

Reaching Beyond Boundaries

December 1-5, 2008

Agenda

DAY 1: Monday, 1 December 2008

1:00 – 7:00 PM: Registration

6:00 – 8:00 PM: Workshop Welcome Reception

DAY 2: Tuesday, 2 December 2008

7:00 AM – 5:00 PM: Registration

7:00 – 8:00 AM: Continental Breakfast

8:00 – 8:45 AM: Welcome

Introductions - Mike Sparks, Tim Gottwald

Mission/Goals/Objectives - Wayne Dixon

Housekeeping/Rules of the House - Tim Gottwald

8:45 – 10:00 AM: Morning Session 1: Current HLB Situation and Concerns Regarding Asian Citrus Greening and the Asian Citrus Psyllid - Peter McClure, Moderator

8:45 Current HLB situation and industry perspective in Asia –Beattie, G.A.C. and Holford, P.

9:05 Current HLB situation and citrus producer's perspective in South America - Clóvis Penalva Monteiro

9:25 Current HLB situation and citrus producer's perspective in US - Jim Snively

10:00 – 10:15 AM: Break

10:15 AM – 12:00 PM: Morning Session 2: HLB Survey - M. Irey, Moderator

Oral Presentations:

10:15 2.1 Current situation of citrus huanglongbing in Cuba – Llauger, R., Luis, M. Collazo, C., Peña, I., González, C., Batista, L., Teixeira, D., Martins, E., Perdomo, A., Casin, J.C., Peréz, J.L., and Cueto, J.R. and Bové, J.M.

10:30 2.2 Data trends and results from an HLB laboratory that has processed over 55,000 commercial and research samples over a two year period in Florida. Irey, M., Mai, P., Graham, J., and Johnson, J.

10:45 2.3 Texas steps up surveys for huanglongbing and the Asian citrus psyllid – daGraca, J. V., Skaria, M., Setamou, M., Kunta, M., Arredondo, M., Salas, B., Parker, P.E.

11:00 2.4 National plan for detection of HLB in Mexico – Robles, G.P., Sanchez, A.H., Mendez, L.O.

- 11:15 2.5** Survey for “Candidatus” *Liberibacter* species in South Africa – Pietersen, G., Kotzé, A., Phahladira, M.N.B., Schwerdtfeger, M.
- 11:30 2.6** Large-scale distribution of *Diaphorina citri* Kuwayama and citrus huanglongbing in Florida – Halbert, S.E., Manjunath, K., and Brodie, M.W.
- 11:45 2.7** Is it possible to replant young groves in an area with endemic HLB – a hierarchical sampling approach to determine infection? – Irey, M., Gottwald, T., Stewart, M., and Chamberlain, H.

12:00 – 1:30PM: Lunch and Keynote Lecture 1 – Bernard Aubert “Historical perspectives of HLB in Asia”

1:45 – 2:45 PM: Afternoon Session 3: HLB Detection and Diagnostics – J. Hartung, Moderator

Oral Presentations:

- 1:45 3.1** Lessons learned from a comparison and evaluation of multiple HLB testing laboratories employing common and different testing methodologies on a common set of samples – Irey, M., Sieburth, P., Brlansky, R., DaGraça, J., Graham, J., Gottwald, T., Hartung, J., Hilf, M., Kunta, M., Manjunath, K., Lin, H., Ramdugu, C., Roberts, P., Rogers, M., Shatters, R., Sun, X., and Wang, N.
- 2:00 3.2** Improved detection of low-titer, non-lethal, seed transmitted Candidatus *Liberibacter asiaticus* in citrus, periwinkle, and dodder using nested PCR – Zhou, L.-J., Benyon, L. S., Powell, C. A., Gottwald, T., and Duan, Y.-P.
- 2:15 3.3** Detection of “Candidatus *Liberibacter asiaticus*” by cycleave isothermal and chimeric primer-initiated amplification of nucleic acids (Cycleave ICAN) – Urasaki, N., Kawano, S., Mukai, H., Uemori, T., Takeda, O., and Sano, T.
- 2:30 3.4** A novel molecular diagnostic tool for improved sensitivity and reliability detection of “Candidatus *Liberibacter asiaticus*” bacterium associated with huanglongbing (HLB) – Lin, H., Doddapaneni, H., and Civerolo, E. L.
- 2:45 3.5** Citrus greening (Huanglongbing) disease in India: present status and diagnostic efforts – Das, A.K.

