

THE ALMOND CONFERENCE

50

YEARS

# CEU INSTRUCTIONS: HOW TO RECEIVE CREDIT

## VIA QR CODES

1. **Separate QR codes will be provided** at the start and end of each session. Participants will scan QR code with their smart phones where their check-in/out times are recorded and will provide their information.
2. **The QR codes can be found on the stands at the entrance** of each session.
3. **The check-in QR codes will be pinned 10 minutes** before the session starts and available until 10 minutes after the presentation has started. The check-in QR code will be removed after 10 minutes into the session to prevent late attendees from checking in.
4. **The checkout QR codes will be provided 5 minutes** before the session is scheduled to end, and available for 15 minutes afterwards before being removed.

## VIA ATTENDANCE BOOTH

1. **A staff member will be present** at the attendance booth to help assist participants who are unable to use the QR code.
2. **Attendees will check in before the session starts** and check out after the session is over by filling out a copy of the check-in/out form.
3. **Attendees will provide** name, email address, license type and number, and credit type that they wish to receive.
4. **The same policy will apply** as above for check-in and checkout times.

## MONITORING

**One to two Almond Board staff members will be present** at each session for monitoring attendance. Staff will monitor any attendees who leave at any point during session. They will remind these attendees of their credit being denied and won't allow them to checkout at the end of the session.

## CERTIFICATES

- **Attendance information will be tracked** and compiled after the sessions.
- **Course Completion Certificates will only be provided** to attendees that were present for the entire duration of each session.
- **Course Completion Certificates will be emailed** to attendees within 14 days after the conclusion of the conference.
- **No partial credits** will be offered.
- **No print certificates** will be provided. Certificates will be emailed shortly after The Almond Conference.

# THANK YOU TO THE ALMOND CONFERENCE 2022 METAL SPONSORS!





# We Want to Hear from You!

The Almond Board is conducting research to understand your experiences, perceptions and needs/wants of The Almond Conference. This information will improve future conferences. During the conference, we'll conduct several focus group sessions and short individual interviews.

## Focus Group Sessions

These will be in Room 15 (Level 2—across from Ballroom B-5) during the following times:

### Wednesday, December 7, 2022

- 9:30–10:30 a.m.
- 11:45 a.m.–12:45 p.m.
- 4:00–5:00 p.m.

### Thursday, December 8, 2022

- 10:30–11:30 a.m.

If you are interested in being a part of the focus group, please use this QR code to select a time!



## Short Individual Interviews

Throughout the conference, Vivayic, the research organization, will also ask select attendees about their conference experiences.

Vivayic will have a neon yellow ribbon on their name badges that says, **"Tell me more."**

Please take a few moments to provide your insights if asked.

# VISIT THE INCENTIVE AND GROWER SUPPORT ZONE!

This year the Almond Board of California is offering a new and improved ***Incentive and Grower Support Zone***. This is **THE** place to learn about government incentives and other forms of support. Many of these incentive programs began as research projects with funding from the ABC, with proven agronomic benefits.

**Grower incentives through federal, state and local programs provide funding for adoption of many practices of interest to almond growers.**

**Examples of available funding include:**

- More efficient irrigation and nutrient management systems
- Cleaner on-farm equipment
- Low-dust harvesters
- Groundwater recharge
- Habitat projects including pollinator hedges
- Navel orangeworm mating disruption and integrated pest management
- Planning grants and many other practices

**Located on  
Level 2 in the  
Ballroom B Foyer**

**The tables with agency staff and program materials will be outside the breakout sessions, in the Ballroom B Foyer.**

**Just keep an eye out and you can't miss it, or ask at the ABC booth for more information.**





# Food Truck Village

**Tuesday, December 6**  
11:00 a.m. – 2:00 p.m.

**Wednesday, December 7**  
11:00 a.m. – 2:00 p.m.

**Thursday, December 8**  
10:30 a.m. – 1:30 p.m.

Located Outside in the  
**West Lobby Plaza**





# OPENING RECEPTION

Sponsored by Alzchem LLC



# SNACKS

Sponsored by Wilbur-Ellis



**WILBUR-ELLIS**  
AGRIBUSINESS

**3:30 – 5:00 p.m.**

**Almond Conference Expo**

THE ALMOND CONFERENCE

50  
YEARS

# What's New in Almond Pollination?

December 6, 2022

Moderator: Josette Lewis (ABC)

Speakers: Elina Niño (UC Davis)

Brandon Hopkins (Washington State University)

Rory Crowley (Project Apis m.)

Miles Dakin (Pollinator Partnership)



# Honey Bee Aided Pollination of Self-fertile Varieties

Elina L. Niño

Associate Professor of Cooperative Extension - Apiculture



**Current stocking rate recommendations for conventional varieties:  
2 hives/acre**

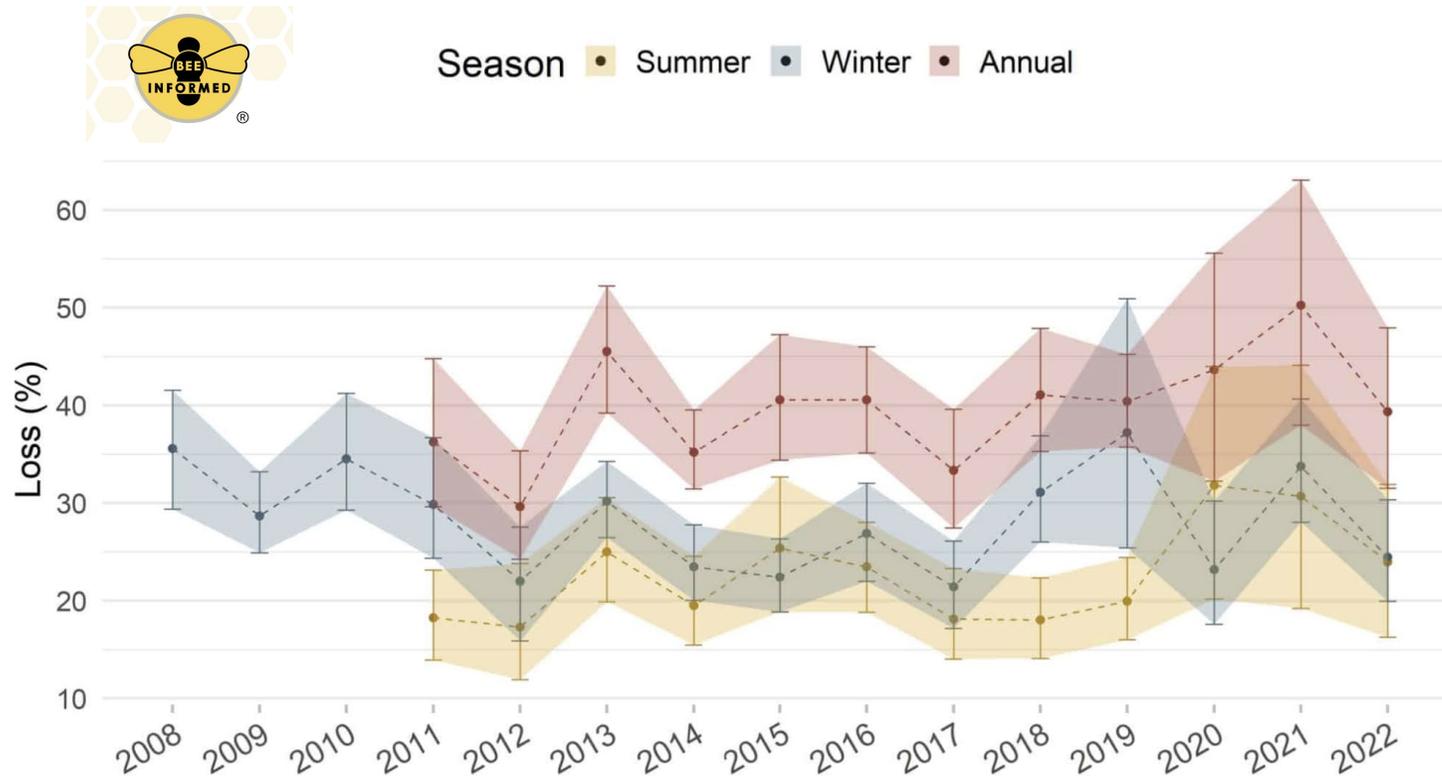
# Annual colony losses driven by stressors



