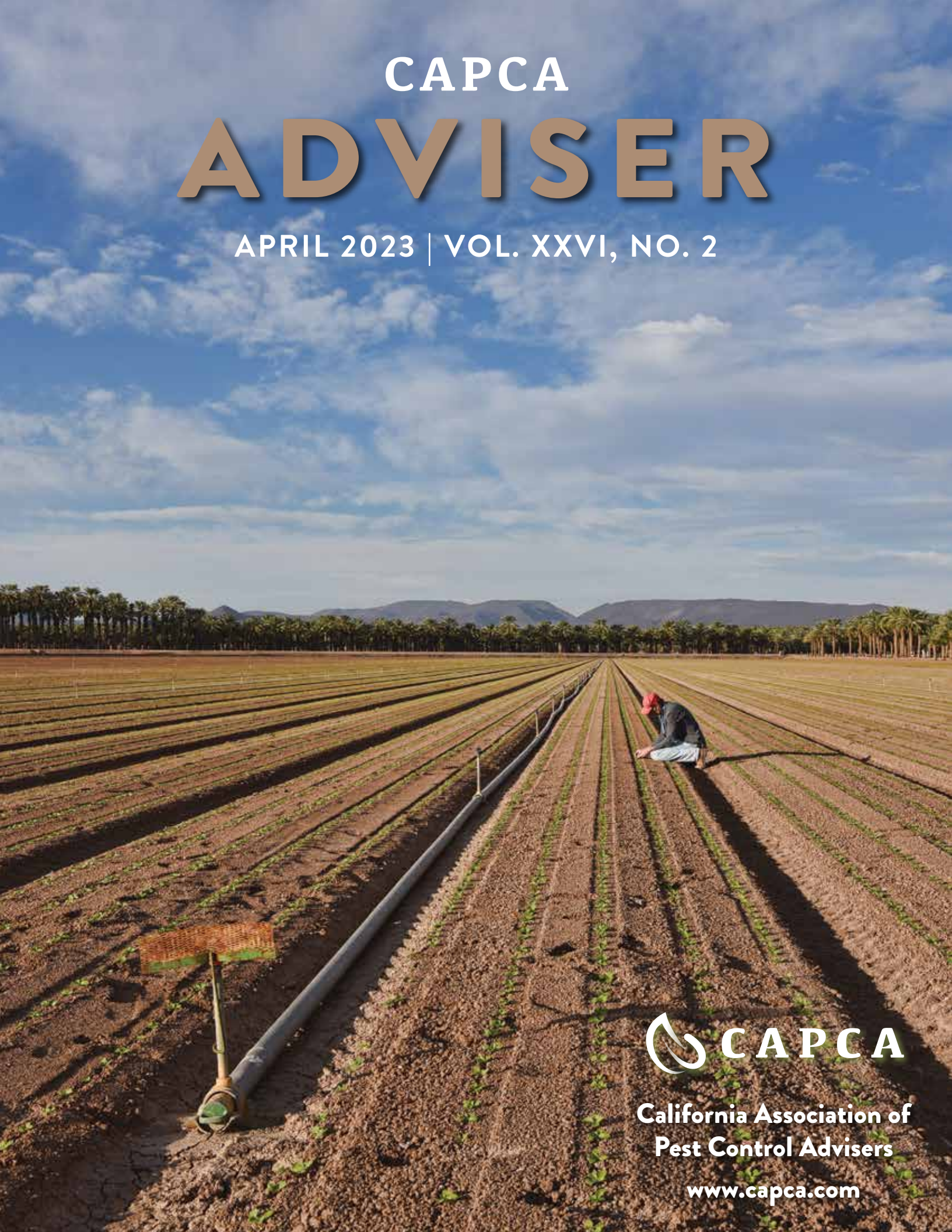
CAPCA ADVISER

APRIL 2023 | VOL. XXVI, NO. 2



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California Association of Pest Control Advisers

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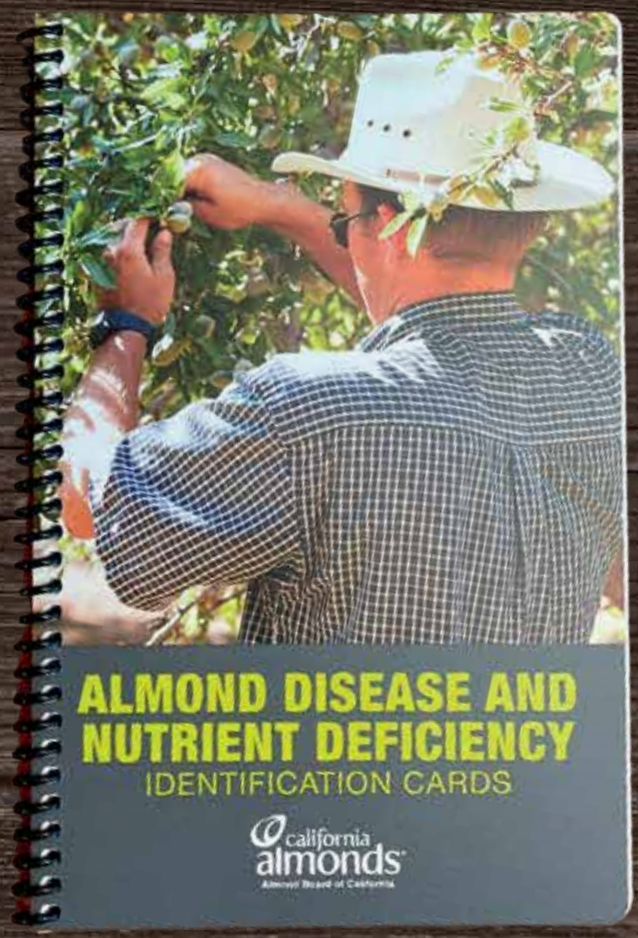

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With Your Help, CAPCA is Building a Strong Voice in Addressing the SPM Roadmap

The publication of Accelerating Sustainable Pest Management (SPM): A Roadmap for California this winter has highlighted why the California Association of Pest Control Advisers (CAPCA) was created 50 years ago. CAPCA members foresaw the need to have a united voice that would represent them while they were busy building their careers, increasing their professionalism through education, and ensuring they make sound decisions to protect the future of their community.

The SPM Roadmap is a prime example of what happens when decisions are made in a vacuum rather than being developed by industry experts. Had CAPCA been asked, we would have strongly suggested a broader cross-section of PCAs – by geography, by use of license, and by demographics to provide a more comprehensive view of the license in action. While we are disappointed in the assumptions made within the document, we believe this is a crucial example to hold up to this administration for *actual* stakeholders to be included at the table. Dialogue and understanding between all stakeholders will help build a roadmap that is rooted in the reality of today. Much of the SPM document is aspirational. However, it is riddled with holes in jurisdiction, oversight, and in all seriousness, reality. One of these is that CDFA is one half of the SPM solution for the PCA license – the jurisdiction over nutrients, soil, and water by CDFA has led us to the current feeling of disconnect in the license. One that has been unresolved with decades of discussions by CAPCA on your behalf – *there are real roadblocks to the resolution that can't be waived away by putting a goal in print.*

This past month, CAPCA sent out a call to action to remind members that their voice has the right to be heard. I hope you will take a few minutes this month to engage in this conversation – whether you use the call-to-action link from CAPCA, tell your local legislator, or have a conversation with another PCA in your chapter. It is simple: remind DPR leadership that your license and applied use of the license – *whether independent, research, retail, or anything in between* – matters to safeguarding our communities and food supply. Make it clear that your choice of representation through your dues is CAPCA – you expect that, at a minimum, CAPCA will have a seat at the table and can provide a broad narrative of engaged voices.

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ruthann@capca.com

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MISSION & PURPOSE
California Association of Pest Control Advisers (CAPCA) is a non-profit voluntary mutual benefit association that represents 75% of the 4,000 California EPA licensed pest control advisers. *CAPCA's purpose is to serve as the leader in the evolution of the pest management industry through the communication of reliable information.* CAPCA is dedicated to the professional development and enhancement of our members' education and stewardship which includes legislative, regulatory, continuing education and public outreach activities.

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CAPCA
AT THE CENTER OF PLANT HEALTH




Pest Control Advisers – Professional, Critical, and Sustainable

By Paul W. Crout, CAPCA Chairman

"Agriculture is the most healthful, most useful and most noble employment of man (and woman)." -George Washington

I've been thinking about agriculture in California, and the role Pest Control Advisers (PCAs) play in the largest agricultural economy in the United States. Most of the people I know who work in agriculture are quiet, humble people who are more interested in talking about anything, but themselves. This is a fundamental problem for the industry in general and Pest Control Advisers as a whole. We don't like telling other people (the government and the public at large) how valuable our knowledge is and the safety it provides to the people of California. Not to mention, the key role we play in the success of an over $50 Billion economy. We often have a problem controlling the narrative because we (PCAs) don't have a compelling story to tell, and people don't understand what we do. A great place to start (and I hope the following paragraphs provide a kernel for your story) is to focus on the professionalism & integrity of the CAPCA Pest Control Adviser.

Professionalism is of the utmost importance for CAPCA PCAs in the California agriculture industry. As licensed professionals, we play a crucial role in managing and protecting California's agricultural crops and ecosystems from pests and other threats. Our expertise and professionalism are essential for the success of the agriculture industry and, ultimately, for the health and well-being of California's residents and the consumers who enjoy the bounty we help create.

First and foremost, professionalism is crucial for maintaining the integrity of the pest management industry. PCAs advise growers and end users on the use of pesticides and other Integrated Pest Management (IPM) techniques that are effective, critical, and safe. We must adhere to state and federal regulations, stay up-to-date on the latest information through required continuing education and provide accurate and honest advice to our growers. By maintaining a high level of professionalism, PCAs ensure that the agricultural products grown in California are of the highest quality and are produced in an environmentally responsible manner.

In addition to protecting the industry's integrity, professionalism is essential for building trust and fostering positive relationships between PCAs, growers, government, and the public. Farmers rely on the expertise and guidance of PCAs to make informed decisions about pest management, crop production, and environmental stewardship. By demonstrating professionalism in our interactions with the public, government, and growers, we can establish and build trust and credibility, which in turn leads to the recognition and success of our industry.

Professionalism also plays a critical role in advancing the agriculture industry. By maintaining a high level of

professionalism, PCAs regularly collaborate with researchers, industry leaders, and other stakeholders to advance the field of agriculture and to ensure that California remains a leader in the agricultural industry. We are on the front lines of innovation, working to develop new IPM techniques and technologies that can improve crop yields, reduce environmental impacts, and increase profitability for farmers.

Finally, we are essential for protecting the health and safety of California's residents. Pesticides can have serious health and environmental impacts if they are not used properly. PCAs are responsible for ensuring that pesticides are used safely and responsibly and for utilizing Integrated Pest Management (IPM) techniques that can reduce the need for chemical treatments. By maintaining a high level of professionalism, PCAs help protect the health and well-being of California's residents and ensure that the agriculture industry remains a responsible steward of the state's natural resources.

In conclusion, professionalism is of utmost importance for CAPCA PCAs in the California agriculture industry. By maintaining a high level of professionalism, CAPCA PCAs can protect the industry's integrity, build trust and positive relationships with growers, regulators, and the public at large, advance the field of agriculture, and protect the health and safety of California's residents. As licensed professionals, CAPCA Member PCAs are responsible for upholding the highest standards of professionalism and continuing to innovate and improve the field of pest management for the benefit of all Californians.