Posters:

- 3.6** Improvement of Candidatus *Liberibacter asiaticus* diagnosis by nested PCR – Coletta-Filho, H.D., Alves, K.C.S., Carlos, E.F., Pereira, M.A.R., Machado, M.A.
- 3.7** Optimizing qPCR for detection of Candidatus *Liberibacter species* in plants and psyllid samples – Shatters, R. G., Hunter, W., Hall, D., Niedz, R., Evens, T. J.
- 3.8** Comparison of detection sensitivity of different primer pairs for citrus huanglongbing bacterium – Ding, F., Wang, G., Yi, G., Hong, N., Zhong, Y.
- 3.9** Quantification of viable Candidatus *Liberibacter asiaticus* in hosts using quantitative PCR with the aid of ethidium monoazide (EMA) – Sagaram, U.S., Trivedi, P., Kim, J-S, Brlansky, R.H., Rogers, M.E., Stelinski, L.L., Oswald, C., and Wang, N.
- 3.10** PCR for detection of Asian and American strains of Candidatus *Liberibacter* In citrus, *Murraya* and *Diaphorina* from Northwest Argentina – Ramallo, J., Acosta, E., Rojas, A., Stein, B.
- 3.11** Current situation of citrus Huanglongbing associated with “Candidatus *Liberibacter asiaticus*” in Guangdong, China. Deng, X., Chen, J., Xu, J., Guo, H., Pu, X., Cai, L., and Li, H.
- 3.12** Molecular approach for early detection of Candidatus *Liberibacter species* in Texas citrus – Bextine, B., Gunawan, S., Hunter, W., and Shatters, R.
- 3.13** Comparison of a starch-based field test for Huanglongbing to results from real-time PCR testing of field samples from symptomatic trees in Florida - Chamberlain, H. L. and M. S. Irey

2:45 – 3:00 PM: Break

3:00 – 5:15 PM: Afternoon Session 4: Pathogen Genome Sequencing, Phylogenetics, and Culturing – W. Dawson, Moderator**Oral Presentations:**

- 3:00 4.1** Evaluation of potential pathogenicity genes identified by genomic sequencing of *Ca. Liberibacter asiaticus* – Zhang, S., Reddy, S., and Gabriel, D. W.
- 3:15 4.2** Zebra complex and HLB: Seeking a common enemy? Bextine, B. Swatsell, C. and Hunter, W.
- 3:30 4.3** Microbiome analysis of HLB pathogen infected citrus using phylochips and 16S rDNA clone library sequencing – Sagaram, S., DeAngelis, K. M., Trivedi, P., Kim, J-S, Anderson, G.L., and Wang, N.
- 3:45 4.4** Several *Liberibacter* and phytoplasma species are individually associated with HLB – Bové, J.M., Teixeira, D.C., Wulff, N.A., Eveillard, S., Saillard, C., Bassanezi, R. B., Lopes, S., Yamamoto, P.T., Ayres, A.J.
- 4:00 4.5** Cancelled
- 4:00 4.6** Ribosomal RNA operons and genome size of *Candidatus Liberibacter americanus*, a bacterium associated with citrus huanglongbing in Brazil – Wulff, N.A., Eveillard, S., Foissac, X., Ayres, A.J., and Bové, J.M.
- 4:15 4.7** Genome analysis of *Candidatus Liberibacter asiaticus* reveals unique features for designing HLB control strategies – Duan, Y.-P., Zhou, L.J, Hall, D., Li, W.B., Lin, H., Doddapaneni, H., Liu, L., Vahling, C.M., and Gottwald, T.
- 4:30 4.8** Cocultivation of *Candidatus Liberibacter asiaticus* with actinobacteria from citrus with huanglongbing – Davis, M.J., Mondal, S.N., Chen, H.-Q., Rogers, M.E., Brlansky, R.H.
- 5:45 4.9** Development of an Asian citrus psyllid (*Diaphorina citri*) insect cell line – M.W. Lewis and Keyhani, N.O.