**Pests**



**Pathogens/diseases**



**Pesticides**



**Poor nutrition**

\*Preliminary data

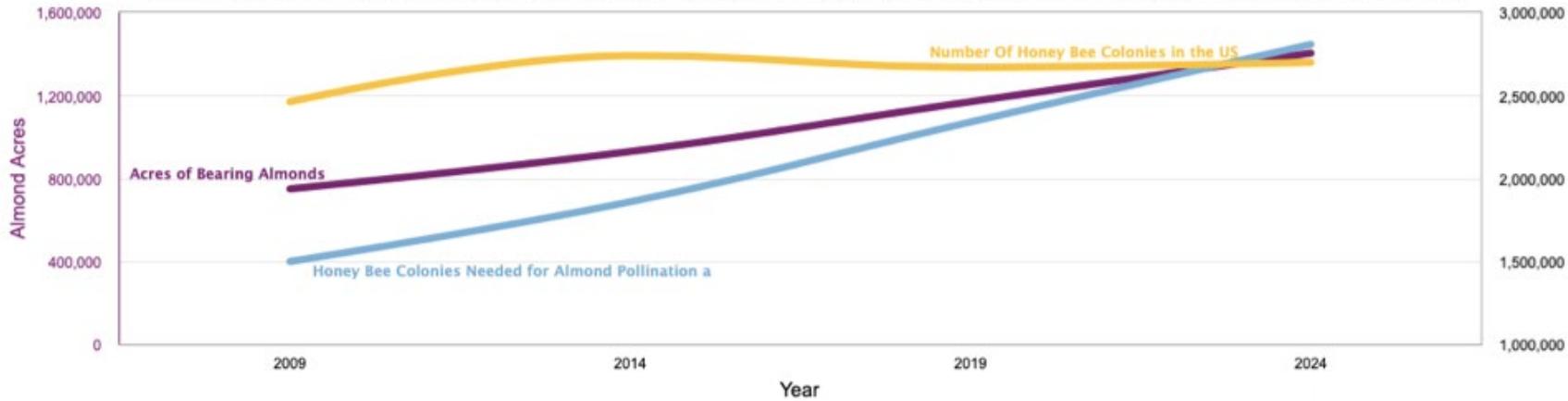
# Fire / bear damage



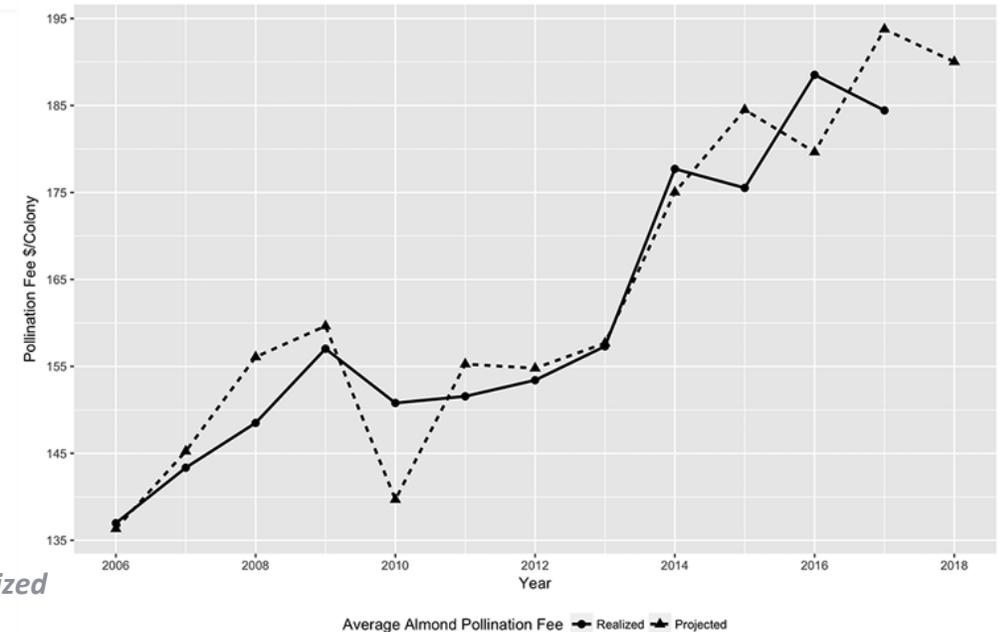
# Increasing pollination demands and rental prices

**Acres of Bearing Almonds and Number of Honey Bee Colonies Needed for Pollination**

\*Data from 2008-2019 is sourced from USDA-NASS Almond Acreage Reports and USDA-NASS Honey Reports. 2024 data projected based on past 10 years' trends of growth.



Grace Kunkel, Project Apis m



*B. Goodrich, Bee Culture; 2018; Figure 2. California State Beekeeper's Association Survey Average Projected and Realized Almond Pollination Fees, 2006-2018.*

Average Almond Pollination Fee —●— Realized —▲— Projected

# Increased interest in self-fertile varieties



Independence, Zaiger Genetics



C. A. Ledbeter, HortScience horts 56, 9; [10.21273/HORTSCI16066-21](https://doi.org/10.21273/HORTSCI16066-21)

Yorizane, USDA-ARS



Shasta, Burchell Nursery



West Coast Nut, photo: Burchell Nursery

Pyrenees, Burchell Nursery

<https://www.npr.org> › sections › thesalt › 2016/03/23 › wi... ⋮

## With Bees In Trouble, Almond Farmers Try Trees That Don't ...

Mar 23, 2016 — ... almond tree called Independence has some beekeepers nervous. **These trees are self-fertile** — meaning they technically don't need bees to ...

<https://www.escalontimes.com> › 209-living › independenc... ⋮

## Independence Almonds: Is It Bye, Bye For The Bees?

Feb 26, 2020 — **They don't need bees**, and you harvest them all at one time," thereby saving labor costs. "They got some good qualities," Vander Veen said.

<https://www.mprnews.org> › story › 2016/03/24 › almo... ⋮

## With bees in trouble, almond farmers try trees that don't need 'em

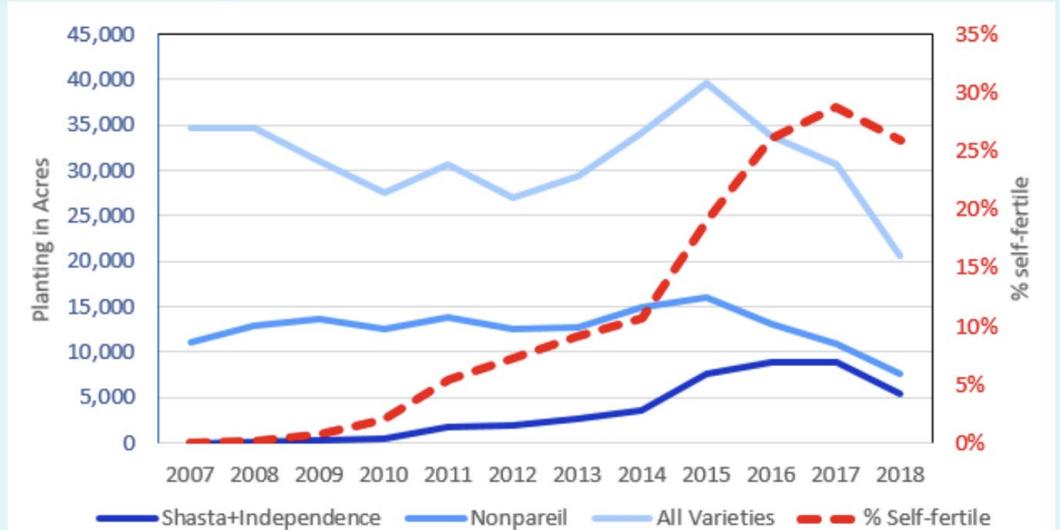
Mar 24, 2016 — **Independence almond** trees are easy to harvest, and they make tasty **almonds**. But what really sets them apart is the fact that they're self- ...

<https://www.neogen.com> › neocenter › blog › some-al... ⋮

## Some almond trees don't need no stinkin' bees! - Neogen

Mar 31, 2016 — Some **almond** trees **don't need** no stinkin' **bees!** ... a relatively new variety of **almond** called **Independence** could change the **need** for **bees** and ...

Figure 2. Plantings of Nonpareil, Independence and Shasta Varieties (acres) and Percentage of Self-Fertile Plantings



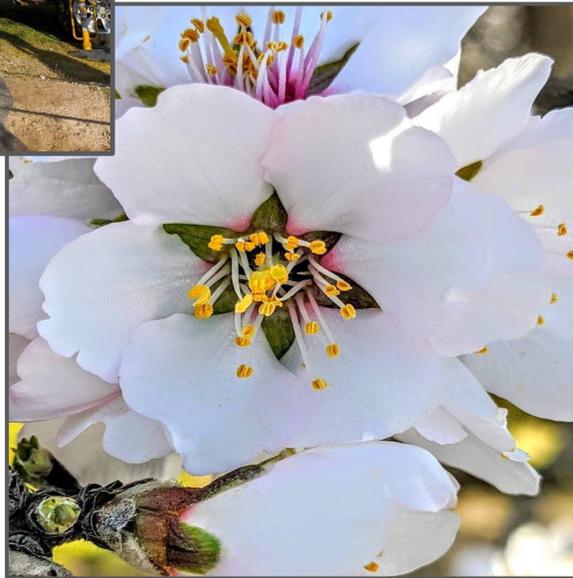
Source: California Department of Food and Agriculture (2019). Percentages of self-fertile varieties are calculated as the percentage of 'Independence' and 'Shasta' plantings in total state (all varieties) plantings.

