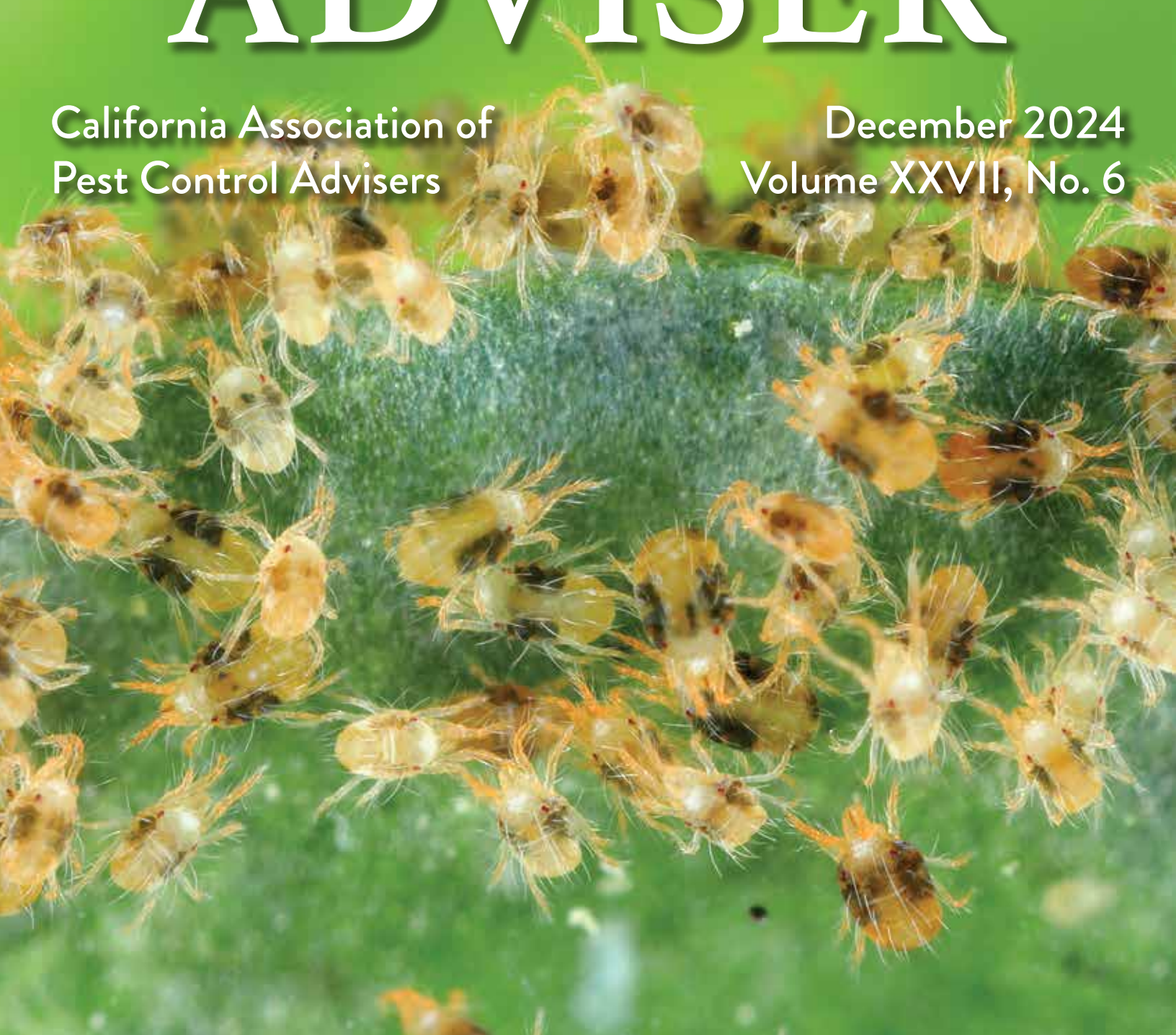


THE ADVISER

California Association of
Pest Control Advisers

December 2024
Volume XXVII, No. 6

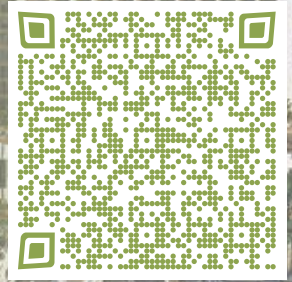


US Postage
PAID
Tucson, AZ
Permit No. 271



APRIL
22-23
2025

SAN DIEGO, CA



EXHIBITOR TABLE & SPONSORSHIPS

TITLE SPONSOR - \$8,000

- Complimentary Exhibitor Table.
- Banner Ad on CAPCA Event Page.
- Acknowledgement on CAPCA.com.
- On site Event Banner.
- Back Cover Ad in Summit Program.
- 2 Summit Registrations.

REGISTRATION SPONSOR - \$7,500

- Complimentary Exhibitor Table.
- Static ad on Attendee Registration Confirmation email.
- Branded Signage at Registration Desk.
- Acknowledgement on CAPCA.com.
- Branded Content on Summit Outreach and emails - Limited.
- 2 Summit Registrations.

EXHIBITOR RECEPTION SPONSOR - \$4,500

3 Sponsorships available.

- 2 minute opportunity to make remarks during the reception. Speaking opportunities are based on first-come, first-served, so we encourage you to sign up early to secure your place.
- Host a special giveaway for two free registrations to the 2025 Annual Conference.
- Branded Cocktail Napkins. Provided by CAPCA.
- Branded Table Tents.
- Branded Reception signage.

BOX LUNCH SPONSOR - \$4,000

3 Sponsorships available. Wednesday only.

- Table Tents in Event Foyer.
- Branded Event Signage.
- Branded Cocktail Napkins. Provided by CAPCA.

BREAKFAST SPONSOR - \$3,500

- 3 Sponsorships available. Wednesday only.
- Table Tents in Event Foyer.
- Branded Event Signage.
- Branded Cocktail Napkins. Provided by CAPCA.

EXHIBITOR TABLE: \$995

NAME BADGE SPONSOR - \$2,500

- Branded Name Badge Recognition

GENERAL SESSION SPONSOR - \$2,200

3 Sponsorships available. Tuesday PM, Wednesday AM, and Wednesday PM.

- Complimentary Exhibitor Table and 1 Registration.
- Branded speaker information half sheet. Back of program reserved for Sponsor.
- Branded Event Signage.
- :10s Digital Ad to be played at the beginning of the session.

COFFEE CUP SPONSOR - \$2,000

2 Sponsorships available. Tuesday or Wednesday.

- Branded Coffee Cups.

LABEL UPDATE HOUR SPONSOR - \$2,000

- 15 min Label Update.

LUNCHEON DRAWING SPONSOR - \$500

3 Sponsorship available. Wednesday Only.

- Opportunity to make brief remarks prior to drawing, during lunch. Speech must be < 2mins. Tickets to added to welcome bag. Winner chosen at random.

WATER STATION SPONSOR - \$500

5 Sponsorships available.

- Shared Branded Signage at Water Stations.

SUMMIT CARRY BAG - \$250

5 Sponsorships available.

- Branded items added to the CAPCA Branded Summit Carry Bag. Provided by sponsor.

LABEL UPDATE - \$500

4 available

10 minute speaking opportunity.

PRODUCT PROFILE - \$1,500

4 available.

15 min product update speaking opportunity.

Stay up to date and visit: capca.com/conference/spring-summit-south/

Contents



FEATURES

38

Updates on Composition and Impact of Pesticides on Predatory Mites in Walnuts

42

A PCA's Introduction to Auditable Integrated Pest Management Plans

48

Understanding the Corporate Transparency Act: What it Means for Farmers and PCAs

50

US EPA's Draft Insecticide Strategy Update: More Clarity on the Points-Based System

DEPARTMENTS

05 Editor's Notes

06 Leadership

08 Conference

22 Membership

34 From the Archives

54 Continuing Education

60 Chapter News

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.

PUBLISHING INFORMATION: CAPCA Adviser is published bi-monthly by the California Association of Pest Control Advisers (CAPCA), 555 University Ave., Ste. 260, Sacramento, California 95825. Web: www.capca.com, (916) 928-1625. POSTMASTER: send address change to CAPCA. A portion of CAPCA membership dues is used to provide subscription privileges to the Adviser magazine. Non-member subscriptions are \$30/year. Third class bulk postage paid at Tucson, AZ and at additional mailing offices. CAPCA has endeavored to include appropriate and accurate statements, but disclaims any and all warranties and/or responsibility for the statements or articles submitted to CAPCA Adviser that may have additionally been edited for style, content and space prior to publication. Views expressed are those of the authors and do not necessarily represent CAPCA policies, or positions or endorsements. Editorial content of this publication is educational and informational in nature. No part of this publication, including images, may be reproduced without prior written permission from the publisher. Contact CAPCA at (916) 928-1625 for reprint authorization.

Protect your crop and enhance your integrated pest management system with Novonesis Actinovate[®], a naturally occurring biological powerhouse with multiple modes of action.



From agriculture and greenhouse applications to residential landscape, garden and everything in between, the Novonesis Actinovate[®] family of biological fungicide/bactericide products provide a flexible, easy-to-use solution for suppressing or controlling a wide range of soil and foliar diseases across multiple crops.



Actinovate[®] is unique biological fungicide/bactericide with multiple modes of action. The active ingredient in Actinovate[®] is a natural occurring soil microbe that colonizes the root system and foliage of the plant and protects it from harmful bacteria and fungi. Plants treated with Actinovate[®] as a soil drench become hardier, more vigorous, and develop a robust and protected root system.



Easy to apply and environmentally friendly, Actinovate[®] is safe to beneficial insects, pollinators, other non-target organisms, as well as applicators when used as per label directions. And it's suitable to all growing environments, boosting plant health and growth in field, greenhouse, and high tunnel applications.

Features and benefits

- Now with a 2-year shelf life
- Beneficial bacteria with multiple modes of action
- Broad spectrum activity on both soil and foliar diseases
- Suitable for integrated pest management systems
- 0-day pre harvest interval (PHI)
- 4-hour restricted entry interval (REI)
- Actinovate[®] is OMRI-Listed
- No risk of developed resistance



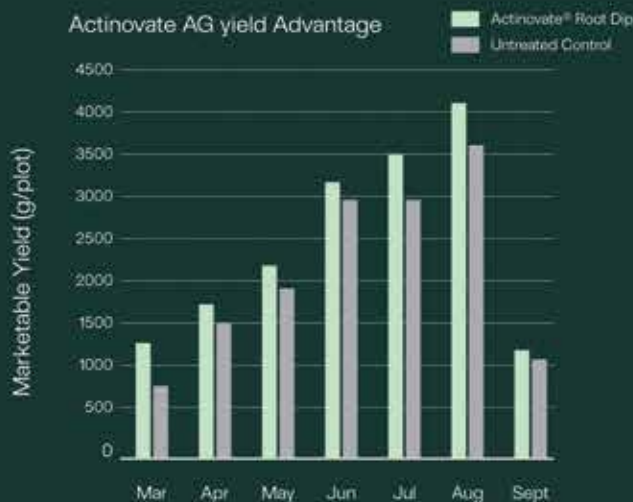
Boost your strawberry crop's health with Actinovate[®] AG

If you're a strawberry farmer, you're always looking for ways to cultivate healthier, more productive strawberry crops while ensuring a safer environment and a residue-free harvest. Embracing sustainable practices while elevating your strawberry cultivation to new heights is easier with Novonesis Actinovate[®] AG on your side.

Backed by extensive research and field trials, Actinovate[®] AG has demonstrated consistent, effective management in strawberry crops. It minimizes the need for multiple chemical applications and improves the efficacy of the spray program. Countless growers have experienced its benefits and witnessed improved yields and crop quality.



Season-Long Yield Benefits



The application of Actinovate[®] to the root zone at transplant increases early season yield and maintains that lead throughout the season, resulting in a higher total marketable yield and improved ROI for the grower.

Compatible with integrated pest management (IPM) programs, Actinovate[®] AG provides reliable management against common strawberry diseases, such as as powder mildew (*podosphaera aphanis*), Botrytis (*Botrytis cinerea*), and certain bacterial pathogens.

Invest in the health of your strawberry crop and join the countless growers who have reaped the rewards of a successful harvest season after season.

To learn more about Actinovate[®] AG, visit us online or contact a Novonesis expert today.

Editor's Notes

Ag Wins: CAPCA Celebrates Your Success in the 2024 Election

As CAPCA celebrated our 50th Anniversary of the Conference and Agri-Expo this year – we also celebrated a milestone of legislative engagement. CAPCA has long strived to tell our story to legislators and regulators, and 2024 was a year of big wins. In the aftermath of 2018's Governor's race, CAPCA started looking at ways to build our engagement differently. In 2020, we joined the Alliance of California's Farmers and Ranchers which provided us with a coalition of like-minded ag groups to collaborate with, along with political strategy to drive our decision making. When we joined the Alliance, we knew that 2024 was going to be a pivotal year in which one third of the legislative seats in California were going to be open to new candidates along with new possibilities to educate them on the professional role of the PCA as a trusted adviser to growers, greenspaces, rights of way, and beyond. Since 2022, we have set goals under the 'Ag Wins in 2024!' initiative to encourage grassroots engagement from our Chapters and to foster relationships with new candidates.

While this message is written before the election – we believe that CAPCA has won in 2024! At Conference this year, we launched an Advocacy Award to acknowledge policy makers, legislators or other stakeholders working around the Capitol that are championing agriculture and taking steps to protect and preserve the integrity of the PCA License. The inaugural award was presented to Assemblywoman Dr. Jasmeet Bains for her contributions to supporting valley agriculture, especially in her Kern County district. We additionally invited numerous candidates and elected officials to attend the Conference and Agri-Expo to learn from you, our Members. This opportunity was impactful for CAPCA and our relationship with these decision makers. While we can arrange tours and organize panel discussions, it was your direct interactions with candidates and officials—mingling at receptions, walking the Exhibit Hall, and participating in breakout sessions—that provided meaningful engagement. These conversations sparked their curiosity and deepened their understanding of the diverse, skilled teams required to bring food from soil to table. As regulatory pressures increase, your conversations encourage decision-makers to pause and consider the PCA's role before acting.

Thank you for your continued trust in CAPCA. CAPCA was established 50 years ago by PCAs looking for advocacy at the start of the regulatory road for the PCA license. 50 years later, we continue to be the only association representing your license and advocating for your professional future. CAPCA is not done building upon your successful engagement. We can't wait to see how this year's wins benefit you and your license in the years to come!



Ruthann Anderson

CAPCA CEO & EDITOR

CAPCA EDITORIAL STAFF

Ruthann Anderson, *Editor*

Patrick Dosier, *Innovation & Technology Director*

Ashley Hinson, *Content Curator*

Carrie Kihlthau, *Technical Project Mgmt Specialist*

Katrina Silver, *Office Manager*

Briana Love, *Office Assistant*

Meghan Carlsen, *Sales & Marketing Coordinator*

Ryan Dana, *Events Coordinator*

Printing: Sundance Press, Tucson, AZ

Graphic Design: Rosemary Norris-Southward



Reflecting on 2 Years of Challenges and Successes: CAPCA Leadership in 2023-2024

By Paul W. Crout, CAPCA Chairman

In my first article as Chairman in February of 2023, I discussed addressing and embracing change. Little did I know what the CAPCA Board and I were getting into at that time. We were aware of changes coming with new regulations around Continuing Education, CE Hours approval, and Licensing. Sustainable Pest Management was still part of a working group and not a “Roadmap.” We still tracked our CE hours with Scantrons and CECPM. Our engagement with the legislature was limited due to “COVID Hangover” and limited access to the Capitol. After two years experiencing and meeting these challenges head on, CAPCA is heading into 2025 stronger than ever. I want to highlight a few of the successes CAPCA has earned over the past two years as Staff and the Board tackled unforeseen issues coming up on an almost monthly basis.

1. Elevating Professional Standards Through Continuing Education and Training

A cornerstone of CAPCA’s mission is to ensure its members remain at the forefront of pest management expertise. Over the last two years, CAPCA has expanded its educational initiatives, offering robust online and in-person training programs. These programs not only prepare new Pest Control Advisers (PCAs) but also ensure that experienced professionals stay updated on the latest industry developments.

CAPCA’s Continuing Education (CE) programs have become more accessible, with a significant investment in virtual platforms. These efforts proved essential during the COVID-19 pandemic and have continued to benefit

members by allowing them to earn CE credits remotely. Additionally, CAPCA’s annual conferences have drawn significant participation post-COVID, showcasing innovative technologies, sustainable pest management practices, and valuable professional development opportunities.

2. Advocacy for Science-Based Policy

In an era of increasing regulatory complexity, CAPCA has emerged as a leading advocate for science-based pest control policies. Over the past two years, the organization has worked closely with legislators, the California Department of Pesticide Regulation (DPR), the California Department of Food and Agriculture (CDFA) and other stakeholders to shape policies that balance environmental concerns with agricultural productivity. CAPCA’s efforts have been instrumental in protecting growers’ access to essential tools while balancing innovation in support of safer, more effective alternatives.

Through regular communication with policymakers, CAPCA has ensured that the voice of PCAs and their clients is heard in Sacramento and beyond. CAPCA’s active participation in industry groups like the Alliance of Farmers and Ranchers and Californians for Smart Pesticide Policy, has allowed CAPCA to advocate for you, our members, to support our licenses and allow us to continue to do the great work we do for the pest management industry on a daily basis. This participation led to the unprecedented attendance of two California Assembly candidates (who won their elections) and a

California gubernatorial candidate at our conference in Anaheim this October. This gave CAPCA leadership the opportunity to share our story, highlight the importance of professional PCAs and forge personal connections that will carry our advocacy efforts forward.