Posters:

- 4.10** Enrichment of *Candidatus Liberibacter americanus* using an artificial psyllid feeding system – Locali-Fabris, E.C., Coletta-Filho, D., Miranda, M.P., Francisco, C.S., Lopes, J.R.S., Machado, M.A.
- 4.11** Asian citrus psyllid (*Diaphorina citri*) cell culture methods – Marutani-Hert, M., Hunter, W., Hall, D.G.
- 4.12** Genetic diversity of *Candidatus Liberibacter asiaticus* and *Ca. L. americanus* based on sequence variations of their rRNA operon – Zhou, L.J., Powell, C.A., Gottwald, T., Duan, Y.P.
- 4.13** Efficient enrichment of the pathogen DNA from HLB infected host – Chen, C., Yu, Q., Gmitter, F.
- 4.14** Characterization of “*Candidatus Phytoplasma asteri*” citrus huanglongbing strain in Guangdong, China – Chen, J., Deng, X., Pu, X., Cai, L., and Guo, H.
- 4.15** Visible/near-infrared spectroscopy for discrimination of HLB-infected citrus leaves from healthy leaves - Poole, G., Windham, W., Heitschmidt, G., Park, B., and Gottwald, T.

5:15 – 6:15 PM: Poster Session 1**Dinner On Your Own****8:00 – 10:00 PM: Evening Sessions (Specific group/satellite meetings)**

Epidemiology discussion group – Yasuo Ohto moderator

Other concurrent group meetings to be announced

DAY 3: Wednesday, 3 December 2008

7:00 AM – 5:00 PM: Registration

7:00 – 8:00 AM: Continental Breakfast

8:00 – 10:00 AM: Morning Session 5: Host Pathogen Interaction – J. daGraca, Moderator

Oral Presentations:

- 8:00 5.1** *Liberibacter* populations in citrus and orange jasmine trees in São Paulo, Brazil – Lopes, S. A., Frare, G. F., Bertolini, E., Wulff, N. A.
- 8:15 5.2** The effects of HLB-infection on respiration and development of roots of feroniella rootstock (*Feroniella oblata*) which showed resistance to HLB bacterium – Ogata, T., Kobori, Y., Kawabe, K., Yonemoto, H., Ohto, Y., Nguyen, T.B., and Nguyen, M.C.
- 8:30 5.3** Anatomical evolution of symptoms from infection with the HLB bacterium – Achor, D. S., Chung, K-R., Exteberria, E., Wang, N., and Albrigo, L. G.
- 8:45 5.4** Influence of temperature on huanglongbing infection under controlled environment – Gasparoto, M. C. G., Bassanezi, R. B., Lopes, S. A., Frare, G., Martins, E. C., Della Colletta Filho, H., Amorim, L.
- 9:00 5.5** Can *Ca. Liberibacter asiaticus* be transmitted through citrus seed? Hartung, J. S., Halbert, S., Shatters, R.
- 9:15 5.6** Biochemical changes after infection with *Candidatus Liberibacter asiaticus* in citrus – JiangBo, Zhong, Y., Wanghui, Yi, G.
- 9:30 5.7** “*Candidatus Liberibacter solanacearum*” associated with zebra chip of potato is not associated with citrus huanglongbing and is absent in Asian citrus psyllid – Li, W., Abad, J. A., and Levy, L.
- 9:45 5.8** Discovery of *Candidatus Liberibacter psyllauros* and its insect vector the tomato psyllid (*Bactericera cockerelli*) – Hansen, A.K., Paine, T.P., Stouthamer, R.

10:00 – 10:15 AM: Break

10:15 – 10:45 AM: Morning Session 5: Host Pathogen Interaction (continued)– J. daGraca, Moderator

Oral Presentations:

- 10:15 5.9** Response of sweet orange (*Citrus sinensis*) to *Candidatus Liberibacter asiaticus* infection: microscopy and microarray analyses – Kim, J-S., Sagaram, U.S., Burns, J. K., Li, J-L., and Wang, N.
- 10:30 5.10** Asian strains of citrus greening bacterium with genetic and pathogenic variation on pummelo – Miyata, S., Tomimura, K., Furuya, N., Okuda, M., Subandiyah, S., Tsai, C.H., Hung, T.H., Su, H.J., and Iwanami, T.

Posters:

- 5.11** Detection of *Candidatus Liberibacter asiaticus* in citrus seedlings germinated from Florida seed – Shatters, R. G.
- 5.12** Assessment of transmission of *Liberibacter asiaticus* from seed to seedlings of ‘Pineapple’ sweet orange and ‘Carrizo’ citrange – Graham, J. H., Irey, M. S., Dawson, W. O., Hall, D., Duan, Y.
- 5.13** Metabolite changes in HLB orange leaves by GC-MS and other techniques – Cevallos-Cevallos, J.M., Reyes-De-Corcuera, J.I.
- 5.14** Regeneration and chemotherapy of huanglongbing-affected periwinkle – Zhang, M-Q., Duan, Y-P., Powell, C.A.