I hope this sounds like you and highlights the importance we play in protecting both our farms and natural resources. Next time you're talking to someone about what you do, highlight what a professional PCA does and how it benefits ALL the people of California. If you want to do more, make an effort at the district level with your elected officials (local and state). Building relationships is key to the success of the industry. ■

MEET YOUR DIRECTORS

Paul Crout, Chair

Chapter: Central Coast
Employer: Helena
Education: Cal Poly, SLO
Year of PCA License: 2000
Add'l. Certificates/Licenses: QAL, CCA
Specialties: Wine Grapes, Berries, Vegetables

Patrick Dosier, Ex-Officio

Chapter: Woodland
Employer: Xpansiv
Education: Cal Poly, Pomona, UC Davis
Year of PCA License: 2009
Add'l. Certificates/Licenses: CCA, CPAg

Matt Bristow, Vice Chair

Chapter: Desert Valleys
Employer: Nutrien Ag Solutions
Education: Cal Poly, Pomona
Year of PCA License: 2004
Add'l. Certificates/Licenses: CCA

Danilu Ramirez

Chapter: Central Coast
Employer: CEO & President - DRAM Ag Consulting (Independent PCA)
Education: Cal Poly SLO
Year of PCA License: 2004
Add'l Licenses/Certificates: QAL, CCA-CA
Specialties: Certified in Nitrogen Management and Sustainability

Jennifer De Jong, Treasurer

Chapter: Central Valley
Employer: Miller Chemical & Fertilizer, LLC
Education: Cal Poly, SLO
Year of PCA License: 2008
Specialties: Alfalfa, Almonds, Asparagus, Beans, Carrots, Cherries, etc.

Jackie Tabarez

Chapter: Central Valley
Employer: Wilbur-Ellis Co.
Education: BA in Agriculture, CSU Stanislaus
Year of PCA License: 2016
Specialties: Treenuts and Professional Markets

Adam Tavares, Secretary

Chapter: Fresno-Madera
Employer: ADAMA
Education: CSU Fresno
Year of PCA License: 2009
Add'l Licenses/Cert's: QAL, Water Distrib. #1
Specialties: permanent crops, row crop

Jeannette Rapicavoli

Chapter: Desert Valleys
Employer: Syngenta
Education: Cal Poly SLO, UC Riverside
Add'l Licenses: QAL, PUC
Specialties: Berries, Cotton, Vines, Tree Nuts, Vegetables, etc.

2023

Leonard Dunn

Chapter: San Francisco Bay
Employer: City of Sunnyvale
Education: UC Davis
Year of PCA License: 1976

Meggie Gilbert

Chapter: Fresno-Madera
Employer: Vive Crop Protection
Education: CSU Fresno
Year of PCA License: 2009

Edgar Tuna

Chapter: SoCal
Employer: Nutrien Ag Solutions
Education: Agriculture Engineer
Year of PCA License: 1995
Specialties: Turf golf, sports and parks; Ornamental Nursery and Greenhouse

Michael Haupt

Chapter: Kern County
Employer: Trinitas Farming
Education: CSU Chico
Year of PCA License: 2017
Additional Licenses/Certificates: QAL, CCA
Specialties: IPM, orchard management, almonds, pistachios

Corey Thompson

Chapter: Tri-County
Employer: Basin Fertilizer
Education: CSU Chico
Year of PCA License: 2009
Add'l Licenses/Cert's: NW CCA, QAC
Specialties: potatoes, alfalfa, Timothy hay, small grains, forage, range, pasture

Sean Morelos

Chapter: Monterey Bay
Employer: Nutrien Ag Solutions
Education: Cal Poly SLO
Year of PCA License: 1997
Add'l Licenses/Certificates: QAL
Specialties: lettuce, grapes, strawberries

Kevin Esau

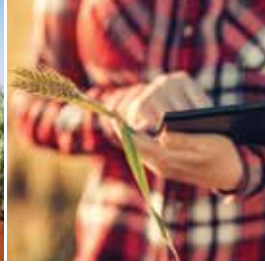
Chapter: Tulare-Kings
Employer: BASF
Education: Cal Poly, SLO
Year of PCA License: 2013
Add'l Licenses/Cert's: CCA
Specialties: Tree Nuts, Vines, Citrus

David Drucker

Chapter: San Diego
Employer: Nutrien Ag Solutions
Education: Cal Poly SLO
Year of PCA License: 1983
Add'l Licenses/Certificates: CCA
Specialties: wine grapes, avocados, citrus, strawberries, landscape ornamentals

Patricia Dingus

Chapter: Ventura
Employer: YARA
Education: Cal Poly SLO
Year of PCA License: 2009
Add'l Licenses/Certificates: CCA,QAL
Specialties: vegetables and berry production



Your Involvement is Essential to CAPCA Chapters

Crystelle Turlo, Chief Operations Director

https://capca.com/membership/

Recently the CAPCA state office met with the current Chapter Presidents and State Directors. During this event, the goal of the conversation was centered around each chapter's current plans and the future. As the discussion moved into individual Chapter challenges, we heard many concerns surrounding the need for more volunteers and engagement from membership.

With minimal volunteers, Chapters create continuing education (CE) events and develop and host fundraising events. They are working hard to plan a future for not only the current CAPCA membership, but also future PCAs that join their ranks and to ensure that the PCAs are given the continued opportunity to learn, grow, and thrive in this industry.

Chapters need more volunteers, and that begins with you. Any amount of time is vital to our chapters across the state. Do you have fifteen minutes to send emails or put out chairs for an event? Have only a few hours to provide help at the registration desk and can't help for the rest of the year? Great, we would love to have you, even if just once during the year. Please reach out to your local chapter and get involved. If you want a say in what happens at Conference or interested in Advocacy, join a committee. Committee meetings are virtual and vital to ensure that the membership can share their voice in the decision-making process.

Ready to help? Chapter information can be found at CAPCA.com. Members can also reach out at chapter@capca.com or crystelle@capca.com for Chapter meeting information and/or help with joining a committee. We hope to see some new faces soon. ■

CAPCA MEMBERS-ONLY BENEFITS

Membership with CAPCA is the best way to take your involvement, education, and skill set to the next level.

CAPCA provides three levels of membership for individuals:

ACTIVE MEMBER

Only California State licensed Pest Control Advisers are eligible for Active Membership in the Association.

ASSOCIATE MEMBER

An associate member is any person not licensed as an agricultural Pest Control Adviser, but may hold other licenses issued by the State of California, and wants to promote the purpose of the Association.

STUDENT MEMBER

A student member is a student regularly enrolled in a college or university, majoring in biological or agricultural sciences and preparing for a career in pest management. A student member may not hold a DPR license.

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Your Participation in CAPCA Matters in Sacramento

By Taylor Roschen, Governmental Advocate, Kahn, Soares & Conway

For 50 years, the PCA license has withstood the test of time, embodying the education, experience, professionalism, and ethics of California's Pest Control Advisers (PCAs). Within those decades, practice standards, continuing education, and the industry, itself, has transformed, adapting with evolving scientific findings, technologies, and public expectations.

So, it's unsettling the State Administration portrays PCAs as an industry that is resistant to change, educationally limited and locked into a system that "favors products over services." This is the portrayal in the recently released *Accelerating Sustainable Pest Management: A Roadmap for California.* Within the document is a *call to action* to industry to course correct and make this dream a reality.

For over twenty months, a diverse group of stakeholders, from farmers to special interest groups, activists to academics, came together to try to create a new vision of pest management in California.

To say the process was imperfect is a massive understatement. Without proper representation of licensed, active PCAs on the workgroup, it's not a surprise that the Roadmap uses incorrect descriptions of PCAs and the state of their practice. Furthermore, while CAPCA provided learned comments and recommendations that could truly be transformative for pest management, they were not incorporated. If inclusivity and equity are the watchwords of this Administration and its approach to environmental protection—*the call to action is to the Department of Pesticide Regulation (DPR).*

The more egregious recommendations insinuate non-independent PCAs can't make objective recommendations based on field circumstances and are self-interested, therefore, recommending product choice and use above necessary rates. More specifically, it notes the need to "shift incentives for PCAs away from advising chemical pest management (incentives such as commissions for chemical pesticide sales)" and to develop a "transparency policy which would require full disclosure of how PCAs are compensated

for product recommendations." These so-called policy solutions are rooted in a clear bias in favor of independent PCAs and against all others and these assumptions should be revised. *This is the call to action to DPR.*

Additionally, the Roadmap suggests continuing education be expanded to incorporate "sustainable pest management" a term that is eerily akin to the principles long held in integrated pest management. Another item is to streamline the approval process for educational units, improving licensing, and actively involving PCAs in applied research. As important historical context, CAPCA members, to no avail, have been pressing the Department of Pesticide Regulation (DPR) for decades to improve the state's licensing system, expand the type of allowable educational content, incorporating items like soil health and nutrient management that are readily considered in the field, and giving PCAs a seat at the table. *This is a call to action to DPR.*

The silver lining is that the document recognizes that PCAs are and can continue to lead the state to "be more sustainable." The rest of that sentence is "more sustainable… than it already is."

In driving towards a new 2023 horizon, where the verbiage of "sustainable pest management" will be featured prominently, the Roadmap offers us a sneak peak of what to expect. And while we can offer DPR as many "calls to action" as we want, the charge is also on all of us.

The recommendations in the Roadmap and DPR's recent actions (certification and training, notification, etc.), and the assumptions that underpin them, signal that we all need to do a better job of sharing what PCAs do and the critical role they play in plant and environmental health.

In the polarizing vortex of Sacramento where policy problems and their solutions are presented in black and white, if you don't tell your own story, someone will do it for you.

So, our collective call to action is to share who you are, what you do, and know that you are an integral piece for California to move forward, regardless of the pace. Participate as a chapter leader, join an advisory committee, call the CAPCA state office to get involved.

In 2023, let us be honest about our challenges and forthright about our values. We will be with you every step of the way. ■

Photo: J. McNutt




Paul Crout, Central Coast Chapter Member & CAPCA Chair

By CAPCA Staff

Meet the 2023 Chairman of the California Association of Pest Control Advisers (CAPCA), Paul Crout. Crout currently works for Helena Agri-Enterprise and has been with the company for over eight years as a Senior Product Manager and Agronomist. Crout covers California and Arizona; however, he resides in Templeton, CA, and is a Central Coast CAPCA Chapter member.

On a personal note, he has been married to his wife, Giselle, for twenty-three years. They share two children, Ben (18) and Anna (13). He and his wife enjoy traveling and exploring, especially when they can enjoy new culinary and mixology experiences. During his time off, he enjoys duck hunting during the fall and winter and tinkering on his 1978 Jeep CJ5.

Crout received his Bachelor of Science in Physical Geography from California Polytechnical University, San Luis Obispo, in 1999. Before pursuing the agricultural field in college, Crout was a pre-med microbiology major for three years. He worked at San Luis Obispo Farm Supply in their irrigation department during that time. As he began to discover that the medical field was not his desired career path, he became drawn to the PCAs working at Farm Supply. Most notably, he has a special appreciation regarding the science that paralleled his medical studies and the PCA profession, claiming a PCA is a plant doctor. They help explain the diagnosis, troubleshooting, scientific examination, and prescriptive roles an agronomist must fill.

Crout quickly pivoted his studies and changed his major to align with the PCA pathway more closely. He then obtained his Pest Control Adviser License in 2000 and his Certified Crop Adviser License in 2006. When discussing how far he has come, Crout stated: “Twenty-three years later, I am still here, loving the industry and the people who dedicate their lives to providing food and fiber to the world.”

Crout now focuses his commodity work on wine grapes, berries, and vegetables. His specialties include Integrated Pest Management (IPM), soil-plant-water relations, plant nutrition, and viticulture. His primary job duties include managing the sales – marketing – and product development in Helena’s proprietary product line for California and Arizona. This includes biorationals, organic products, and technology. Crout also serves as a mentor and trainer to sales staff for agronomy, plant nutrition, adjuvant chemistry, and fertilizers.

So much of what Crout declares he enjoys about the PCA profession comes down to one simple fact: he is a self-proclaimed science nerd. Nothing is more satisfying to him than solving a problem for a grower and assisting them with their goals. Seeing such a variety of crops throughout California and Arizona has created productive challenges in his field and helped him grow in his profession. In addition, Crout feels fortunate to have played a multitude of roles in the PCA field. He has served as a retail PCA, manufacturer

representative, an in-house grower PCA, and now a mentor and leader to over thirty-five PCAs throughout the Central Coast of California and Arizona.

When asked about the experiences that helped transform him into an advocate for the industry today, he credits the California Agriculture Leadership Program. "I was very blessed to be selected as one of twenty-four fellows for Class 48 in 2018. Participating in the Ag Leadership program has been transformative, not only in my career but also in my personal life. It is truly one of the most impactful personal and professional development programs out there," said Crout. He explained that the skills he took away made him more communicative, introspective, and empathetic to the world around him. The program gave him the skills to succeed and feel confident in the daily challenges he faces, both personally and professionally.