3. Enhancing Member Services

Finally, CAPCA has made significant strides in enhancing its member services. We launched a revamped website, complete with user-friendly features and a comprehensive resource library, making it easier for members to access the information they need. Furthermore, CAPCA's regular publications, online newsletters and our podcast, *Advice for the Adviser*, have kept members informed about regulatory updates, the latest research, and industry trends.

Technology is an ever-evolving piece and CAPCA has and will continue to invest resources to bring updates to our website, our online CE platform, and our hours tracking/reporting system. Our new digital hours tracking and reporting program, CE Hours Reported, has been up and running since January 1st, 2024 providing over 250 meeting sponsors and thousands of attendees a simple and effective way to track and report

CE hours in compliance with DPR's new Certification & Training regulations. CAPCA members also benefit from a DPR Renewal Summary which is pre-filled with their personalized CE records, as well as access to the DPR Renewal Hub which is a licensing renewal resource page with all the latest information on changes to DPR renewal regulations.

A Bright Future Ahead

The successes of the California Association of Pest Control Advisers over the past two years highlight the organization's dedication to its mission and its members. By prioritizing education, advocacy, and collaboration, CAPCA has positioned itself and you, our members, as leaders in California's pest management industry.

Finally, you can be assured that CAPCA Staff and the volunteers on the Board of Directors are working hard every month to ensure that you, the CAPCA membership, and all the PCAs in the state are being represented at the highest levels of state government, your interests and license are being defended, and efforts are continuing to bring new opportunities for professional continuing education, license renewals and hours tracking. ■

THE POWER OF WE



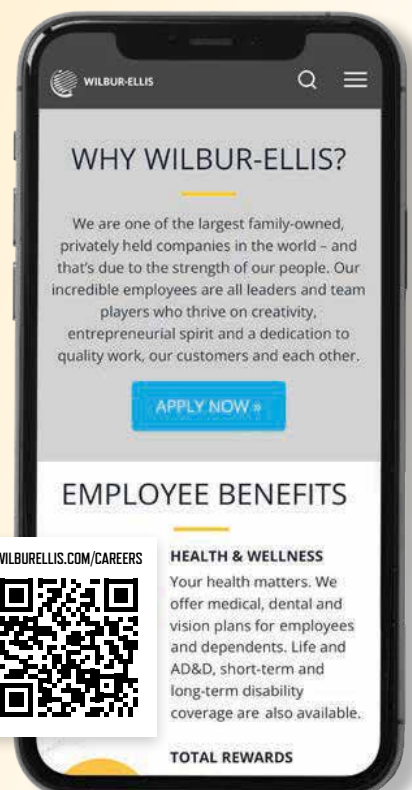
WILBUR-ELLIS

Together We Generate Better

We're proud to be sponsors of this year's CAPCA Conference and even more proud to have been a sustaining member of CAPCA for 40-plus years. No matter your crop challenge, Wilbur-Ellis has the expertise to overcome it.

To start finding the right solutions for you, contact your local Wilbur-Ellis representative or visit WilburEllisAgribusiness.com.

DISCOVER OUR CAREER OPPORTUNITIES TODAY





Annual CAPCA Conference & Agri-Expo

Conference



CAPCA

AT THE CENTER OF PLANT HEALTH



Your outgoing 2023-24 CAPCA Executive Committee (L-R): Rick Harrison, *ex officio* Chair. Jennifer De Jong, Treasurer. Paul Crout, Chair. Matthew Bristow, Vice Chair. Adam Tavares, Secretary.



Your incoming 2025-26 CAPCA Executive Committee (L-R): Paul Crout, *ex officio* Chair. Jeannette Rapicavoli, Secretary. Matthew Bristow, Chair. Adam Tavares, Vice Chair. Michael Haupt, Treasurer.



ce Recap



Corteva Agriscience

Raised \$2,024 for the Stanley W. Strew Trust at CAPCA Conference

Corteva Agriscience demonstrated its commitment to pest management education at the 50th Annual CAPCA Conference. The company raised an impressive \$2,024 for the Stanley W. Strew Trust.

The Stanley W. Strew Trust benefits students pursuing careers in pest management. At the conference's Student Network Event, where students connect with industry professionals, Corteva Agriscience's efforts contributed to the Trust's mission of advancing education and outreach in the pest management field. This financial support will continue to inspire and educate the next generation of PCAs, ensuring a strong future for California's agricultural and landscape industries.



2024 CAPCA CONFERENCE RECAP



50th ANNUAL CAPCA CONFERENCE & AGRI-EXPO



OUR 2024 CONFERENCE SUCCESS

TITLE



EXHIBIT HALL



MEMBERSHIP PROGRAM



WELCOME RECEPTION



NAME BADGES & LANYARDS



TUESDAY BREAKFAST



SUNDAY BREAKOUT



STUDENT NETWORKING EVENT



CAPCA COOKIE



CHARGING LOUNGE



SUNDAY BREAKOUT & THANK YOUR PCA



50TH COMMEMORATIVE PROGRAM



50TH COMMEMORATIVE POCKET PROGRAM



STUDENT NETWORKING EVENT



MEMBERSHIP DRAWING



CARRY BAGS



THANK YOUR PCA & STUDENT NETWORKING EVENT



STUDENT NETWORKING EVENT



THANK YOUR PCA



HIDDEN LOGO GAME



STUDENT NETWORKING EVENT



THANK YOUR PCA



Made Possible by Our Sponsors & Exhibitors

2025 EXHIBITORS



A4 Promotions
Acadian Plant Health
AEF Globa
Ag Craft
Agrauxine
AgroLiquid
AgroPlantae
AgroThrive
Albaugh
Almond Board of California
Alzchem
AMVAC
APC Agro
Atlantic Pacific Ag
Atticus
Azotic Technologies
Baicor
Balchem Corporation
BASF
Bayer
Bioline Agrosiences
BioSafe Systems
BioWorks
Bird Gard
Blue Mountain Minerals
Blue White
Brandt
California Agricultural
Aircraft Association
California Farm Bureau
Certis
Chemurgic
Citrus Pest and Disease
Prevention Division
Corigin
Corteva Agriscience™
Crop Vitality
CropX
Cultiva LLC
D & V Unlimited
Duarte Nursery, Inc.

EarthSol
Eco2Mix
EcoGrow Naturals
Enlightened Soil
FarmSense
FarmX
FMC
Gowan USA, LLC
GroPro
Grow West
Helena
Heliae
Heritage Crop Science
Huma
ICL
Impello Bio
Irrrometer
JH Biotech
KELPAK
Kemin
Kop Coat Protection Products
Koppert
Liphatech Inc
Liventia
Magna-Bon II, LLC
Malcolm Media
Marion Ag Service, Inc.
MGK
Miller Chemical
Momentive
Motomco
National Wildlife Control
Operators Association
Neudorff USA
Northern Nutrients
Nichino
Novasource
Novonesis
Ocean Organics Corporation
Pacific Biocontrol
Parabug

Plant Food Systems
Polymer Ag
ProFarm
Purdue Ag Economics
Qualitech
Quest Products
Redox Bio-Nutrients
Reforestation Technologies
International
Rovensa Next
SAN Agrow
Semios
Sipcam Agro
Spectrum Technologies, Inc.
SQM
Suterra
Sym-Agro
Syngenta
TCR Industries
Teleos Ag
TELUS Ag
Terramera
The Mosaic Company
Tidal Grow AgriScience
Tiger-Sul Products, LLC
Trece
Trical, Inc.
True Organic
UC Statewide IPM Program
UPL
Valent U.S.A.
Verdesian
Vestaron
VGRID Energy Systems
Vive Crop
Western Growers Association
Western Region of Certified
Crop Advisers
Wonderful Labs
Wonderful Nurseries
YARA

2024 Annual Awards

CAPCA Honors Cindy Smith with the 2024 Outstanding Contribution to Agriculture Award



A Legacy of Leadership in Global Agricultural Business

Cindy brings a wealth of experience in global agricultural business management, spanning regulatory, marketing, sales, and public and government affairs. Her tenure includes pivotal roles at Gowan Company, LLC, where she served as Chief Operating Officer for Gowan's Global Marketing companies, and AMVAC, where she held the role of Senior Vice President of Global Regulatory Affairs. Her work has been instrumental in securing and defending EPA registrations for both synthetic and biological pesticides.

Beyond her company roles, Cindy is well-respected for her ability to build collaborative relationships with regulatory bodies, policymakers, and agricultural organizations. She has been appointed to numerous advisory boards, including EPA Federal Advisory Committees and State Agricultural Advisory Boards, where she provides essential insights and guidance on agricultural issues. Cindy also contributes to multiple CropLife America committees and currently serves as Chair for The Coalition of Organophosphate (OP) Registrants, a role in which she advocates for responsible chemical stewardship and sustainable practices in agriculture.

Celebrating Cindy's Dedication and Impact

On October 14, 2024, CAPCA had the distinct honor of recognizing Cindy Smith's remarkable contributions to agriculture at the Annual Conference Membership Luncheon. Her leadership, dedication, and influence in agricultural advocacy make her a deserving recipient of the 2024 Outstanding Contribution to Agriculture Award.

CAPCA extends heartfelt congratulations to Cindy and expresses gratitude for her commitment to advancing the agricultural industry in California and beyond.

Recognizing a Champion of Agricultural Advocacy

Each year, CAPCA's Outstanding Contribution to Agriculture Award is presented to individuals, companies, or organizations that have made a significant impact on California agriculture. This year, CAPCA is proud to honor Cindy Smith as the 2024 recipient of this esteemed award.

A Lifelong Advocate for Agriculture

Nominated by CAPCA's Desert Valley Chapter, Cindy Smith is renowned for her unwavering commitment to agricultural advocacy at both the state and federal levels. With more than 25 years dedicated to advancing the agricultural chemical industry, Cindy has been a vital voice for regulatory and policy progress, working tirelessly to support the interests of growers and the agricultural community.

Jan Hall Recognized as CAPCA's 2024 Member of the Year

Celebrating Outstanding Dedication to Pest Management and Industry Leadership

Each year, the CAPCA Member of the Year Award is presented to a licensed Pest Control Adviser (PCA) who exemplifies exceptional commitment to the profession through their CAPCA involvement and leadership. For 2024, CAPCA proudly honors Jan Hall, a stalwart of the pest management industry and a leader whose dedication has impacted the floriculture and ornamental plant sectors for over four decades.

A Lifelong Commitment to Pest Management Excellence

Nominated by CAPCA's San Diego Chapter, Jan Hall's career spans more than 40 years, including 28 years with the technical and horticultural team at Ecke Ranch. Following her tenure there, she joined Target Specialty Products in 2009, where she worked until her retirement this spring. Jan's leadership within CAPCA and her dedication to pest management have left an enduring mark on California's ornamental plant industry.

Currently serving as president of CAPCA's San Diego Chapter, Jan has been deeply involved in association activities, organizing and leading countless meetings, events, and initiatives. Her influence reaches far beyond chapter responsibilities, demonstrating her unwavering commitment to advancing pest management for commercial greenhouse growers and the floriculture industry.

Contributions that Shape the Industry

Throughout her career, Jan has been instrumental in driving pest management solutions for growers, with contributions that include pioneering clean stock programs for over 25 genera of plants, founding a plant virus working group, and addressing key regulatory issues in collaboration with CDFA and USDA/APHIS. Her extensive list of accomplishments reflects a lifetime of service to the industry:

- President of the San Diego CAPCA Board and lead organizer for the annual San Diego CAPCA Nursery Greenhouse Seminar.
- Advisor to the San Diego County Flower and Plant Association, recognized as Industry Icon of the Year in 2017.



- Key participant on the Plant Protection Issues Committee of the Plant California Alliance and the Pesticide Committee of the San Diego County Flower & Plant Association.
- Member of the European Pepper Moth (EPM) Task Force Technical Working Group.
- Active roles on the Ornamental Plant and Diagnostic Committees for the American Phytopathological Society (APS).

Honoring a Legacy of Volunteerism and Leadership

On October 14, 2024, at the CAPCA Annual Conference Membership Luncheon, CAPCA celebrated Jan Hall's exceptional contributions by presenting her with the 2024 Member of the Year Award. Jan's steadfast commitment to the pest management profession and her leadership in supporting the floriculture industry make her a deserving recipient of this year's honor.

CAPCA extends its heartfelt congratulations to Jan and expresses gratitude for her outstanding service to the industry. ■

Chapter of the Year Award

Central Coast Chapter Honored as 2024 Chapter of the Year

The Central Coast Chapter of CAPCA was awarded the prestigious Chapter of the Year honor at the 50th Annual Conference and Agri-Expo. This well-deserved recognition highlights the Chapter's dedication to continuing education, student outreach, and advocacy for the agricultural industry. The achievement reflects the efforts and teamwork of the Chapter's leadership and many volunteers, including current President Erin Miller, incoming State Director Steve Easterby, and committed Chapter members Mike Lombardi, Mel Graham, Melissa Wilson, Bart Haycraft, and Carson Diccico. Special appreciation goes to outgoing State Director Danilu Jelderks, whose commitment and leadership helped guide the Chapter to success.

Reflecting on the award, Erin Miller expressed her pride in the Chapter's accomplishments and the unique nature of the trophy itself. "It was an honor to accept the trophy on behalf of my Chapter," she shared. "The surprise of a cockroach under a magnifying glass atop this coveted award was fitting for a PCA Chapter. Teamwork is what won us this award, and I want to thank the Coast team for putting in the extra effort to make us Chapter of the Year!"

The Central Coast Chapter's mission is to bolster the professional skills of PCAs, inspire future generations, and support student involvement in agriculture. Chapter members focus on three key areas:

Continuing Education Meetings: The Chapter holds two large public CE meetings annually, providing a substantial number of high-quality continuing education hours to local PCAs.



Student Engagement: During Cal Poly SLO's PCA Night, Chapter members share their expertise with 30-50 students, guiding them toward a career as PCAs.

Student Sponsorship: Funds raised from CE events allow the Chapter to sponsor agriculture students, enabling them to attend CAPCA's Conference and participate in the Student Networking Event. The Central Coast Chapter has been sponsoring students at CAPCA's Conferences since 2010, predating the formal establishment of the Student Networking Event.



The Central Coast Chapter sponsored this crop of students at the 2024 Student Networking Event at CAPCA's Conference, with Chapter mentors Mel Graham (far left) and Erin Miller (far right) on site.

Reflecting on their impact, Chapter members note that they are richly rewarded when students say they've chosen to pursue careers as PCAs or found employment through Chapter events. The dedication and support of the entire Central Coast Board have made these

accomplishments possible and earned the Chapter this esteemed recognition.

Contact chapter@capca.com to learn how to get your Chapter in the running for this award in 2025! ■



CAPCA's Central Coast Chapter hosts an Evening with Industry event with Crop Science students at Cal Poly SLO. Interacting with students injects a youthful energy into the Chapter.



STARGUS®

BIOFUNGICIDE

BIO-CONQUEROR OF TOUGH DISEASE

An advanced biofungicide containing a unique *Bacillus* strain and multiple modes of action. Stargus is easy-to-use and tank mix friendly, providing growers with flexibility to integrate the active ingredient into existing IPM programs for greater efficacy. This broad-spectrum fungicide is approved for use on a variety of crops including tree nuts, stone fruit, leafy greens, fruiting vegetables & more*.

BENEFITS:

- **Increased Marketable Yield:** Due to a reduction of both disease incidence & severity
- **Peace of Mind:** Crops will be residue-free; MRL-exempt
- **Flexible Labor Scheduling:** 0-Day PHI, 4-Hour REI
- **Sustainable Disease Management and Resistance Prevention** due to multiple & novel modes of action

BEST USE GUIDELINES:

- Can be used alone, in rotation, or tank mixed to enhance performance
- Labeled rates of 2 qts. to 4 qts./A. Usual recommendation of 2 qts./A
- Apply 2-4 times at 7-10 day intervals



Stargus is a unique *Bacillus*, compatible with multiple crop protection products.

SPECTRUM OF CONTROL*

- ✓ Black Rot
- ✓ *Botrytis*
- ✓ Downy Mildew

*See label for complete list of crops & diseases managed.

TECHNICAL & REGULATORY PROFILE

Application:	Soil, foliar
Active Ingredient:	<i>Bacillus amyloliquefaciens</i> F727 & spent fermentation media
FRAC:	BM 02
Formulation:	Liquid
PPE:	Minimal
REI:	4-Hours
PHI:	0-Day
OMRI Listed:	Yes
Signal Word:	Caution

MULTIPLE MODES OF ACTION

Stargus is a unique *Bacillus* with more active lipopeptides than alternatives on the market. As a result, Stargus offers unique benefits for improved disease management including:



ACTIVE MOLECULES

Natural chemistry produced during the fermentation process prevents pathogen infections



INDUCED SYSTEMIC RESISTANCE/SYSTEMIC ACQUIRED RESISTANCE

Stargus boosts the innate ability of the plant to defend itself, preventing pathogens from taking a foothold on the crop



PROTECTIVE SHIELD

Living spores develop and colonize the parts of the plants that are treated and form a shield preventing pathogen access to the plant

TALK TO A LOCAL EXPERT



GRAPES: POWDERY MILDEW & BOTRYTIS

PRE-BLOOM

- Regalia 2-4 qts./A
If disease is already present, tank mix with Jet-Ag as a contact fungicide for best results.

