



Sweetpotato 'Tinian' - Fusarium Wilt Resistance

USDA National Plant Germplasm System, USA

Fusarium wilt is a devastating disease in sweetpotato (*Ipomoea batatas*) that was once considered production limiting. After unadapted germplasm in the U.S. National Plant Germplasm System (NPGS) was found to be resistant to this disease, breeders used its valuable genetics to develop more resistant varieties. The extent to which this source of resistance has been incorporated into modern commercial varieties is considered to be widespread. Over time, varietal resistance has remained durable and Fusarium wilt is not longer an issue for the U.S. sweetpotato industry.



Photo by Don La Bonte

Sweetpotato 'Vermillion' unaffected by Fusarium wilt.

PROJECT GOALS

- ✓ Deploy natural resistance to Fusarium wilt in commercial sweetpotato varieties

Problems Addressed

Fungi that cause Fusarium wilt diseases are deadly to a wide variety of crops, including sweetpotato. Susceptibility to Fusarium wilt can result in complete crop loss. This was a reality for much of the history of sweetpotato production in the United States.

Solutions Developed

In 1946, the sweetpotato accession PI 153655 was donated to the NPGS from the Northern Mariana Islands. This accession, named 'Tinian' after the island where it was growing, was quickly researched and made available through the NPGS. Tinian's resistance to Fusarium wilt enabled breeding programs to develop commercially viable lines with this source of resistance. The resistance is still effective, and U.S. growers no longer see Fusarium wilt as a major concern in the industry. This is a boon for sweetpotato production, which in the U.S. was worth \$676 million in 2023.



Written by: D. LaBonte, I. Power, K. Chen (editor)

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