This past year, Crout was elected as the Board Chairman of CAPCA. Crout will lead a group of twenty PCAs from all over California, representing sixteen chapters. Crout first came to join CAPCA in 2008 through the Central Coast Chapter's Golf Tournament. He went on to serve as the CE Chair, Conference Chair, and then the State Board Chapter Representative. Crout was elected to the CAPCA State Executive Committee four years ago. While he has moved through the chapter ranks, he feels that what is done at the chapter level is vital to the association and the success of PCAs.

Crout explained that the decision to become a member of CAPCA, in the beginning, was an easy one. He admits that he first joined twenty years ago because of the official certificate the Association provided. However, while this still exists, he feels there are other reasons for becoming a CAPCA member. Most importantly, CAPCA is the only association ensuring the viability of the PCA license in California. He explains that CAPCA's work at a state level is critical to the industry's sustainability and plays a key role in agriculture. Crout also explained the importance of networking, idea sharing, and education. The CAPCA conferences, chapter meetings, and board meetings help ensure that the industry remains informed and knowledgeable about the latest regulations, technology, and agriculture issues.

"I want to leave CAPCA members and readers of the Adviser with this thought," said Crout. "Get involved, make a connection, and tell your story. The success of PCAs and the agricultural industry relies on our members and the time they are willing to dedicate to it. One single person can make a difference." ■




Farms share the spotlight with cities in Newsom's pesticide plan

Brad Hooker, Agri-Pulse

For years the agriculture community has questioned the Newsom administration's critical eye to agricultural pesticides when most illnesses likely come from residential use. Now a stakeholder group advising CalEPA is putting more pressure on urban use, stressing the need for more messaging on the role of pesticides in the everyday lives of Californians.

"About half of pesticides used in California are used in urban environments," said Julie Henderson, director of the California Department of Pesticide Regulation, during a webinar in February. "It was extremely important to make sure that we had a balanced focus both on urban and agricultural settings."

In January the administration released a long-term strategy for phasing out the use of several controversial pesticides by 2050. The Sustainable Pest Management Roadmap offers a set of recommendations for achieving that goal. It calls for a boost in funding and outreach for agricultural pesticide use and pest prevention but also adds an unprecedented level of scrutiny to urban settings. The 25-member work group that crafted the policy framework branched into an urban subgroup to collaboratively develop guidance on where and how DPR should prioritize its limited resources.

According to the report, nonagricultural uses account for about half of pesticide sales in California and up to 19% of all use. This setting is also responsible for three out for four pesticide-related illnesses, though the exact numbers remain unknown. California keeps a more detailed accounting of agricultural use than any state in the nation, but it lags far behind in tracking use in urban settings.

That is why the department's top priority is to ramp up monitoring and data collection for urban use. The roadmap set a goal to develop by 2030 a system for providing urban pesticide use to the public. According to Henderson, this will inform "sound regulatory decisions" for the administration's "sustainable pest management" initiative.

The second priority is to bolster funding for state research and extension programs to reflect the volume and impacts of urban contexts, "ensuring that there's not just a focus at our research institutions on agricultural settings," said Henderson. The department is also aiming to slash the use of conventional pesticides at school sites and engage in more outreach and education for the general public, and more specifically workplaces. DPR will also revamp the criteria for continuing education units for licensed users, add new training requirements for property managers and in-house applicators and establish certifications for service providers. The roadmap goes further, proposing new requirements for building codes and designs and for pest inspections for landscapes.

State buildings would avoid the use of traditional pesticide products as well, including the CalEPA building, which made headlines after a rat infestation forced the closure of its playground in 2019.

Chris Geiger, who led San Francisco's pest control efforts while serving on the work group, called the attention to urban issues "really critical," reasoning that "there are a lot of bad practices out there."

"This is your neighbor who's throwing rat bait in the backyard, thinking that he solved a problem, or an apartment manager who is prescribing foggers for bedbugs, which don't work by the way," said Geiger during a press conference on the roadmap. "We've seen firsthand over the years working in affordable housing in San Francisco some of the really appalling conditions that happen when you don't pay attention to prevention."

Geiger told *Agri-Pulse* that apartment landlords manage environments for thousands of people and have a direct role in pesticide use.

"Targeting outreach is what's most important," he said. "It flies over everyone's head, because people don't think about pests."

Finding the safest alternative is “a key task,” he explained, adding that one of the biggest problems in worker health in the state is sulfur, an organic alternative to fungicides that is used extensively on grapes in the Napa region.

“There’s always all these risks that we’d have to grapple with and find the safest alternative,” he said.

Kelly Moran, a senior scientist at the San Francisco Estuary Institute, pointed out that 90% of Californians live in urban areas, in proximity to pesticides in bleach, building paint, roofing, clothes and on pets.

“Most pesticide-related illnesses are not on farms and fields,” said Moran. “They’re happening in homes and businesses and institutions in our urban areas.”

She explained how pesticide runoff is polluting urban creeks and threatening affordable access to an essential water supply—municipal wastewater effluent treated with ultra-purification.

“We can do better for our communities,” she said. ■

2023
PRESIDENTS SUMMIT

In February, the CAPCA state office and Board of Directors hosted the 2023 Presidents Summit in Santa Cruz, California.

The one-day summit facilitated a discussion between the chapter representatives present. They shared ideas that worked and others that did not, hoping to foster open lines of communication and thought sharing.

The Chapter Presidents heard from CEO Ruthann Anderson on the latest regulatory issues and Chief Operations Director Crystelle Turlo on Chapter Programs. In addition, Communications Director Alexis Silveira presented a three-year communications strategy, and Events and Partnership Director Katelyn Greening informed the Presidents on CAPCA's upcoming events.

Thank you to all the chapter representatives that participated!

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California Department of Pesticide Regulation

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CAPCA STAFF CONTACTS

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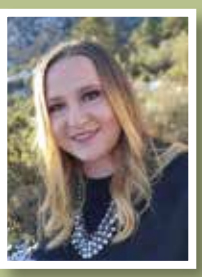

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CAPCA

STANLEY W. STREW UPDATE

Established 30 years ago as CAPCA's educational entity, the Stanley W. Strew Trust has enabled CAPCA Members to make thousands of presentations to young people about the Pest Control Advisers' role in California's agriculture and landscape industries. From the coloring pages, slide decks and projectors used by the Plant Doctors in elementary classrooms during the 1990s, to career exploration dinners throughout the state for Pathway to PCA college students in the 2000s, everyday CAPCA Members have long taken an active role in telling their story to the next generation. Members will continue this tradition in October at the Student Network Event – a program held during the CAPCA Annual Conference. With a nearly one to one student to PCA/industry professional ratio, the event is a highly informative and interactive experience for students who are considering a career as a licensed Pest Control Adviser.

Began in 2016 by SWS and CAPCA, the Student Network Event brought together students, college and university educators, PCAs, and industry representatives to facilitate conversations for college students to hear directly from PCAs about available career avenues.

The success in 2016 led to the addition of the Educator's Workshop in 2017. This workshop has been the idea lab for many of the best improvements to the Student Network Event program: an interactive resume session for students, and guided exhibit hall interactions among others. Once again, this fall SWS and CAPCA look forward to another opportunity to share the role of the PCA in California – thank you in advance to the Members who continue to invest their time.

STUDENT NETWORK EVENT RETURNS

SUNDAY, OCTOBER 15, 2023

CAPCA's Annual Conference in Reno, NV

All college students exploring potential careers as licensed Pest Control Advisers are encouraged to attend.

STUDENT SPONSORSHIP INFORMATION & EVENT DETAILS AT CAPCA.COM/PCA/EVENTS

2023 Stanley W. Strew Educational Fund, Inc.

SCHOLARSHIP

A scholarship opportunity is now available for students interested in careers in the pest management industry. The scholarship is sponsored by the California Association of Pest Control Advisers (CAPCA) and is administered by the Stanley W. Strew Educational Fund, Inc.

The CAPCA Scholarship will provide $3,000 to a selected college student actively engaged in a PCA career pathway. The scholarship recipient will be selected by the SWS Board of Directors.

Applications are available for students who are currently attending college in an agricultural/horticultural related field or who are entering or returning to college in an agricultural/horticultural related field in the fall and will have a junior level status.

Nominees should submit a completed application form and copies of their transcripts. ***Applications must be postmarked no later than May 5, 2023*** and submitted with required letters of recommendation so that the committee can make final selections. The student selected will be notified in July.

For application information please contact CAPCA at (916) 928-1625 or email scholarship@capca.com

https://capca.com/scholarships-awards/

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Mission & Purpose

CAPCA's mission is to facilitate the success of the PCA and to represent our 3000 members who provide pest management consultation for the production of food, fiber and ornamental industries of California.

CAPCA's purpose is to serve as the leader in the evolution of the pest management industry through the communication of reliable information.

CAPCA is dedicated to the professional development and enhancement of our members' education and stewardship which includes legislative, regulatory, continuing education and public outreach.

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Bloom	QMIN Calcium QMIN Boron QMIN HeptaBoost MARITIME*	1 qt/acre 1 pt/acre 1 qt/acre 1 qt/acre
Fruit Development	QMIN Calcium QMIN K-Gain	1 qt/acre 2 qt/acre

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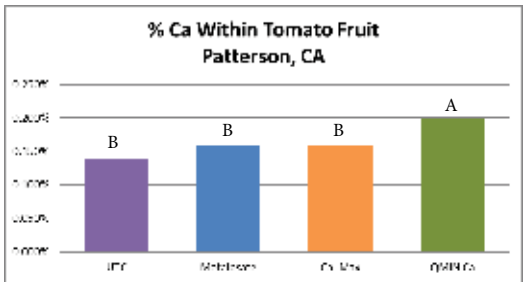
Comparison of foliar calcium products on processing tomatoes

Third-party research performed by Alan Carlisle. Two applications, at 1 qt. per acre rate each, were applied to each respective treatment. One at first bloom, one at full bloom. Fruit samples were collected two weeks after the final application by a method that removed any fruit which could have Ca residue on the surface.



Results with a different letter are significantly different at 95% confidence. Fisher's LSD = 0.03%

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CAPCA is working hard to build out a robust social media platform to connect with members, and to bring them additional industry-focused content.

FOLLOW CAPCA ON THESE SOCIAL MEDIA SITES:

Facebook - *@California Association of Pest Control Advisers (CAPCA)*

Instagram - *@capca_plant_health*

Twitter - *@CAPCA3*

LinkedIn - *@California Association of Pest Control Advisers (CAPCA)*

CAPCA

CAPCA Online CE Opportunities

https://capca.com/onlinece/

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2.0 DPR (2.0 Other)

- Dr. Melissa O'Neal, The Future of Biologicals and How Biologicals Improve Your IPM Program
- Dr. Karla Medina, Nematicide Landscape 2022 and Beyond: Implications for Current and Upcoming Products
- Dr. Emily Symmes, Lessons Learned After 50+ Years of Mating Disruption: A Deep Dive into MD Science and Systems

RODENTS, MOSQUITOS, TREES, & WEEDS - $80

4.0 DPR (0.5 Laws, 3.5 Other)

Burrowing Rodents & Mosquito Control **- 1.5 DPR (0.5 Laws, 1.0 Other):**

- Jim Hartman, Managing Burrowing Rodents
- Nancy Voorhees, Trends in Mosquito Control in California Mosquito and Vector Control Districts

Urban Tree Diseases **- 1.0 DPR Other:**

- Dr. Igor Lacan, Diagnosis and Management of Phytophthora Diseases in the Ornamental Landscape – Sudden Oak Death and Others
- Dr. Drew Zwart, Disease and Insect Management in Trees and Shrubs

Weeds **- 1.5 DPR Other:**

- Dr. Scott Steinmaus, Herbicide Resistance 2022
- John Roncoroni, Best Management Practices for Weed Control in Vineyards

CAC UPDATE - $20

1.0 DPR (0.5 Laws, 0.5 Other)

CACASA Update Speaker: Ruben Arroyo

IPM CROP BY CROP - $120

6.0 DPR (6.0 Other)

Citrus Issues **- 1.0 DPR Other:**

- Dr. Frank Byrne, Neonicotinoid Alternatives for Asian Citrus Psyllid Management in California
- Victoria Hornbaker, Asian Citrus Psyllid and Huanglongbing Treatment and Quarantines

IPM in the Field **- 2.5 DPR Other:**

- Dr. Ivan Milosavljevic, Maximizing IPM of Argentine Ant and Sap Sucking Pests (with Biodegradable Hydrogels, Infra-Red Sensors, and Cover Crops)
- Dr. Oleg Daugovish, Soil-Borne Pest Management
- Dr. Ben Faber, Avocado Herbicide Alternatives to Glyphosate
- Dr. Christopher Chen, Abiotic Stress in Vines

Wine and Table Grape Round Table **- Disease, Insects, & Weeds - 2.5 DPR Other:**

- Dr. Emily Symmes
- Dr. Christopher Chen
- Kyle McAbee
- Jeff Rasmussen

Once purchased, all courses are available to complete through 12/31/2023.

