Preparing for our future…

Dan Dreyer and Justin Brown

On October 10th and 11th, the Citrus Research Board will present the first-ever California Citrus Conference (CCC). The event will be held, fittingly enough, in the midst of citrus groves, at the new Porterville Fairgrounds in Porterville.

In previous years. CRB and the citrus farm advisors of UC Cooperative Extension teamed up to conduct an annual series of seminars throughout the state. Those small-scale, half-day seminars were a means of disseminating current informational updates and research developments directly to growers.

But now, the idea is to bring members of the industry together at a single location for a much larger meeting, in order to (1) have a better exchange of ideas and information, (2) to get more thorough updates on problems and issues, and (3) to provide a much fuller program of continuing education.

The CCC this October will be the sum of several small seminars expanded into a two-day event. Our anticipation and excitement for this new approach cannot be overstated.

A great deal of careful thought and consideration has gone into the development of this Conference to provide the very best experience for all attendees.

We have designed the CCC to appeal to everyone involved in citrus production in California, not only grove owners and grove care managers but also pest control professionals, citrus nurseries, packers and marketers, and anyone else with a commercial interest in the industry.

Incidentally, packers will want to take note that the agenda has a special session presented by CCQC.

Exhibits and live demonstrations

This change from what had been a traditional seminar format is allowing for some important new additions -- namely, a trade show with dozens of exhibitors, and live demonstrations of equipment including a "spray rodeo".

While at the CCC, attendees will have the opportunity to listen to, participate in, and learn from numerous presentations given by a diverse, thoughtful, and highly qualified group of lecturers.

California is home to the most diverse array of specialty crops, and citrus is no exception. In considering the diverse interests within our industry, we have gathered and organized a wide array of topics to address the different regions of the state.

Of course, ACP/HLB is the most pressing threat to the entire industry. Rather than giving an overview of a topic that is already being covered quite widely, at the CCC, attendees will be presented with real-world situations arising from a post-positive HLB California. Not only will the discussion cover the actual current status of ACP/HLB, it will also provide up-to-date research information and results so far in dealing with this issue in other citrus producing areas including Florida and Texas.

Day Two of the conference does not let up, covering hard-hitting issues of the utmost importance. Obviously, water is always on the mind of a California citrus grower. The availability of water, what the future holds with regard to nitrates, and where irrigation technology is heading will dominate the topics covered in the morning.

Special interest sessions

On both days, every person attending will find sessions that are tailored to fit his or her special interests. For example, as a conventional grower, you may want to sit in on the discussion about controlling citricola scale in the San Joaquin Valley, or dealing with leafminer in the coastal growing regions. If it's organics you're interested in, there will

be a separate organics-only presentation as well, covering the important topics of certification and economics.

Have you ever wondered what orange juice tastes like when the fruit is from an HLB-infected tree? Well, there will be a session covering just that subject, and there will also be a taste test.

Overall, the educational program portion of the CCC will cover the big issues in California citrus today and into the future. Whether it's ACP/HLB, water, marketing citrus globally and domestically, or economic realities of growing citrus, you will leave this CCC fully informed and, we believe, with a glimmer of optimism looking forward.

Dan Dreyer is the Conference Chairman, and Justin Brown is the CCC Program Chairman. See *About the Cover*, page 8.

Site of the 2012 California Citrus Conference, the new Porterville Fair facility is surrounded by citrus orchards and within walking distance of the Porterville Municipal Airport. This easy-to-get-to location is at 2700 W. Teapot Dome Ave. off Highway 65 at the south end of Porterville.