- 5.15** Differences in secondary metabolites in leaves from trees affected with the greening (HLB) disease – Manthey, J.
- 5.16** Role of *Murraya* species in the spread of huanglongbing – Ramadugu, C., Lopes, S., Manjunath, K., Halbert, S., Roose, M., and Lee, R.
- 5.17** Identification of a new *Liberibacter* species associated with diseases of solanaceous plants – Liefting, L., Sutherland, P.W., Ward, L.I., Weir, B.S., Kumarasinghe, L., Quinn, B.D., and Clover, G.R.G

10:45 AM – 12:15 PM: Morning Session 6: Asian Citrus Psyllid (Biology and Genomics) – D. Hall, Moderator

Oral Presentations:

- 10:45 6.1** Gene expression in midgut tissues of *Diaphorina citri*: application to biology and vector control – Hunter, W., Marutani-Hert, M., Shelby, K., Coudron, T., Hall, D.
- 11:00 6.2** Pheromones of the Asian citrus psyllid, *Diaphorina citri* Kuwayama (Hemiptera: Psyllidae) elicit behavioral responses from its parasitoid, *Tamarixia radiata* (Waterston) (Hymenoptera: Eulophidae) – Onagbola, E. O., Rouseff, R. L., Stelinski, L. L.
- 11:15 6.3** Effects of freezes on survival of *Diaphorina citri* – Hall, D. G.
- 11:30 6.4** Characterization of electrical penetration graphs of *Diaphorina citri* Kuwayama (Hemiptera: Psyllidae) in citrus – Bonani, J.P., Fereres, A., Appezzato-da-Gloria, B., Garzo, E.I., Miranda, M.P., Lopes, J.R.S.
- 11:45 6.5** Symbionts associated with *Diaphorina citri* Kuwayama (Hemiptera: Psyllidae) in Brazil and a look into their role – Salvador, I., Cônsoli, F. L.
- 12:00 6.6** Endosymbiotic microbiota of Asian citrus psyllid (*Diaphorina citri*) – Marutani-Hert, M., Hunter, W., Dowd, S., and Hall, D.

Posters:

- 6.7** FK506-Binding protein from *Diaphorina citri* (Hemiptera: Psyllidae) – Hunter, W., Shatters, R., Hall, D.
- 6.8** Gene expression in Asian citrus psyllid adults feeding from Florida citrus: Application to biology and vector control – Hunter, W., Shelby, K., Dowd, S., McKenzie, C., Shatters, R., Hall, D.
- 6.9** Asian citrus psyllid, genetic basis of immunity – Marutani-Hert, M., Hunter, W.B., Shelby, K.S., Hall, D.G.
- 6.10** Effects of host plant on fitness of the Asian citrus psyllid, *Diaphorina citri* – Tsakarakis, A. E., and Rogers, M. E.
- 6.11** Development of a potato psyllid (*Bactericera cockerelli*) cell culture – Bextine, B., Tufts, D., Timmons, C., Hunter, W., Marutani-Hert, M.4

12:15 – 1:45PM: Lunch and Keynote Lecture 2 - Prof. Andrew Beattie
“Evolution of Citrus, *Diaphorina citri*, and *Liberibacter asiaticus*”

2:00 – 3:45 PM: Afternoon Session 7: Asian Citrus Psyllid (Ecology and Transmission) – S. Halbert, Moderator

Oral Presentations:

- 2:00 7.1** Acquisition of *Candidatus Liberibacter asiaticus* by the Asian citrus psyllid, *Diaphorina citri*, and the potential use of insecticides to prevent pathogen transmission – Rogers, M. E., Brlansky, R. H., Ebert, T. A., Serikawa, R. H., Schumann, R. A., and Stelinski, K. P.
- 2:15 7.2** Leaf age influencing acquisition of *Candidatus Liberibacter asiaticus* by the psyllid vector *Diaphorina citri* – Bonani, J.P., Appezzato-da-Gloria, B., Fereres, A., Engels, F.E., Lopes, J.R.S.