CAPCA 2023 Sustaining Membership Levels

BENEFITS	BRONZE	SILVER	GOLD	CHROME	DIAMOND	PLATINUM
	$750	$2,200	$3,500	$6,500	$10,000	$25,000
Sustaining Member Acknowledgement on CAPCA Website and in Each Issue of *Adviser* Magazine	✔	✔	✔	✔	✔	✔
Subscription(s) to *Adviser* Magazine	1	1	1	1	2	2
Job Opportunities Posting in *Adviser*		1	2	3	Unlimited	Unlimited
Half-page Ad in *Adviser* Magazine (October issue excluded)		1		1		
One-page Ad in *Adviser* Magazine					1	3
Adviser Magazine Advertorial*			1	1**	1**	1**
Discount on *Adviser* Ad Placement			10%	15%	15%	15%
Complimentary Mailing Labels	20% off 1 order	30% off up to 3 orders	2	2	3	5
Comp Conference Registration(s)***			1	2	2	3
Conference Booth Discount***				$100	$200	$300
				discount per booth, limit 4		
Priority Placement for Conference Exhibit Booth***	6th	5th	4th	3rd	2nd	1st
CAPCA Online CE Host or Collaboration Discount			$250	$500	$500	$750
Spring Summit Complimentary Registration***	1	1	1	1	1	1

* October issue fills quickly, first come, first served

** October issue guaranteed if booked by March 31, 2023

*** Complimentary Conference Registrations: Pending the availability of hosting in-person events in 2023. CAPCA reserves the right to limit benefits and/or adjust to online programming value due to unknown gathering and spacing restrictions. CAPCA will provide Sustaining Member companies redeemable Conference registration codes for their employees. $100 service fee will be applied to any refund requested for a registration purchased without use of the provided redeemable registration code.

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There is a limited window to sign up for 2023 Sustaining Membership:
Sept. 12, 2022 to Mar. 31, 2023
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For Sustaining Membership sign-up, visit
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CAPCA

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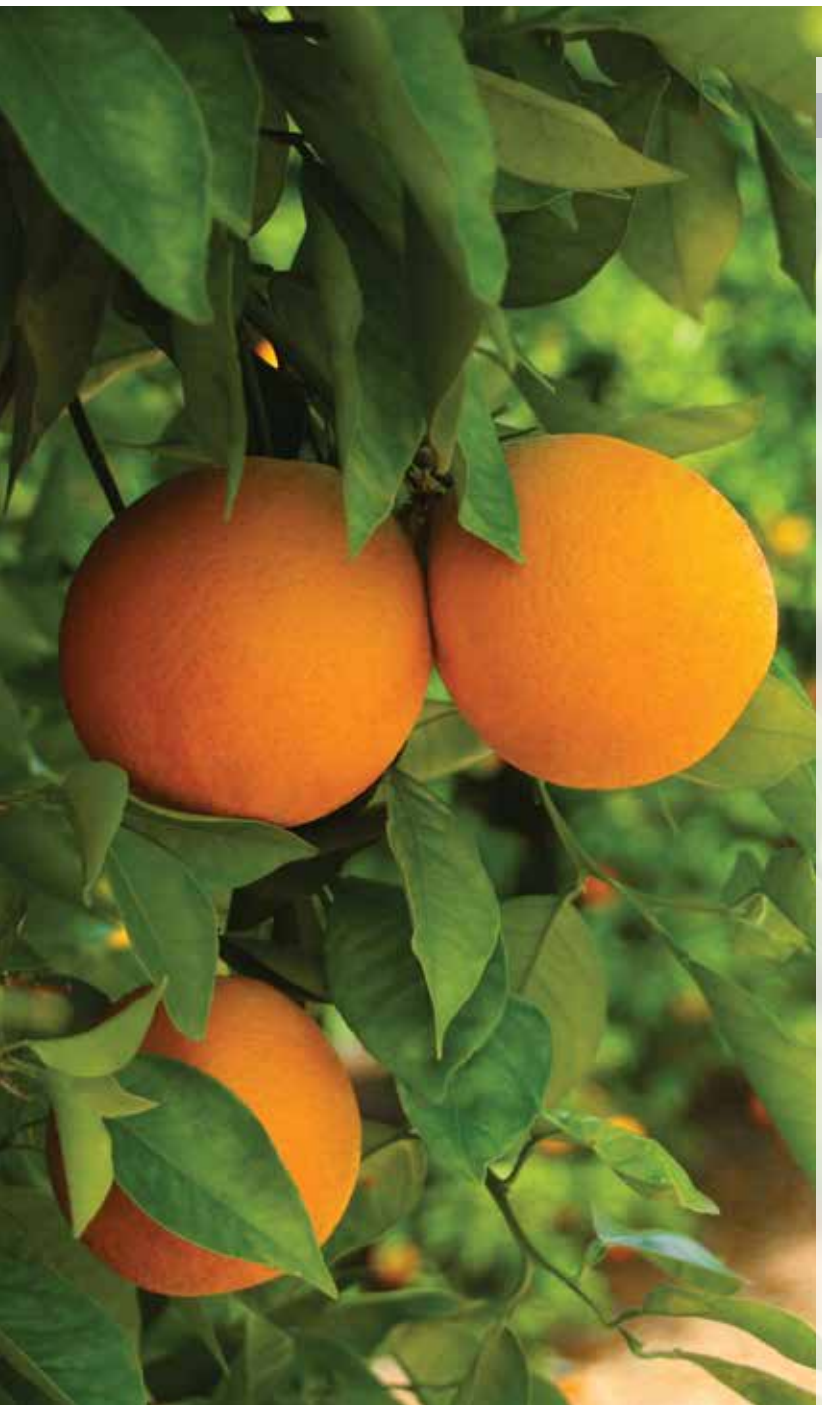

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Let's Talk About Pesticides

By: Genevieve O'Sullivan, Vice President of Communications and Marketing, CropLife America

CropLife America, the national trade association representing the U.S. pesticide industry, has spent the last several years conducting listening sessions across the U.S. to learn more about consumer perceptions of pesticides and develop resources and information that can answer their questions and concerns. The result is a collection of messages that can help guide industry stakeholders and advocates to have engaged and innovative conversations about pesticides.

As a Pest Control Adviser (PCA), you know that engaging the public in a dialogue around pesticides can be challenging. Heck, even a casual conversation about your work with a family member or friend can take an unintended or contentious turn. And although PCAs are trusted advisers who share a common goal of keeping plants, people and the environment healthy, conversations around pesticides are often difficult – but CropLife America (CLA) hopes to make it a bit easier.

Beginning in 2019, CLA embarked on a multi-year project to find compelling ways to talk about pesticides by listening and learning from consumers across the U.S. about their perceptions on the subject. CLA took both a quantitative and qualitative approach by deploying an electronic survey and holding focus group sessions. The research helped paint a clearer picture of consumer understanding of pesticides and farming practices, including pesticide regulations, chemical manufacturers and sources for accurate information.

Gathering the data provided CLA with insights needed to understand more about what questions, concerns and misunderstandings exist with the public, which allowed us to develop messages that resonate.

The results showed the opinions, attitudes and basic level of knowledge of informed consumers and provided these nine key findings:

1. A majority of Americans hold a negative view of pesticides.
2. The perceived harm of pesticides is high.
3. Consumers' knowledge of the topic is limited, and consumer perceptions of pesticides and farming are outdated.
4. Familiarity with the pesticide regulatory process is nonexistent.
5. The benefits of pesticides are intuitive, for the most part, but not well-understood.
6. In general, people are highly skeptical when receiving information about pesticides.
7. Pesticide manufacturers are unknown to consumers.
8. A significant number of people believe that if pesticides were not available, better alternatives would surface.
9. Transparency is important.

With these findings in hand, CLA developed a messaging toolkit for the public to better understand the need for,

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- Enhanced Fruit Quality in **Honeycrisp Apples**
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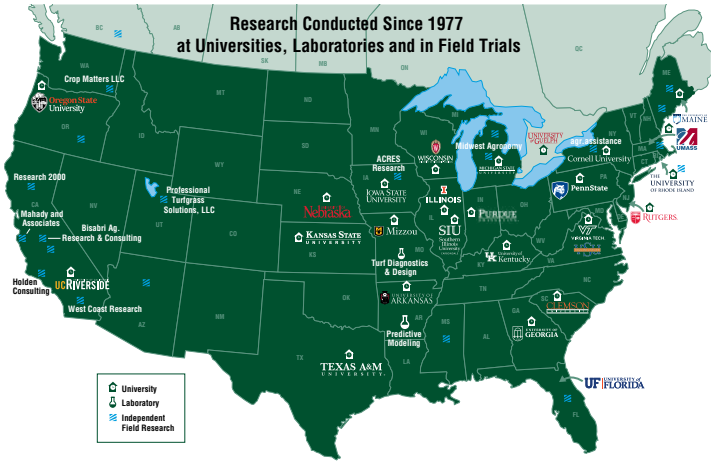
- Increased **Bean** Yields and Plant Growth
- Improved Yield, Weight, and Total Returns in **Blueberries**
- Increased **Celery**, **Corn**, **Cucumber**, **Zucchini**, & **Squash** Yields
- Enhanced Growth Rates and Vigor in **Wine Grape** Replants
- Increased Bunch Length, Fruit Set, Yield and Brix in **Pino Noir Wine Grapes**
- Improved Yield and Cluster Dimensions in **Table Grapes**
- Improved Yield and Fruit Weight in Coastal **Lemons**
- Improved Yield and Nutrient Uptake in **Mandarins**
- Saved **Millet** Crop Under Severe Drought Stress



- Improved Yield, Return per Acre, Fruit Size and Weight in **Bell Peppers**
- Increased Yields, Size and Uniformity in **Potatoes**
- Increased Yield and Net Returns in **Raspberries**
- Improved Yield in **Strawberries**, even Under Salt Stress
- Increased **Tomato** Yields

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the science behind, and the laws and regulations governing pesticide use in the U.S. At the same time, we understand there is no silver bullet. Pesticides are a complex and multi-faceted issue – but by providing information related to the topic, we can help address negative opinions, change how people engage intellectually with this complex issue, and, ultimately move opinions in a positive direction.

CLA found that there were approximately six themed areas that presented the most opportunity for creating messages to address consumers' concerns and interests. The summary of the research resulted in a suite of messages that explain the learnings from the focus groups, messages that resonate accompanied by supporting non-industry citations and scientific research, and a sample Q&A section.

Using this information, CLA has been helping industry stakeholders and advocates talk about pesticides. We've held several two-day trainings to share the findings of the consumer research and strategies for effective conversations about pesticides. These trainings, called The Pesticide Discussion, are open to all industry stakeholders and partners and are a great opportunity to gain communications skills and network professionally. The goal of the training is to provide attendees, or AgVocates, with the materials, messages, and strategies to have productive, factual, and continuous conversations about pesticides and today's agriculture. Armed with this information, these AgVocates can create their own training program to provide the information to their colleagues.

More than 200 industry stakeholders have attended The Pesticide Discussion training, representing pesticide manufacturers, researchers, trade groups, professional communicators, nutritionists, growers and more. As a PCA, you encounter general questions and curiosity about pesticides and agriculture in your everyday interactions and using CLA's messages around pesticides can provide guidance on how and when certain messages will resonate most effectively. To get more information about when and where the next Pesticide Discussion training will take place, sign-up for e-mail alerts by sending a request to RMeredith@croplifeamerica.org.