PLANNED PROGRAM

Wednesday, October 10

Gate opens: 7:30 a.m.
Registration opens: 7:30
Exhibits open: 7:30
Continental breakfast: 7:30

Session One: 8:30 - 11:30

Expo Building
Asian citrus psyllid and huanglongbing

Welcome and Conference overview

Presentations and discussion
- Citrus Pest and Disease Prevention Committee (CPDPC)
- Grower treatment programs
  - California
  - Texas
- Area-wide programs panel discussion
  - Florida
  - Texas
  - California
- Biological control program
- Research progress report

Arena Activity

Spray rodeo
Spray demos, calibration
Detector dogs
Dog/handler team demo

Exhibit Visits and Luncheon: 11:30 - 1:30

Keynote address
Ricke Kress, Southern Gardens Citrus

CCQC presentation of the Albert G. Salter Memorial Award

Session Two: 1:30 - 3:30

Expo Building
Pests, diseases, and resistance

Presentations and discussion
- Pest management panel
  - Industry-wide
  - San Joaquin Valley issues
  - Desert issues
  - Coastal issues
- Resistance management
- Pest and Disease management issues
  - Export issues

Session Two Breakout: 1:30 - 3:30

Building B
Organics

Presentations and discussion
- Introduction to certification
- Research overview
- Panel discussion on economics
- Panel discussion on marketing

Session Three: 3:50 - 4:40

Expo Building
California Citrus Quality Council (CCQC)

Presentations and discussion
- President's report
- Status of specific issues

Session Three Breakout: 3:50 - 4:50

Building B
Citrus tristeza virus

Presentations and discussion
- General situation update
- Shift in operations of Central California Tristeza Eradication Agency
- CTV impact on Lindcove Research and Extension Center
- Information on virulent strains
- State quarantine changes
- What are growers with sour orange rootstock doing?

Exhibit Visits: 4:40 - 6:00

Gate closes: 6:00

Thursday, October 11

Gate opens: 7:00 a.m.
Exhibits open: 7:00
Continental breakfast: 7:00

Session One: 8:00 - 9:30

Expo Building
Water issues

Presentations and discussion
- State water picture
  - Availability outlook
  - Water quality issues (ILRP)
- Irrigation technologies
  - Delivery systems
  - Monitoring

Exhibit Visits: 9:30 - 10:30

Session Two: 10:30 - 12:00

Expo Building
Soil health and plant nutrition

Presentations and discussion
- Soil health
  - – Amendments, biology, analysis
- NRCS funds
- Plant health
  - – Macro nutrients
  - – Micro nutrients

Session Two Breakout: 10:30 - 12:00

Building B
The future tree - living with HLB

Presentations and discussion
- Is there resistance/tolerance to HLB?
- How will new varieties come to California?
- Transgenics research
- Fruit quality from HLB trees

Exhibit Visits and Lunch: 12:00 - 1:30

Session Three: 1:30 - 2:30

Expo Building
Citronomics

Presentations and discussion
- Costs of production
  - – Increased costs due to regulation
  - – Costs due to water quality regulations
  - – Higher costs of inputs
- Future trees
  - – How new nursery regulations affect handling and delivery of trees

Session Four: 2:30 - 3:40

Expo Building
Marketing

Presentations and discussion
- What do consumers want?
  - – Retail sales
  - – Specialty sales
- Global trends
- Domestic trends

Exhibit Visits: 3:40 - 5:00

Conference ends and gate closes: 5:00
(Plan to tour Lindcove on Friday.)

Florida leader to give keynote address

This inaugural California Citrus Conference will have as its keynote speaker an individual who is "one of the main leaders in Florida in providing solutions to the devastating situation faced by their industry," notes CRB President Ted Batkin. "We are honored that he accepted the invitation to share his experiences with us."

Ricke Kress, who will address the crowd at the opening day luncheon, is President of Southern Gardens Citrus in Clewiston, Florida.

Southern Gardens is one of Florida's premier agribusiness companies, widely acclaimed as an industry leader in efficiency, vertical integration, modern grove management, and citrus research. A wholly owned subsidiary of U.S. Sugar Corporation, Southern Gardens is recognized as the largest brand and private label premium not-from-concentrate orange juice supplier in North America.

One of the largest citrus growers in the state, the company owns and/or manages 16,500 net acres of citrus in southern Hendry County including three company-owned properties, and all three of those properties are infected to some extent with huanglongbing, Kress reports.


Ricke Kress

He says Southern Gardens is working "with multiple researchers on projects aimed at developing environmentally and scientifically proven methods to manage and control canker and citrus greening disease."