A. Champetier, H. Lee, D. Sumner; *Choices*, 4th Quarter 2019 • 34(4)

# Do they need bees? Can they benefit from bees?



 californi  
**almonds**<sup>®</sup>  
Almonds.com

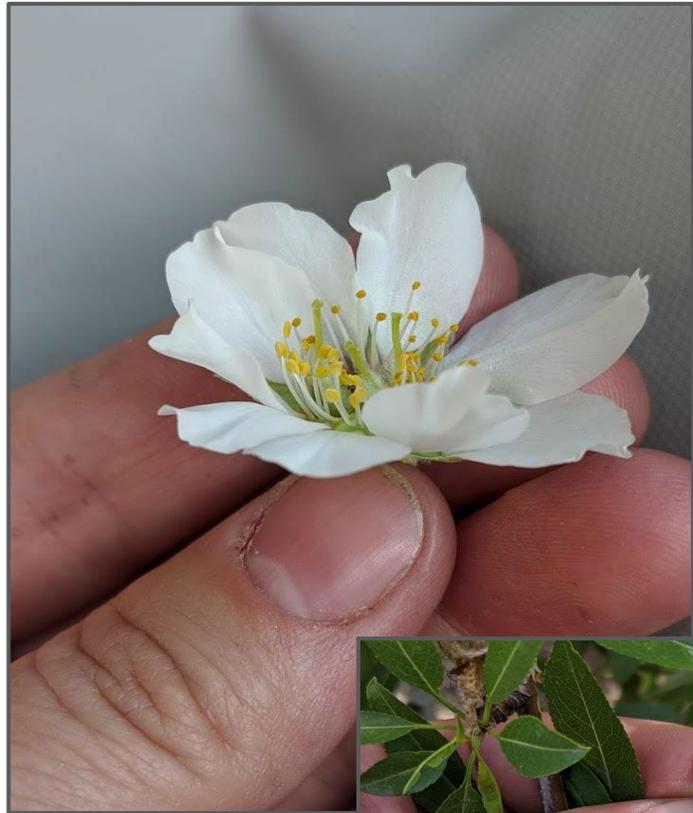
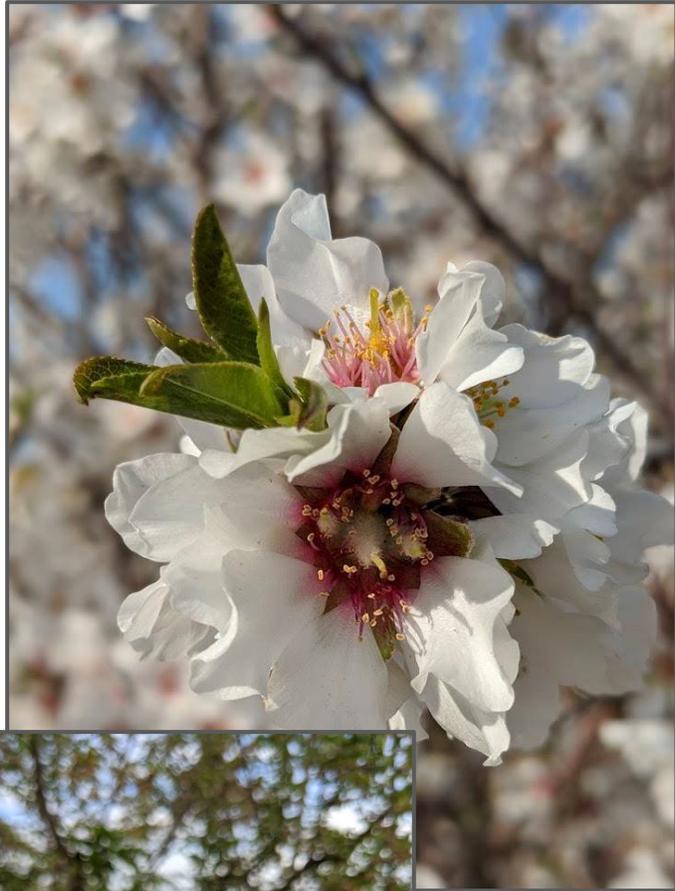


Collaboration with A. Seshadri, USDA-ARS; Z. Ellis, Olam; A. De la Luz, B. Niño, Beeflow

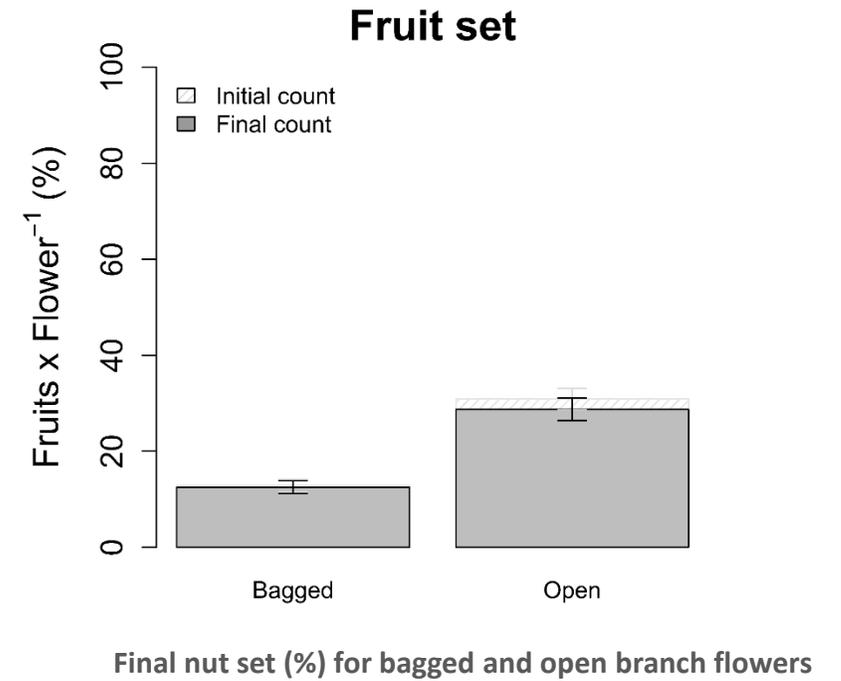
# Independence (2022) and Shasta (2022) Varieties



