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Disease Infestation in Tomato Production in Taiwan and Farmer's Willingness to Pay for Control Measures

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Abstract

Tomato production in subtropical and tropical climates with high rainfall is severely constrained by a variety of bacterial, fungal and virus diseases. A recent survey among tomato producers in Taiwan found that Bacterial Wilt may account for as much as 100 % loss in total production, and Tomato Leaf Curl Virus (TLCV) may account for as much as 75 % of loss in marketable crop. On average, per cropping cycle, Bacterial Wilt and Virus diseases account for 25–30 % and for 10–12 % of crop loss, respectively. These findings explain why disease pressure is the major tomato production constraint for 40 % of the farmers.

Recent advances in disease research highlight the potential both for improved tomato varieties and cultural practices. This study, covering two different sites in Taiwan, analyzes farmer's willingness to pay for different disease management practices in tomato production. The survey shows that farmers are more interested in cultivating tomato varieties that are resistant to TLCV and bacterial wilt, than in applying other measures such as soil amendment practices and grafting on resistant rootstock. On average farmers are willing to pay an additional 50 % on current seed cost, if the cultivars they grow have the traits of disease resistance and fruits are acceptable to the market. Factors that are predictive of a high or low willingness to pay are farmer's age, education, income and total farm size. Approximately 40 % of farmers would also be willing to use transgenic varieties. Overall, the results show that breeding for disease resistance continues to be an important task for international agricultural research centers.

Keywords: Disease resistance, Taiwan, tomato, willingness-to-pay