Kress is Vice President of the Citrus Research and Development Foundation, the coordinating organization of the Florida citrus industry for dealing with the present disease challenges. The Foundation's mission is "to advance disease and production research and product development activities to insure the survival and competitiveness of Florida's citrus growers through innovation".

A graduate of Cornell University with a degree in food science, Kress has been employed in the fruit, juice and vegetable industry for nearly 40 years.

His career has largely involved working for food manufacturing companies including Libby, McNeill & Libby, Nestle, Seneca Foods, and Northland Cranberries, Inc. in a variety of senior management positions from agricultural production to sales and marketing. He joined the Southern Gardens management team in 2005.

Seeking nominations for Salter Award

The California Citrus Quality Council is seeking nominations for the industry's most prestigious honor, the Albert G. Salter Memorial Award.

The winner will be announced at the luncheon on the opening day of the Conference, October 10.

The Salter Award is presented annually by CCQC to applaud an individual who has made significant contributions to the advancement of California citrus.

This important award not only celebrates specific achievements but also salutes dedication and commitment, according to CCQC President Jim Cranney.

Nominations must be received by CCQC by Wednesday, August 22. For details and nomination form, go to www.calcitrusquality.org.

Register online at www.citrusresearch.org
Sign up now for the lowest rate.
For more information, call CRB at (559) 738-0246.

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At the Conference, you will hear from…

Michael E. Rogers, Associate Professor of Entomology, University of Florida, IFAS, Citrus Research & Education Center, Lake Alfred

Success of the Citrus Health Management Area (CHMA) program in Florida

ABSTRACT: Following the discovery of citrus greening disease in Florida in 2005, psyllid control has become the most important pest management consideration of Florida growers.

Experience has shown that while it is relatively easy to kill psyllids using commercially available insecticides, actually gaining control of psyllid populations is much more difficult. This is due to the high mobility of the psyllid, coupled with the short residual activity provided by insecticides under field conditions. As a result, a recently sprayed grove may become recolonized in a matter of days as psyllids migrate in from surrounding unsprayed citrus groves.

In order to enhance psyllid control programs and subsequently reduce the rate of spread of greening disease, Citrus Health Management Areas (CHMAs) were established throughout the state.

The goal of the CHMA program is to coordinate the timing of insecticide applications for psyllid control by all growers within a CHMA. Such coordinated efforts will reduce "psyllid swapping" between groves and potentially minimize the need for frequent reapplication of pesticides to maintain psyllids below detectable levels.

A secondary goal of the CHMA program is to manage pesticide resistance development in psyllid populations. Thus, growers within a CHMA rotate (collectively) between pesticide modes of action from one coordinated spray to the next.

The CHMA program was officially kicked off in 2010 with seven CHMAs formalized in areas of the state where grower interest was sufficient to attempt such a voluntary program. Based on the success achieved in these original CHMAs, grower interest and willingness to participate in the CHMA program increased dramatically. To date, there are 38 CHMAs encompassing 486,079 commercial grove acres in Florida.

As grower participation in the CHMA program has increased, there has been a corresponding drop in psyllid populations statewide. Based on the results of the CHMA ACP Monitoring program which scouts 6,000 blocks of citrus every three weeks, psyllid populations statewide have declined nearly 70% over the last 12 months. Additional details on the function and success of the CHMA program in Florida will be discussed in this presentation.

Also on the Conference program…

Ed Stover, Research Horticulturist/Geneticist, United States Horticultural Research Laboratory, USDA-ARS, Fort Pierce, Florida

Conventional and transgenic resistance/tolerance to huanglongbing in citrus

ABSTRACT: Huanglongbing (HLB) is severely impacting Florida citrus and has been found in CA and TX. Citrus researchers are immersed in extensive and broad-ranging efforts to identify solutions to HLB. Previous research indicates susceptibility to HLB throughout cultivated citrus: in Florida, none are immune and many are extremely adversely affected.

Numerous transgenic strategies are underway to develop HLB/psyllid resistance in established cultivars. Some show promise, and new ideas are added regularly. With HLB widespread in Florida, it is clear that not all cultivars are affected equally. HLB was assessed in commercial groves with high HLB-incidence: 'Temple' had the lowest HLB symptoms and Liberibacter (Las) titer, while 'Murcott' and 'Minneola' had the highest.