Educating the public about pesticides is an enormous undertaking – and it starts with those of us who understand the importance of having a diverse set of tools to tackle pest challenges. Collectively, we have the greatest knowledge and experience to share about the industry, but we haven't always delivered that message in a manner that the public was ready and willing to receive. By challenging ourselves to carry CLA's strategic approach into discussions with our neighbors, family, friends and community leaders, we might not change perceptions completely, but we can begin to open the door to the public's understanding of pesticides. ■

ADVERTORIAL

In My Opinion...

By Mark Brady, Western Marketing Manager, Plant Food Systems, Inc.
P.C.A. License #072918, C.C.A. Certificate #379337

The crop protection industry has come a long way since the days when the early pioneering environmentalist, Rachel Carson, published her 1962 book, *Silent Spring*. I'm always amazed at the amount of migratory waterfowl that seem to increase in abundance every year across California's open winter fields. Remembrance of those same fields back in the mid-1970s was illuminating. It was then, hit with a backlash from those early environmentalists, that the Department of Pesticide Regulation was formed, when those handling and recommending pesticides began a system of credentialing, and the concept of Integrated Pest Management (IMP) blossomed as a new culture evolved within crop protection, and the industry was transformed. The term "IPM" was never specific, but rather a large, encompassing umbrella of tactics to benefit both growers and the sustainability of our environment.

Plant Food Systems, Inc. is proud to be a contributor to California's sustainability and a leader in "IPM". Our principle product, K-PHITE 7LP, registered as both a fungicide and bactericide against a wide spectrum of pathogens, gives growers a safe and effective choice on a broad variety of crops. Founder Carl J. Fabry, a notable chemical engineer and agronomist, patented a process to stabilize potassium phosphite as a linear polymer, thus increasing its efficacies while maintaining its safety as a biopesticide. This unique patented molecule, along with other innovations registered to Mr. Fabry, places Plant Food Systems in the center of true "IPM". While many European formulators continue to introduce single dimension pesticides into our industry, Plant Food Systems advocates using a multi-pathogen approach to protect plant health, controlling numerous fungi and bacteria simultaneously while significantly reducing the usage of pesticides and enabling a healthier and more vibrant environment.

Tree nuts being the largest of crop groupings in California, both growers and industry specialists planning their pest control programs should seriously consider implementing "IPM" programs that significantly reduce pesticide volumes. There is no reason to use separate materials for control of ***Phytophthora***, ***Botryosphaeria***, and ***Alternaria*** when one product can provide excellent management of all three.

In My Opinion… why would you?

Pseudomonas syringae, known as Bacterial blast in its primary infection stage and Bacterial canker in its later, more damaging stage are an inconsistent pathogenic infection in almonds that often correlate to excessive wet conditions, earlier frost conditions, as well as nitrogen imbalances. There is minimal data on control of ***Pseudomonas*** because of its inconsistency to sporulate, but controlled University greenhouse trials indicate K-PHITE 7LP to be one of your best choices. Apply early on young trees at pink bud for Bacterial blast, then follow up at 1" leaf stage for both Bacterial canker and Bacterial spot (***Xanthomonas, campestris***). Copper hydroxide can be added to K-PHITE 7LP according to label for more numerous modes of action (avoid copper injury, maintain spray tank pH above 6.2).

Mark Brady, Western Marketing Manager, Plant Food Systems, Inc.
(559) 731-1267 mbrady@plantfoodsystems.com

The California Fresh Fruit Perspective

By Ian LeMay, President

The California Fresh Fruit Association (CFFA) is a voluntary trade association representing the growers, packers, and shippers of thirteen permanent fresh fruit commodities (Peaches, Plums, Nectarines, Apricots, Table Grapes, Apples, Pears, Persimmons, Pomegranates, Blueberries, Cherries, Figs and Kiwi). CFFA serves as the public policy liaison between its members and legislative and regulatory authorities at the federal and state level.

For the California fresh fruit industry, 2023 is off to a fast, busy start. Prior to addressing the various ongoing public policy battles associated with the pest management field, we felt it was important to spend some time discussing other issues confronting California agriculture.

First, on the labor front, coming at the end of the 2022 term in Sacramento, the California Legislature passed, and Governor Newsom enacted, AB 2183 (Stone), a new law that upends California's landmark Agricultural Labor Relations Act. Before January 1, unions that wanted to organize agricultural employees could only be certified by in-person, secret ballot elections to ensure that employees would be free from intimidation or coercion. Now, the secret ballot process has been subverted by alternatives called labor peace elections and non-labor peace elections, which is more commonly referred to as "card check." Under the former, employers forego their First Amendment and property rights to union organizing activity; under the latter, organizers simply need to obtain majority support from employees, which can be done publicly and through intimidation. Employers should encourage their crews and employees to be vigilant and report any suspicious activity by union activists.

AB 2183 also enacted new financial penalties of up to $25,000 for labor violations and appellant bond requirements that are dramatically burdensome on California employers. While changes to unionization elections could occur with subsequent legislation later this year under a "promise" between Governor Newsom and labor interests, these financial requirements are not expected to be reversed or repealed.

Employers also have to contend with the usual changes to standard labor laws in California that growers in most states across the county do not have to deal with. Minimum wage went up to $15.50 per hour, including for small employers, who are facing the continued tightening of overtime requirements. Of course, employers with 26 or more employees have been restricted to eight hours per workday and 40 hours per week since 2022. Further, while the status of COVID-19 has largely receded from acute pandemic response to endemic, CalOSHA has adopted a semi-permanent standard that remains in effect through 2025.

One glimmer of hope this winter has been the prolific back-to-back storms that began in December 2022 that have delivered an abundant amount of precipitation across our state, particularly in the form of snowfall in the high Sierras. While some regions did experience torrential rainfall and flooding, our reservoirs are slowly beginning to refill. Since the major reservoirs in the headwaters of the federal and state water projects are still below their average levels for this time of the year, farmers are looking at early allocations of 35% on their contracts. However, continued precipitation and cool temperatures should preserve the snowpack much further into spring than in recent years. Growers will also be able to benefit from a recent executive order issued by Governor Newsom that provides water projects operational flexibility to store more water this year.

Rounding out the top issues that California agriculture faces, there is an evolving, and largely uninformed, perception by the media and public that our current pest management practices are not sustainable. One need not look any further than the various efforts since the Department of Pesticide Regulation (DPR) eliminated chlorpyrifos in 2019 to move away from integrated pest management (IPM) towards "sustainable" pest management. Outside activists would like to see a complete overhaul of IPM and the decades of thorough and proven scientific research and testing. These same interests would like to see California eliminate all use of major pesticides by 2050.

In January, DPR released its Accelerating Sustainable Pest Management: A Roadmap for California. While there are elements of the document that are troubling for our industry, agriculture won a major acknowledgement: sustainable pest management must build on the concept of IPM. Additional concessions by activists are that any future pest management regime that California pursues must place a priority on pest prevention, eradication, and treatment. In addition, DPR must improve its registration and reevaluation process - sustainable pest management will not be possible if it is not economically feasible for farmers. These hard-fought battles would not have been possible without the continued vigilance and engagement by your agricultural advocates in public forums, stakeholder work groups, and conversations with activists and regulators.

Like the past few years, 2023 is bound to present numerous obstacles to California agriculture. However, with your involvement in your communities and associations, we can overcome these challenges and hopefully turn them into opportunities for continued growth for our industry. ■

Controlled Environment Agriculture Presents Unique Challenges to Effective IPM

Dr. Jeremy Wagnitz, Greenhouse, Nursery & Consumer Technical Manager, Certis Biologicals

Finding success protecting your crops through integrated pest management (IPM) practices is an arduous task. But, for growers in controlled agriculture environments (CEA), effective IPM can take on a new level of complication, requiring diligence across many fronts to find control.

Traditionally, functional IPM follows a four-tiered approach, including:

1. Setting a threshold for acceptable pest levels
2. Scouting
3. Preventative control measures
4. Deploying control measures to prevent infestations

For CEA and greenhouse growers, the combined factors of crop value and crop size essentially limits an acceptable threshold of threat from pests. So, these growers must prevent damage and crop loss using only three of the established IPM tiers.

Balancing the myriad of factors that can affect crop health within greenhouses requires complex control using cultural practices, beneficial insects, mechanical/physical measures and pesticides.

Best practices in all of these areas are key to optimizing plant health to produce high-yielding, quality crops. Healthy and unstressed plants discourage insects, mites and disease, whereas weak and stressed plants continually open the door for disease and pests, causing conditions that lead to reduced plant vigor and yield.

Use of best practices can depend on many factors, including:

- Crop; cultivar/strain
- System set-up
- Stage of growth
- Growing media
- Container size
- Light intensity, temperature, and environment

Cultivar, Variety or Strain Selection

In all crops, different varieties exist with specific characteristics relating to yield, growth habit, appearance and pest resistance or tolerance. Some varieties have been bred to resist diseases or insects, while others have characteristics that make them more susceptible to diseases or insects.

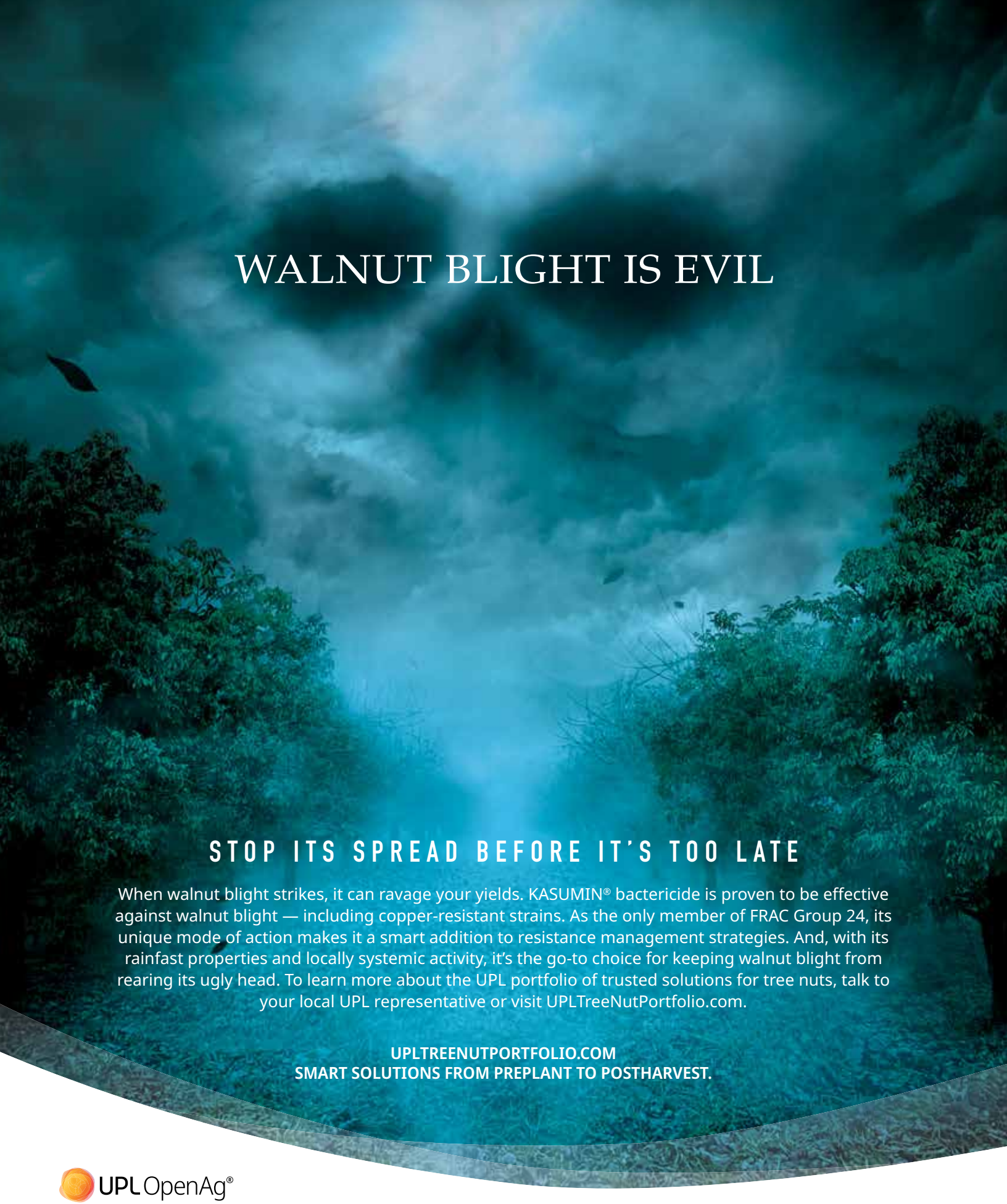
Planning a CEA crop cycle should include selecting the right plant varieties that will perform well in a specific facility and market. Selecting plants with resistance to pests will help reduce the overall pest pressure in the facility.

