

DEVELOPMENT OF DISEASE AND INSECT RESISTANT CAPSICUMS

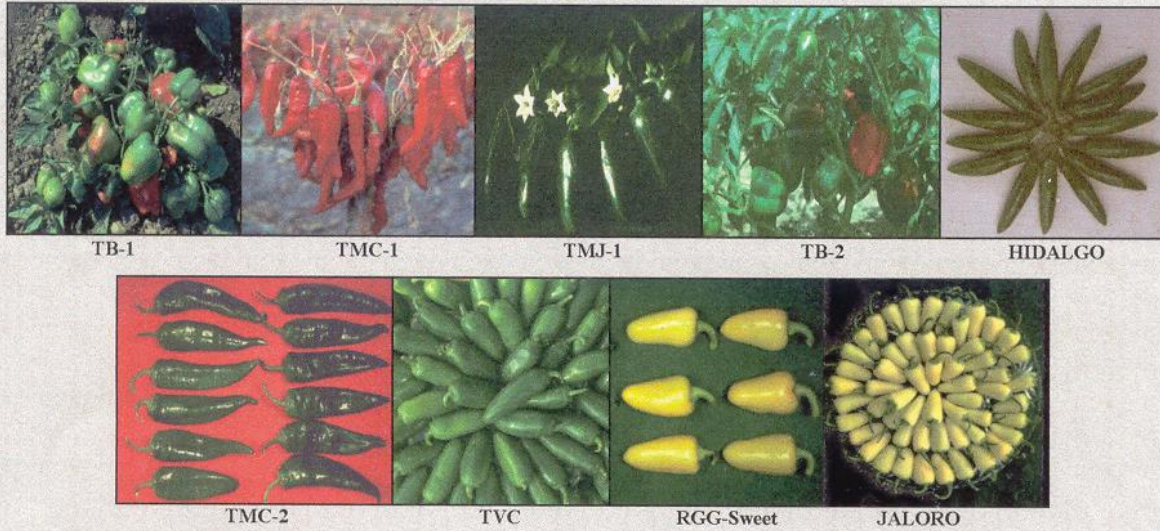


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Texas devotes more than 250,000 acres in vegetables with a value of about \$300 million and an estimated economic impact of \$1 billion. Vegetable breeding at TAES- Weslaco, a highly specialized technology, is responsible for a large segment of the current progress in Texas agriculture. The adverse tropical environment at the Weslaco Center provides ideal conditions for developing improved cultivars with a wide range of adaptability to the rest of the U.S.A. and other countries. **CASE IN POINT:** During the 1960's, bell pepper yields in the Lower Rio Grande Valley of South Texas were significantly reduced by virus diseases. In 1970 a virology-breeding position was created to solve the problem. Utilizing the multiple virus resistance finds in Mexican hot peppers in 1971, Dr. Ben Villalón assumed the leadership role in breeding new pepper varieties. During the first five years, hundreds of multiple virus and insect resistant breeding lines representing 17 different types were developed. These lines possess tropically adaptive genes (set fruit at high temperatures) as well as machine harvestable characteristics. Nine new varieties have been released representing bells, long green chiles, serranos, yellow wax (hot and sweet), yellow jalapeño, hot jalapeño, and a mild jalapeño. Many of these advanced lines are ready to be released as improved cultivars. This germplasm is now being utilized in breeding programs worldwide. The TAM Mild Jalapeño-1 (TMJ-1) revolutionized the entire salsa picante industry, which outsold tomato ketchup in 1991 and there after. The salsa industry is estimated at a \$1 billion dollar industry in 1997. More TMJ-1 seed is sold than any other jalapeño variety. The hot TAM Veracruz jalapeño is now a leading hot variety also. Peppers contain high concentrations of Vitamin C and A. They are also high in antioxidants such as ascorbic acid, b-carotene and flavonoid (quercetin and luteolin). These compounds have been demonstrated to contain anti-cancer properties. Subsistence farmers throughout the world will be able to grow these peppers with more security and at less cost. Increased food production is accomplished utilizing fewer chemicals and less acreage, making it easier to maintain environmental quality. This has important implications for more efficient production of other food crops in a sustainable agriculture system.

RELEASES



FUTURE RELEASES