The USDA Ft. Pierce farm is managed to reveal genotype HLB responses. Some current cultivars and conventional hybrid seedlings demonstrate resistance/tolerance, at least to strain(s) of Las present. Some have abundant foliage symptoms but full canopies and seemingly normal fruit set and size.

For example, in a three-year replicated trial of 'Triumph'(T), 'Jackson'(J), 'Flame'(F), and 'Marsh'(M), all trees had HLB symptoms and similar Liberibacter titers. However, T&J maintained full canopies and had fruit with normal size, yield and quality, while F&M fruit were fewer and unacceptable. *C. trifoliata* is the best documented citrus resistance source, and its hybrids are being evaluated with some already showing near-commercial fruit quality.

Useful resistance/tolerance to HLB is present in cultivated citrus and more distant relatives, while transgenic methods offer tremendous potential for greater resistance. All are being investigated by the USDA citrus breeding program and collaborators, as well as other researchers.

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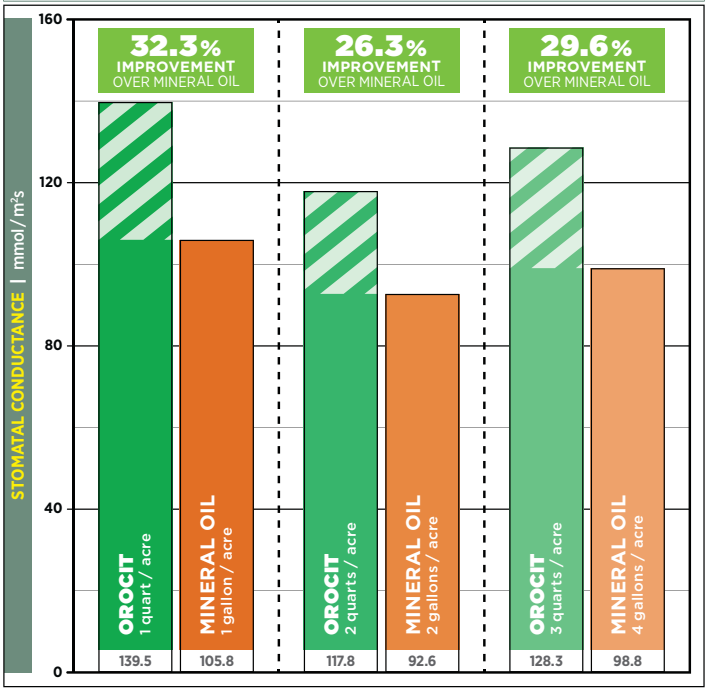
Citrus trees sprayed with mineral oil show lower levels of transpiration - a sign of greater stress levels - when compared with trees treated with **OROCIT.**

Mineral oil is known to induce stress in plants when applied as a foliar spray. In an attempt to quantify the level of stress induced, trials were conducted in which a single spray of mineral oil and **OROCIT** were applied to citrus trees.

Stomatal conductance (a measure of transpiration) readings were taken using a Decagon SC-1 Leaf Porometer.