Zac Ellis, Olam

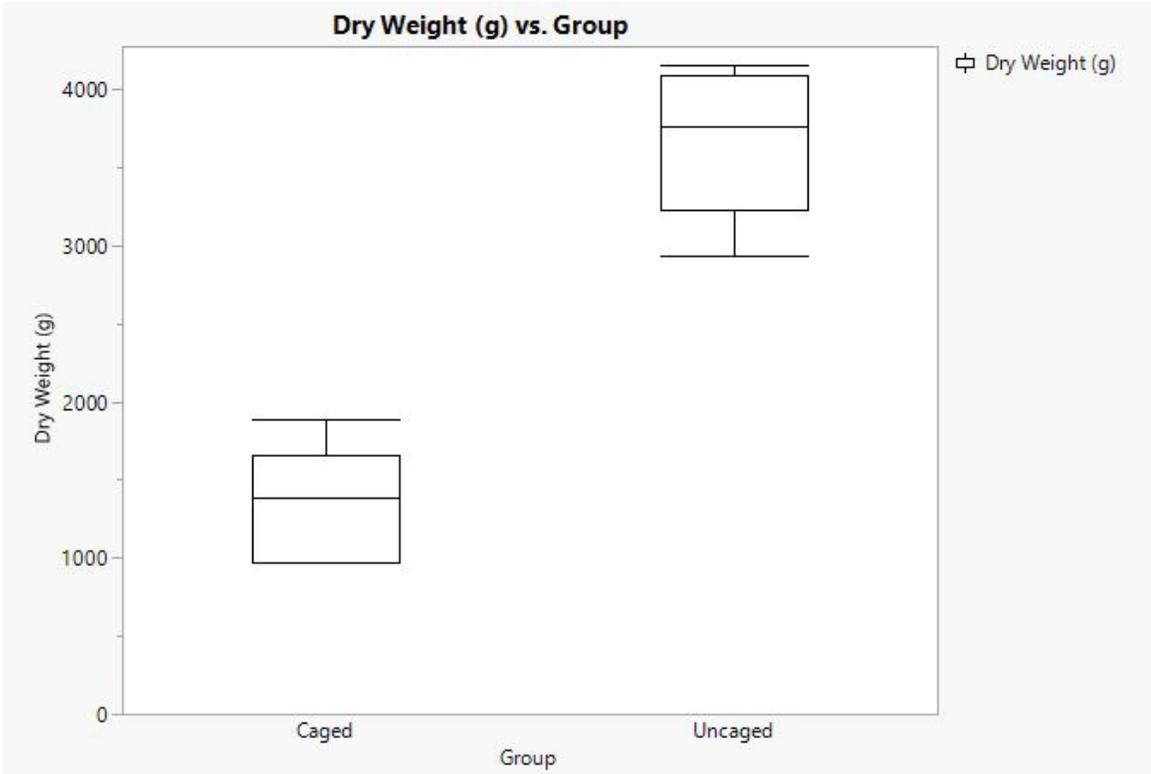


# Bee exclusion experiment: Bagged flowers



# Bee exclusion experiment: Caged trees

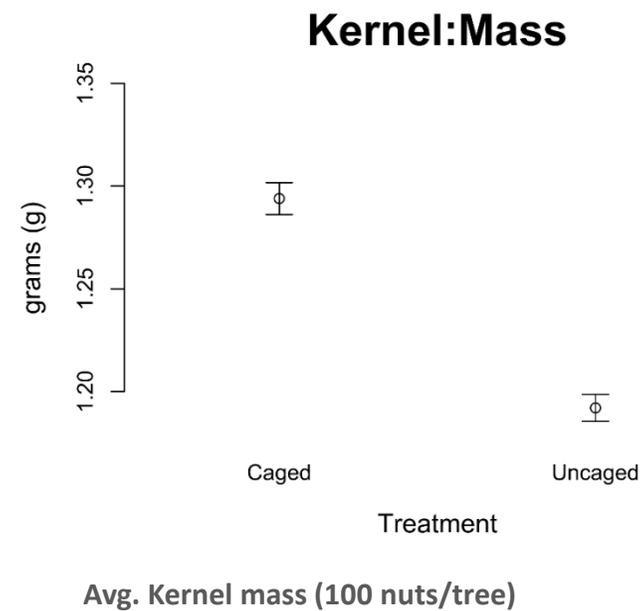




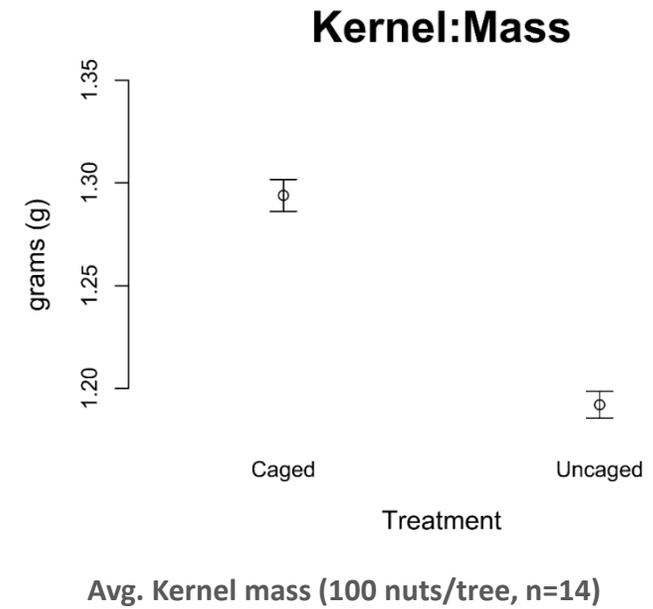
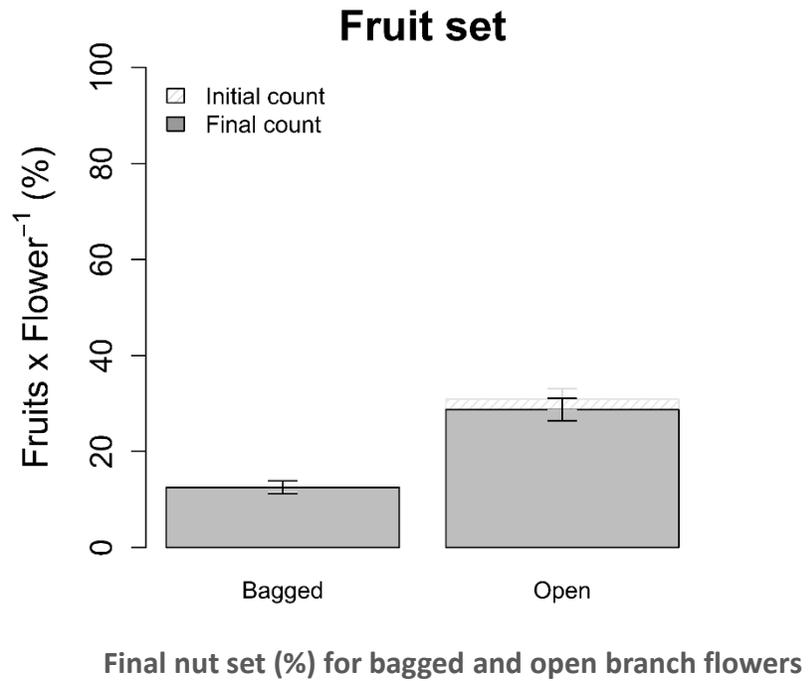
**SAS JMP T-test: n=14; p<0.0001**



Characteristic parameters for grading almonds		values for qualitative traits	color coding
category	description	1,2,3 etc...	
defects	mold, shrivel, raised skin, chipping, insect damage, gum, dead, doubles, rancidity, brown spot	1 in square correlating to defect on final data sheet. 0 if defect not present	defects
type	Nonpareil, California, Mission, Independence, or mix	write out type	Shell
kernel Length	in millimeters	value given by calipers	nut
kernel width	in millimeters	value given by calipers	
kernel thickness	in millimeters	value given by calipers	Kernel
kernel mass	in grams	value given by scale	
screening size	18/20, 20/22, 23/25, 25/27, 27/30, 30/32, 32/34, 34/36, 36/40	1 (18/20), 2,3,4,5,6,7,8, 9 (36/40)	
shape	long/flat, long/round, short/flat, short/round	1,2,3,4	
color	light, dark	1, 2	
kernel texture	smooth, wrinkled, deeply wrinkled	1,2,3	
shell hardness	soft, hard	1,2	
suture	Top open, bottom open, full open, open next to suture, well-sealed	1,2,3, 4, 5	
shell texture	papery, brittle	1,2	
Shell length	in millimeters	value given by calipers	
Shell width	in millimeters	value given by calipers	
Shell thickness	in millimeters	value given by calipers	
shell mass	in grams	value given by scale	
nut width	in millimeters	value given by calipers	
nut length	in millimeters	value given by calipers	
nut thickness	in millimeters	value given by calipers	
nut mass	in grams	value given by scale	



# # fruits set vs. mass



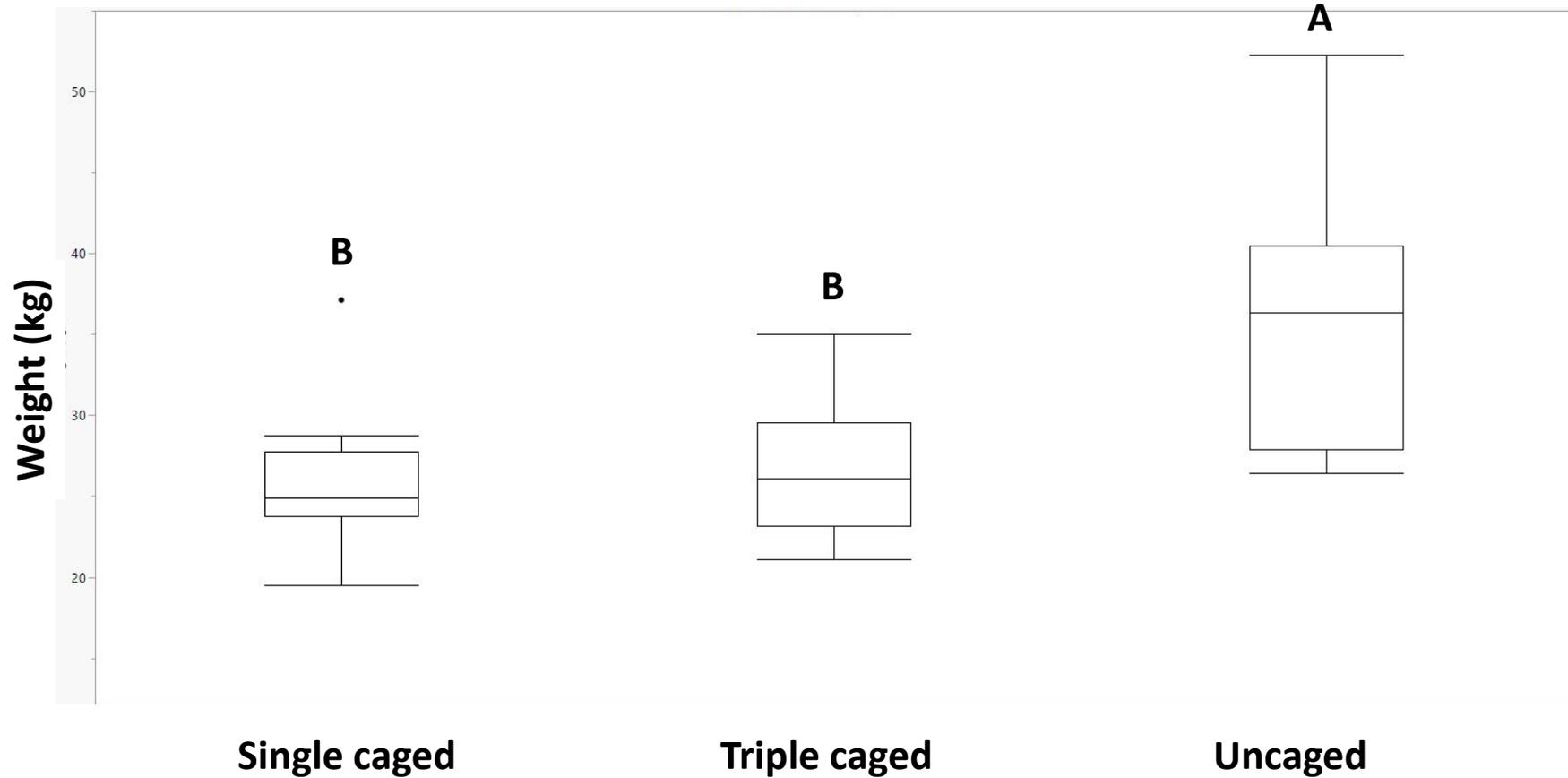
Re-allocation of resources since fewer nuts set?

# Field season 2022

- Continued work with Independence
  - Added another control group (three trees per cage)
  - Individual bee visitation rates, nut set and final yield
  