- 2:30 7.3** Ecological studies on initial invasion of *Diaphorina citri* into the newly planting citrus fields – Kobori, Y., Nakata, T., Ohto, Y., and Takasu, F.
- 2:45 7.4** Spatial distribution of adults of *Diaphorina citri* Kuwayama (Hemiptera: Psyllidae) in ‘Valencia’ sweet orange trees – Costa, M.G., Felipe, M. R., Garbim, L.F., Carmo-Uehara, A., Yamamoto, P.T., Barbosa, J.C.
- 3:00 7.5** Population dynamics of *Diaphorina citri* in citrus orchards in São Paulo State, Brazil – Yamamoto, P.T., Felipe, M.R., Rugno, G.R., Beloti, V. H., Coelho, J.H.C., Ximenes, N.L., Garbim, L.F., Carmo-Uehara, A.
- 3:15 7.6** The seasonal influence of *Candidatus Liberibacter asiaticus* in the Asian citrus psyllid, *Diaphorina citri* Kuwayama (Homoptera: Psyllidae) in Okinawa, Japan – Sadoyama, Y., and Takushi, T.
- 3:30 7.7** Diurnal patterns in flight activity and effect of light on host finding behavior of the Asian citrus psyllid – Sétamou, M., Sanchez, A., Patt, J., Louzada, E.

Posters:

- 7.8** Psyllids of citrus orchards in South Texas – Thomas, D.B.
- 7.9** Seasonal occurrence of *Candidatus Liberibacter asiaticus* in Asian citrus psyllids in Florida – Ebert, T.A., Rogers, M.E., and Brlansky, R. H.
- 7.10** Incidence and population of “*Candidatus Liberibacter asiaticus*” in Asian citrus psyllids (*Diaphorina citri*) on citrus plants affected by huanglongbing in Florida – Li, W., Duan, Y.P., Brlansky, R. H., Twieg, E. and Levy, L.
- 7.11** Response of Asian citrus psyllid to aromas emitted by the flushing shoots of their rutaceous host plants in a Y-tube olfactometer. Sétamou, M. and Patt, J. M.

3:45 – 4:00 PM: Break

4:00 – 5:15 PM: Afternoon Session 8: Economics, Fruit Quality, Crop Loss – L. Baldwin, Moderator

Oral Presentations:

- 4:00 8.1** An update on the effect of HLB on orange juice flavor – 2) Sensory evaluation – Plotto, A., McCollum, G., Baldwin, E., Manthey, J., and Irey, M.
- 4:15 8.2** Effect of greening plant disease (huanglongbing) on orange juice flavor and consumer acceptability. Goodrich-Schneider, R., Sims, C., Valim, M., Spann, T., Danyluk M. and Rouseff, R.
- 4:30 8.3** Yield reduction caused by huanglongbing in different sweet orange cultivars in São Paulo, Brazil – Bassanezi, R. B., Montesino, L. H., Amorim, L., Gasparoto, M.C.G., Bergamin Filho, A.
- 4:45 8.4** The production and price effects of citrus greening in São Paulo and Florida on the world orange juice market – Spreen, T. H., Brown, M.G., Jauregui, C.
- 5:00 8.5** The economics of management strategies to mitigate the impact of citrus greening in Florida citrus – Muraro, R.P., Morris, R. A.

Posters:

- 8.6** An update on the effect of citrus HLB on orange juice flavor 1) Chemical components – Baldwin, E., Manthey, J., Plotto, A., McCollum, G., and Irey, M.
- 8.7** The citrus greening bibliographical database, a new tool for researchers, students and growers – Arevalo, H.A., Snyder, G., and Stansly, P. A.

5:30 – 6:30 PM: Poster Session 2

7:00 – 8:15 PM: Conference Dinner

8:30 – 10:30 PM: Evening Session 9: Phil Berger and Wayne Dixon, Moderators International Regulatory Agencies – Regulating HLB

Select representatives for various countries will present how their National Plant Protection Organizations have addressed or are addressing the challenges of HLB. The emphasis will be on what has worked, what has not, and common international unifying themes.