System Set-Up

Five primary factors affect plant growth—light, air, water, temperature, and nutrients—but in CEA, other factors come into play, such as CO2 enrichment, humidity and air circulation/ ventilation.

When setting up a CEA environment, growers must consider each of these factors equally and diligently.

Lighting can cause significant variability in heat and humidity in closed environments. It is critical to consider distance,



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intensity, color-spectrum and frequency for all lighting in CEA. All of these factors can directly impact yield.

Temperature in CEA is paramount as it directly affects nutrient and hydration needs. Growers must know the ideal temperature ranges for each of their crops, cultivars, varieties or strains to create a successful outcome.

Air movement and humidity are two of the most critical factors in reducing disease potential in CEA. Every situation varies, but having a blueprint of ventilation, fans, and air circulation system capability is critical. Knowing how air flows and circulates in the facility will help to reduce potential trouble pockets or pest hot spots.

Stage of Growth

As plants grow, diligence is required to maintain plant health.

Knowing how much water is required to keep plants healthy is not an exact science, so it's advised to use substrate moisture meters or sensors to help guide the process of monitoring moisture conditions.

Humidity is one of the most critical factors in providing successful control of disease in CEA. Humidity requirements and tolerance differ greatly depending on growth phase, but generally it is best to maintain between 40-80 percent relative humidity. Early in the growth cycle, plants may require higher humidity levels because both plant mass and respiration is low, but mid-to-later growth stages require reduced humidity levels.

Properly designed systems should allow the grower to manage humidity levels so variance can be achieved at differing cycles.

In addition to managing humidity throughout the growth cycle, management of plant nutrition is key. The foundation of a successful nutrition program in CEA is paramount to maximizing yield, boosting inventory turn and optimizing plant health. Soil/growing media and tissue samples can be important guides to which nutrients should be used at what rates.

Since nutrients are available to the plant at different pH levels for both hydroponic and soil, a grower can use electrical conductivity (EC) and total dissolved solids (TDS) readings to optimize their nutrient solution for the specific growth stage.

Pest/Disease Control

Unfortunately for CEA growers, all the former factors can be effectively in place and still yield loss can occur from pests and/or disease. Extreme diligence must be practiced through cultural and agronomic practices to prevent this.

These practices must begin outside the facility, with proper setup and management. It is recommended to keep weeds, shrubs or other vegetation at a minimum distance of 20' from the facility. Vegetation can attract pests that can enter the facility through ventilation, cracks or via workers. Utilizing a barrier of gravel treated with herbicides can eliminate habitats for insects and disease. Similarly, locating compost and other organic debris at least 50' from a CEA structure is advised.

Tightly securing a CEA can prevent entry from insects and help maintain interior conditions. Use of screens on vents, high-density mesh screening, caulk and sealing gaps are all critical to securing facilities from outside pests. Once those practices are in place, ensure that workers or management are inspecting potential problem areas weekly to determine any failures so they don't become pest entry points.

Inside the CEA facility, cleaning and sterilization are very important to maintaining sanitation. Tools and even workers' boots must be considered a vector for pests and disease to spread.

Proper interior sanitation measures within CEA facilities can include:

- Sanitization of scissors/pruners using at minimum 70 percent isopropyl alcohol or other sanitizing agent between each cut
- Debris removal, scrubbing, soaking and sterilization of emitters, containers, benches, shelving, etc. with hydrogen peroxide
- If planting from cuttings, be sure to thoroughly inspect and eliminate pests prior to planting. Also, ensure the mother plant that the cutting came from is not infested.
- Restrict the movement of people and supplies between infested and pest free areas
- Use of footbath mats at entry points and hand washing prior to entry

During times of severe outbreaks of pests or disease, a crop-free period may be necessary to break the pest life cycle by eliminating the host plant. This time also allows for thorough cleaning and disinfection of the facility.

To avoid severe outbreaks, careful and diligent scouting is required in CEA. It is also the essential first step of an effective and sustainable IPM program for an operation as early intervention of problems is critical for success.

Daily scouting practices should occur that systematically

gather information, identify issues, and document them.

Identifying issues early allows growers to deploy control measures, which can prevent spread and limit plant or yield loss.

IPM is critical to the success of a CEA operation. To ensure that success, growers, and workers must be diligent in examination of both the CEA structure, its personnel and the plants themselves.

Fortunately, growers have a tremendous number of pest management tools available like biopesticides or conventional pesticides to help them manage pests and disease. However, none provide as much control as preventing the issue from the onset. ■

ESSENTIAL MONITORING TOOLS INCLUDE:

- IPM Scouting Form (Inspector, Date, Time, House or Location, Findings)
  - Form should include a map of house(s) crops and conditions: ventilation, lighting, watering, appearance and notes for all major pests and conditions.
  - Forms turned in each day: reviewed and catalogued (database or file)
  - Thresholds/ Pest Counts/ Recommended Actions
- Trained Personnel
- Hand lens of at least 10x (20x is best)
- Yellow sticky cards/stakes/pins
- Flagging tape
- Clipboard
- Waterproof marker

OTHER MONITORING TOOLS:

- Soil Thermometer and sensors
- Potato slices placed in catch containers with growing media (no plants)
- Fungus gnat monitor

Is curly top disease (CTD) re-emerging in California?

Amber Vinchesi-Vahl, Ph.D., University of California Cooperative Extension Vegetable Crops Advisor and UC IPM Affiliated Advisor, Colusa, Sutter and Yuba counties

Robert Gilbertson, Ph.D., Distinguished Professor of Plant Pathology, Dept. of Plant Pathology, University of California, Davis

Highly unusual outbreaks of curly top disease in processing tomatoes in 2021 and 2022 in northern counties were associated with a rare strain of beet curly top virus (BCTV-SpCT).

In 2021, we had an outbreak of curly top disease (CTD) caused by beet curly top virus (BCTV), vectored by the beet leafhopper, in processing tomato fields in the Sacramento Valley. Here, curly top disease has rarely been observed in the past and is not economically important for processing tomatoes or for cucurbit seed production.

Beet curly top virus and the beet leafhopper, *Circulifer tenellus*

Adult beet leafhoppers are small, only about 0.12 inch (3–4 mm), usually pale green or tan, and have dark markings on their upper surface of their wedge-shaped body (Fig. 1). Beet leafhoppers are considered serious pests of tomato because they vector beet curly top virus. Both the virus and the beet leafhopper have a wide host range, including weeds such as redstem filaree, nettleleaf goosefoot, Russian thistle, Canada thistle, buckhorn plantain, London rocket, and perennial pepperweed, in which the virus typically induces a symptomless infection. Beet leafhoppers spend the winter in the Western foothills bordering the Central Valley and migrate into the Valley in the spring, which is why spring plantings are the most susceptible to infection from BCTV. For CTD to develop, there must be high beet leafhopper populations carrying high levels of BCTV and, thus, it is possible to predict when there will be bad curly top years.

Beet leafhopper is the only vector of BCTV, as other insects cannot transmit the virus. Once the virus is acquired by a leafhopper, it carries the virus for life. Importantly, the virus does not replicate in the beet leafhopper, and is not passed to progeny via eggs (transovarially), so the nymphs must acquire BCTV by feeding on the weed reservoir hosts in the foothills. BCTV is a geminivirus (single-stranded DNA genome inside twinned icosahedral virus particles, hence the name) and is the type species in the genus *Curtovirus*. BCTV

FIG. 1. Adult beet leafhopper, *Circulifer tenellus.* Credit: Lorry Dunning

FIG. 2. Collapsed tomato plant infected with beet curly top virus (BCTV). Credit: Robert Gilbertson, UC Davis

is limited to the phloem (food conducting) cells of infected plants and is not transmitted mechanically (sap transmission) or spread by seed, touch or machinery. It can take up to 2 weeks to see the symptoms of CTD in the crop after the virus has been transmitted (Fig. 2).

Following acquisition of BCTV from weed reservoirs, beet leafhoppers migrate to the valleys as Foothill vegetation dry down. Migrating beet leafhoppers are attracted to patches of brown next to green, so newly transplanted tomatoes or newly emerged cucurbit seedlings draw their eye. They then taste plants looking for a preferred host and transmit the virus in the process. Beet leafhoppers do not like tomato or cucurbits and do not reproduce on either crop, but still transmit the virus before they move out of the field looking for plants in the sugarbeet family, their preferred hosts. Due to beet leafhopper behavior, it is unlikely you will find beet leafhoppers in your tomato field and there will be no continuous tomato-to-tomato spread of BCTV within the field (monocyclic disease). Thus, once the beet leafhopper flights are finished, the infection you see is what you will end up with, with plants infected early often dying. Often, there will be a mix of different aged plants with symptoms reflecting different times of infection from multiple leafhopper flights. These differences are most noticeable in later planted fields or fields planted near fallow or weedy areas.

Tomato plants infected with BCTV are stunted and develop a dull green/yellow coloring, leaves show strong curling, crumpling and swollen purple veins, and small red, prematurely ripened fruit (Fig. 3). Fields with prevalent virus (5–15%) were typically located near the foothills in Colusa and Yolo counties in 2021. Plants with these symptoms were also detected in the Sutter Basin area, though incidences were lower. Symptoms of CTD in cucurbits are different than tomatoes and include stronger yellowing, distorted growth, leaves curled upward with prominent vein swelling and even proliferation of shoots at the crown (Fig. 4). Curly top is usually rare in cucurbits, but we've seen economic losses to cucurbit seed producers in Colusa County in 2021 and 2022 from BCTV infection and CTD shortly after seedlings emerged.

2021 BCTV outbreak

This unusual CTD outbreak in 2021 was associated with hot dry winds in March/April that caused a dry down of weeds in the foothills and may have resulted in atypical timing or patterns of beet leafhopper migration from an unknown location(s). The leafhoppers migrated in April 2021, when most of the tomatoes had been transplanted in the Sacramento Valley, and younger plants are more susceptible to severe damage from BCTV infection. Not only was this

outbreak unusual, it was associated with a very unusual strain of BCTV (the spinach curly top strain, BCTV-SpCT), which has been previously found to be important in CTD of processing tomatoes in California. It is also worth noting that BCTV-SpCT was detected in early samples (May–June), whereas later samples (July–August) were infected with the BCTV-CO, the predominant strain associated with CTD in California. This further indicated beet leafhoppers were bringing in BCTV-SpCT from somewhere. Furthermore, 2021 samples of CTD of processing tomatoes from Fresno and Kern counties were mostly infected with BCTV-CO, indicating BCTV-SpCT was coming from a location in the northern counties. The same strain was also prominent in early season CTD in Colusa, Sutter, and Yolo in 2022. In 2022, the incidence of the disease was substantially lower (<1–3%), but curly top was observed in more fields and in association with some unusual symptoms, including a bright yellow phenotype (Fig. 5). The difference in impact may be due to beet leafhopper migrations occurring in May instead of April.

Dr. Robert Gilbertson's lab at the University of California, Davis was able to confirm BCTV infections in the Sacramento Valley and even identify the strains of BCTV because of research supported by the California Tomato Research Institute (CTRI) and California Department of Food and Agriculture (CDFA). The identified BCTV strain (BCTV-SpCT) is very different from what is found in Fresno and Kern counties, where beet curly top virus is historically most severe and where BCTV-CO and other strains are more important. According to Dr. Gilbertson, BCTV-SpCT has been previously identified in California, but only in a few samples from San Joaquin County in 2014. Therefore, the detection of this strain from the northern region is likely a localized issue, and not because leafhoppers are migrating north from Fresno.

So, where are the leafhoppers coming from? Most of the affected fields were closer to the western foothills, which is likely where the leafhoppers came from, since females spend the winter in the foothills. Dr. Gilbertson speculates that the unusual weather in the spring of 2021 (hot temperatures and strong winds) may have impacted leafhopper migration resulting in this emergence of curly top diseases in 2021 and the continued prevalence in 2022 in northern counties.