PRE-CLOSE

- Stargus 1-2 qts./A
+
- Jet-Ag 2-4 qts./100 gal.

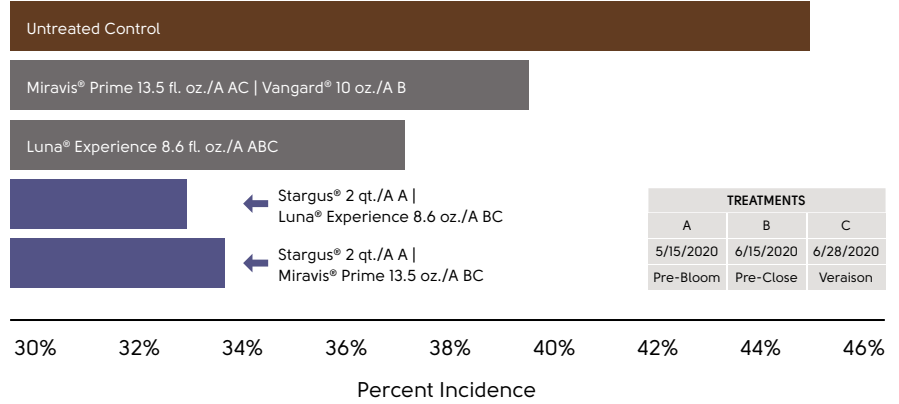
VERAISON

- Stargus 1-2 qts./A

PERFORMANCE

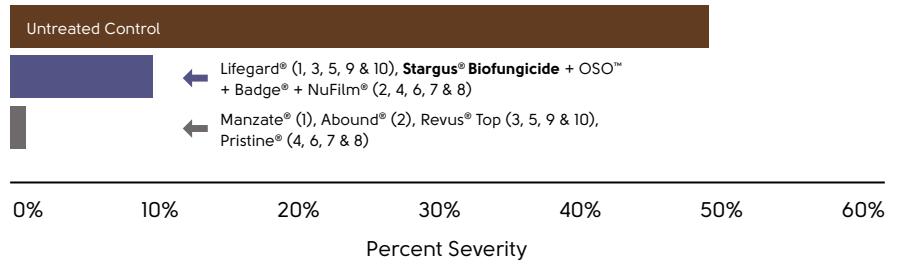
STARGUS® TANK MIX vs. ALTERNATIVES FOR BOTRYTIS

Dr. Eskalen, UCD, Clarksburg, CA • Variety: Riesling



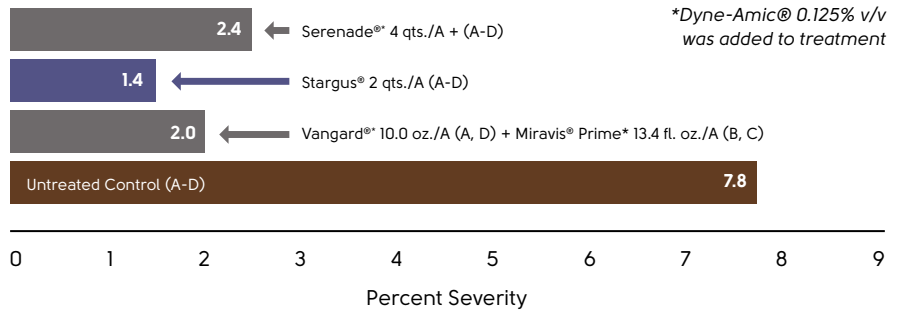
STARGUS® TANK MIX vs. ALTERNATIVES FOR BLACK ROT

83% Less Severe Black Rot on Clusters vs. Untreated Michigan State University (Miles)



STARGUS® vs. ALTERNATIVES FOR BUNCH ROT ON GRAPES

UC Davis Cooperative Extension



©2024 Pro Farm Group, Inc. All rights reserved. ProFarm, the ProFarm logo and Stargus are registered trademarks of Pro Farm Group, Inc. Vanguard®, Miravis®, Abound® & Revus® are registered trademarks of Syngenta. Miravis® and Vanguard® are registered trademarks of Syngenta. Luna® Experience and Serenade® are registered trademarks of Bayer. Lifegard® and OSO™ are registered trademarks of Certis. Badge® is a registered trademark of Gowan. NuFilm® is a registered trademark of Miller Chemical. Manzate® is a registered trademark of United Phosphorus. Pristine® is a registered trademark of BASF. Verify to ensure the product you want to use is approved in your state. Always read and follow label instructions. 07302024

Changes Coming to The Adviser in 2025

by Patrick Dosier



In 2025, The Adviser magazine will undergo a series of updates designed to enhance your reading experience and provide even more value. Thank you to everyone who provided feedback through our surveys and shared your perspective verbally—your input has been invaluable.

What's Changing?

Beginning next year, we'll shift from six issues per year to four quarterly issues, each packed with even more great content. You can expect these issues in March, June, September, and December.

New and Enhanced Content

From the Archives: We'll continue to feature these throwback articles throughout 2025.

In-Depth Technical Articles: Many of you requested more technical insights, so we're collaborating with leading researchers and scientists in California and beyond to bring you the latest developments in pest management and sustainable agriculture.

Illustrated Coloring Pages: CAPCA's talented illustrator, Brianna Love, will provide new coloring pages for each issue, a favorite among Members' families. These pages will be tied to an optional donation to the Stanley W. Strew Educational Fund, which supports programs like the Pathway to PCA and Plant Doctor programs, fostering the future of the PCA profession.

PCAs on the Cover: We're making our covers more engaging by featuring our profiled PCAs in action, rather than generic crop images.

Diverse Content Topics: We'll explore a wider range of articles on policy, regulatory updates, emerging technologies, economic trends, and other key topics shaping our industry.

Who will receive The Adviser?

CAPCA's primary audience is our PCA Members. Occasionally, some Members renew later in the year, missing valuable issues. Starting with this issue, The

Adviser will be sent to PCA Members from the previous, current, and upcoming CAPCA Membership years. Don't forget to update your mailing address at portal.capca.com to ensure you receive every issue!

Generally speaking, we have two categories of Associate Members: those with a QAL/QAC license and industry professionals who want to stay informed through The Adviser. Beginning in 2025, Associate Members will need to opt in to receive the print edition.

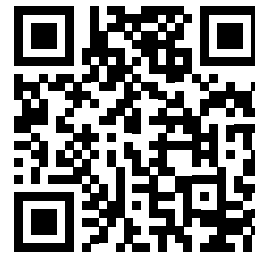
Looking Ahead

CAPCA's goal is to create a more integrated communication platform. In the future, you may find podcast episodes accompanying certain articles or, ideally, online CE components for technical pieces. While we're still in the planning stages, our goal is to make CAPCA's content more immersive and accessible than ever.

Finally, I'm honored to step into the role of Managing Editor for The Adviser. I will continue as your podcast

host, too, and appreciate your patience as I take on this new role. As always, we welcome your feedback to help us deliver the content you value most. Please share your thoughts in our survey. Thank you for being a CAPCA Member and a dedicated reader of The Adviser. ■

SHAPE THE FUTURE OF THE ADVISER!



Scan here to take our 2-minute survey and let us know what content you want to see.

SIGN UP OR RENEW TODAY!

Contact sales@capca.com



2025 SUSTAINING MEMBERSHIP NOW OPEN!



Choose from Bronze, Silver, Gold, Chrome, or Diamond levels and help keep CAPCA at the forefront of plant health.

Membership

CAPCA Membership Update: Important Information About Upcoming Dues Increase

As we look forward to a new year, CAPCA is excited to share new benefits and services for our Members. However, to continue providing high-quality support and advocacy, Membership dues will increase to \$180 per year, beginning January 1, 2025. We want to be upfront about this change and encourage you to renew early to lock in the current \$160 rate for your 2024 and 2025 Membership years.

Why Dues Are Increasing

This is the first dues increase in 14 years, during which the costs of doing business have significantly risen. CAPCA's commitment to providing unmatched advocacy and resources for PCAs remains strong. We advocate for you at the state legislature and the county level, working hard to mitigate DPR's demanding regulatory requirements on your behalf.

Expanded Benefits for QAL/QAC Members

Starting in early 2025, CAPCA will extend our DPR Renewal Summary service to Associate Members with Qualified Applicator Licenses (QALs) and Qualified Applicator Certificates (QACs). With this service, QAL and QAC members will benefit from a pre-filled DPR Renewal Summary (DPR Form LIC-132) for CE credits earned through participating sponsors. This enhancement will streamline the renewal process, eliminating the need to manually log hours.

Please note that the rate increase for QAL/QAC Associate Members is already in effect, with dues now set at \$60 annually. This new rate reflects the added value of CE Hours Reported, which simplifies tracking and renewal for Associate Members. Additionally, starting in 2025, Associate Members can opt for a subscription to the printed edition of The Adviser magazine.

Important Reminder for PCA Members

Beginning in 2025, CAPCA will automatically track CE credits only for courses taken through sponsors using the CE Hours Reported system. For courses taken outside of this system, you'll need to keep a Verification of Attendance (VOA) and manually log it using the Self-Report CE feature on your CAPCA Dashboard. For ease and reliability, we encourage PCAs to attend courses from one of the hundreds of CE sponsors utilizing CAPCA's free CE Hours Reported system.

To help you get the most value, you can renew your 2025 CAPCA membership at the current rate until December 31, 2024. PCA Membership dues will be \$180 annually starting January 1, 2025, but by renewing now, you can avoid this increase. Associate Memberships for QALs and QACs have already increased, and these members will see the added benefit of CE tracking starting in 2025.

More Benefits Planned for 2025

CAPCA is committed to enhancing Member value in 2025, with big plans to further simplify the DPR renewal process for CAPCA Members. Stay tuned for updates and thank you for being a CAPCA Member. ■



ADVICE **for** **the ADVISER** Podcast



NEW EPISODE ALERT:

Walmart Makes Public IPM Commitment and This Means IPM Plans Are Required - A Deep Dive into Auditable IPM.

In this episode, we're joined by Eric Peterson, a Compliance Specialist at Azzule Systems, a division of Primus GFS, to discuss his *Adviser* article titled "A PCA's Introduction to Auditable Integrated Pest Management Plans" (see pg. 42). If you're a Pest Control Adviser (PCA) working in produce or specialty crops, this is an essential listen.

Growers are increasingly looking to implement comprehensive and auditable IPM programs to meet rising consumer demand for sustainable practices. Eric breaks down what makes an IPM program auditable, why it's critical today, and how PCAs can guide growers in implementing effective plans.

Whether you're new to IPM or looking to refine your approach, this episode will help you understand the importance of auditable plans and how to navigate the evolving landscape of sustainable pest management. Tune in for valuable insights and practical advice!

Upcoming Podcast Episode (expected early 2025): A Look at Policy & Agriculture in California in 2025

In this episode, we're sitting down with Joshua C. Walters and Jose Luis Solache Jr. to discuss what the ag industry can expect from the new legislative landscape in California in 2025.

Topics will include:

- Review of the 2024 Election results
- How a Southern California lawmaker views California agriculture
- What the ag industry can expect from the upcoming legislative session
- Key issues for ag policy in the state

This conversation is a must-listen for anyone working in agriculture or impacted by policy changes to stay informed on the political climate shaping the future of California agriculture. Don't miss it!

Subscribe now and listen to the latest episode! ■

CAPCA's Shark Tank Initiative:

Fueling Member-Driven Value

Did you know CAPCA has a “Shark Tank” where Member-driven ideas come to life? Through our Board-approved Reinvestment Fund, CAPCA invests up to \$100,000 annually in projects that add tangible value to our Members. This fund has powered some of our most impactful projects, like the development of our online CE platform, the Plant Doctor 2.0 program, and our Chapter dividend program. We’ve even funded podcast recording equipment and created the popular IPM “Established” stickers, all aimed at enhancing services, visibility, and Member engagement.

Note for Applicants: Proposals should focus on one-time expenses to avoid impacting CAPCA’s ongoing operating budget.

Now, we’re calling on you for the next round of ideas! Do you have a proposal that could add lasting value for CAPCA Members? Whether it’s as straightforward as new bumper stickers or as innovative as a Chapter-specific program, we want to hear it. Submit your proposal using our designated form by **January 15, 2025**, and it will be sent directly for initial review by our Finance Committee.



2025 Proposal Process

- 1. Member Submission by January 15, 2025:** CAPCA members submit proposals via the form, detailing the project’s focus, scope, and potential impact on membership.
- 2. Staff Analysis:** CAPCA staff assess the proposal for fiscal impact and any necessary program adjustments.
- 3. Finance Committee Review:** The Finance Committee reviews proposals and has the authority to approve smaller, time-sensitive projects under \$2,500 with unanimous consent.
- 4. Member Voting in The Adviser:** Top proposals will be featured in a later issue of The Adviser magazine for Member voting. Member favorites are then presented to the CAPCA Board for funding at the next scheduled Board meeting.
- 5. Board Approval:** The Board of Directors grants final approval for larger projects or those lacking unanimous Finance Committee consent, ensuring alignment with CAPCA’s mission.

Ready to Contribute?

Don’t miss your chance to drive member value—fill in the form with your idea! It will guide you through each step needed to craft a strong proposal. Together, let’s continue CAPCA’s legacy of innovation and member-driven growth. ■

The proposal submission form is here:
<https://forms.office.com/r/ttN6UMwsij>



Introducing Crop Steward: California's Easiest Scouting App

Good news for California PCAs! The Crop Steward app is officially live at CropSteward.com, making it easier than ever to participate in the CDFA-funded grant study and earn \$2,000 for your expertise.

Designed specifically for California PCAs by CAPCA, Crop Steward streamlines the process of enrolling a crop block into the CDFA grant. With intuitive features for recording pest pressure, prevalence, and sustainable pest management practices, it's the easiest and most flexible scouting app available. Whether you work with pistachios, grapes, lettuce, tomatoes, or other specialty crops, Crop Steward adapts to your needs and empowers you to share your expert insights.

Why Use Crop Steward?

- **Ease of Use:** Simplify how you document pest data and sustainable practices.
- **Grant Enrollment:** Easily enroll your crop block to qualify for the \$2,000 CDFA grant incentive.
- **Local Relevance:** Tailored for California's local pests and crops.
- **Expert Sharing:** Provide valuable insights to advocate for the PCA profession.

New PCA Intern Program

To further support PCAs, we're introducing a PCA Intern Program. Up to four interns from California's local agricultural colleges will be your dedicated support team. They'll assist you with app usage, CDFA grant details, and on-the-ground support. These interns will also gain valuable experience riding along with you and learning firsthand about sustainable pest management practices—a true win-win for everyone involved. If you or someone you know would be a great PCA Support Intern, go to CAPCA.com/grants today.

Get Started Now for the 2025 Grant Study

- **Get Crop Steward:** Visit CropSteward.com for free access.
- **Enroll in the Grant:** If you manage pistachios, grapes, lettuce, or tomatoes, register one block within Crop Steward, scout for a season and earn \$2,000.
- **Learn More:** Visit CAPCA.com/grants for details about the program.

By participating in this program, you not only earn some extra income but also contribute to the future of

pest management in California. Don't miss this opportunity to shape the profession and make a difference.

Sign up now at CropSteward.com and see how simple it is to make your expertise count! ■



Scan to go to CropSteward.com

INTEGRATED PEST CONTROL ADVISORY No. 04-2024

To: California Association of Pest Control Advisers Date: November 5, 2024
 Place: Sacramento
 Phone: (916) 262-1102

From: Plant Health and Pest Prevention Services Division
 Subject: San Joaquin Valley Rodent Issue Update

This advisory is to update members of the California Association of Pest Control Advisers (CAPCA) of increased reports of rats, voles, and other rodent populations causing damage, to agricultural areas of the San Joaquin valley.

Overview:

The Integrated Pest Control Branch’s Vertebrate Pest Control Research Program (Program) has been made aware of significant rat damage to irrigation systems and crops in Fresno County. In California, rats are some of the most troublesome and damaging rodents. They consume and contaminate food, damage structures and property, and transmit parasites and diseases to other animals and humans. Rats live and thrive under a wide variety of climates and conditions; they are often found in and around homes and other buildings, farms, gardens, and open fields. Additionally, damage to livestock feed and agricultural crops can be extensive. There are two introduced species: the roof rat, *Rattus rattus* and the Norway rat, *Rattus norvegicus*. (See Table 1 below for identification differences).

Table 1. Identifying Characteristics of Adult Rats.		
Characteristic	Roof rat	Norway rat
General appearance	sleek, agile	large, robust
color of belly	gray to white	mostly grayish
body weight	5 to 10 ounces	7 to 18 ounces
tail	extends at least to snout; black, fine scales	shorter than body; dark above; pale below; scales
Head	muzzle pointed	muzzle blunt
Ears	long enough to reach eyes if folded over	do not reach eyes



In agricultural environments, proper sanitation cannot always eliminate rat populations, but it can often prevent rats from flourishing in large numbers and can help detect their presence. Sanitation involves good housekeeping, including proper storage and handling of food materials, feed and edible garbage. Regular removal of debris and control of weeds from around structures will reduce the amount of shelter available to rats.