DAY 4: Thursday, 4 December 2008**7:00 AM – 5:00 PM: Registration****7:00 – 8:00 AM: Continental Breakfast****8:00 – 9:45 AM: Morning Session 10: Epidemiology – A. Bergamin, Moderator****Oral Presentations:**

- 8:00 10.1** Relationship between insecticide sprays and huanglongbing progress in a citrus orchard in São Paulo, Brazil – Bergamin-Filho, A., Gasparoto, M.C.G., Bassanezi, R.B., Amorim, L.
- 8:15 10.2** A stochastic spatiotemporal analysis of the contribution of primary versus secondary spread of HLB – Gottwald, T., Irey, M., Bergamin-Filho, A., Bassanezi, R., and Parnell, S.
- 8:30 10.3** HLB survival analysis – a spatiotemporal assessment of the threat of an HLB - positive tree to its neighbors – Gottwald, T., Irey, M., and Taylor, E.
- 8:45 10.4** Use of mathematical models to inform control of an emerging epidemic – Gilligan, C.A. Cunniffe, N.J., Cook, A.R., DeSimone, R.E. and Gottwald, T.R.
- 9:00 10.5** An approach to model the impact of huanglongbing on citrus yield – Bassanezi, R.B., Bassanezi, R.C.
- 9:15 10.6** The plantation edge effect of HLB – a geostatistical analysis – Gottwald, T. and Irey, M.
- 9:30 10.7** Estimating the spatial distribution of huanglongbing from a sample – Parnell, S., Gottwald, T.R, Irey, M. S., and van den Bosch, F.

Posters:

- 10.8** Within-tree spatial distribution of *Candidatus Liberibacter asiaticus* – Gottwald, T., Parnell, S., Taylor, E., Poole, K., Hodge, J., Ford, A., Therrien, L., Mayo, S. and M. Irey

9:45 – 10:00 AM: Break**10:00 AM – 12:00 PM: Morning Session 11: Psyllid Management Strategies – M. Rogers, Moderator****Oral Presentations:**

- 10:00 11.1** Bioecology of *Diaphorina citri* and *Tamarixia radiata*: zoning for citrus groves of the State of São Paulo – Parra, J. R. P., Lopes, J. S.
- 10:15 11.2** Repellent effect of guava odor against adults of citrus psyllid, *Diaphorina citri* – Zaka, S. M., Zeng, X. N. (G.A.C. Beattie presenting)
- 10:30 11.3** Wounding of guava (*Psidium guajava* L.) leaves produces defensive sulfur volatiles – Rouseff, R. L., Onagbola, E. O., Smoot, J. M., and Stelinski, L.L.
- 10:45 11.4** Chemical ecology of Asian citrus psyllid (*Diaphorina citri*) and potential applications of behavior-modifying chemicals for its management – Stelinski, L.L., Onagbola, O.E., and Rouseff, R.L.
- 11:00 11.5** Novel reovirus in *Diaphorina citri* (Hemiptera: Psyllidae) – Marutani-Hert, M., Hunter, W., Hall, D.
- 11:15 11.6** Efficiency of insecticides to control *Diaphorina citri*, vector of huanglongbing bacteria – Yamamoto, P.T., Felipe, M.R., Beloti, V. H., Rugno, G.R.

11:30 11.7 Integrated pest management of the Asian citrus psyllid (ACP) in Florida – Stansly, P.A., Qureshi, J.A., and Arevalo, H. A.

Posters:

11.8 Perspectives for biological control of *Diaphorina citri* (Hemiptera: Psyllidae) in Mexico. López-Arroyo, J.I., Jasso, J., Reyes, M., Loera-Gallardo, J., Cortez-Mondoaca, E. and Miranda, M.

11.9 Investigations of the feasibility for managing the Asian citrus psyllid using *Isaria fumosorosea* – Avery, P.B., Hunter, W. B., Hall, D. G., Jackson, M. A. Powell, C. A., Rogers, M. E.

11.10 Natural enemies of *Diaphorina citri* Kuwayama in Northwest Mexico – Cortez-Mondaca, E., Lugo-Angulo, N. E., Pérez-Márquez,

11.11 Managing Asian citrus psyllid *Diaphorina citri* with soil and foliar applications of insecticides – Qureshi, J. A., and Stansly, P. A.