He also suggested that since ideal conditions are needed for a curly top outbreak, especially in northern areas, it is likely that we will not see the same damage year-to-year. For example, with the 2013 outbreaks in Fresno/Kern, growers were worried there would be a repeat in 2014, but there was hardly any curly top in 2014. So, having it one year does not mean you will have it the next year. Although, we did not

FIG. 3. Beet curly top virus on processing tomato, purpling leaves curling upward, small fruit ripening prematurely, Sutter County 2022. Credit: Amber Vinchesi-Vahl, UCCE

FIG. 4. Close-up of squash infected with beet curly top virus (BCTV). Credit: R. Gilbertson

see much economic damage in 2022, exceptions were some fields closer to the foothills that had sparse plant populations. Because pressure from BCTV each year is dependent on the number of beet leafhoppers moving into the Valley, and even more importantly on the amount of virus (titer) the leafhoppers are carrying, you could have many leafhoppers migrating through your vegetable fields, but if they are not carrying the virus, then there is little risk of BCTV infection. You could also have low numbers of beet leafhopper carrying high levels of BCTV, and infection would also be low. Thus, this information is critical to predicting bad curly top years.

What to do?

There is currently no genetic resistance to BCTV in commercial tomato or cucurbit cultivars. Dense stands of tomatoes may discourage leafhopper visitation, and wider plant spacing encourages leafhopper visitation in areas with migrations. This is due to the contrast of green plants and brown soil that the leafhoppers hone in on when migrating into the Valley. It is also common to see an edge effect of the virus, since the field margins consist of contrasting green plants next to bare soil, attracting leafhoppers. The California Department of Food and Agriculture's (CDFA) Curly Top Control Board runs a program designed to control the beet leafhopper by spraying foothill areas where leafhoppers are

FIG. 5. Yellowing phenotype of curly top disease (2022) in tomato field near foothills. Credit: R. Gilbertson

overwintering, but this program is limited to the San Joaquin Valley, because historically BCTV was not an issue in the Sacramento Valley until recent years.

Once you observe BCTV symptoms in your plants, nothing can be done for that year other than maintaining good plant growing conditions, confirm the problem and strain(s) involved, and analyze for any patterns (like proximity to foothills areas). Again, because there is no tomato-to-tomato transmission, there will be no more infections within the field, except for older plants being mildly infected from additional later flights of leafhoppers in the late season (Fig. 6). To some extent, uninfected plants may compensate for nearby plants that die from CTD.

If your field was heavily infected with BCTV or is in a hot-spot location (i.e., near the foothills or late or sparsely planted), Dr. Gilbertson suggests treating transplants in the greenhouse with the systemic insecticide cyantraniliprole and monitoring for beet leafhoppers with yellow sticky cards in selected fields with curly top issues and testing these for BCTV. Insecticides alone are not usually effective at controlling beet leafhoppers or reducing BCTV in crop fields during the season due to the biology of the pest, but managing surrounding fallow fields and weedy areas is critical to avoid generating later season migrations that can lead to unusual outbreaks, especially in late- and sparsely-planted fields. ■

FIG. 6. Two stages of beet curly top virus (BCTV) infection in processing tomatoes. Credit: R. Gilbertson

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ADVERTORIAL

Extra Moisture Likely Ensures a Heavy Slug and Snail Presence this Season

Slugs and snails can lower performance of any crop. They're among the most destructive agricultural pests. In fact, slugs alone can wipe out a slow-growing crop in just a few days, according to The Ohio State University.

Both pests thrive in damp and wet conditions, common during spring. They're most active at night and on cloudy and foggy days. They hide when it's sunny and warm, so often the only evidence of their presence is missing or damaged plants and slimy, silver trails.

The heavy winter rains helped raise California water reservoir levels and will add to aquifers when snowpack melts. While welcome, they and predicted spring rains can create conditions that help slugs and snails to thrive, especially in the northern part of the state.

Keeping trunk areas as grass- and weed-free as possible and not letting limbs and leaves touch the ground help keep slugs and snails away from citrus trees as shown on this snail bait trial site. A sound baiting strategy will help manage infestations should they occur.

It takes a combination of practices to manage these pests. Remove as many places as possible where they can hide during the day. Debris, weedy areas around tree trunks and dense ground cover are ideal for them.

Green cover crops can harbor slugs and snails, so baiting to reduce populations before the cover crops are disked, mowed or dried down is sound management. Otherwise, slugs and snails can move out of disturbed cover crops and infest the crop.

Early warm spells, especially right after rainfalls, are prime baiting weather. These periods give the pests time to come out of hibernation, get active and start feeding on crops. Supplementing ground and crop management practices with powerful baits approved for conventional and organic production is an efficient way to achieve as much control as possible.

Two baits are especially effective at controlling all species of slugs and snails.

Ferroxx® AQ Slug and Snail Bait from Neudorff North America is an iron-based, *waterproof* bait, resistant enough that it is labeled for aquatic application. This characteristic also helps the bait last a long time on the ground. With iron phosphate as the active ingredient, Ferroxx AQ can be used around pets and wildlife. Because it is MRL-exempt, Ferroxx AQ may be applied to all food and feed crops, unlike competing baits. Snails and slugs are lured to the bait. Once ingested, even small amounts will cause them to stop feeding and die. The product has one label for all use sites and its micropellets allow for the maximum number of baiting points. Ferroxx AQ is labeled for broadcast, aerial, and direct aquatic application.

Sluggo Maxx® Slug and Snail Bait, also from Neudorff, is the most powerful slug and snail bait for organic agriculture. It is OMRI Listed®, MRL-exempt and offers fast-acting protection up to the day of harvest. It simplifies compliance because it can be applied to a wide variety of crops and has no annual maximum or re-application interval. Sluggo Maxx can be applied via broadcast, over-the-top, aerial and aquatic methods. It can be used around pets, wildlife and domestic animals.

FERROXX SLUG AND SNAIL BAIT AQ

SLUGGO MAXX BRAND OMRI LISTED For Organic Use

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Always monitor crops before and after baiting. More than one application of product may be needed, especially in heavily infested areas with slugs of varying ages. Rapid disappearance of bait indicates pest activity, population and bait acceptance. As with any pest control product, always read and follow label directions. For more information, please visit **www.neudorffpro.com**.

Mid-Season Micros

By Abe Isaak, AgroLiquid Agronomist

Crop nutrition management can be challenging. Each cropping system is a unique environment, and different soil types hold varying amounts of nutrients and release them differently, which can make it tricky to manage crop nutrition effectively.

With bloom behind us, let's focus on some of the nutrients that are critical to fruit production, yet needed in smaller amounts by the plant. Micronutrients, just like all nutrients, can easily be tied up in the soil by other positively and negatively charged ions. Knowing which micronutrients are tied up is key when making a recommendation in-season. Many crops respond well to mid-season applications of micronutrients, but keep in mind that the raw material source as well as the chelate used to transport nutrients to the plant is vital to the success of an application.

Zinc (Zn)

Zinc is generally regarded as the most commonly deficient micronutrient in California soils. Its deficiencies show up in plants as reduced leaf size, interveinal chlorosis, and reduced bud formation. Other factors that lead to Zinc deficiency are having basic or alkaline soils, low organic matter (OM) and high phosphorus in the soil. Zn is important in the production of indole acetic acid (IAA), a naturally occurring plant hormone. Zinc also plays a key role in having an even or uniform maturity at harvest time. Some common crops where a supplemental Zn application may have to be made during the season are: tree nuts, tomatoes, corn, cotton, grapes and citrus. A foliar application may be the best way to apply Zinc for an in-season application.

Manganese (Mn)

Manganese is also a commonly deficient micronutrient in California. Mn deficiencies show up as interveinal chlorosis on leaves. Because manganese is not very mobile in the plant, deficiencies will show up in the youngest leaves first. Mn plays a vital role, along with iron, in chlorophyll formation in plants. Deficiencies of manganese are worsened in sandy soils with a pH above 6. Mn deficient symptoms will also show up in cool and wet weather conditions for an extended period of time. Foliar applications of Mn and Zn are common in tree nuts and citrus throughout California.

Iron (Fe)

Iron, along with manganese, is the key nutrient needed for chlorophyll formation in plants. Ironically, an iron deficiency can show up as a result of applying too much manganese. Typical iron deficiencies show up as interveinal chlorosis on leaves, twig dieback, and can even cause plant death in severe circumstances. Deficiencies usually appear in high pH soils, calcareous soils, soils with excessive phosphorus, and soils with poor drainage. Corn, alfalfa, and tree nuts have all shown iron deficiencies in California.

Boron (B)

Cell division in plants is reliant on adequate amounts of boron, as well as the secondary nutrient calcium. Having proper levels of boron in plants during pollination and fruit development is crucial for each plant to reach its yield potential. Some symptoms of boron deficiency include: reduced flowering, and thickened and wilted leaves. Boron

availability decreases as soils start to dry out from the winter and spring, therefore boron deficiencies will tend to show up more in drought conditions. Boron toxicity has been known to show up in rare cases in California, such as in the west side of San Joaquin Valley. If toxicity symptoms are present, get your irrigation water tested as that is usually the culprit to boron toxicity.

Copper (Cu)

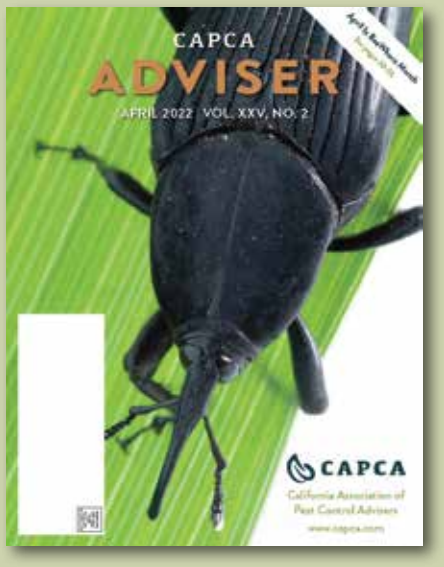
Plants are rarely deficient in copper because such a low amount is needed for most crops. Copper is used for photosynthesis in the plant as well as seed development. Stunted growth along with leaf margin chlorosis are common symptoms of copper deficiency. A copper deficiency can be made worse by applying high rates of nitrogen to the plant. If copper is not present in the soil, the plant's yield potential can be greatly reduced due to the plant aborting flowers. Cu is the most immobile micronutrient; therefore, a foliar application is the best way to apply copper to the plant.

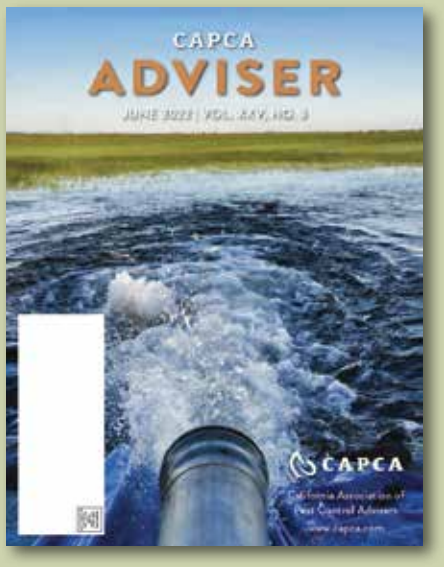
Molybdenum (Mo)

Molybdenum is a micronutrient that plays a large role in symbiotic fixation of nitrogen by legume crops. Mo also aids in iron and phosphorus metabolism in the plant. Symptom deficiencies show up as poor growth and reduced nodulation in legume crops. High levels of molybdenum are toxic to grazing animals such as livestock.

Making a Recommendation

When making a sound nutrient recommendation be sure to use all available tools at your disposal. Soil samples, leaf tissue samples, irrigation water tests, crop removal nutrient calculators and past yield data are all important factors in making a smart recommendation. Always keep in mind that too much of a nutrient can be as bad – or worse – than too little. Also, be sure to use the 4R method when planning your recommendations: Right source, Right rate, Right time, and Right place. If you have questions or concerns about a crop nutrition plan, remember there are experts in this field available for consultation. Using all of these available resources will help guide sound recommendations, and a sustainable future for our industry.