Action Taken:

The Program is working closely with the California Farm Bureau Federation, University of California Cooperative Extension, CAPCA, and County Agricultural Commissioners (CAC) to inform growers of the immediate issue. In conjunction with Fresno CAC's office, the Program has provided additional training to assist growers in preparing for their private applicator certification exam. The Program is conducting delimitation surveys in impacted areas to determine the extent of the infestation. Growers and Pest Control Advisors are encouraged to coordinate mitigation measures with neighboring properties when feasible.



Damage to Irrigation



The Program continues to work through this significant issue and recommends continued notification to CACs if growers are experiencing increased levels of rodent damage in their location.

Resources:

- Additional resources regarding vertebrate pest can be found at the Vertebrate Pest Control Research Advisory Committee's webpage <https://vpcrac.org/>
- Contact your local CAC office <https://www.cdfa.ca.gov/exec/county/countymap/>
- Vertebrate Pest Control Handbook on Rats <https://vpcrac.org/application/files/5513/9050/2048/norwayratpart3peter.pdf>

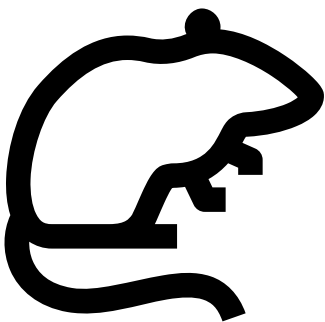
If you have any questions regarding this advisory, please contact Emily Schoenborn by email at emily.schoenborn@cdfa.ca.gov.

CDFA Integrated Pest Control Branch • 1220 N Street • Sacramento, California 95814
Telephone: 916.262.1102 • www.cdfa.ca.gov

State of California
Gavin Newsom, Governor



RODENT UPDATE FROM CAPCA: GET YOUR BUSINESS ON THE LIST!



CAPCA is creating a list of businesses with QAL/QAC holders certified in Category L (soil fumigant) or Category M (non-soil fumigant) to support agricultural rodent control in California. This comes in response to requests from CDFA, County Ag Commissioners, and grower groups tackling the rodent outbreak and the reduced number of certified applicators under 2024 C&T regulations.

If you're qualified and interested, scan here to join the list. CAPCA will connect your business with those in need of these critical services.

*Act Now -
Get Listed Today!*





Boost soil health with biostimulants.

A delicate balance between physical, chemical, and biological factors in the soil influences yield, crop growth, and crop success.

With soil health at the center of regenerative agriculture, improving the microbiome holds immense potential for helping grow healthy, productive crops. Using *Ascophyllum nodosum* biostimulants such as Acadian® as part of an integrated strategy enhances crop and soil management practices. By improving soil microbe communities, soil health and crop productivity have the potential to reach peak performance.

The rundown on soil health.

Soil health is a measure of the capacity of soil to function as a vital living ecosystem, sustaining plants, animals, and humans. The Soil Health Institute has identified three measurements as crucial indicators: 1) Soil aggregation, 2) Increased soil organic matter, and 3) Active soil microbes (carbon mineralization).

The abundance and diversity of soil microbes can influence plant growth, productivity, and overall health. They aid in nutrient cycling, better soil structure, and more.

Digging deeper into soil health.

Microbes in the rhizosphere called arbuscular mycorrhizal fungi (AMF) colonize more than 80% of land plants, including cultivated crops.







AMF form symbiotic relationships with plants and need a host plant to provide carbohydrates and carbon. Carbon derived from roots during growth and then as root residues play a critical role in increasing soil carbon. In return, AMF extends the reach of the plant's root system. This provides the host plant with better nutrient access, water access and retention, stress tolerance, and protection against pathogens.

AMF also benefit soil with better aggregation, which aids in storing water, nutrients, and soil carbon.

What happens when soil microbes team up with Acadian biostimulants?

Different biostimulants can have varied effects on soil and plant health. Therefore, it's essential to understand individual products' specific properties and modes of action to maximise their benefits in different agricultural systems. Acadian Plant Health's™ biostimulants have been proven to increase microbial abundance and activity, which supports rhizosphere and microbiome establishment.

Acadian benefits soil health by:

 <p>Increasing microbial abundance and activity, supporting rhizosphere microbiome establishment</p>	 <p>Enabling continued soil microbiome function during stresses such as drought</p>	 <p>Improving organic carbon concentration due to greater carbon cycling capacity and retention</p>
 <p>Increasing soil aggregation</p>	 <p>Improving root health, leading to optimum water uptake and nutrients for overall plant growth and ultimately increasing organic matter in soil</p>	 <p>Promoting root nodulation</p>



By improving soil structure, enhancing microbial activity, and increasing plant's tolerance to abiotic stress, growers can build a strong foundation for long-term productivity and profitability while contributing to more sustainable agriculture systems.

The path to victory.

Without soil health, there is no plant health. Adding Acadian biostimulants to your crop management plan can unlock synergies to enhance crop productivity, increase soil health, and lay the groundwork for future yields.

Find out how at acadianplanthealth-na.com/soil-health/ 

Research has shown that Acadian's technology increases...

Biomass up to **211%**
4 weeks after application

Microbial activity during drought stress by **52%**

Functional nodules by **43%**

Agriculture Gains Momentum in California's 2024 Elections:

The Alliance and CAPCA's Strategic Investments



ALLIANCE OF California's Farmers & Ranchers

By Josh Walters

The November 5, 2024, elections in California have marked a significant milestone for the state's agricultural community. The Alliance of California Farmers and Ranchers ("The Alliance"), with active participation from CAPCA, played a pivotal role in electing a series of candidates who recognize the importance of agriculture in California. These efforts have strengthened existing relationships and forged new ones within the State Legislature, reinforcing a positive trajectory for agricultural interests.

Electoral Support Yields Positive Outcomes

The Alliance engaged in several key races and participated in coalitions that successfully protected all Republican seats and elected moderate Democratic candidates—many from urban areas—who understand and are willing to learn more about the challenges and opportunities within California's agricultural sector.

In addition to defending Republican seats in the State Legislature, the Alliance's most notable wins from this election cycle include incoming Senator Christopher Cabaldon (D-West Sacramento) and State Assemblymembers John Harabedian (D-Pasadena), Jose Solache (D-Lakewood), and Catherine Stefani (D-San Francisco). Their election ensures that the agricultural industry will have friends among the new class of lawmakers.

It's particularly encouraging that many of these new legislators come from Democratic urban areas with substantial Democratic registration advantages. Their backgrounds can help bridge the urban-rural divide, expanding the coalition of elected officials with an interest in and commitment to California's diverse agricultural economy.

Building Relationships at the Fall Policy Summit

Demonstrating their commitment to building strong and direct relationships with our members, these newly elected officials recently joined other policymakers at The Alliance of California Farmers and Ranchers Community Fund Fall Policy Summit in Coronado. The Community Fund, a 501(c)(3) organization, serves as a platform for education and dialogue, focusing on the challenges and opportunities facing agriculture. The participation of these officials underscores their dedication to understanding the vital issues impacting our industry and engaging constructively with the agricultural community.

State Legislature Developments: Protecting and Gaining Seats

At the state level, Republicans had a notable win, with all incumbent Republican seats up for election successfully defended. The Alliance's collaboration with other business-minded political organizations contributed to these efforts, emphasizing the importance of unity in advancing shared interests. Regarding open seats, at the time of this writing, several races remain too close to call.

However, the Democratic super-majority in the State Legislature appears poised to shrink in both the State Senate and Assembly.

CAPCA's Commitment and the Path Forward

CAPCA's active involvement in The Alliance reflects our commitment to supporting candidates who appreciate the significance of California's agricultural industry. By getting in early and providing meaningful support to these candidates, we aim to foster a legislative environment that understands and considers the needs of pest control advisors and the broader agricultural community.

Our successful engagement in the 2024 election cycle has helped elevate pragmatic candidates who will ensure our industry's voice is heard in the State Legislature. The inclusion of legislators from urban areas who understand agricultural issues is particularly promising for fostering comprehensive and effective policymaking.

Moving Forward

The 2024 elections have underscored the impact of strategic investment and relationship-building in advancing agricultural interests within California's political landscape. Through The Alliance, CAPCA has played a significant role in supporting candidates who recognize the importance of our industry. Our efforts have helped ensure that agriculture remains a key consideration in Sacramento.

Together, we are making strides in promoting the interests of California's agricultural community. By maintaining our commitment to strategic engagement and support, we can continue to foster positive developments for our industry. The message is clear: by working together and investing wisely, we are contributing to a brighter future for agriculture in California. ■



Listen for the forthcoming companion podcast with Josh Walters.

SMART SOLUTIONS FOR SUPERIOR YIELDS.

High-quality crop protection products. Outstanding service. Competitive prices. We are Your Alternative.



For more information, visit us at albaugh.com.

©2024 Albaugh, LLC. All rights reserved. Albaugh and the Albaugh logo are registered trademarks of Albaugh, LLC. Always read and follow label restrictions, precautions and directions for use.



Meet Sapna Thottathil: DPR's New Sustainability Leader



“Sustainable pest management to me is a process that holistically protects everyone’s health, the environment, and the economy. It prioritizes prevention, a full toolbox of pest management choices, ecosystem resilience, and uplifting new and traditional, sustainable solutions for tackling pest problems. It requires coordination to balance risks, support research, and foster collaboration with the diversity of people interested in and impacted by our work, all of which I’m excited to be a part of at DPR.” – Sapna Thottathil, Deputy Director of Sustainable Pest Management, Department of Pesticide Regulation

In September, DPR welcomed a new deputy director to help lead DPR’s work to accelerate the availability and adoption of safer, more sustainable pest management strategies across all environments, including urban and agricultural lands as outlined in the state’s Sustainable Pest Management Roadmap and in our wildlands.

Sapna Thottathil brings to this position experience in agriculture and sustainable food production, pest management, climate change, research, and program management.

At DPR, she will lead the department’s statewide collaboration and coordination to foster sustainable pest management (SPM) across California. She will coordinate work across various DPR programs. This includes educational activities and grant opportunities in the Integrated Pest Management Branch, work across the department that supports bringing new products to market and collaborating with PCAs on credited SPM training with DPR’s Enforcement Branch.

She will also work closely with DPR’s partner agencies and external stakeholders.

Prior to joining DPR, Thottathil was the Managing Director at the University of California (UC) Center for Climate, Health and Equity, where she oversaw more than 20 research and education programs on climate change and health and facilitated a multi-stakeholder strategic planning process. She earlier served as Associate Director of Sustainability in the UC Office of the President, where she helped lead a UC Regent-supported task force that developed an IPM policy for all of UC’s properties, including its 10 campuses and six health systems.

Thottathil comes from a family of commodity farmers in India, where she spent several years researching challenges around organic farming. She began her career at the U.S. Environmental Protection Agency as an environmental protection specialist. She also spearheaded collaborative Farm-to-Institution and sustainable procurement efforts between food suppliers and hospitals and schools throughout California.

DPR Director Julie Henderson said Thottathil is well positioned to work with the department and interested parties in this role.

“Her experience in environmental protection, resilient farming practices and health protective programs will expand our collaborative efforts to advance safe, effective and sustainable pest management,” said Director Henderson. “Her leadership and experience facilitating dialogue among parties who bring diverse perspectives to the table will provide strong support for the collaboration we need. Collaboration is essential to move forward towards our shared goals of protecting all Californians, our environment and our healthy food supply.”

Thottathil looks forward to building upon DPR’s work to accelerate the increased and expanded availability IPM tools and practices, and to implement SPM in a way that supports and protects Californians and the environment, builds resilient communities, and supports the stability of food systems.

“I think there is an immense opportunity for our state to lead our nation on how we accelerate the adoption of safe, effective and sustainable pest management alternatives,” said Sapna. “Here in California, we also face many pest pressures and pest management challenges, which climate change and extreme weather will complicate. I look forward to working with stakeholders on tackling these challenges and moving forward with SPM in a thoughtful way that both protects the economic vitality of our agricultural sector and the health of all Californians.”

The Roadmap outlines many specific steps to be taken in coming months and years by the department and its partners, including the California Department of Food and Agriculture, California Environmental Protection Agency, and University of California.

Some will directly impact pest management professionals. These include:

- Supporting training for SPM approaches through continuing education, including current and expanded certification for SPM courses.
- Focusing on supporting expansion of the pest management toolbox through grant-funded research and outreach.

SPM

Sustainable Pest Management (SPM) is a whole-system approach that builds on the decades-long practice of integrated pest management (IPM) to include the wider consideration of pest management impacts on communities and the environment, impacts of climate change and extreme weather on pest pressures, and availability of economically viable pest management solutions that support stable and affordable food production.

- Engaging with PCAs to gather their input on what alternatives are or are not effective to inform efforts to understand and identify alternatives.

“We have a huge range of cropping systems, microclimates, and landscapes in California, which makes on-the-ground conversations and ongoing learning and feedback critical,” she said. “I’ve already been getting out into the field and meeting with PCAs and farmers, but I am also looking forward to hearing more from CAPCA members and those impacted by pests or pest management to work together on sustainable solutions and clear next steps.”

In addition to her career achievements, Thottathil has academic degrees from the University of Chicago, Oxford University, and UC Berkeley. She was also a Fulbright scholar.

She has authored several papers and books on sustainability, including *India’s Organic Farming Revolution: What It Means for Our Global Food System* and *Institutions as Conscious Food Consumers*.

Originally from New Jersey, Thottathil lives in Oakland with her husband and three children.

In her free time, she enjoys raising chickens, cooking, hiking the High Sierra, and playing the piano. ■

From The Archives

Introducing our new “From the Archives” segment!

Feeling Left Out of the Crowd?



FROM THE ARCHIVES

You don't have to feel left out...

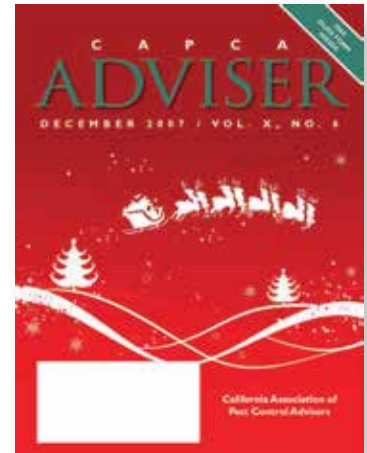
Join the California Association of Pest Control Advisers

Benefits of Membership:

- 1 step CE Reporting
- Networking Opportunities
- Industry Affecting Legislative Tracking
- Discounts on CE Meetings
- Timely Reminders
- Cutting Edge Research in Trade Magazine
- Job Opportunities
- Leadership Opportunities



1143 No. Market Blvd., Ste. 7 • Sacramento, CA 95834 • (916) 928-1625 • www.capca.com



This month, we're excited to introduce a new article series, From the Archives. In each installment, we'll feature content from past issues of The Adviser and CAPCA's archives, highlighting notable moments and insights from our history.

At CAPCA's Annual Conference this past October, we showcased archival video footage from past events, which was met with great enthusiasm. If you're interested in viewing the retrospective video, please scan below to visit CAPCA's YouTube channel.



A CAPCA Benefits of Membership promo was found on page 6, along with an iconic CAPCA logo.



FROM THE ARCHIVES

PCA PROFILE

The Role of the PCA is More Critical than Ever!

Joyce A. Basan, CAPCA Programs/Communications Director

Steve Renna received his B.S. in Plant Science from Fresno State. He then went on to a summer internship with Wilbur-Ellis right after graduation. After his internship ended he landed a job at Western Farm Service and has been there ever since. "The best decision I ever made was to become a PCA. I enjoy working outdoors, and working with people" says Steve.

In his job at Western Farm Service he consults with growers to help them become more successful producers. He works with two other PCAs, assisting in mentoring one who is new to the company. Steve enjoys being the "go to" person for the other PCAs.

Although the major crops he consults on are almonds, grapes, and pistachios, Steve also consults with growers of tree fruits, alfalfa and corn. Steve holds not only a PCA license, but has a QAL, QAC, and is also a Certified Crop Adviser. Steve's specialty area is nutrition. He says he is fortunate that his company has on staff certified agronomists. "I believe that down the road a written recommendation will be needed for fertilizer application."

Several factors influence Steve when advising clients on pest management programs and making recommendations. As regulations increase he says that PCAs will continue to need to be aware of the surroundings, such as waterways, housing areas, and affects of applications and pest management programs on the environment before making a recommendation.

Most of his clients are sole owners. Usually about 80% of his clients are involved in the decision making process, where the remainder are very comfortable leaving it to the PCA to provide the best plan for a pest management program.

"Steve uses the resources that Western Farm Service provides," says Fresno-Madera Chapter President Randy Miles. "His work ethic and use of these resources has provided him with a strong customer base."

Challenges to PCAs continue to increase with the additional regulations and the negative portrayal of chemicals by the media. "It's unfortunate; It certainly adds to the challenges of being a PCA," says Steve. "The public generally doesn't realize that other states do not have the restrictions that California does and how important the PCA role is." He tries to tell people that the products we use today are softer than in the past plus application programs are more regulated.



• STEVE RENNA •

CAPCA Chapter: Fresno/Madera

Year of PCA License: 1993

Education: B.S. Plant Science, Fresno State
Major Crops Consulted: Almonds, Grapes, Pistachios

Family: Steve and his wife Laurie have 3 daughters, Jessica, Megan and Kaitlyn

Hobbies/Personal Interests: Coaching Soccer, Golf, Hunting

The public isn't aware of the scope of monitoring of pest activity that happens in the field. They are not generally aware that the PCA uses that information, plus takes into consideration the application methods, cost, the surrounding environment and other factors before deciding what and when to apply pesticides.