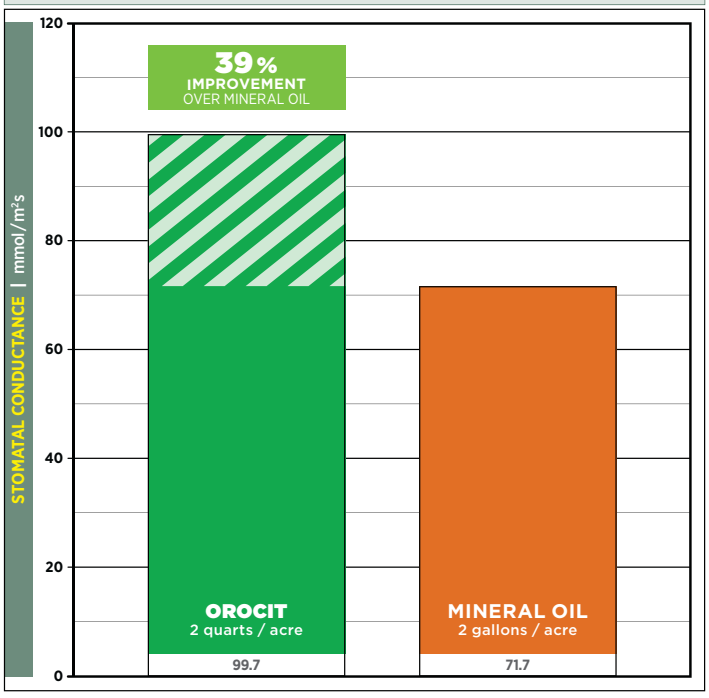
TRIAL 1 STOMATAL CONDUCTANCE ON CITRUS TREES
AVERAGE OF 7 MEASUREMENT TIMES

DR. D. UYS • A. MHLABA • M. MATTHEW • J. KOTZE | **ORO AGRI SA (Pty) Ltd**



TRIAL 2 STOMATAL CONDUCTANCE ON CITRUS TREES
AVERAGE OF 1 AND 4 DAA

DR. D. UYS • A. MHLABA • M. MATTHEW • J. KOTZE | **ORO AGRI SA (Pty) Ltd**



Both transpiration and the exchange of CO_2 for photosynthesis depend on the extent to which the leaf stomata open.

A lower stomatal conductance, as was found with the mineral oil treatment, indicates that the **stomata were less open and the leaves had less potential for photosynthesis** compared with the **OROCIT** treatment.

Higher transpiration levels resulting from the stomata being more open indicate that there was greater potential for photosynthesis in the trees treated with OROCIT than in those sprayed with mineral oil.

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And in addition…

Elizabeth A. (Liz) Baldwin, Supervisory Research Horticulturist, United States Horticultural Research Laboratory, USDA-ARS, Fort Pierce, Florida

Comparing fruit samples from HLB diseased trees and healthy trees for chemical and sensory differences

ABSTRACT: Huanglongbing (HLB) disease has been shown to result in citrus fruit and juice that is sour, bitter and generally off-flavored. Recent research with fresh squeezed and processed orange juice compared samples from HLB diseased trees and healthy trees for chemical and sensory differences.

These differences include lower sugars and higher levels of acids; phenolic compounds; an alkaloid; and limonoids, most notably the bitter compounds limonin and nomilin, which impart bitter or metallic off-flavors in HLB juice.

Although levels of the bitter compounds, limonin and nomilin, were found to be below reported thresholds in water, our studies showed that their thresholds were lower (meaning they were more detectable) in combination and in orange juice. Furthermore, nomilin was associated with a metallic descriptor.

As the disease has progressed throughout the state of Florida, growers have become more reluctant to pull out diseased trees. Many prefer too to use foliar nutritional sprays to compensate for the disease symptoms. These spray programs have worked to some extent in reversing tree symptoms and have now been adapted by much of the industry who either are resistant or cannot afford tree removal.

Data so far does not support that nutritional sprays reverse fruit off-flavor symptoms. This being the situation, the concern is that not removing diseased trees will ultimately lead to nearly complete infection of Florida citrus. As more trees become infected, the industry juice blends will consequently contain more infected juice and less healthy juice and lead to flavor decline.

CONFERENCE PLANNING COMMITTEE

2012 California Citrus Conference planning committee. Back row (l to r): MaryLou Polek, Don Roark, Dan Galbraith, Richard Bennett, Etienne Rabe, Chad Collin. Front row: Earl Rutz, Louise Fisher, Dan Dreyer, and Ted Batkin. At right: Justin Brown and Mary Lu Arpaia. Not shown: Jim Gorden, Beth Grafton-Cardwell, and Kevin Severns. The group is made up of CRB Board and committee members, CRB staff members, and representatives of UC Cooperative Extension. Others contributing to program content include UCCE citrus farm advisors and representatives of California Citrus Mutual.