12:00 – 1:30 PM: Lunch and Keynote Lecture 3 – Prof. Hong-Ji Su “**Research and Health Management of Citrus Huanglongbing in Taiwan**”

1:45 – 3:45 PM: Afternoon Session 12: HLB Management Strategies – J. Graham, Moderator

Oral Presentations:

1:45 12.1 Factors associated with control of huanglongbing in São Paulo, Brazil: A case study - Belasque, J., Bassanezi, R.B., Yamamoto, P.T., Lopes, S.A., Ayres, A.J., Barbosa, J.C., Tachibana, A., Violante, A.R., Tank, A., Giorgetti, C.L., Di Giorgi, F., Tersi, F. Menezes, G., Dragone, J., Catapani, L.F., Jank, R.H. and Bové, J. M.

2:00 12.2 Monitoring psyllids for early detection and management of huanglongbing – Manjunath, K.L., Halbert, S.E., Ramadugu, C., and Lee, R.

2:15 12.3 Occurrence and management strategies for HLB in the State of Paraná, Brazil – Leite, R.P.

2:30 12.4 Observations gleaned from the geospatially referenced and documented spread of HLB in three commercial groves in Florida and the implications of these observations on scouting and management decisions – Irey, M., Gast, T., Terra, R., and Snively, J.

2:45 12.5 Effect of strategies of inoculum reduction and vector control on huanglongbing progress – Bassanezi, R. B., Yamamoto, P.T., Gimenes-Fernandes, N., Montesino, L. H., Tersi, F.E.A., Sperandio, P. H., Gottwald, T. R., Bergamin-Filho, A., Amorim, L

3:00 12.6 Better management for citrus greening: chemical-uses or guava-interplanting? Ichinose, K., Bang, D. V., Dien, L. Q.

3:15 12.7 Imidacloprid-induced systemic acquired resistance (SAR) in Cleopatra mandarin and development of HLB – Graham, J. H., Dawson, W. O., Robertson, C.

Posters:

12.8 Detection of *Candidatus Liberibacter asiaticus* in sprouts from citrus tree stumps – Futch, S., Brlansky, R., Irey, M.

12.9 Beating huanglongbing – an integrative solution – Hunter, W. B., Peretz, Y., Sela, I., Huet, H., Lapidot, M., Yarden, G.

12.10 Flying dragon trifoliolate orange rootstock for high density plantings in São Paulo, Brazil – Stuchi, E.S., Silva, S.R., Sempionato, O.R., Reiff, E.T.

12.11 Research on the technique of eliminating huanglongbing disease from Tankan - Yun Zhong, Ganjun Yi, Bo Jiang, Nonghui Jiang, Yan Liu

12.12 National and international networking to develop solutions for HLB in South America – Franca, F. H., Machado, M. A., Vieira, L.F., Morais, A. M., Astúa, J. F., Lopes, D. B., Druck, S.

- 12.13** Delivery of antibacterial peptides into citrus cultivars for the control of citrus Huanglongbing (HLB; citrus greening) - Gowda, S., Folimonova, S., Robertson, C., Shilts, T., Garnsey, S. M., and Dawson, W. O.
- 12.14** Micro-budded, High Density Citrus Planting: Is There an Opportunity for HLB Control and Financial Returns? – Skaria, M. and Hanagriff, R.
- 12.15** The State of California implements its action plan for Asian Citrus Psyllid - Polek, M. and Luque-Williams, M.J.

3:30 – 3:45 PM: Break

3:45 – 5:45 PM: Afternoon Session 13: Host Resistance – F. Gmitter, Moderator

Oral Presentations:

- 3:34** **13.1** Genetic modification of citrus for resistance against citrus greening: preventing expression of anti-bacterial peptides in the fruit – Gurley, B.
- 4:00** **13.2** Susceptibility of some local mandarins to a Japanese isolate of *Candidatus Liberibacter asiaticus* – Iwanami, T., and Miyata, S.
- 4:15** **13.3** Developing transgenic solutions for HLB resistant citrus at the US Horticulture Research Laboratory – Stover, E., Bowman, K., McCollum, G., Niedz, R.
- 4:30** **13.4** A newly developed agilent microarray designed for the characterization of citrus responses to pathogens – Moore, G. A., Khalaf, A. A., Febres, V. J., Li, L., and Gmitter, F.
- 4:45** **13.5** Transgenic approaches to control bacterial diseases of citrus – Astúa-Monge, G., Francischini, F.J.B., Kemper, E., Capella, A., Kitajima, J.P., Ferro, J. A., da Silva, A.C.R.
- 5:00** **13.6** Towards the ultimate solution: genetic resistance to HLB in commercial citrus – Grosser, J.W., Dutt, M., Omar, A., Orbovic, V., and Barthe, G. A.
- 5:15** **13.7** Examination of host responses of different citrus varieties to HLB infection – Folimonova, S. Y., Garnsey, S. M., and Dawson, W. O.
- 5:30** **13.8** Evaluation of *Candidatus Liberibacter* spp. in genetically transformed sweet orange 'Hamlin' with atacin A gene – Simões, T. S., Boscariol-Camargo, R.L., Mendes, B.M.J., Mourão Filho, F.A.A., Carlos, E.F., Machado, M.A.