Steve believes that the growing restrictions in the pest management industry will make the PCA a more critical

asset to the industry. The goal of the agricultural industry is to produce food for the world as economically as possible, and continue to find new options for crop management. As to the future Steve says “I think the pest control industry will continue to see more insect resistant crop varieties.”

He hopes to see more students working towards getting their PCA. “There are great opportunities in the industry right now” says Steve. “It’s similar to owning your own business. If you’re willing to work hard and take advantage of the opportunities that are there, you can be successful.”

One benefit he would like students to know about being a PCA is how he enjoys the flexibility for time with his family. Steve and his wife Laurie live in Clovis with their three daughters, Jessica, Megan and Kaitlyn. Very much the family man, Steve enjoys coaching soccer, as well as playing

golf and hunting in his free time.

He believes it is important that CAPCA is active in issues directly affecting the PCA. “CAPCA has done good job for the PCA recently” says Steve. He would also like to see CAPCA continue outreach to school-age children and should look at involving school-age groups to get the word out about what we do to the general public via programs like Plant Doctor.

Steve would like to see articles in *CAPCA Adviser* that provide updates on issues such as Roundup Ready alfalfa, and water issues and the impact they have on the PCAs. He thinks it would be beneficial to CAPCA members to see some of the information from the presentations at the CAPCA Annual Conference published in the *Adviser* for CAPCA members that are not able to attend. 🌱

In case you’re wondering, Steve is still an active PCA with Nutrien, the successor to Western Farm Services, and a dedicated CAPCA member. With the benefit of hindsight, it’s clear his insights and predictions were remarkably accurate. Today, PCAs are required to write nutrient prescriptions as part of Irrigation and Nitrogen Management Plans (INMPs), monitor sensitive areas with buffer zones, conduct bee checks, and soon will need to account for Endangered Species Act (ESA) Pesticide Use Limitation Areas (PULAs).

Steve also emphasized that the public often underestimates the strict nature of California’s pesticide regulations and the numerous factors PCAs must consider when making pest management decisions. This brings CAPCA’s current grant-funded study to mind. Tell your IPM story! To learn more, visit capca.com/grants.

Reflecting on this archival story, Steve shared updated insights from his years of experience: “I still strongly urge young individuals interested in a PCA career not to be discouraged by all the red tape we have to deal with today. I see it as an opportunity to make a meaningful impact on feeding the world. Now, we must do it with fewer tools and greater efficiency in what,

why, and how we PCAs do our jobs. CAPCA is at the forefront, keeping PCAs informed of all the changes and regulations we must navigate to support our growers.”

In the original article, Steve expressed a desire for CAPCA to engage more aspiring PCAs. With the number of PCAs declining in California, we wholeheartedly agree. In response, CAPCA will launch fundraising initiatives for the Stanley W. Strew (SWS) Educational Fund in the coming year. Our goal is to attract and develop talented individuals in the PCA profession through programs like the SWS Plant Doctor and Pathway to PCA.

Be sure to check out the archival article on the next page, featuring a regulatory update from then-DPR Director Mary-Ann Warmerdam. We appreciate today’s DPR staff for approving the reprint of this historical perspective. Please note, however, that some information may no longer be accurate. ■



Have a particular article, author, topic, or era you’d like us to revisit? Let us know! We’re happy to uncover and share more from our archives. Send your ideas to adviser@capca. Scan the QR code to take a brief survey about The Adviser content.



DPR UPDATE

FROM THE ARCHIVES

VOC Regulatory Plan to be Implemented in January

Mary-Ann Warmerdam, Director, California Department of Pesticide Regulation

DPR is on track toward implementing new rules by January 1 that will help clean our air by reducing pesticide emissions that contribute to smog. In an earlier issue of CAPCA Adviser I discussed the background on our VOC--volatile organic compound--rules, including a federal court order that set the January 1 timeline for implementation.

Early in October, we revised our proposed regulations that will reduce pesticide VOC emissions by 20 percent. To meet our clean air goals, we will target emissions from fumigants, a significant source of VOCs that contribute to smog.

Our revisions reflected comments from both agricultural and environmental groups who urged us to exert more control over the process. To do so, we'll require low-emission application methods. We'll also set fumigant allowances in each area of the state that fails to attain the 20 percent goal. Here are some specifics from the revised rules:

- Most provisions (including restrictions on application methods) no longer apply statewide, only in areas of the state where reductions are needed: the San Joaquin Valley, Southeast Desert, and Ventura non-attainment areas.
- Application restrictions will be in effect only from May to October.
- DPR and the County Agricultural Commissioners, not registrants, will be responsible for overseeing compliance with emission limits.
- Under the first proposal, only licensed pest control businesses were allowed to do field fumigations. This is no longer the case, and private applicators will also be able to conduct field fumigations.



• Two alternative approaches are proposed for Ventura County. In one, restrictions are phased in over four years and, in the other, they are imposed immediately. A phased approach would allow regulated entities time to develop strategies to meet the fumigant limit without taking thousands of acres out of agricultural production. (As of this writing, we were awaiting a federal court hearing to determine which option will be used.)

Our proposed fumigant rules build on a system of controls already in place. No other state has California's system for local enforcement of pesticide laws, or requires permits to use restricted pesticides. More than 400 biologists, working for County Agricultural Commissioners in the state's 58 counties, enforce pesticide laws locally.

To enforce the VOC rules, DPR will assign each grower an emission allowance and ensure the allowances total less than the fumigant emission limit for the specific non-attainment area. Our County Ag Commissioners will include the emission allowance as

a condition of the restricted material permit required to use fumigants.

Before using any restricted material, farmers must send a "notice of intent" to use the pesticide, giving the time and date of the application. For fumigants, this will give the County Commissioner's staff another opportunity to review the proposed application to assure the application method and amount of fumigant to be applied is consistent with the emission allowance specified in the grower's permit.

If growers make an application that exceeds their emission allowance, they will be in violation of the conditions on their permit and are subject to fines and other penalties, including loss of all restricted materials permits.

Our goal is to maintain a fair and level playing field for growers as we comply with federal and state laws that require us to achieve clean air goals that have been on the horizon for nearly 15 years. Now the time has come for us to take action.

In the near term, we hope to minimize disruption on most agricultural areas. In both the San Joaquin and Desert areas, we are confident that low-emission methods -- heavier tarpaulins, deeper shank injections, and the like -- will make fumigant supply allowances unnecessary.

In the long run, we will redouble our efforts to work with industry, researchers, and others to find alternatives that allow California growers to farm without relying on fumigants.

Our plan will take a substantial commitment in the coming year, but we're determined to meet our obligation to clean air for every area of the state. As Californians, we can't expect anything less. 🌱

Featured Article

Updates on Composition and Impact of Pesticides on Predatory Mites in Walnuts

Sudan Gyawaly, Area IPM Advisor, Northern Sacramento Valley, University of California Statewide IPM Program and Cooperative Extension

Moet Takata, Ecological Pest Management Program Manager, Community Alliance with Family Farmers

Hanna Kahl, Ecological Pest Management Program Specialist, Community Alliance with Family Farmers

Background

Walnut pest management has come a long way in several areas, including the increased availability and use of reduced-risk tools to effectively manage some critical walnut pests. However, managing some once-secondary pests, such as web-spinning spider mites (*Tetranychus* spp.), has become more challenging, with increased incidences of consistent and widespread outbreaks. Several registered pesticides are available for spider mites. However, many of the common pesticides for spider mites do not provide satisfactory mite control during these outbreak years or even exacerbate spider mite outbreaks. During 2024, spider mites were especially challenging in many tree crops due to early, hot temperatures, with spider mites building up to high densities fast and causing extreme webbing and defoliation. This highlighted the importance of researching management options for this challenging pest. In the past, extensive research has been conducted on spider mite natural enemies, and monitoring and treatment decisions that consider natural enemies, all aimed at reducing spider mite infestations. Also, some of these studies reported interesting shifts in the spider mite predator species composition and seasonal predator-prey population dynamics in walnut orchards due to changes in walnut pest management practices in recent years.

Historically, the western predatory mite, *Galendromus occidentalis*, was believed to be the dominant predatory



Adult two-spotted spider mite, *Tetranychus urticae*. Credit: Jack Kelly Clark, UC IPM. © 2000, Regents of the University of California.



Western predatory mites, *Galendromus occidentalis* (top and bottom), and a two-spotted spider mite, *Tetranychus urticae* (center), and its eggs. Credit: Jack Kelly Clark © 2000, Regents of the University of California.



Adult predatory mite, *Euseius tularensis* (left), seen here feeding on citrus red mite, *Panonychus citri* (right), a plant-feeding pest. Credit: Jack Kelly Clark © 2000, Regents of the University of California.

mite regulating spider mite populations in walnut orchards. However, more recent studies by Mills (2016) found that the western predatory mite may have a limited role in controlling spider mites in walnuts due to its late-season occurrence. Furthermore, the Mills (2016) study explored the effects of some commonly used insecticides and miticides on predators and indicated that western predatory mites can be very susceptible to many of these products. Given the importance of predatory mites in spider mite population regulation, it is important to know the predatory mite species that occur in walnuts and the effects of pesticides on these predatory mite species. This current article highlights the composition of predatory mite species from a walnut orchard in 2021 from a larger study on whether inoculative releases of commercially available predatory mites can establish and provide spider mite control in walnuts. Additionally, this article presents the resources that walnut growers can use to compare pesticides based on their harm to predatory mites.

Predatory mite species composition in walnut orchards: A Case Study

In 2021, predatory mites were sampled from a walnut orchard (cultivar: Chandler; tree age: 28 years old) in San Joaquin Co., CA by collecting leaves from June 21st to Sept. 13th once every two weeks. These samples were collected from a larger experiment in which a predatory mite mix (50% *Neoseiulus californicus* and 50%

Galendromus occidentalis purchased from Benemite) was released at a rate of 5,000 mites/acre on June 30th, 2021, by sprinkling predatory mite tubes with the predatory mites and vermiculite out of the passenger's side of a truck. These specimens were slide mounted and identified by Yuling Ouyang at Kearney Agricultural Research Station.

Most predatory mites found in the walnut orchard were Phytoseiidae and Iolinidae. All iolinids collected were identified as *Pronematus ubiquitous*. A few samples of Tydeidae were also found (Fig. 1). While iolinids are known to be mite predators, there is very little information about them. And there is little evidence to suggest that *P. ubiquitous* substantially consume spider mites (Duarte et al. 2021, Van de Velde et al. 2021). However, phytoseiids are known effective predators of several pest mite species and some phytoseiid genera are known to be very effective spider mite predators.

The food habits of phytoseiids are categorized by the following types:

Type 1) highly specialized phytoseiids that feed almost exclusively on spider mites (e.g., *Phytoseiulus* spp.)

Type 2) specialized phytoseiids that prefer spider mites but prey on other mite species as well (*Galendromus* spp. and some species of *Neoseiulus*)

Type 3) avoid spider mites and prefer to feed on other mite species (*Amblyseius* spp., *Typhlodromalus* spp., *Typhlodromus* spp. and *Metaseiulus* spp.)

Type 4) feed particularly on pollen and leaf sap but will feed on non-web-spinning spider mites and thrips (*Euseius* spp.) (Grafton-Cardwell et al. 2020).

Out of the phytoseiid species identified in this study, the majority were *Amblyseius similoides* (Fig. 2). However, these phytoseiids are type 3 and, thus, are thought to avoid the heavy webbing produced by *Tetranychus* spp. In the current study, only a few of some other type 3 and 4 phytoseiids were found as well, including: *Euseius stipulatus*, *Metaseiulus citri*, and *Typhlodromus pyri*. Yet, some type 2 specialist phytoseiids were collected, including *Galendromus occidentalis* and *Neoseiulus californicus*. These were also the predatory mite species released as part of the larger project on spider mite management. However, few were found (only one

specimen of *Galendromus occidentalis* and three specimens of *Neoseiulus californicus*) and they were not found solely in the blocks where they were released indicating either they were already present naturally in the orchards, or they moved from blocks that they were released into to surrounding treatment blocks. In the Grafton-Cardwell et al. 2020 study, *Galendromus occidentalis* and *Neoseiulus californicus* were also recovered in walnuts sampled in the Central Valley.

The recovery of predatory mites of the same species as those released as seen in this study indicates that it may be possible for released predatory mites that specialize on web-spinning Tetranychidae spider mites to persist in walnut orchards. However, since only a few specialized predatory mite species were recovered, it seems that higher rates, more precise release methods (such as using drones to release the predatory mites), and on-farm practices such as irrigation before and after releases should be used in the future to encourage increased establishment of specialized predatory mites. Additionally, we are currently working on identifying more predatory mite species found in walnut orchards, which will be very helpful for a further understanding of the dynamics of predatory mites found in walnuts.

Effects of pesticides on predatory mites

Information about the relative toxicity of pesticides and their potential detrimental effects on predatory mites is crucial for selecting pesticides that are less harmful to mite predators. The online *UC IPM Walnut Pest Management Guidelines* has important information about the relative toxicities of pesticides used in walnuts to natural enemies and honeybees. Additionally, another tool, such as the “Miticide Non-Target Effects on Predatory Mites in Walnuts,” is available to help growers consider the effects on predatory mites while selecting miticides: <https://caff.org/walnut-miticide-effects-database/>. This tool is based on findings drawn

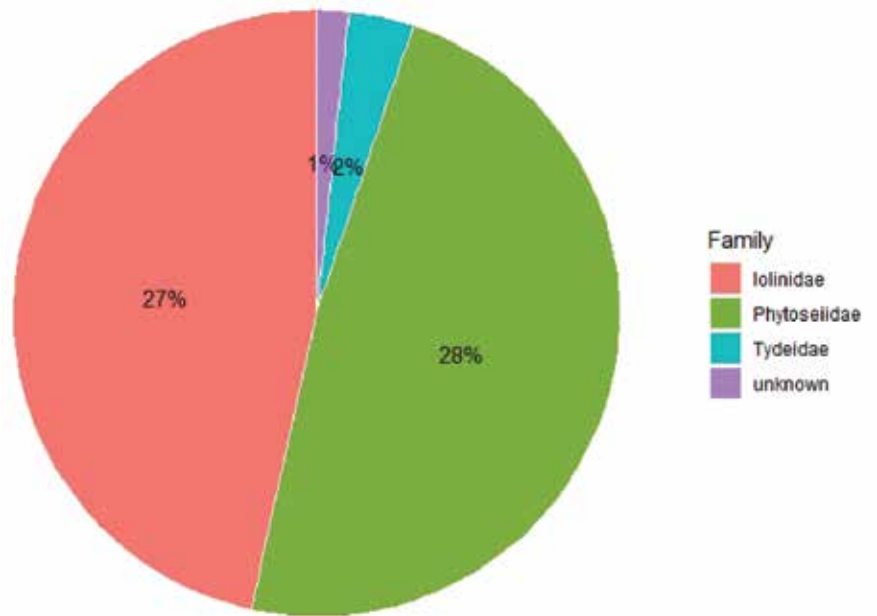


Figure 1. Proportion of predatory mite families found on a walnut farm in 2021 (n=58).

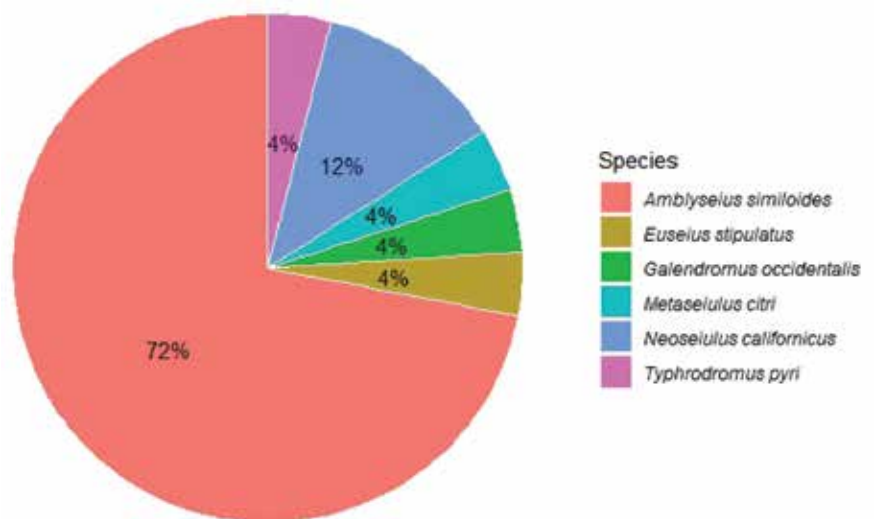


Figure 2. Proportion of different phytoseiid species found on a walnut farm in 2021 (n=28).

from the meta-analysis conducted by Schmidt-Jeffris et al. (2021) of 154 published papers on the impacts of insecticides, miticides, herbicides, and fungicides on phytoseiids in laboratory trials. The database classifies active ingredient chemicals currently registered for use in California for walnuts by their effect on any life stage of phytoseiids (adults, juveniles, eggs, and fecundity). The findings of the meta-analysis, reflected in the database, revealed bifenthrin, cyflumetofen, and hexythiazox as some of the least harmful miticides for phytoseiids. On the other hand, it found abamectin and fenpyroximate to be the most harmful to phytoseiids. Interestingly, it found etoxazole to greatly reduce egg hatch despite it having a low effect on the other life stages.