- Trial with Shasta

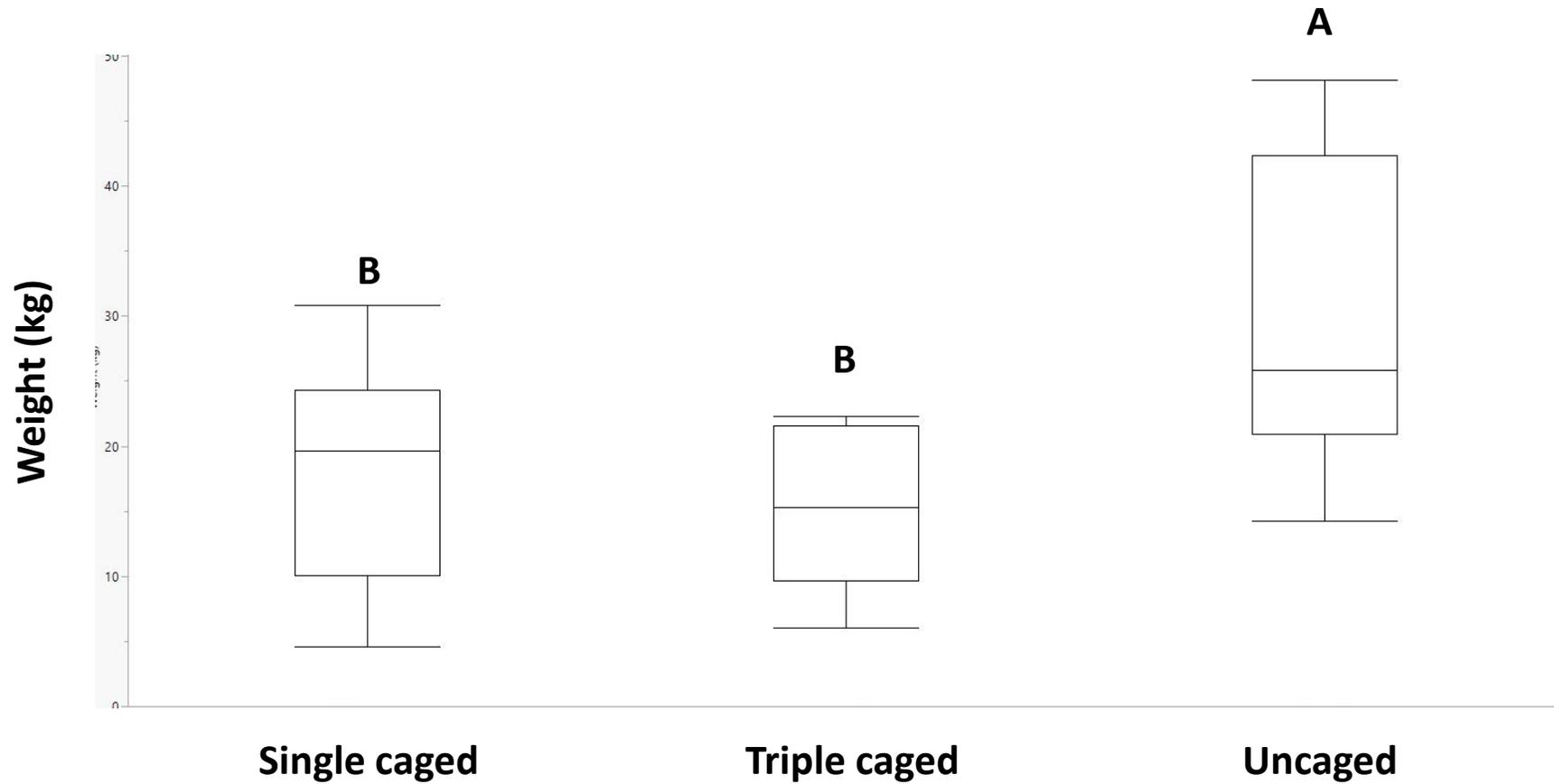


# Shasta 2022 Preliminary results: Independence yield



$P < 0.005$

# Shasta 2022 Preliminary results: Shasta yield



P<0.05

# Future work

- Re-evaluate stocking rate guidelines for conventional varieties
- Stocking rates for self-fertile varieties?
- Develop more sustainable comprehensive pollination approaches?



THANK YOU!



Many undergraduate and graduate students, postdocs, laboratory and field assistants

Growers and beekeepers

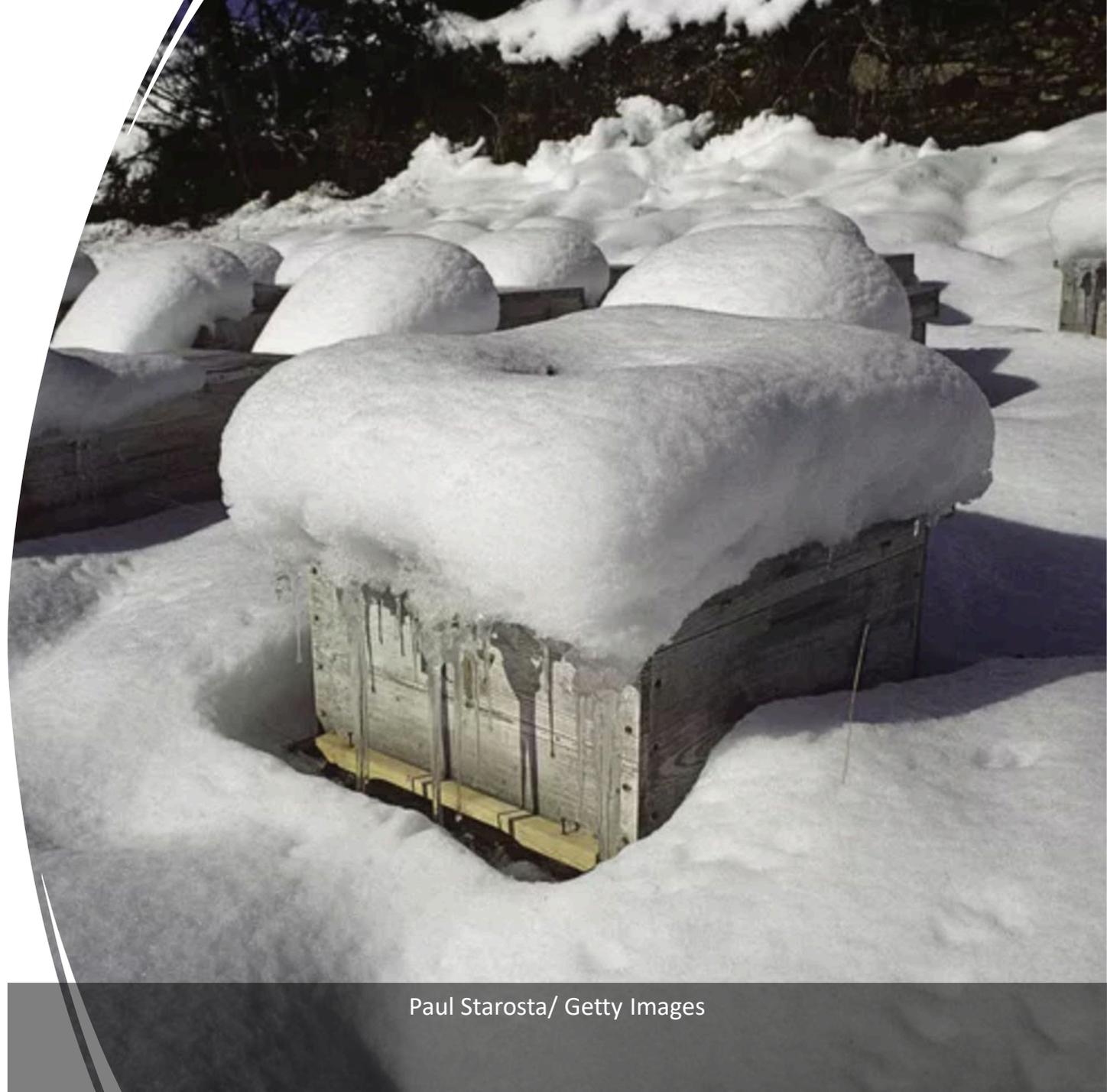
# WSU Bee Program: Indoor Storage

Brandon Hopkins  
Almond Board of California  
December 2022



# Indoor Storage

- 
- Originally used in northern climates (Canada) to protect colonies from harsh winter conditions

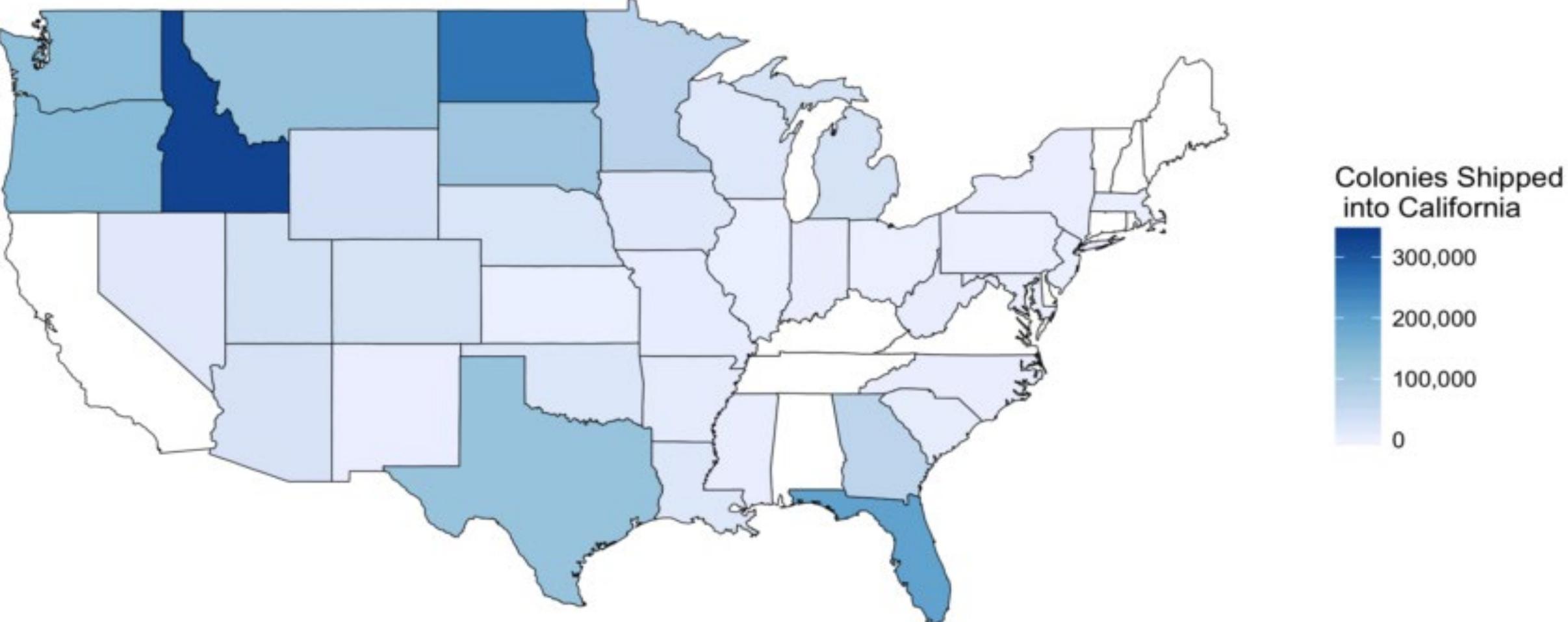


# Indoor Winter Storage as an alternative to Southern Outdoor storage

- Keep colonies in dormant state while sheltering them
- Reduced inputs into colonies overwinter compared to outdoor wintering in warmer climates



# Majority of Colonies Shipped to CA for Almond Pollination come from Idaho



CDFA Plant Health and Pest Prevention Services.