Posters:

- 13.9** Colonization of citrus relatives by *Candidatus Liberibacter asiaticus* – Boscariol-Camargo, R. L., Simões, T. S., Malosso, A., Carlos, E.F., Coletta Filho, H.D., Machado, M.A.
- 13.10** Occurrences of huanglongbing disease of pomelo (*Citrus grandis*) in Northern Thailand – Akarapisan, A., Piwkhao, K., Chanbang, Y., Naphrom, D., Santasup, C.
- 13.11** A preliminary survey of HLB survivors found in abandoned citrus groves – Chen, C., Zeng, J., Yi, G., Xiao, Y., Ou, S., Gmitter, F.
- 13.12** Using transgenic NPR1 to enhance systemic acquired resistance (SAR) in citrus – Febres, V. J., Moore, G. A.
- 13.13** Navelina ISA 315 sweet orange: a CVC tolerant cultivar – Stuchi, E.S., Silva, S.R., Coletta-Filho, H.D., Franco, D., Carvalho, S.A., Sempionato, O.R. Donadio, L.C., Alves, K.C.S.
- 13.14** Phloem specific transgene expression of anti-bacterial genes driven by AtSUC2 gene promoter in transgenic citrus plants to develop citrus greening resistance Omar, A., Dutt, M., Barthe, G., Orbovic, V. and Grosser, J.
- 13.15** Citrus variegated chlorosis damage assessment in six sweet orange cultivars in São Paulo, Brazil. Franco, D., Stuchi, E., Silva, S., Martins, A., Laranjeira, F.
- 13.16** Colonization of Asiatic Citrus Psyllid and Huanglongbing Development on *Citrus* and *Citrus* Relatives in Indonesia – Subandiyah, S., Himawan, A., Joko, T., Astuti I.P., Holford, P., Beattie, G.A.C., Krugger, R.

- 13.17** A transgenic approach to the control of citrus greening - Reddy, J.D., and Gabriel, D.W.

6:00 – 7:00 PM: Poster Session 3

7:00 – 8:45 PM: Conference Farewell Banquet

DAY 5: Friday, 5 December 2008

7:00 – 8:00 AM: Continental Breakfast

8:00 – 8:20 AM: Morning Session 14: Jerry Newlin, Moderator International Citrus Industries – **Coping with HLB**

8:00 – 8:10 AM: Presentation of Ranked International Research Priorities – T. Gottwald and W. Dixon

8:10 – 8:30 AM: Florida Citrus Producers Research Advisory Council (FCPRAC)/National Academy of Science (NAS) –Research and Development - Tom Turpen

Key Take-Home Messages and a View to the Future:

8:20 – 10:00 AM: Summaries of Research Sessions

Tim Schubert	HLB status and crop losses
Mike Irey	Survey, detection, diagnosis
William Dawson	Pathogen sequencing and culturing
John daGraça	Host pathogen interaction
David Hall	Psyllid biology and genomics
Michael Rogers	Psyllid management
Andrew Beattie	HLB management
Ed Stover	Host resistance

9:45 – 10:15 AM: General Panel Discussion and Question and Answer

10:15 – 10:45 AM: Industry Summaries/Perspectives

Juliano Ayres
Ray Prewett
Ted Batkin
Peter McClure

10:45 – 11:15 AM: General Panel Discussion and Question and Answer

11:15 – 11:45 AM: Regulatory Summaries/Perspectives

P. Berger (or P. Gomes/Russ Bullock)
W. Dixon (or T. Schubert)

11:45 AM – 12:15 PM: General Panel Discussion and Question and Answer

12:15 – 12:30 PM: Jerry Newlin – Final Wrap up

USDA, APHIS HLB National Science Panel Meeting (By invitation only)

1:30 – 5:00 PM: Afternoon Special Session 15 - Phil Berger, Moderator