Final thoughts

Spider mites reproduce rapidly in hot summer weather, and their populations can grow exponentially in late summer when the temperatures are hot. Moreover, leaf surface temperatures of stressed trees are higher than those of healthy trees, which speeds up spider mite reproduction. Tree stress, caused by biotic and abiotic elements, including inadequate irrigation or high heat and dust, is a significant risk factor for spider mite problems. Cultural practices minimizing those stresses can go a long way to help mitigate the problem. Moreover, predatory mites are voracious predators of spider mites, and preserving or releasing predatory mites can help reduce spider mite populations, though more research is needed to evaluate the efficacies of these strategies.

Additionally, the harmful effects of broad-spectrum insecticides on spider mite natural enemies are already well known. Available resources indicate that use of broad-spectrum insecticides increases the need for spider mite sprays substantially. This highlights the need for caution in pesticide selection. The UC IPM website and some newer tools such as “The Miticide Non-Target Effects on Predatory Mites in Walnuts” database can be utilized to navigate pesticide risk to phytoseiid predators and aid in pesticide selection.

Sources

- Duarte MVA, Vangansbeke D, Pijnakker J, Moerkens R, Benavente A, Arijis Y, Saucedo ALF, Wäckers F. 2021. Evaluation of natural and factitious food sources for *Pronematus ubiquitus* on tomato plants. *Insects*. 12: 1111.
- Grafton-Cardwell EE, Bentley W, Bianchi M, Cave FE, Elkins R, Godfrey L, Gu P, Haviland D, Headrick D, Mcmurtry J, Murrietta M, Mills N, Ouyang Y, Pickel C, Rill S, Stavrinides MC, Varela LG. 2020. Surveys of 12 California crops for phytoseiid predatory mites show changes compared to earlier studies. *California Agriculture*. 74: 130–137.
- Mills NJ. 2016. Spider mite management in walnuts. California Walnut Board Research Reports 2016.
- Schmidt-Jeffris RA, Beers EH, Sater C. 2021. Meta-analysis and review of pesticide non-target effects on phytoseiids, key biological control agents. *Pest Management Science* 77: 4848–4862.
- Van de Velde V, Duarte MVA, Benavente A, Vangansbeke D, Wäckers F, de Clercq P. 2021. Quest for the Allmitey: Potential of *Pronematus ubiquitus* (Acari: Iolinidae) as a biocontrol agent against *Tetranychus urticae* and *Tetranychus evansi* (Acari: Tetranychidae) on tomato (*Solanum lycopersicum* L.). bioRxiv. 2021–04

DPR Electronic Mailing List Subscriptions

Scan the QR code to sign up for one or more email lists covering a range of topics:



- Environmental Monitoring
- Environmental Justice
- Grants
- Integrated Pest Management (IPM)
- Licensing
- News
- Pest Management
- Pesticide Registration & Evaluation
- Pesticide Use Reports
- Regulatory Notices
- Statewide Notification System
- Human Health Mitigation
- Rulemaking
- Pesticide Safety

A PCA's Introduction to Auditable Integrated Pest Management Plans

By Eric Peterson, Compliance Specialist, Azzule Systems



About the Author: Eric Peterson is a Compliance Specialist for Azzule Systems, with a unique focus on blending IPM programs with existing food safety efforts. Azzule owns and manages the PrimusGFS certification program, as well as offers the Azzule platform to help companies manage compliance programs internally and across complex supply chains. CAPCA requested this article in response to Members' requests for more information about IPM plans.

Integrated Pest Management (IPM) is gaining significant attention across the agricultural industry, driven by a growing demand for sustainable practices from both retailers and consumers. This shift is reinforced by major retailers, like Walmart, which has committed to sourcing 100% of its fresh produce and floral products from suppliers who adopt IPM practices, verified by third-party audits, by 2025.

These evolving retailer requirements reflect an industry-wide movement toward sustainable agriculture, making IPM an essential practice for growers who want to maintain market access and meet rising customer expectations. But what exactly is IPM? As you know, IPM is more than just a buzzword, it is a science-based approach to managing pests that combines biological, cultural, mechanical, and chemical methods, prioritizing pest prevention and minimizing risks to human health, beneficial organisms, and the environment.

To support growers in meeting evolving standards, **Azzule, the certification program owner of PrimusGFS,** is committed to providing complimentary tools and resources to help you and your growers on the journey to IPM audit success. The PrimusGFS team has made

templates available in their toolkit to help build your program along with the complete technical guidance behind this article. See the website and QR code at the end of this article for more. PrimusGFS's Module 9 allows growers to integrate IPM into their existing PrimusGFS food safety certification, recognizing pollinator-friendly pest practices while preserving food safety integrity.

Let's explore the steps needed to develop a comprehensive and auditable IPM program, offering practical guidance to help your growers meet audit requirements while aligning with retailer standards and contributing to sustainable agriculture.

Setting the Bar for Effective Pest Control

Defining and Understanding Action Thresholds

Action thresholds are a critical part of any IPM plan. These thresholds represent the pest population level at which you need to take action to prevent crop damage. Defining thresholds in your IPM plan allows you to make informed, timely decisions about pest control without overusing chemical interventions.



For instance, if you're walking lettuce, you may establish an **action threshold** based on the number of aphids observed per plant during regular scouting. If field inspections show aphid counts exceeding 20 per plant, you can document that this threshold has been reached and take necessary action, such as releasing beneficial insects or applying an insecticide.

However, not all thresholds are based on hard numbers. In some cases, the decision to intervene is guided by **environmental conditions or crop stages** rather than specific pest counts. For example, spider mite populations may explode during prolonged dry, hot weather. If your scouting notes show increasing mite activity alongside weather forecasts predicting continued heat, your action threshold could be based on this combination of factors, triggering a timely intervention even before the pest population reaches damaging levels.

By documenting the environmental conditions, crop growth stages, and pest activity in your IPM plan, you can create **qualitative thresholds** that guide decision-making even when quantitative data isn't available. These qualitative thresholds should be supported by field observations and expert judgment, ensuring they are rooted in real-world conditions. For audited IPM programs, you'll need to practice documenting your expert justification.

Practical Steps for Setting and Monitoring Thresholds

Consult Expert Resources: Use university extension resources, pest management guides, and scientific literature to establish realistic thresholds. Many universities provide regional IPM guidelines with pest-specific recommendations that can be tailored to your farm.

Leverage PCA Expertise: Work closely with your Pest Control Adviser (PCA) to set thresholds that align with local pest pressures, crop types, and environmental factors. PCAs can provide insight into region-specific pest dynamics and how to adjust thresholds accordingly.

Keep Detailed Records: Document scouting reports, pest counts, environmental conditions, and expert judgments regularly. This is key to showing auditors that your thresholds are being monitored and adjusted as needed.





Observation: The Backbone of IPM

Scouting and Monitoring Pest Populations

A strong IPM program relies on regular monitoring of pest populations and crop conditions. Growers should keep detailed **scouting records** to demonstrate that their pest management decisions are based on real-time field data. These records are essential for justifying pest control actions, especially when pesticides are used.

Your scouting records should include:

Pest counts: Quantify the pests observed during inspections, noting the specific areas of the field affected.

Crop growth stages: Link pest activity to crop development stages. Some pests, like aphids, may be more harmful during particular growth stages (e.g., flowering or early growth).

Environmental conditions: Record details such as temperature, humidity, and wind conditions, which may influence pest behavior or the effectiveness of control methods.

Keeping clear and consistent records supports your decision-making process and ensures that all actions, including the application of pesticides, are justified based on observable conditions.

No Field Data Available? Here's what to do.

In an IPM program, **scouting records** are the most reliable way to assess pest populations and justify actions. However, in some situations where scouting records may not be available or feasible, other information can be cited to support pest management decisions. While not ideal, growers may reference:

Historical pest pressure: If certain pests have historically caused significant damage at specific times of the year or under particular environmental conditions, this data can be used to justify preventive measures or early interventions.

Pest forecasting tools: Degree day models and weather-based pest forecasting tools can predict when pest populations are likely to surge. Using these tools, along with records of favorable pest conditions, can provide a reason for control actions.

Regional pest alerts: Updates from university extensions, local agricultural agencies, or PCAs regarding rising pest threats in

the area can help justify interventions when no direct scouting data is available.

While these sources of information can supplement decision-making, relying solely on them without regular scouting may compromise the accuracy and timeliness of interventions. **It is recommended to maintain detailed scouting records** whenever possible, as they provide the most immediate and field-specific data on pest pressures and conditions. Using these alternative sources should be seen as a secondary option when necessary, rather than a replacement for hands-on field monitoring.

IPM's First Line of Defense

Non-Chemical Control Methods

IPM emphasizes the use of **non-chemical controls** as the primary means of managing pests. These methods not only reduce the environmental impact of farming but also help to delay the development of pesticide resistance in pest populations.

Common non-chemical controls include:

Biological controls: The release of beneficial insects,

such as ladybugs, to control aphid populations.

Cultural controls: Crop rotation to disrupt pest life cycles or maintaining plant health through proper irrigation and fertilization to enhance resistance to pests.

Mechanical controls: Using traps, barriers, or manual removal to reduce pest numbers.

To demonstrate compliance with IPM principles, growers should document these non-chemical practices and evaluate their effectiveness over time. For example, you can track the success of a beneficial insect release by comparing pest populations before and after the release.

When Pesticides Become Necessary

Justifying Responsible Pesticide Use

Even in an IPM system, there may be times when pesticides are necessary. However, any pesticide application must be backed by **documented evidence** showing that it is justified by pest thresholds or other field data.



SUPPRESS® Herbicide EC

YOUR YEAR-ROUND ORGANIC SOLUTION FOR WEED CONTROL AND DESICCATION

SUPPRESS® Herbicide EC is the first and trusted leader for certified organic weed control. With years of proven efficacy, **SUPPRESS®** consistently provides fast and effective broad-spectrum burndown on a wide variety of post-emergent weeds.

Contact us today to learn more.

ADVANTAGES

- Excellent tool in IPM programs
- Helps break chemical resistance
- No pre-harvest interval or MRLs
- Effective pre-harvest desiccant

(760) 599-8855 • www.san-agrow.com





When applying pesticides, growers should:

Tie applications to pest thresholds: Ensure that pesticide use is triggered by pest counts exceeding action thresholds or other documented justifications (e.g., environmental conditions). For example, if aphid counts exceed 20 per plant in your lettuce field, your scouting reports should clearly indicate this, supporting the decision to apply an insecticide.

Record environmental conditions: Weather can influence the effectiveness of pesticides. Make sure to document conditions like wind speed and temperature at the time of application to show that the treatment was carried out responsibly.

Reduce Duplication for IPM Success

Leveraging California's Established Records

For growers in California, much of the necessary recordkeeping for an auditable IPM program may already be in place, thanks to the state's rigorous pesticide regulations and food safety certifications like **PrimusGFS**. Growers can leverage these existing records to streamline their IPM documentation.

Pesticide Use Reports (PURs): In California, growers are required to submit pesticide use reports to their county agricultural commissioners. These reports include detailed information on the pesticide used, the target pest, and the timing of the application. These same records can be used to demonstrate pesticide justification under an IPM plan.

Pesticide Recommendations: Similarly to PURs, growers are often required to have a written recommendation from a licensed PCA in California. PCAs are required to document the pest(s) targeted by a written recommendation and to confirm that all non-chemical measures have been considered.

Food Safety Certification Records: Many growers already keep comprehensive records for programs like PrimusGFS, including crop



production, field monitoring, and pest control practices. These records can be expanded to include IPM-specific documentation, such as scouting logs and non-chemical control methods.

Elevating Your IPM Program

Get the Tools and Support You Need

A successful IPM program is built on clear thresholds, regular monitoring, detailed documentation, and the responsible use of pest control methods. By combining quantitative data with qualitative assessments and expert insights, growers can develop an IPM strategy that is both effective and fully auditable.

When it comes to preparing for an audit inspection of an IPM program, online platforms can be powerful tools to centralize and organize the necessary documentation. By bringing together pesticide use reports, food safety certifications, and IPM-specific records into one accessible location, these platforms simplify recordkeeping and make it easier to demonstrate compliance with both regulatory and audit requirements. This approach not only minimizes duplication of effort but also ensures that all relevant documentation is ready for review, streamlining the audit preparation process.

Some growers may already be using an online platform to manage records for food safety certifications and day-to-day farm operations. PCAs might consider exploring these solutions with their grower clients to gain a better understanding of how they can collaborate more effectively. By sharing information through a centralized system, PCAs can help ensure that their pest management recommendations and field data



are integrated into the grower's overall recordkeeping strategy and help make IPM programs more comprehensive and audit-ready.

Whether you are working to meet specific certification requirements, working to improve pest management on your farm, or helping growers get recognition for pest control methods based in IPM, following the steps outlined here will help make sure that your IPM program is science-based, well-documented, and sustainable for the long term. With these resources at hand, you can confidently build and manage an IPM program that is both practical and audit-ready.

To learn more about how you can simplify documentation and keep records organized across IPM, food safety, sustainability, and more, please scan the QR code or navigate to: <https://pages.azule.com/primusgfs-module-9.html>



Listen for the forthcoming companion podcast with Eric Peterson.



Understanding the Corporate Transparency Act:

What it Means for Farmers and PCAs

by Tyler Zimpfer



About the Author: Tyler Zimpfer is a third-year law student at Washington University in St. Louis. He grew up on an Ohio row crop and livestock operation and is currently working as a Law Fellow at the National Agricultural Law Center. Tyler was the 2021 industry affairs intern with Valent U.S.A., where he collaborated with CAPCA. Tyler will begin his legal career as an associate at BakerHostetler in Columbus, Ohio in the fall of 2025.

Disclaimer: The information in this article is solely for informational purposes and does not constitute legal advice. The author is not a licensed attorney for the state of California. Please reach out to a qualified professional with any questions on how the CTA will apply specifically to you and your business.

The Corporate Transparency Act (CTA), enacted in 2021, requires “reporting companies” to file documents with the federal government indicating beneficial ownership information (BOI) for the business. Earlier this year, the U.S. Department of the Treasury’s Financial Crimes Enforcement Network (FinCEN) began accepting BOI filings from certain companies doing business in the United States. While reporting has begun, several legal disputes have sprung up around the country challenging the constitutionality and enforcement of the CTA. Despite the ongoing litigation, however, the initial filing deadline of January 1, 2025, remains in effect for businesses subject to the CTA.

Recent litigation challenging the CTA

On March 1, 2024, a U.S. District Court in Alabama ruled that the CTA exceeded Congress’s enumerated powers and therefore was unconstitutional. The court held that “the CTA exceeds the Constitution’s limits on the legislative branch and lacks a sufficient nexus to any enumerated powers to be necessary or proper means of achieving Congress’ policy goals.” Specifically, the court concluded that Congress exceeded its foreign affairs, taxing, and commerce powers. Interestingly, the

court did not decide on the arguments that the CTA also violates the First, Fourth, and Fifth Amendments to the U.S. Constitution.

The court prevented enforcement of the CTA against only the specific plaintiffs in the case – the National Small Business Association (NSBA) and one of its individual members. While NSBA members currently avoid any reporting requirements, CTA compliance is still required for all other companies. Therefore, the injunction imposed by the court lacks a significant, practical impact for all other businesses for the time being.

The United States has appealed the case, but most experts are not expecting a decision from the federal Court of Appeals for the Eleventh Circuit before the January 1, 2025 deadline. When a decision is released, the losing party will likely appeal to the United States Supreme Court, dragging a final determination out even further.

Six other lawsuits have been filed in other federal district courts around the country, each expecting to last longer

than the upcoming filing deadline. Long story short, the legal saga of challenges to the CTA is likely to continue for the foreseeable future.

What the CTA requires

Several key terms of the CTA explain which companies the law affects and what a company must report by January 1, 2025:

- “Reporting companies” subject to the CTA include any domestic or foreign corporation, limited liability company, or any other entity that is formed or registered to do business in a U.S. state by filing a document with the secretary of state or other similar office. Several exceptions exist for those industries already subject to government oversight.
- A reporting company must disclose certain information about the company and its “beneficial owners.” The reporting information includes the full legal name and the IRS taxpayer identification number of the company. BOI includes full legal name, address, and either an image of a U.S. passport, driver’s license, or other identification document issued by a state, local government, or tribe of each beneficial owner.
- A beneficial owner is any individual who, directly or indirectly, exercises substantial control over the reporting company or owns or controls at least 25% of the ownership interests of a reporting company. There is no limit to how many beneficial owners a company may have.

The state of California has also passed its own version of the law. While very similar to the federal CTA, California differs in some significant respects including making beneficial ownership information publicly available, requiring biannual updates, and enacting an initial filing fee. To read more about the mechanics and submission guidelines of the federal CTA, visit FinCEN’s website which includes resources for entity compliance.

What does the CTA mean for farmers and PCAs in California?

Both farming entities and pest control adviser businesses should be uniquely aware of the new BOI reporting obligations of the CTA. The CTA does not have specific industry exemptions for agriculture but takes a broad

sweep at any entity that may be formed as a shell company. However, notable exceptions to the mandates of the CTA that affect farming entities include sole proprietorships and general partnerships, which are exempt from CTA because they are not required to register with California’s Secretary of State.

Entities classified as reporting companies, such as most farm and pest management limited liability companies (LLCs), are required to report relatively straightforward ownership information. However, gathering the necessary details, like driver’s licenses or other forms of identification, can be time-consuming. A scenario to take note of arises when an individual, despite owning only a small percentage of the business, is responsible for making many of the key short- and long-term decisions. This often occurs when management is passed to the next generation, while the older generation retains the majority of ownership. Under the CTA, an individual who exercises significant management control must submit beneficial ownership information to FinCEN, even if their ownership stake is relatively small.