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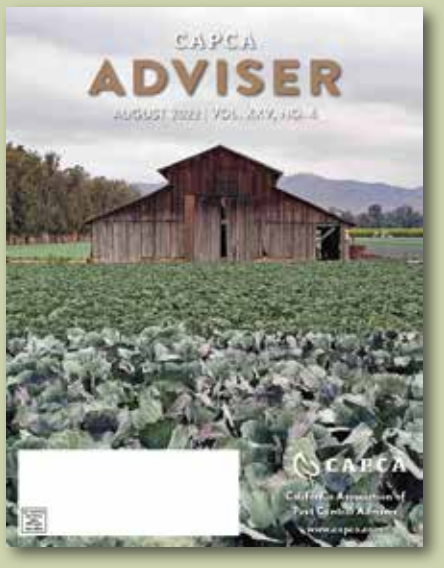

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Please turn to page 30 for a list of 2023 Sustaining Membership levels and benefits or view online at www.capca.com/sustaining-membership.

Advertorial

University Research Confirms CheckMate® CRS Mating Disruption Reduces Pest Damage

Keeping CRS populations under control is imperative for growers looking to produce high-quality, cosmetically appealing fruit. CRS affects the marketability of citrus fruit and can be difficult to manage with conventional pesticides alone. Growers and PCAs can minimize CRS damage by using CheckMate® CRS.

Leading University experts recently published results from research in commercial citrus orchards in central California (Grafton-Cardwell et al. 2021). The researchers demonstrated that CheckMate® CRS can be extremely effective at reducing California Red Scale (CRS) pest populations and damage.

The research concluded with several key findings:

- *Mating disruption using CheckMate® CRS was effective in reducing California Red Scale populations in every generation and can potentially reduce or even eliminate pesticide applications altogether, depending on pest density.*

- *Significant trap suppression, population and damage reductions were observed in blocks treated with CheckMate® CRS dispensers.*

CheckMate® CRS is Suterra's season-long mating disruption dispenser solution for control of California red scale (CRS). This product utilizes Suterra's proprietary technology for continuous release throughout the season. Easy to deploy, the dispensers penetrate inside the canopy.

Grafton-Cardwell, E. E., J. T. Leonard, M.P. Daugherty, and D. H. Headrick. 2021. Mating Disruption of the California Red Scale, Aonidiella aurantii (Hemiptera: Diaspididae) in Central California Citrus. Journal of Economic Entomology 114(6): 2421-2429. https://doi.org/10.1093/jee/toab188

Case Study: Wonderful Citrus

Wonderful Citrus is famous for delivering nutritious, premium fresh fruit including Halo mandarins, Wonderful seedless lemons, and Red Scarlett grapefruit. The Halo mandarin brand is a favorite of parents and children for being a delicious, easy snack. The visual appeal of the fruit must be colorful and immaculate, which makes the cosmetic damage caused by California red scale (CRS) a massive economic problem.

"After the product is up, it works year-long so **I can sleep at night knowing something is out there working."**

Brandon Koch
PCA | Wonderful citrus

"The pests for us are cosmetic for you as the consumer. You want a clean piece of fruit. You want something that looks good because we all eat with our eyes first and then we taste," explains Brandon Koch, PCA at Wonderful Citrus.

"We've not had to go back and do re-applications with other pesticides, and our chemical usage and our chemical procurement has dropped exponentially over the years... We started with probably 3,000 acres out of a certain region that we sprayed. We've gone down to roughly 4-600 acres now that we're spraying," says Brandon Koch. "I would recommend Suterra to anyone in California and around the world."

For more information about rates, how to deploy the dispensers, and monitoring approaches, visit our website at **www.suterra.com/crs**

OMRI LISTED
For Organic Use - OMRI.org

For help ordering products email customercare@suterra.com

Suterra®

NOTE: Some of the following job opportunities are abbreviated postings. To view the complete posting, please log into your membership access on our website at https://capca.com/my-account/

Tech Service Representative – CA/AZ

AgBiome

Description: This role will have accountability to the Director of Technical Service and will be responsible for supporting sales and marketing. This position will be responsible for all technical elements of supporting the AgBiome portfolio in the region, supporting the sales team, building awareness, and creating demand for AgBiome products by working closely with customers and centers of influence.

Duties, Qualifications & Requirements: This role must communicate relevant technical data on AgBiome products to customers and growers. Provide technical training on existing and new products. Identify and work with influential growers, including the establishment of product demonstration programs, use support, and complaint handling. Identify and work closely with key centers of influence (COIs), ensuring that AgBiome products are on relevant recommendation lists. Work closely with sales and marketing colleagues to identify opportunities, technical gaps in the commercial product line, and data needs.

Apply: Apply via the AgBiome careers page - https://recruitingbypaycor.com/career/JobIntroduction.action?clientId=8a7883c67036b68d01703b57fee70352&id=8a78879

Agricultural Sales Representative – California

AgBiome

Description: The Agricultural Sales representative is also responsible for creating, building, and strengthening relationships with customers, and potential customers, thereby driving repeat sales. Specifically, this position will involve a combination of sales of the existing portfolio and the development and launch of new proprietary products. This position is entirely field based and will require travel.

Duties, Qualifications & Responsibilities: Focus on creating demand and driving the adoption of new technologies via engagement with local channel customers, growers, and other centers of influence. Significant pull-through activities at retail locations within the designated geography. Bachelor's degree or equivalent experience preferred. Minimum of three (3) years of agriculture-related experience is required. PCA License Preferred. Knowledge of the agriculture value chain. Demonstrated experience operating within a sales culture of collaboration, accountability, and teamwork. Exceptional customer service orientation and follow-up.

Apply: Apply online via AgBiome careers page - https://recruitingbypaycor.com/career/JobIntroduction.action?clientId=8a7883c67036b68d01703b57fee70352&id=8a78

Customer Account Manager – Southern California

Ferticell

Description: 65% travel within assigned territory, vehicle provided; M-F, some weekend travel; Position is responsible for Ferticell product sales, distributor trials, & customer service. Understand & recommend Ferticell products to fit customer needs. Make sales calls & communicate with dealers. Responsible for market expansion by product or new distribution. Build budgets, territory goals, & customer base.

Duties, Qualification & Requirements: BS degree in Agronomy or related agricultural or biological science, CCA license, strong knowledge of organic, sustainable & conventional agricultural crop production, ability to work independently, self-starter, experience in agricultural fertility & nutrient requirements of crops, commitment to customer service, excellent interpersonal and communication skills, 2 years experience in sales, experience in product presentations, team-oriented, time management skills, computer literacy. Helpful Experience: PCA, existing regional customer base experience, regional crop knowledge.

Apply: Apply on AgCareers https://www.agcareers.com/ferticell/customer-account-manager-job-910668.cfm or send your resume to walt@ferticellusa.com.

Field Development Manager – Northeast

Vestaron Corporation

Description: Vestaron is currently recruiting a VP, Field Development to join our team, reporting to the Senior Vice President Commercial. The VP of Field Development will be responsible for leading the US field development team, coordinating the international strategy for field efficacy and marketing trials, and aiding in innovation with new pipeline active ingredients and bioavailability options.
Duties, Qualifications & Requirements: Minimum 10 years experience in agricultural research and development; Master's degree in agronomy or agricultural science, PhD is a plus; Exceptional relationship management skills and the ability to build and grow connections with people of all types and backgrounds.
Apply: Apply online at www.vestaron.com.

Director, Product Marketing

Vestaron Corporation

Description: You will be an integral part of the development and execution of marketing plans to exceed targets from brand awareness to product introductions. Must have deep agricultural industry experience and be able to grasp channel and grower trends and generate creative ideas as well as being equally versed in specialized marketing concepts to deliver effective marketing programs and insights.
Duties, Qualifications & Requirements: Bachelor's degree in agriculture or marketing; 15+ years of related experience in the agricultural market (insecticides preferred); Proven experience in progressive sales/marketing roles; Ability to work in a diverse fast paced environment and clearly communicate cross-functionally; Thorough understanding of marketing elements (including traditional and digital marketing such as SEO/social media etc.) and market research methods.
Apply: Apply online at www.vestaron.com.

Location Operations Manager – Woodland, CA

Wilbur Ellis

Description: The Location Operations Manager directly manages the work and interaction of support groups within the location. With a focus on safety, compliance, and customer service, this position oversees all daily functions within a specified location. This would include warehousing, production plants, dispatch, purchasing, administration, DOT operations, location employee development and safety programs.
Duties, Qualifications & Requirements: Oversee all aspects of facility operations and support; Promote safety culture while aligning with internal corporate social responsibility criteria; Provide daily direction to support group managers and employees; Provide support to other team members as required to attain location goals; Develop an annual operating budget and manage to plan; Set department goals and objectives that are aligned with the division's strategic plan; Update and maintain accurate job descriptions for facility roles; Recruit and hire new employees as required.
Apply: Apply online at: wilburellis.com/careers

Agricultural Sales Manager – Hughson, CA

Wilbur Ellis

Description: The Sales Manager provides leadership and direction to the field sales and management team within their defined geography. The Sales Manager offers guidance and support with product selection, pricing, and forecasting as well as assisting in the overall alignment of the business with current and future agronomic trends and practices.
Duties, Qualifications & Requirements: Key Skills and Abilities Include: Deep working knowledge of local agricultural crops and market practices; Provides clear direction and can motivate individuals and teams; Strong service orientation to Wilbur-Ellis customers; Excellent presentation skills; Proficient in working with MS Office Suite; Key Personal Attributes Include: Ability to develop teams and demonstrate leadership qualities; Ability to influence cross-functional teams and stakeholders without formal authority; Commitment to performance development with direct reports; Skilled at managing multiple projects.
Apply: Apply online at: wilburellis.com/careers ■

CAPCA CENTRAL VALLEY

CAPCA CENTRAL COAST

Central Coast Chapter

The Central Valley Chapter has started the year off with multiple engagement activities. We are sponsoring the Santa Maria Youth Trap League with a donation of $500, we donated $1,000 to Spray Safe for their February 15th event, and donated $500 to the local FFA chapter in Santa Maria. On March 16th, Central Valley will be holding a CE Meeting and Trap Shoot. Six teams are signed up for the Trap Shoot and we will be giving away prizes for best team.

Central Valley CAPCA Invites You!

CINCO DE MAYO

TACO DRIVE-THRU

$2.50/Taco

When: Friday, May 5, 2023 (Cindo de Mayo!)
11 AM to 1 PM

Where: Wilbur-Ellis, 13771 Prescott Rd., Manteca, CA 95336

How to Buy: Scan the QR code to purchase your tacos!

Questions: Rick Foell (209) 275-7762 or Darren Jones (209) 241-3786

Get Involved With Your Local CAPCA Chapter Today!

CAPCA Chapters are currently participating in a Chapter Ranking Program to build a little friendly competition and reflect value for all the volunteer lead activities happening at your local chapter. CAPCA Chapters are doing a lot in their community and for their profession.

We encourage all CAPCA PCA members interested in serving on their Chapter Board or participating in local Chapter events/ activities to contact their local leadership members: https://capca.com/chapters/

Get Involved Today!

TAKE CONTINUING EDUCATION WITH CONFIDENCE

The CE Hours Reported mark was created in an effort to ensure that CAPCA members are registering for continuing education that will be reported and appear on their official print out in a timely manner. Your hour CE hours and renewal are important to CAPCA; you will start to see this mark appear for meetings whose sponsors have committed to report your attendance within 7 business days of the meeting/online CE completion. We hope this allows you to register with the assurance that your Official Cert will include all your CE hours when you are ready to renew.

For questions, please contact the CAPCA office at support@capca.com.

Current Partners:

- Association of Applied IPM Ecologists
- Buttonwillow Warehouse
- California Farm Bureau Federation
- Fruit Growers Laboratory, Inc.
- Oro Agri
- UC IPM Webinars

COURSES

UC IPM - Diagnosis and Management of Almond Canker Diseases
March 22, 2023 | 3:00 - 4:00 PM
creynolds@ucanr.edu
1.0 Total DPR Hours (1.0 Other)

UC IPM - Insects in the Vineyard
April 19, 2023 | 3:00 - 4:00 PM
creynolds@ucanr.edu
1.0 Total DPR Hours (1.0 Other)

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