

PROCEEDINGS OF THE 13TH ANNUAL SCRI ZEBRA CHIP REPORTING SESSION



F. Workneh and C.M. Rush Editors

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2013 ZEBRA CHIP REPORTING SESSION**

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San Antonio, TX

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PREFACE

Zebra chip of potato (ZC) was first documented from potato fields around Saltillo, Mexico in 1994, and in 2000 it was identified in South Texas. In the USA, the disease initially was considered a regional problem in South Texas, but by 2006 ZC had been identified from all potato production areas in Texas, and also in Arizona, California, Colorado, Kansas, Nebraska, Nevada, and New Mexico. Outside of the USA, ZC has been reported from Guatemala, Honduras, Mexico and New Zealand. Early studies of ZC were hampered by lack of knowledge concerning disease etiology, but in 2007, the potato psyllid, *Bactericera cockerelli*, was definitively associated with ZC and in 2008 two independent studies reported the association of *Candidatus Liberibacter* spp. with ZC. It now has been repeatedly demonstrated that transmission of *Candidatus Liberibacter solanacearum* by the potato psyllid results in diagnostic symptoms of ZC, while infestations by potato psyllids without *Candidatus Liberibacter solanacearum* do not cause ZC. However, questions still exist concerning the effect of pathogen and vector variability on disease severity.

Soon after ZC was first identified in South Texas, representatives from *Frito Lay*, approximately four farmers and two plant pathologists met to discuss how to deal with the new disease. Grower sponsored research projects were initiated the next year, and the same small group met again, after the 2001 harvest, and in an informal setting presented their findings and observations. This meeting constituted the first ZC reporting session. After the disease was identified in potato production regions outside of Texas, the National Potato Council and the US Potato Board recognized the potential danger of this new disease and begin to support additional research. In 2007, the Texas Legislature appropriated \$2 million to support research on ZC and in 2009; a multistate, multidisciplinary group of scientists were awarded \$6.9 million, from the Federal Specialty Crop Research Initiative (SCRI) Program, to study all aspects of ZC.

On November 3-6, 2013, 113 scientists, farmers, and personnel from agri-industry and potato processing companies, representing five countries, attended the 13th Annual Zebra Chip Reporting Session. Each year, the goal of the meeting is to provide a forum to facilitate collaboration and multidisciplinary research on all aspect of ZC. Those who attend present research results on a wide variety of topics including pathogen detection, vector/pathogen diversity, epidemiology, pest management, breeding for resistance, economics, and disease risk assessment and forecasting. The high quality of information presented in an informal setting to a multidisciplinary group with common interests always makes for an enjoyable, professionally rewarding experience. This volume serves as a record of information presented at our most recent meeting and represents the first published Proceedings of the ZC Reporting Session. It is hoped that the information presented in this Proceedings will be useful to all those interested in ZC.

Charlie Rush
ZC SCRI Program Director

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The organizers of this meeting would like to express their gratitude to Ms. Patty Garrett for facilitating local arrangements for this meeting. We also would like to acknowledge Bayer Crop Science, Frito Lay, DuPont, Nichino America and Dow AgroSciences for covering expenses for the Welcome Reception and Hospitality events. Finally, we appreciate the assistance of Jerri Hamar, and the efforts of Kay Ledbetter and Donnie Parrack in recording interviews with all speakers and Advisory Board members for posting on the SCRI ZC Website.

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Monitoring & Epidemiology
Jessica Dohmen-Vereijssen – Session II

Resistance & Breeding
Cecilia Tamborindeguy – Session III

Poster Session
Open Viewing – Session IV

Chemical Control / Management
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