Additionally, any BOI updates such as a son or daughter being legally included in ownership of the farm’s assets or a beneficial owner’s change of address must be reported within 30 days of the change. Forgetting to timely update the government may result in significant penalties for the company or a beneficial owner.

Moving forward

Farming entities and pest management businesses that qualify as reporting companies should still expect to file information with FinCEN by January 1, 2025, as required by the CTA. Less than 10% of qualifying entities have filed with FinCEN so far, suggesting a significant delay in reporting or uncertainty regarding the District Court’s ruling in Alabama. Depending on the outcome of pending litigation, the CTA’s mandates may be adjusted or eliminated. Bills introduced in the U.S. House of Representatives and the U.S. Senate have also been proposed to modify or repeal the CTA, but no significant action has occurred on the proposals at this time.

In the meantime, PCAs and farming entities should work with their attorneys, accountants, and other professionals knowledgeable of the new CTA obligations to meet initial and future reporting requirements of the CTA. ■

US EPA's Draft Insecticide Strategy Update

More Clarity on the Points-Based System

by Patrick Dosier

The EPA's Draft Insecticide Strategy introduces a regulatory framework designed to limit the environmental impact of insecticides on species listed as endangered or threatened. Building on the framework from the Herbicide Strategy, the Draft Insecticide Strategy provides more structure to the point-based mitigation system aimed at addressing runoff and drift concerns. For more background on the US EPA Endangered Species issue, refer to my previous articles in the December 2023, February 2024, June 2024, and August 2024 issues of *The Adviser* as well as Episode 9 of the *Advice for the Adviser* podcast.

For PCAs and growers, understanding the field-level application of the point-based system is important, as it determines the required mitigation measures for different insecticides and field conditions. Accounting for mitigations and conditions that are already in place can save you and your grower headaches and costs. Here's an overview of how the system works, along with practical examples to illustrate how different operations might navigate the new requirements.

More Clarity, Not Absolute Clarity

If my language seems squishy, it is because there is not total clarity on how the US EPA's ESA Strategies will be fully implemented. CAPCA and aligned ag organizations continue to monitor and interpret the US EPA's plans. We are presenting the information as we understand it, and you must be aware that the details can change. CAPCA still has unresolved questions about how this will be promulgated as regulations in California, what enforcement mechanism(s) will be used, and whether the points from the Herbicide, Insecticide, and forthcoming Fungicide strategies will partially or totally overlap.



From the US EPA Draft Insecticide Strategy: yellow areas represent geographic extent of species range and designated critical habitats for listed species in the Insecticide Strategy that may be in bulletins.

The Insecticide Strategy's Point-Based System

The EPA's mitigation framework categorizes requirements on a 0-9 point scale, where each point represents a mitigation measure's contribution toward reducing pesticide exposure to listed species. The points required for a given operation depend on the desired insecticide's risk profile and the proximity to listed species and habitat. The 9-point threshold represents the highest level of mitigation, presumably associated with areas near listed species habitat and the use of "high risk" insecticides. While reaching 9 points may seem daunting, it is considered a worst-case scenario.

The examples provided later in this article illustrate the concept of the point system and what it may take for a specialty crop operation to reach this highest threshold. These approaches reflect my best understanding and are intended for illustrative purposes only. Finally, I went out of my way to select mitigation measures which are inherent to field location, are already widely used, or otherwise seem feasible to implement.

When Points Are Required and Where Requirements Are Listed

Point requirements are not universal; they vary based on field-specific conditions and if the insecticide is found to pose either “low”, “medium”, or “high” levels of possible population-level impacts. For areas with listed species, known as Pesticide Use Limitation Areas (PULAs), point requirements may be higher. Some insecticides will also carry national-level point requirements to protect generalist species in sensitive ecosystems.



PCAs and growers can determine if their fields fall within a PULA by consulting the **Bulletins Live! Two (BLT)** website, an EPA tool for location-specific guidance. This website, along with product labels,

directs users to select mitigation measures from a menu of available options. Each farming operation can select a combination of mitigation measures to reach the desired threshold. Flexibility allows for a tailored approach, though achieving high points may still present challenges in certain field conditions and cropping systems.

Once you know how many points are needed for your “high risk” pesticides, you can begin looking at a combination of mitigations needed to get to its threshold. You can find the US EPA’s “runoff points calculator” at <https://www.epa.gov/pesticides/mitigation-menu>.

Hypothetical Examples: Counting Points in Real-World Scenarios

To clarify how the system might work in practice, here’s how three different farming operations could achieve the highest level of compliance using specific mitigation measures for runoff. Additionally, growers will need to consider drift mitigation measures as well, which include standard best management practices (BMPs) and may also require extended buffers to sensitive habitat.

Again, these examples are for illustrative purposes only. Consult a UC Farm Advisor, agronomist, or other qualified consultant when deciding on your compliance approach.

Finally, note that the requirement to accumulate 9 points for insecticide runoff does not seem likely under most real-world scenarios. The US EPA’s Case Study’s on specific insecticides typically result in 2-6 point requirements, if any mitigations are required at all. However, it may be valuable to work through your fields and to document your strategy to get to 9 points. That way, you and your grower will have access to all the tools in the IPM toolbox.



Example 1: Strawberry Farm in Watsonville, CA

A small strawberry farm in Watsonville, California, on mostly flat terrain, must meet a 9-point threshold due to the insecticide’s “high-risk” classification near a sensitive species habitat. To reach this level, the farm selects a mix of mitigation strategies:

Mitigation Measures:

- Santa Cruz County Vulnerability Conditions (2 points)
- Irrigation Water Management – Below-Tarp Irrigation (3 points)
- Field with Slope $\leq 3\%$ (2 points)
- Mulching with Artificial Material (1 point): Using synthetic mulch to reduce erosion.
- Reduction in Proportion of Field Treated (10–30%) (1 point): Banded and directed sprays.

Total: 9 points

Outcome: The farm meets the EPA’s strictest requirements while maintaining cost-effective and manageable practices.



Example 2: Tree Nut Orchard in Kern County, CA

A medium-sized tree nut orchard in Kern County, California, situated on sloping terrain, faces moderate runoff risks and must meet a 9-point requirement. The farm employs several practices to reach compliance, focusing on irrigation and application methods suited to its environment.

Mitigation Measures:

- Kern County Vulnerability Conditions (3 points)
- Reduction in Proportion of Field Treated (30–60%) (3 points): Targeted pesticide application to tree canopy.
- Irrigation Water Management – Below-Ground Drip Tape (3 points)
- Cover Crop / Continuous Ground Cover (3 points): Maintaining inter-row cover crops.
- Mitigation Tracking – Grower and PCA Documented Practices (1 point)

Total: 10 points

Outcome: By implementing these practices, the orchard exceeds the EPA’s 9-point requirement.

Example 3: Lettuce Operation in Yuma, AZ

In Yuma, Arizona, a lettuce farm with predominantly sandy soil and a low slope must also achieve 9 points due to nearby sensitive species habitat. The farm combines soil, irrigation, and application methods to meet the requirements.

Mitigation Measures:

- Yuma County Vulnerability Conditions (6 points)
- Field with Slope ≤3% (2 points)
- Predominantly Sandy Soils (2 points)
- In-Field Vegetative Strips (2 points): Alyssum companion cropping.

Total: 12 points

Outcome: This lettuce operation exceeds the threshold with a combination of field conditions and a voluntary companion crop.



Photo: ©Fred Rehrman, Elysian Fields

Conclusion

The EPA's Insecticide Strategy introduces a complex, yet adaptable, framework that PCAs and growers will need to navigate. While this article provides practical examples, they are intended to illustrate the concept rather than prescribe exact solutions. Each operation has unique circumstances, and the EPA's "mitigation menu" offers a range of options to help growers meet requirements in a way that aligns with their resources and conditions.

The points you and your grower accumulate for runoff mitigation are applicable to both your herbicide and insecticides impacted by the Draft Strategies. One can assume that fungicides will be in the same, or highly overlapping, framework.

Most of the mitigation measures are season-long (or longer in permanent crops), except those that are considered application parameters, such as reduced-rate and banded applications. These mitigation points count only at the time of the application and will not carry over to a subsequent application.

There is one field condition that promises to eliminate this headache for a significant share of farms: if the area 1,000 ft down slope from the field is considered a "managed area" (including farm, road, buildings, and pavement), then no additional runoff mitigations are needed!

For PCAs and growers, understanding and implementing this new system will be key to staying compliant amid ever-evolving regulatory demands. As the EPA refines this framework, the hope is that these measures will balance environmental protection goals with the practical realities of agriculture.

Read the Draft Insecticide Strategy here: <https://www.regulations.gov/document/EPA-HQ-OPP-2024-0299-0005> ■

NURTURING CROP LIFE



100% soluble calcium and potassium with essential sulfur.

Blends with most nitrogen fertilizers, including UAN and Urea*.

Improves water efficiency and acts as nitrogen stabilizer.



*Learn More and View Our Product Compatibility Guide. Scan Below. >



CaTs



KTS

Call: (800) 525-2803 | info@cropvitality.com | cropvitality.com

Continuing Education

CAPCA ONLINE CE

Anyone can create a free account to view and purchase courses through CAPCA's CE course catalog. Once purchased, all courses are available to access through 12/31/24.

NEW & FREE TO EVERYONE!

Western Growers: Farming, Monarch Butterflies, & the New EPA Workplan – 1.0 DPR hours (0.5 Laws, 0.5 Other)

Watch this pre-recorded webinar to stay informed ahead of the monarch's listing determination this December. Gain the knowledge you need to confidently advise your growers!



12.5 **FREE** Hours of Online CE Available NOW for 2024 CAPCA Members

As part of CAPCA's 2024 membership benefits, all Active and Associate Members have received FREE online CE courses! These courses are approved for a total of 12.5 DPR Hours (5.0 Laws, 7.5 Other) and are available in your member Online Learning portal on CAPCA.com.

FREE 2024 ONLINE CE COURSES:

ARA CPDA Course: Drift Reduction & Surfactant Adjuvants — 2.0 DPR hours (2.0 Other)

- Using Drift Reduction and Deposition Adjuvants to Enhance Your Chemical Investment, by Joe Gednalske
- Surfactant, Sticker, and Silicone Spray Adjuvants, by Joe Gednalske

The SPM Roadmap — 1.5 DPR hours (1.5 Other)

- SPM Panel Discussion with panelists Julie Henderson, Christine Birdsong and moderator Taylor Roschen

Label Update Recap, Hour 1— 1.0 DPR hour (1.0 Laws)

- 2023 Label Updates from Corteva, AgBiome, Trece, and TELUS Agriculture

Label Update Recap, Hour 2— 1.0 DPR hour (1.0 Laws)

- 2023 Label Updates from SAN Agrow, UPL, Nichino, and Suterra

County Ag Commissioner 101 — 1.0 DPR hour (1.0 Other)

- CAC 101, by Ruben Arroyo

Industry 101, Part 1 — 2.0 DPR hours (1.0 Laws, 1.0 Other)

- Spray Safe 101, by Ruben Arroyo & Louie Mendoza
- How to Be Prepared to Defend a Violation, by Robert Atkins
- Discussion Panel: CAC/Enforcement - Be Educated, Be Proactive, with panelists Ruben Arroyo, Louie Mendoza, Robert Atkins and moderator Paul Crout

Industry 101, Part 2 — 3.0 DPR hours (2.0 Laws, 1.0 Other)

- PPE & Health Effects for Workers, by Ben Laverty IV
- Updates on Soil Fumigant Application Requirement, by Dr. Rais Akanda
- Why is Weed Management So Difficult?, by Dan Wickham

CE hours Reported & ESA Updates — 1.0 DPR hour (1.0 Other)

- CE Hours Reported, by Patrick Dosier
- ESA Regulations, by Patrick Dosier

2024 ONLINE CE COURSES & BUNDLES

Available for Anyone to Purchase:

PCA 101 — 1.0 DPR hours (1.0 Other), \$20.⁰⁰

2023 Conference Presentations:

- Recommendations in Agriculture: A Team Effort, by Anthony Duttie
- Drift Mitigation & Accountability, by Paul Squires

2024 Regulatory Updates — 3.0 DPR hours (2.0 Laws, 1.0 Other), \$60.⁰⁰

2023 Conference Presentations:

- CACASA & BeeWhere Update, by Ruben Arroyo
- Navigating California's Regulatory Landscape with Innovative Technology, by Erik Nijskens
- EPA's ESA Workplan, by Rachel G. Lattimore
- Neonic Regulation Update & CDPR Licensing Update, by Josh Ogawa

Pest, Disease, & Innovation — 4.0 DPR hours (0.5 Laws, 3.5 Other), \$80.⁰⁰

2023 Conference Presentations:

- Development and Application of an In-Field Optical Biosensor for Early Detection of Plant Diseases, by Dr. Perry Edwards
- The Imperative Need for Bio-Solutions and Novel Technology in Conventional Systems, by Drew Wolter
- Harnessing Aerodynamics through Technology in Aerial Application, by Doug Thiel & Dan Gudgel
- Pest Management, Water Quality, and the Future of Rice, by Tim Johnson
- Managing Pests and Diseases in Pistachios: Current Technology and Works in Progress, by Dr. Bob Klein
- Managing Insecticide Resistance in Spotted Wing Drosophila Using Integrated Approach, by Dr. Jhalendra Rijal
- Managing Herbicide Resistant Chickweed in Small Grains, by Nicholas Clark
- Beet Curly Top Virus Control Program, by Kendra Tapia

Technology Roundtable — 2.5 DPR hours (2.5 Other), \$37.⁵⁰

2023 Conference Roundtable Presentation:

Joan Vernon, TelusAg | Justin Kerr, Factor IV Solutions | Greg Guyette, Insero | Josh Minor, John Deere
Moderator: Paul Crout



DPR CE TRACKING YOU CAN TRUST



Available on desktop and mobile at CEREPORTED.COM

DPR regulatory changes affect CE sponsors - **January 1st, 2024**:

- ⚠️ Sponsors must report directly to DPR within 14 calendar days.
- ⚠️ Sponsors must track and report actual hours (in & out) for all license types, including private applicators.
- ⚠️ Sponsors must provide attendees with a verification of attendance (VOA) with an attendee's actual attendance.

CE Hours Reported is a *free* service to provide CE tracking and reporting to the industry:

- ✔️ Streamline the CE course application process.
- ✔️ Track all attendees in & out for accurate hours reporting.
- ✔️ Automate the reporting to DPR and creation of VOAs for all attendees.
- ✔️ So much more!

New Tools!

Our *new* premium CE Sponsor accounts offer the best attendee experience, gain many more convenient features, and showcase your organization's professionalism. Upgrade today!



Scan for an overview of the Free, PLUS, and PRO CE Sponsor features.

PCAs - CE Hours Reported is the *only* way CAPCA will track your CE hours in 2025.

- ✓ **Easy Course Discovery:** Find and register for quality CE courses with ease.
- ✓ **License Verification:** Securely verify your license number and avoid clerical errors.
- ✓ **Quick Check-In:** Speed up your course check-in process.
- ✓ **VOA Direct to You:** Automatically receive VOAs in your inbox.
- ✓ **Auto Tracking:** Your data will be aggregated on a DPR Renewal Summary at CAPCA.com.

Creating a profile is fast, free, and easy! Go to: CEREPORTED.COM

Thank You 2024 Sustaining Members

PLATINUM LEVEL



ProFarm



Potassium Nitrate **experts**

DIAMOND LEVEL

Agro-Liquid
Almond Board of California
Bayer
Certis
Corteva
FMC
TELUS
UPL
Western Growers Assoc.

CHROME LEVEL

Albaugh
Crop Vitality
Gowan
Helm Agro
Impello Biosciences
MGK
Nichino America
Novasource
Rovensa Next
Syngenta
Valent

GOLD LEVEL

Acadian Plant Health
AgroPlantae
AMVAC
BASF
GroPro
Grow West
Helena Agri Enterprises
JH Biotech
Kemin Crop Technologies
Miller Chemical & Fertilizer
Netafim
Neudorff North America
Novonosis
Nutrien
Ocean Organics
Plant Food Systems
Qualitech
Redox Bio-Nutrients
SAN Agrow
Simplot
Suterra
Trece
Valent BioSciences
Vestaron Corporation
YARA North America

SILVER LEVEL

Adama
Atticus
BioSafe Systems
EarthSol
Wilbur-Ellis
Wonderful Nurseries

BRONZE LEVEL

Ag1 Source
Agrauxine by Lesaffre
APC Agro
Baicor
Bio Ag Services Corporation
Blue Mountain Minerals
California Safe Soil
Custom Ag Formulators, Inc
Diversified Waterscapes, Inc
Farm X
Lallemand
Meister Media Worldwide
Motomco
Nutrient Tech
Pacific Biocontrol
Polymer Ag
Semios
Southern Valley Chemical Company
Spectrum Technologies
Summit Agro USA
Sunridge Nurseries
Teleos Ag Solutions
The Morning Star Company
Tiger-Sul Products, LLC
True Organic Products
Western Region Certified Crop Advisers

PLATINUM**\$25,000**

Complimentary and timely access to insider knowledge about the concerns and advances in the PCA industry.

Acknowledgement on the CAPCA Website and in Each Issue of Adviser Magazine - For the Year Once Membership is Confirmed.