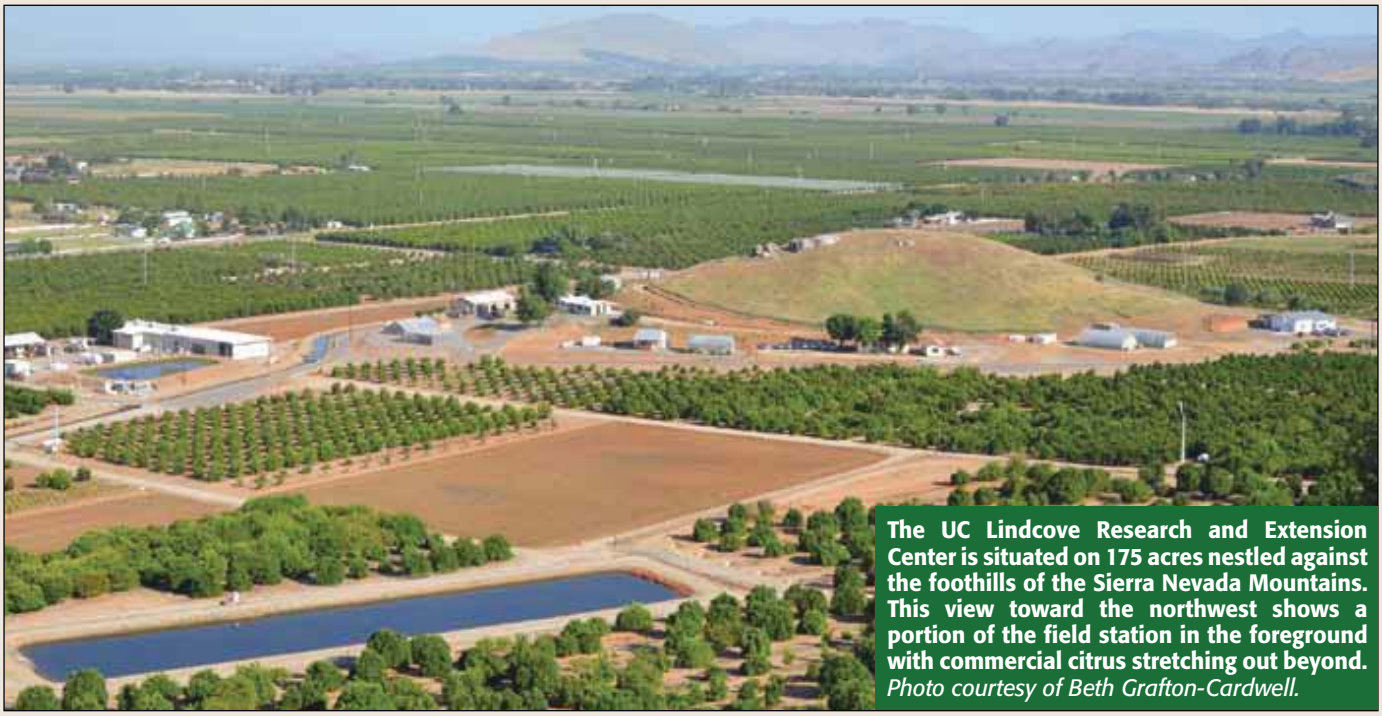
Post-conference event at Lindcove

The morning after the Conference, from 8:30 a.m. to 12:00 noon on October 12, the University of California's Lindcove Research and Extension Center will host members of the industry at a special open house complete with guided tours of major operations.

Planned stops on the tour include citrus variety evaluation blocks, the Citrus Clonal Protection Program's screenhouse/greenhouse complex, and the Citrus Research Board Fruit Quality Evaluation Center research packline.

Sign-ups will be taken at the Conference to give the Lindcove staff at least some idea of how many to expect.

LREC is located in the foothills just northeast of Exeter about a 20-minute drive from Visalia. For background, go to http://ucanr.org/sites/Lindcove/.



The UC Lindcove Research and Extension Center is situated on 175 acres nestled against the foothills of the Sierra Nevada Mountains. This view toward the northwest shows a portion of the field station in the foreground with commercial citrus stretching out beyond. *Photo courtesy of Beth Grafton-Cardwell.*