# Indoor Storage

At least 500,000 colonies are stored indoors

2 million colonies pollinate almonds



① Idaho  
14 Beekeepers (53.8%)  
419,000 Colonies (76.9%)



② North Dakota  
3 Beekeepers (11.5%)  
72,000 Colonies (13.2%)



③ Washington  
3 Beekeepers (11.5%)  
27,000 Colonies (4.9%)



④ California  
3 Beekeepers (11.5%)  
14,000 Colonies (2.6%)



⑤ Montana  
2 Beekeepers (7.8%)  
9,000 Colonies (1.7%)



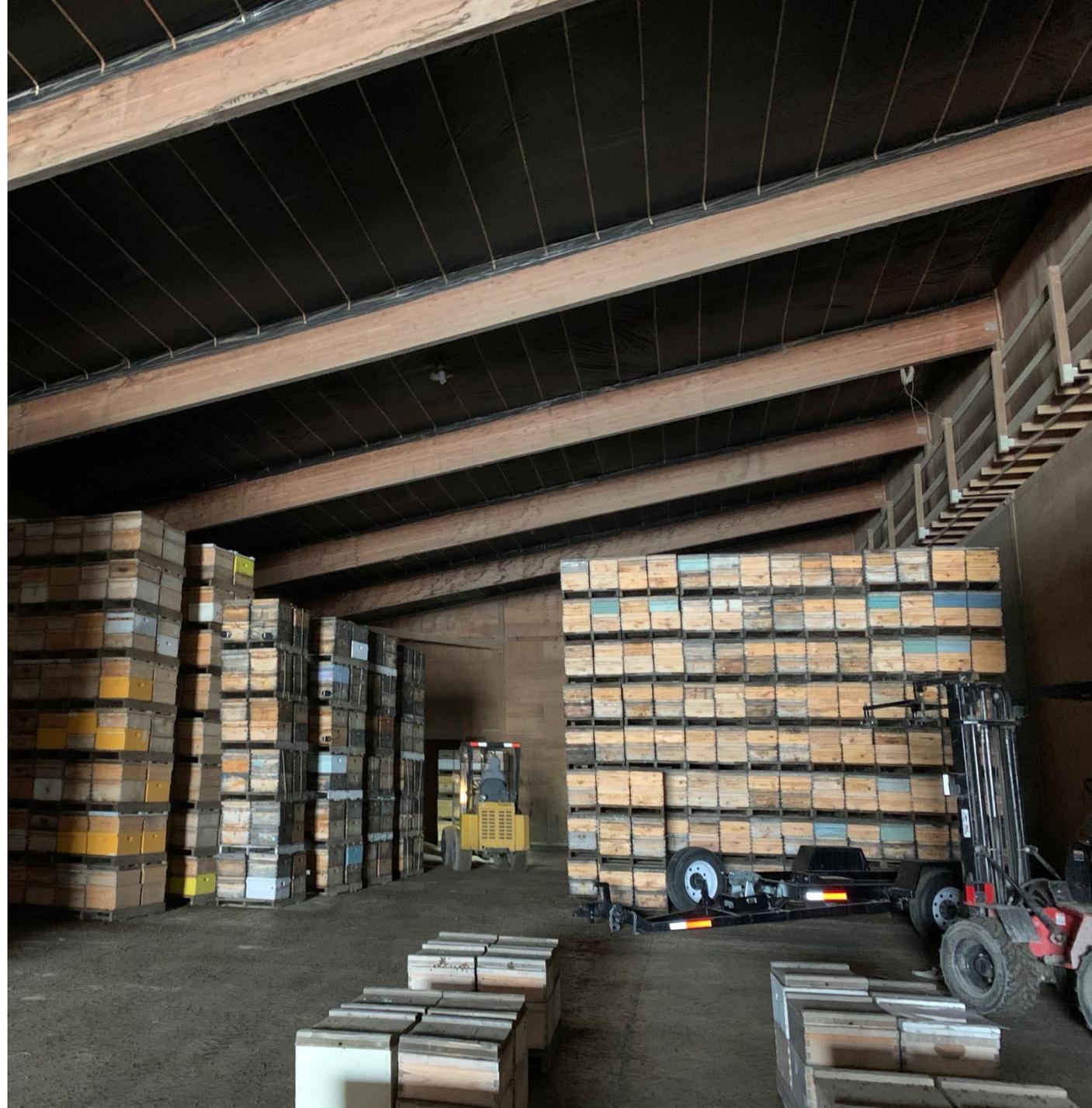
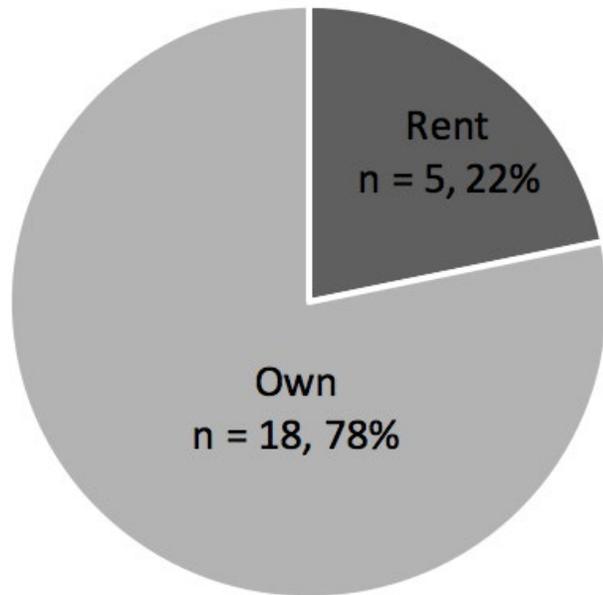
⑥ Utah  
1 Beekeeper (3.9%)  
4,000 Colonies (0.7%)



Project Apis m.

# Indoor Storage

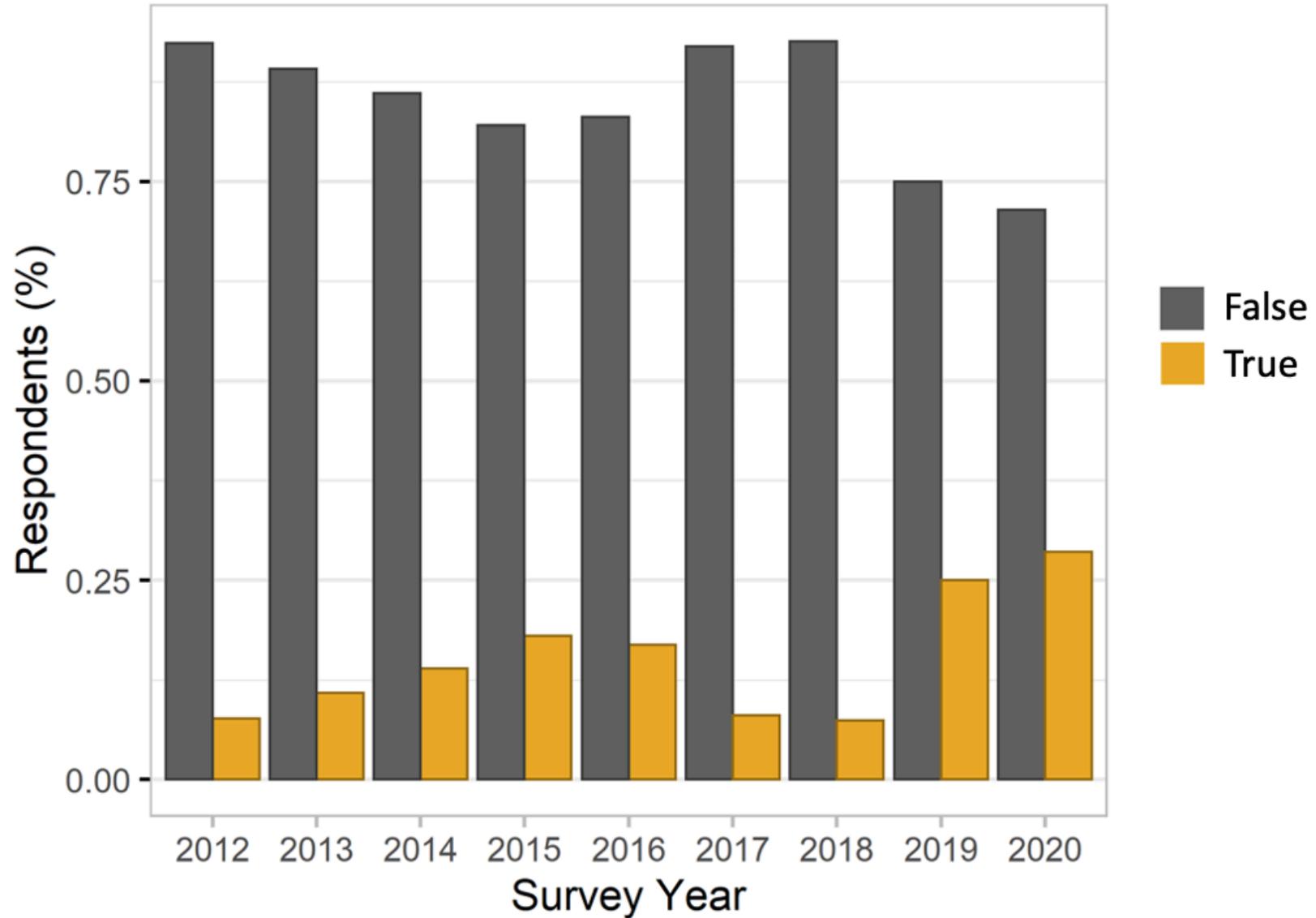
- Some own their own facilities, some rent space