Access to CE Hours Reported for all your DPR reporting needs.

2 Subscriptions to Adviser Magazine.

Discounts on exhibitor fees and registration for CAPCA Conference & Spring Summit.

1st Priority Placement for Conference Exhibit Booth. Must be signed up by 10/31/24.

Full Page Adviser Ads	2
Adviser Advertorial	1
Website Banner Ad	1
Website Pop-up Ad	1
Job Opportunities**	3
Digital Advertising Discount***	25%
CEHoursReported.com Discount Packages	90%
Conference Booth Discount*****	\$1,000
Complimentary Conference Registration	2
Complimentary Spring Summit Registration****	2
Additional Conference Registration Discount (+5 or more)****	25%
Advice for the Adviser Audio Commercial (:30s spot)	1

DIAMOND**\$10,000**

Complimentary and timely access to insider knowledge about the concerns and advances in the PCA industry.

Acknowledgement on the CAPCA Website and in Each Issue of Adviser Magazine - For the Year Once Membership is Confirmed.

Access to CE Hours Reported for all your DPR reporting needs.

2 Subscriptions to Adviser Magazine.

Discounts on exhibitor fees and registration for CAPCA Conference & Spring Summit.

2nd Priority Placement for Conference Exhibit Booth. Must be signed up by 10/31/24.

Full Page Adviser Ads	1
Website Banner Ad	1
Job Opportunities**	3
Digital Advertising Discount***	15%
CEHoursReported.com Discount Packages	50%
Conference Booth Discount*****	\$500
Complimentary Conference Registration	2
Complimentary Spring Summit Registration****	2
Additional Conference Registration Discount +5 or more****	15%
Advice for the Adviser Audio Commercial (:30s spot)	50%

CHROME**\$6,500**

Complimentary and timely access to insider knowledge about the concerns and advances in the PCA industry.

Acknowledgement on the CAPCA Website and in Each Issue of Adviser Magazine - For the Year Once Membership is Confirmed.

Access to CE Hours Reported for all your DPR reporting needs.

2 Subscriptions to Adviser Magazine.

Discounts on exhibitor fees and registration for CAPCA Conference & Spring Summit.

3rd Priority Placement for Conference Exhibit Booth. Must be signed up by 10/31/24.

1/2 Page Adviser Ads	1
Website Banner Ad	1
Website Square Ad*	1
Job Opportunities**	2
Digital Advertising Discount***	15%
CEHoursReported.com Discount Packages	20%
Conference Booth Discount*****	\$500
Complimentary Conference Registration	1
Complimentary Spring Summit Registration****	2
Additional Conference Registration Discount - +5 or more****	15%
Advice for the Adviser Audio Commercial (:30s spot)	25%

There is a limited window to sign up for 2025 Sustaining Membership: Sept. 9, 2024 to April 30, 2025. For Sustaining Membership sign-up, visit CAPCA.com.

Complimentary ads are not available during the October Issue of the Adviser. All other issues are on a first come, first served basis. Only purchasable ads available.

CAPCA will provide Sustaining Member companies redeemable Conference and Spring Summit registration codes for their employees. A \$100 service fee will be applied to any refund requested for a registration purchased without the redeemable registration code provided. Complimentary Conference and Spring Summit Registrations: Pending the availability of hosting in-person events in 2025. CAPCA reserves the right to limit benefits and/or adjust to online programming value due to unknown gathering and spacing restrictions.

*Skyscraper and Footer Ads: Maximum of 5 comps available. First come, first serve basis. Order must be placed by 12/15/24.

**Digital Job Opportunities are exclusive for our Sustaining Members. Digital discount will apply.

GOLD**\$3,850**

Complimentary and timely access to insider knowledge about the concerns and advances in the PCA industry.

Acknowledgement on the CAPCA Website and in Each Issue of Adviser Magazine - For the Year Once Membership is Confirmed.

Access to CE Hours Reported for all your DPR reporting needs.

1 Subscriptions to Adviser Magazine.

Discounts on exhibitor fees and registration for CAPCA Conference & Spring Summit.

4th Priority Placement for Conference Exhibit Booth. Must be signed up by 10/31/24.

1/2 Page Adviser Ads	1
Website Square Ad*	1
Job Opportunities**	2
Digital Advertising Discount***	15%
Conference Booth Discount****	\$300
Complimentary Conference Registration	1
Complimentary Spring Summit Registration****	2
Additional Conference Registration Discount - +5 or more****	10%
Advice for the Adviser Audio Commercial Discount :30s spot	25%

SILVER**\$2,500**

Complimentary and timely access to insider knowledge about the concerns and advances in the PCA industry.

Acknowledgement on the CAPCA Website and in Each Issue of Adviser Magazine - For the Year Once Membership is Confirmed.

Access to CE Hours Reported for all your DPR reporting needs.

1 Subscriptions to Adviser Magazine.

Complimentary registration for Spring Summit.

5th Priority Placement for Conference Exhibit Booth. Must be signed up by 10/31/24.

Email Skyscraper Ad*	1
Job Opportunities**	1
Digital Advertising Discount***	10%
Complimentary Spring Summit Registration****	2
Advice for the Adviser Audio Commercial Discount :30s spot	15%

BRONZE**\$750**

Complimentary and timely access to insider knowledge about the concerns and advances in the PCA industry.

Acknowledgement on the CAPCA Website and in Each Issue of Adviser Magazine - For the Year Once Membership is Confirmed.

Access to CE Hours Reported for all your DPR reporting needs.

1 Subscriptions to Adviser Magazine.

Complimentary registration for Spring Summit

6th Priority Placement for Conference Exhibit Booth. Must be signed up by 10/31/24.

Email Footer Ad*	1
Job Opportunities**	1
Digital Advertising Discount***	10%
Complimentary Spring Summit Registration****	1
Advice for the Adviser Audio Commercial Discount :30s spot	10%



CAPCA
AT THE CENTER OF PLANT HEALTH

www.capca.com | 916-928-1625 | sales@capca.com

2025 SUSTAINING MEMBERSHIP

***Digital Ad Discount: One time discount if order is placed by 12/15/24.

****Discount on Additional Conference Registrations Bulk of 5 or more registrations must be purchased to qualify for the discount.

*****Discount on Conference Exhibitor Booth. Discounts determined based on Sustaining Member Level. Max discount \$1,000.

Negotiated Benefits: Complimentary ad exchange may be negotiated. Value of Negotiated Benefits must be completed by 2/21/25. Complimentary ad will be discounted if ad is upgraded.

The rights, privileges, membership benefits and unused portion thereof of CAPCA Sustaining Members applies only to the Company purchasing membership and cannot be transferred or assigned to said Company's subsidiary(ies) or any other entity(ies) of which the Company has full or partial ownership. The rights, privileges, membership benefits and unused portion thereof of CAPCA Sustaining Members applies only to the calendar year. (Jan. 1-Dec. 31) for which the Company purchases membership and cannot be transferred or rolled over to any subsequent calendar year.

Chapter News

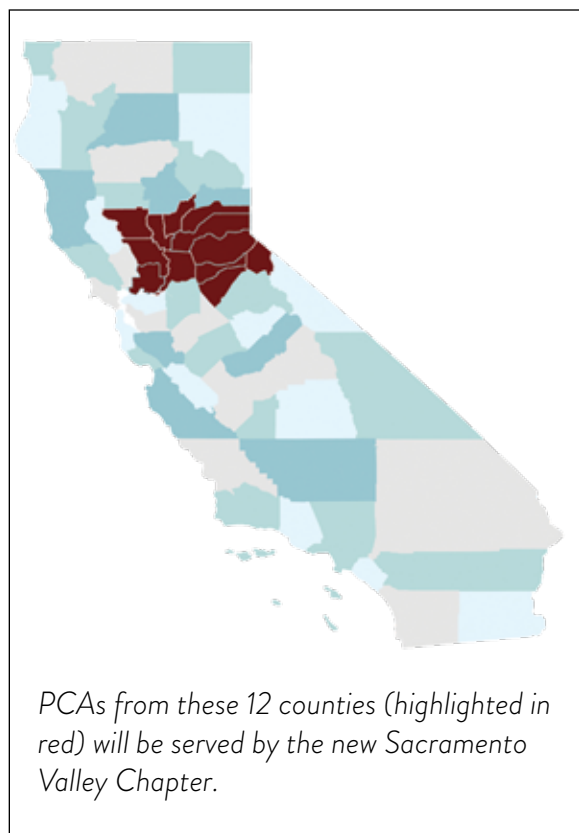
Uniting PCAs in the Sacramento Valley:

CAPCA's Sutter Buttes and Woodland Chapters to Merge and Reengage Members

For over 50 years, CAPCA has been a member-led organization, fostering local connections through its 16 Chapters across California. These Chapters were established to meet the agricultural needs of their regions, facilitating networks among professionals, researchers, and regulators. However, just as agriculture has evolved, so have the needs of CAPCA's Chapters.

The Woodland and Sutter Buttes Chapters, which serve the southern and central portions of the Sacramento Valley, have faced challenges in maintaining active leadership and member engagement. Acknowledging the critical role of local communities in supporting PCAs, passionate members recently convened to chart a new path forward. This fall, a plan was initiated to merge these two legacy Chapters, creating the Sacramento Valley Chapter, a unified network for the region. This proposed merger is pending approval by the CAPCA Board of Directors.

The Sacramento Valley Chapter, once approved, will represent the counties of Alpine, Amador, Calaveras, Colusa, El Dorado, Nevada, Placer, Sacramento, Solano, Sutter, Yolo, and Yuba. Its mission will be to provide a platform for professional networking, continuing education (CE), and addressing local agricultural priorities.



Become a Founding Member

The provisional leaders of the Sacramento Valley Chapter invite you to join its first Chapter meeting:

Date: Tuesday, January 21, 2025

Time: 12:00 – 1:00 pm

Location: Yuba City, CA

RSVP for details: Email chapter@capca.com or scan the QR code



This working lunch meeting is a unique opportunity to shape the future of the Chapter and connect with local PCAs. RSVPs are requested to manage lunch arrangements.

Together, let's launch a Chapter that will strengthen the Sacramento Valley PCA community for decades to come! ■

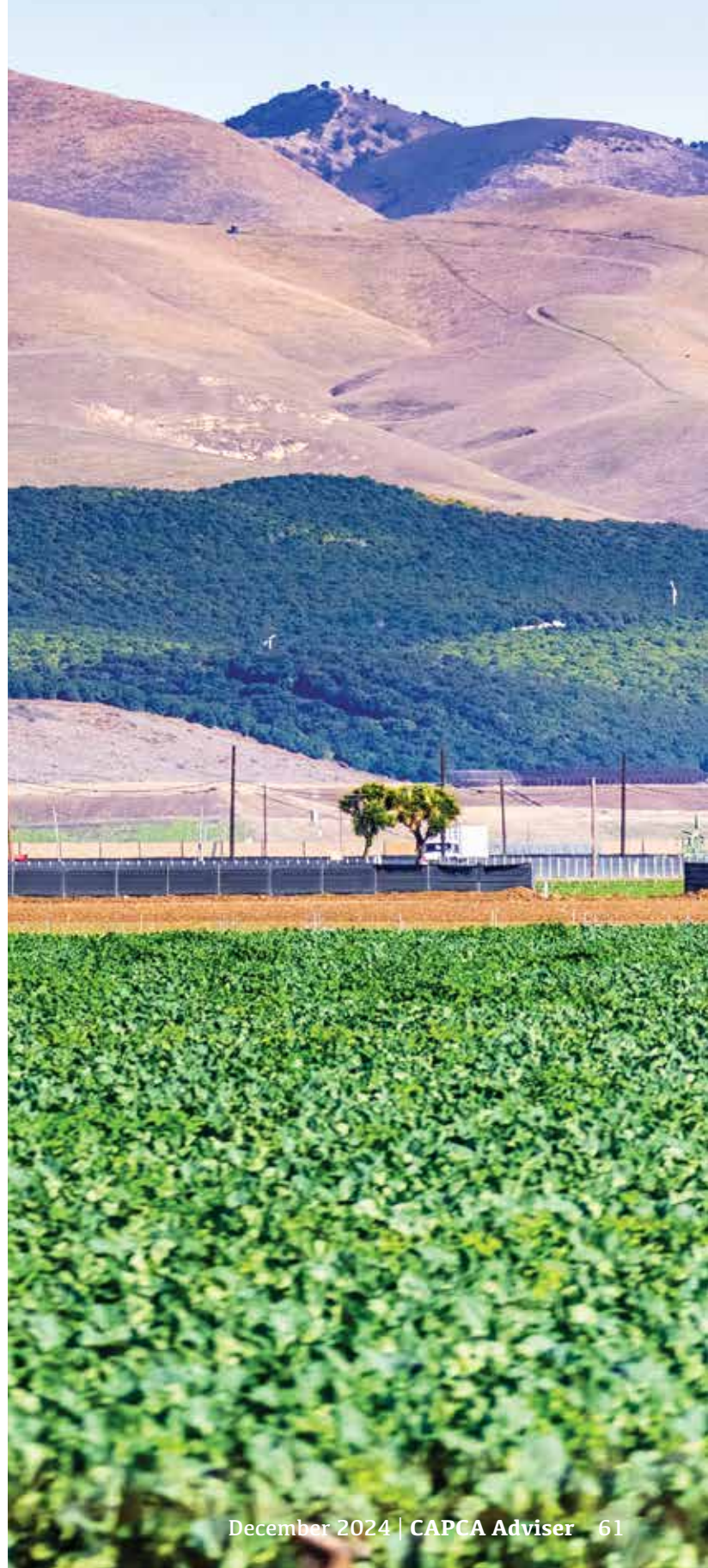


Mission & Purpose

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.



CAPCA

OUR TEAM



RUTHANN ANDERSON
CEO/President
Ruthann@capca.com



ASHLEY HINSON
Content Curator
Ashley@capca.com



CARRIE KIHALTHAU
CE& Hours Reporting Mgr
Carrie@capca.com



BRIANA LOVE
Technical Project Mgmt.
Briana@capca.com



KATRINA SILVER
Office Manager
Katrina@capca.com



PATRICK DOSIER
Innovation & Technology
Patrick@capca.com



MEGHAN CARLSEN
Sales & Marketing Coord.
Meghan@capca.com



RYAN DANA
Events Coordinator
Ryan@capca.com

Do you have a specific question?

For assistance from one of these CAPCA State Office departments, send email to:

Accounting Inquiries	accounting@capca.com
CAPCA State Events	conference@capca.com
Chapter Questions	chapter@capca.com
Grant Questions	cdfagrant@capca.com
Sales Inquiries	sales@capca.com
Support Questions	support@capca.com



Celebrating Crystelle Turlo

A Study of Dedication and Leadership at CAPCA



For the past five years, Crystelle Turlo has been a cornerstone of the CAPCA community, embodying the organization's mission with unwavering dedication and passion. Hired initially as the Director of Individual Membership and Chapter Projects, Crystelle's commitment to the members and her belief in CAPCA's vision quickly became evident. Her journey within the organization is a testament to her hard work and leadership, culminating in her role as Chief Director of Operations.

Crystelle's tenure at CAPCA has been marked by her genuine love for the members. She has always gone above and beyond to ensure a high level of member service, with a keen eye on fostering a sense of belonging and community. As the Director of Individual Membership and Chapter Projects, Crystelle was instrumental in expanding CAPCA's reach and enhancing member engagement. Her innovative strategies and tireless efforts helped to set a strong foundation for the organization's future. Her leadership skills and strategic vision did not go unnoticed, leading to her promotion to Chief Director of Operations.

As Chief Director of Operations, Crystelle has overseen numerous initiatives strengthening CAPCA's operational framework. Her strategic insights and ability to streamline processes have been invaluable, ensuring the organization runs smoothly and efficiently. Most recently, Crystelle participated with our entire team to ensure a successful 50th Annual CAPCA Conference and Agri Expo.

As Crystelle embarks on a new opportunity, her departure is bittersweet. While the CAPCA community will miss her dearly, her legacy of dedication, compassion, and leadership will continue to inspire. Crystelle's journey at CAPCA is a shining example of what can be achieved with passion and commitment. We wish her all the best in her future endeavors! ■

CAPCA STATE OFFICE HOLIDAY HOURS

Holiday Closure Dates:

The CAPCA state office will be closed from December 23, 2024 through January 1, 2025 for the Christmas and New Year's holidays.

Regular operations will resume on Thursday, January 2, 2025.

Member Support Availability:

Support for the website, CE Hours Reported, and online CE will be available only during regular business hours prior to the holiday closure.

If you need assistance, contact us before noon on Friday, December 20, 2024, at 916-928-1625 or at support@capca.com

Don't Delay – Act Today!

The DPR license renewal process underwent significant changes in 2024. Be sure to visit CAPCA's DPR Renewal Hub for instructions: capca.com/dpr-renewal-hub

CAPCA Membership dues will increase on January 1, 2025. You may purchase your 2024 and 2025 Memberships at the current price through Dec. 31, 2024.

Wishing you and your loved ones a joyful and peaceful holiday season! — The CAPCA Staff



NEW: Almond Learning Hub

A FREE Online Resource

Did you miss previous Almond Board events? ABC now has you covered with on-demand CEUs. Whether it's insects, diseases or weeds, the Almond Learning Hub has a wide range of courses to fit your needs.

Scan the QR code or visit almondlearninghub.com to login, sign up, take a tour of resources on the site, and start getting free credits!

