' (Villalón, 1992).

Description

'Jaloro', a hot, yellow jalapeño, is a novelty item to the hot pepper industry. Its plants grow between 0.40 and 0.50 m tall. A strong main stem and sturdy branches support a heavy set of yellow fruit. The fruit are uniform; 54 mm long × 28 mm wide; conical; cylindrical, tapering to a blunt end; and bright yellow (Fig. 2), turning to bright red at full maturity. The outer epidermis is smooth and waxy, with a few fine cracks—a sign of full maturity. The fruit weigh between 8 and 12 g. The seed-bearing area (placental tissue) is larger than in 'TAM Veracruz', with three to four locules, and the flesh is slightly thicker (4.13 mm) than

that of 'Rio Grande Gold-Sweet' (3.34 mm) and 'TAM Veracruz' (3.90 mm). The medium-to-large leaves and the dense, thick canopy offer good cover to protect fruit from solar injury. 'Jaloro' will set more fruit at high temperatures (38C) than 'TAM Mild Jalapeño-1'. 'Jaloro' has medium-to-large pungent fruit with strong jalapeño flavor and pepper aroma and should be well suited for the home gardener; commercial fresh-market consumption in salads; or as a processed, pickled, whole, sliced, or diced product for picante sauce (Villalón, 1992). 'TAM Mild Jalapeño-1' pepper products may be added to reduce capsaicin levels for a milder sauce. The yellow or red jalapeño fruit can be dehydrated, crushed to a yellow or red pepper powder form, and used to add color and pepper flavor to salads or cooked dishes.

Trials conducted throughout Texas, New Mexico, and California indicate that 'Jaloro'

is well adapted in these areas. Average marketable fruit yields obtained from nine locations for 5 years were 18.5 t·ha⁻¹ for 'Jaloro' and 14.5 t·ha⁻¹ for 'TAM Veracruz'.

Availability

'Jaloro' will be released as an exclusive to a major seed producer to ensure genetic stability. Application for plant variety protection will be filed with the Plant Variety Protection Office of the U.S. Dept. of Agriculture. Contact B.V., TAES, 2415 East Highway 83, Weslaco, TX 78596; phone 210/968-4051.

Literature Cited

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