# Indoor Storage: Trends

## Commercial Beekeepers Moving Indoors



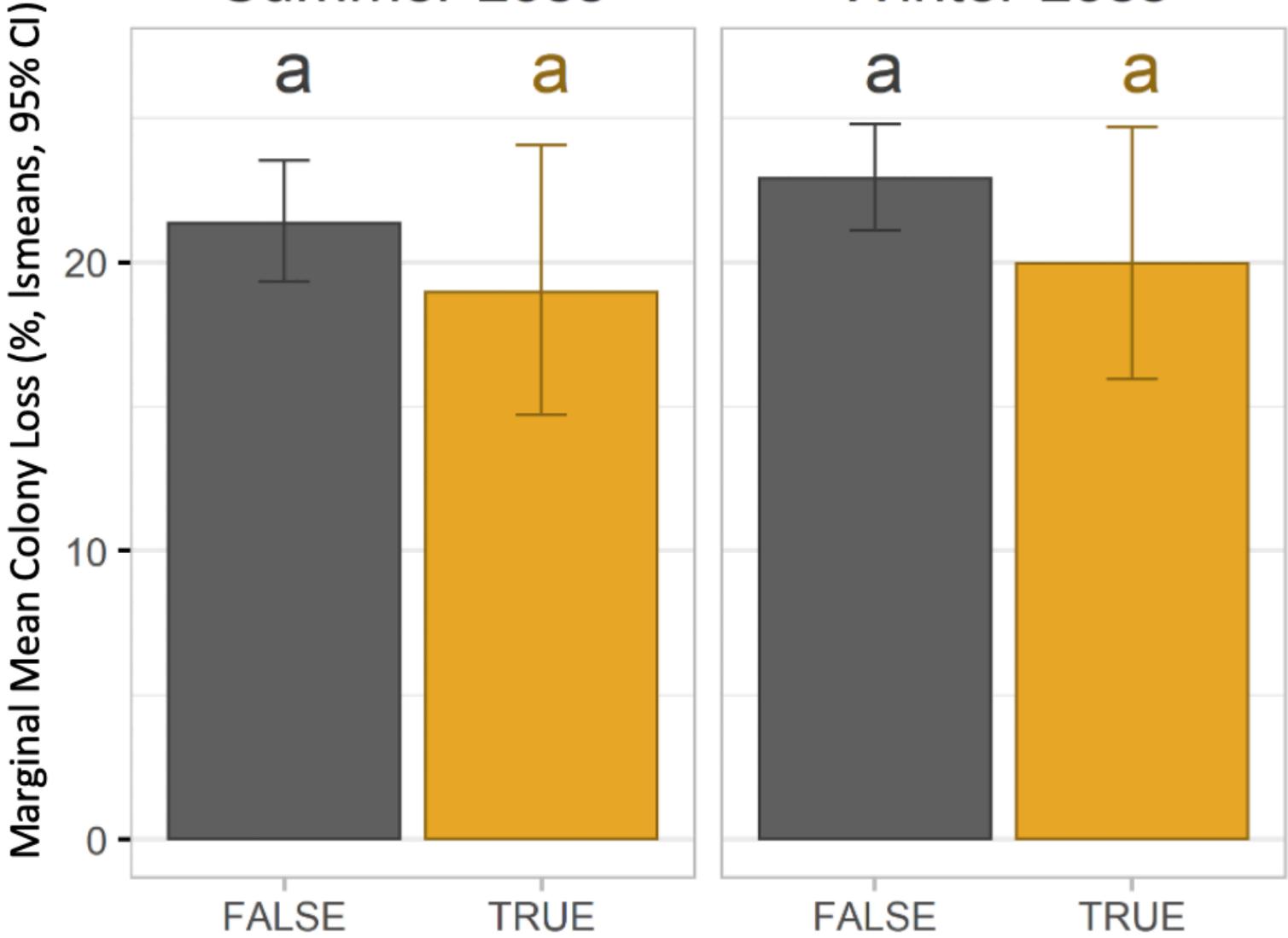
# Indoor Storage: Trends



## Commercial Beekeepers Moving Indoors

### Summer Loss

### Winter Loss



# Indoor Storage and Varroa management

- Colony health and size coming out of storage compared to outdoor wintering?
- Concerns about virus/ mite transmission in storage?

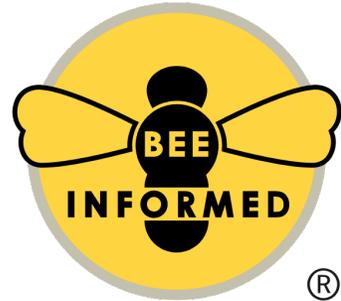


Sharah Yaddaw /Project Apis. m



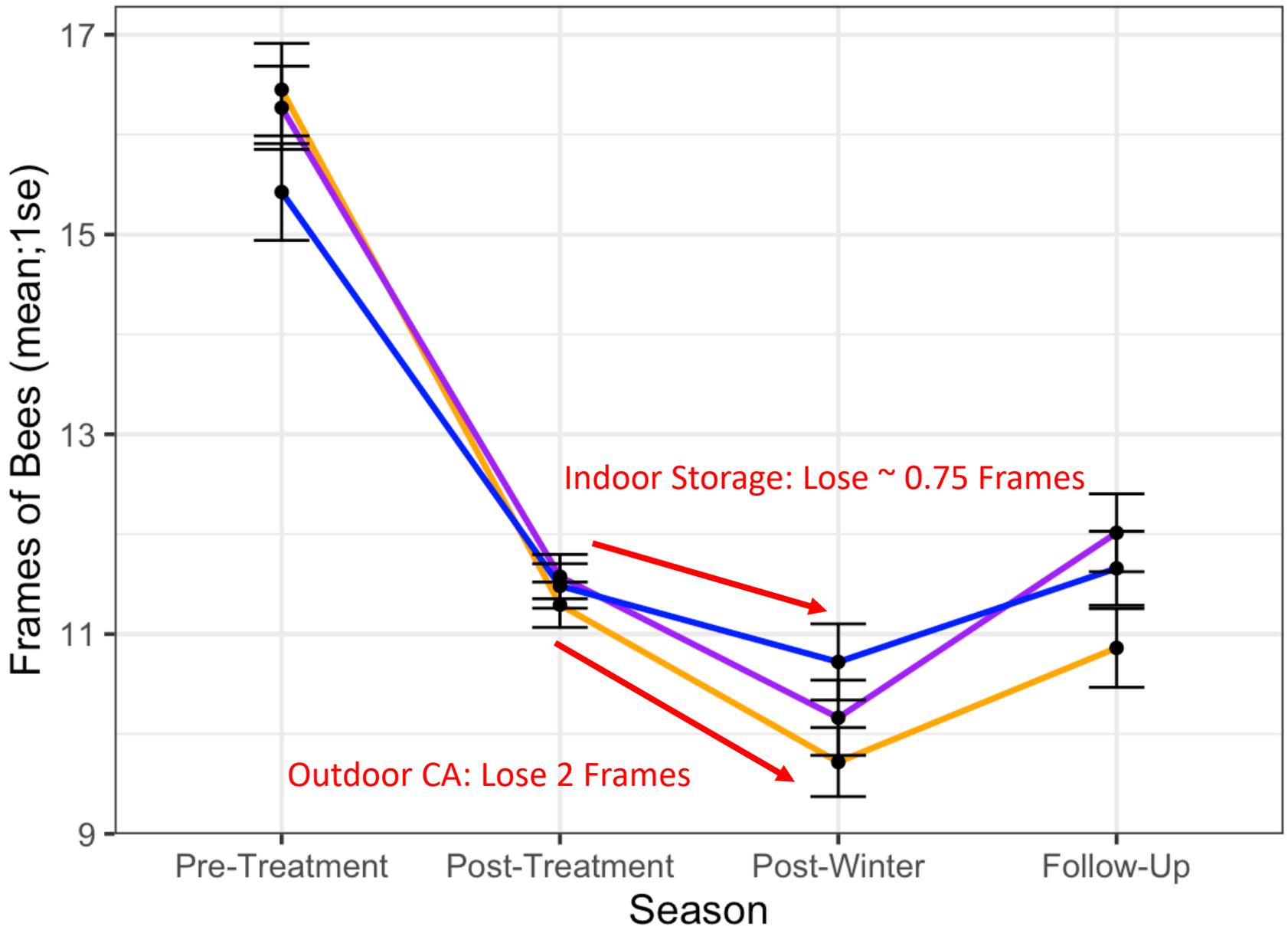
# Impact of Indoor Storage on Colony Health and Survival

- Track hives in different overwinter situations
- Indoor, Outdoors in CA, Outdoors in the “North”
- August 2019 - March 2021



# Frames of Bees

Pre-treatment = August  
Post-treatment = October  
Post-Winter = January  
Follow-up = Feb/March



### Legend:

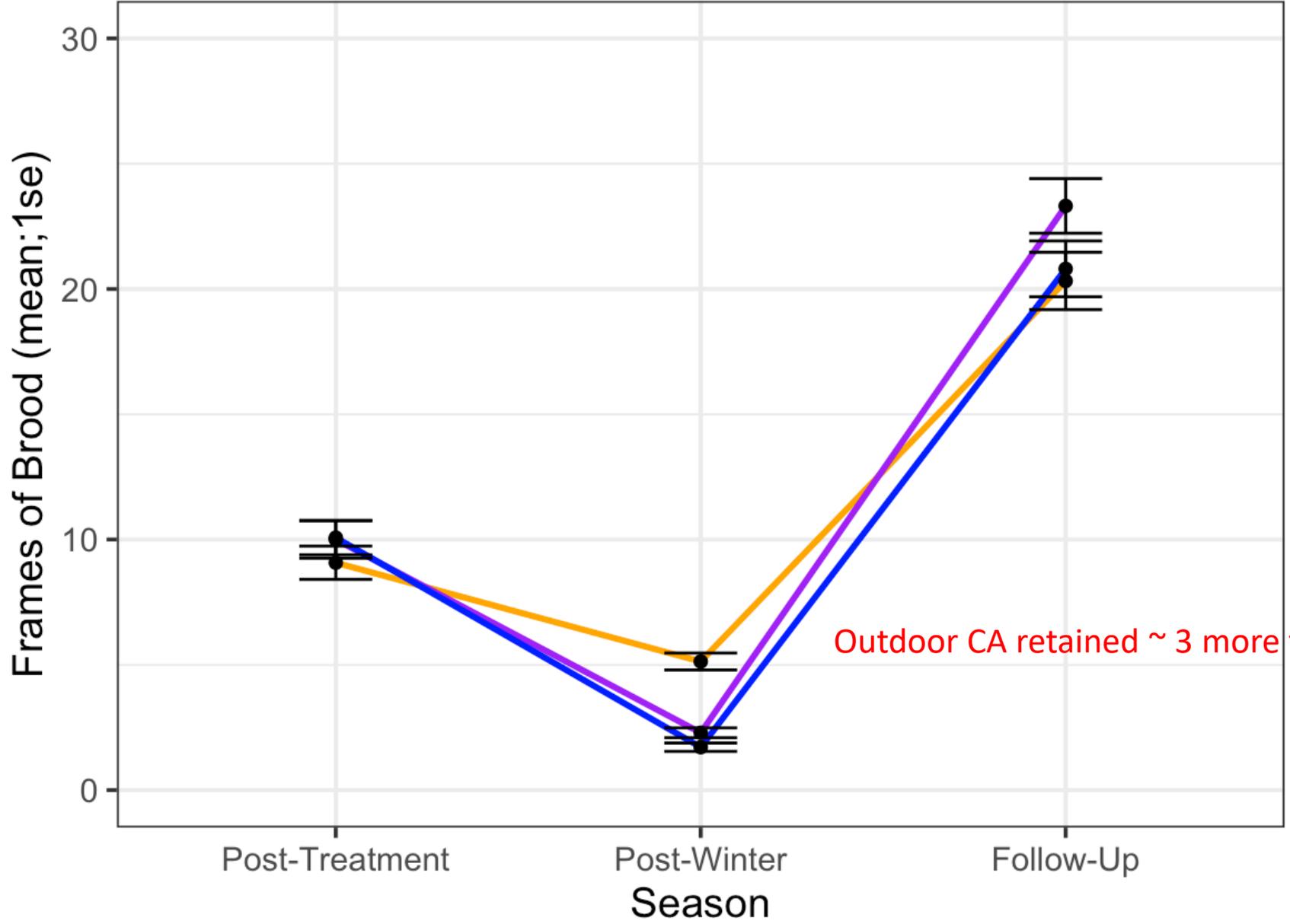
- Outdoor in CA
- Outdoor in ID/MT
- Indoors

