

University of Florida Tomato Breeding Update, a Few Highlights

J.W. Scott, J.D. Edwards, and G.E. Vallad, Gulf Coast Research and Education Center, 14625 CR 672,
Wimauma, FL 33598 jwsc@ufl.edu

Much of our bacterial wilt (*Ralstonia solanacearum*) resistance work has been recently described (Scott and Vallad, 2009). The breeding is based on Fla. 8109, a line with large fruit size and a high level of bacterial wilt race 1 biovar 1 resistance. Hypothetically, we have broken the linkage of a resistance gene and small fruit size in Fla. 8109. From Fla. 8109 a number of large fruited lines were developed including Fla. 8626. Several hybrids were made using Fla. 8626 crossed with susceptible inbreds and these are presently being evaluated. We have seen that some of our bacterial wilt tolerant material also has tolerance to bacterial spot race T4 (*Xanthomonas perforans*) even though resistance has not been found in Hawaii 7997, the source of bacterial wilt resistance. This topic will be discussed. At the 2006 Tomato Breeders Roundtable JWS discussed the variety Fla. 8153 Tasti-Lee TM. Since that time we have been doing some modified backcrossing to incorporate higher sugars and the fruity-floral note into the parents of the Fla. 8153 hybrid. A line from this backcrossing, Fla. 8629, had the highest overall acceptability in both taste panels where it was tested. More recently, the next backcross heterozygous for Fla. 8629, had flavor comparable to Fla. 8629 and superior to Fla. 8153 and its parents. This experiment is being repeated and these results should be available for the meeting. Aspects of this breeding work will be discussed. We are also developing a crimson, jointless hybrid with superior flavor primarily for South Florida where 'Sanibel' is the major variety grown. In a winter 2009 trial in Dade yields of some experimental hybrids were comparable to 'Sanibel' and better than 'Florida 47'. Quality aspects will be presented. In addition glimpses of some of the new inbreds being developed will also be presented.

Scott, J.W., G.E. Vallad, and J.B. Jones. 2009. High level of resistance to bacterial wilt (*Ralstonia solanacearum*) obtained in large-fruited tomato breeding lines derived from Hawaii 7997. *Acta Horticulturae* 808:269-274.