Indoor Storage: Lose ~ 0.75 Frames

Outdoor CA: Lose 2 Frames

# Brood Area

Pre-treatment = August  
Post-treatment = October  
Post-Winter = January  
Follow-up = Feb/March



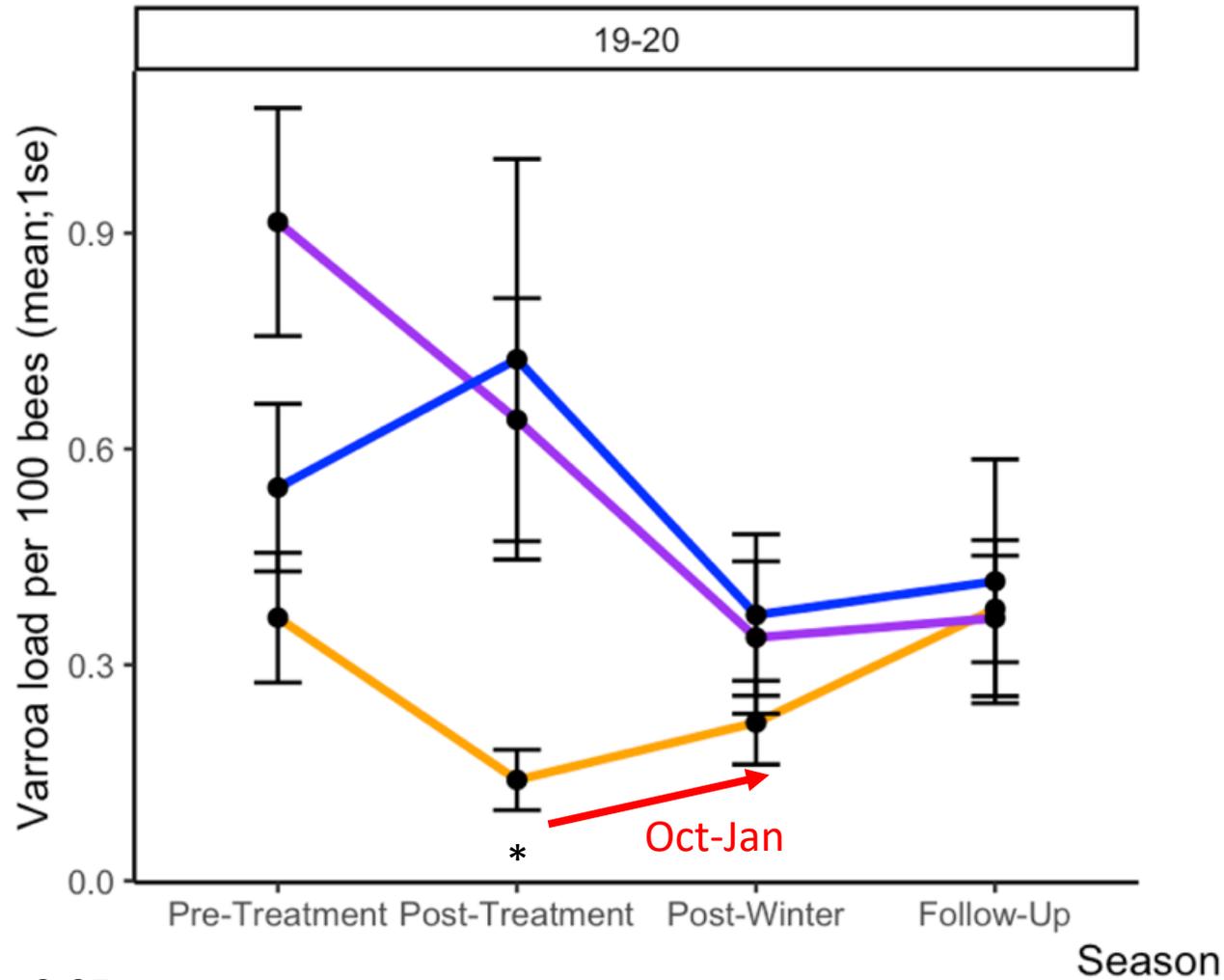
### Legend:

- Outdoor in CA
- Outdoor in ID/MT
- Indoors

Outdoor CA retained ~ 3 more frames capped brood

# Varroa:

Pre-treatment = August  
Post-treatment = October  
Post-Winter = January  
Follow-up = Feb/March



Legend:

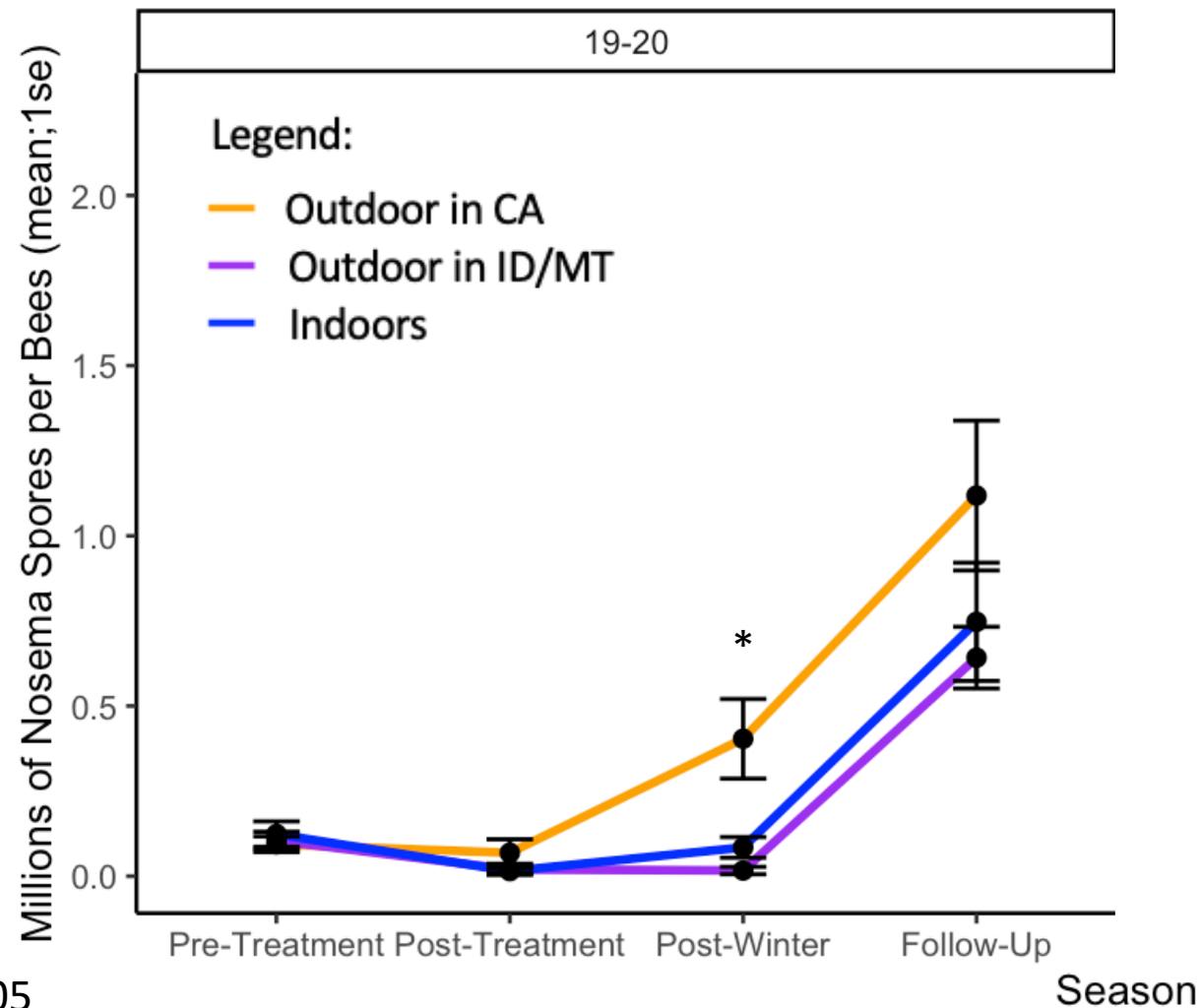
- Outdoor in CA
- Outdoor in ID/MT
- Indoors

\* $p < 0.05$

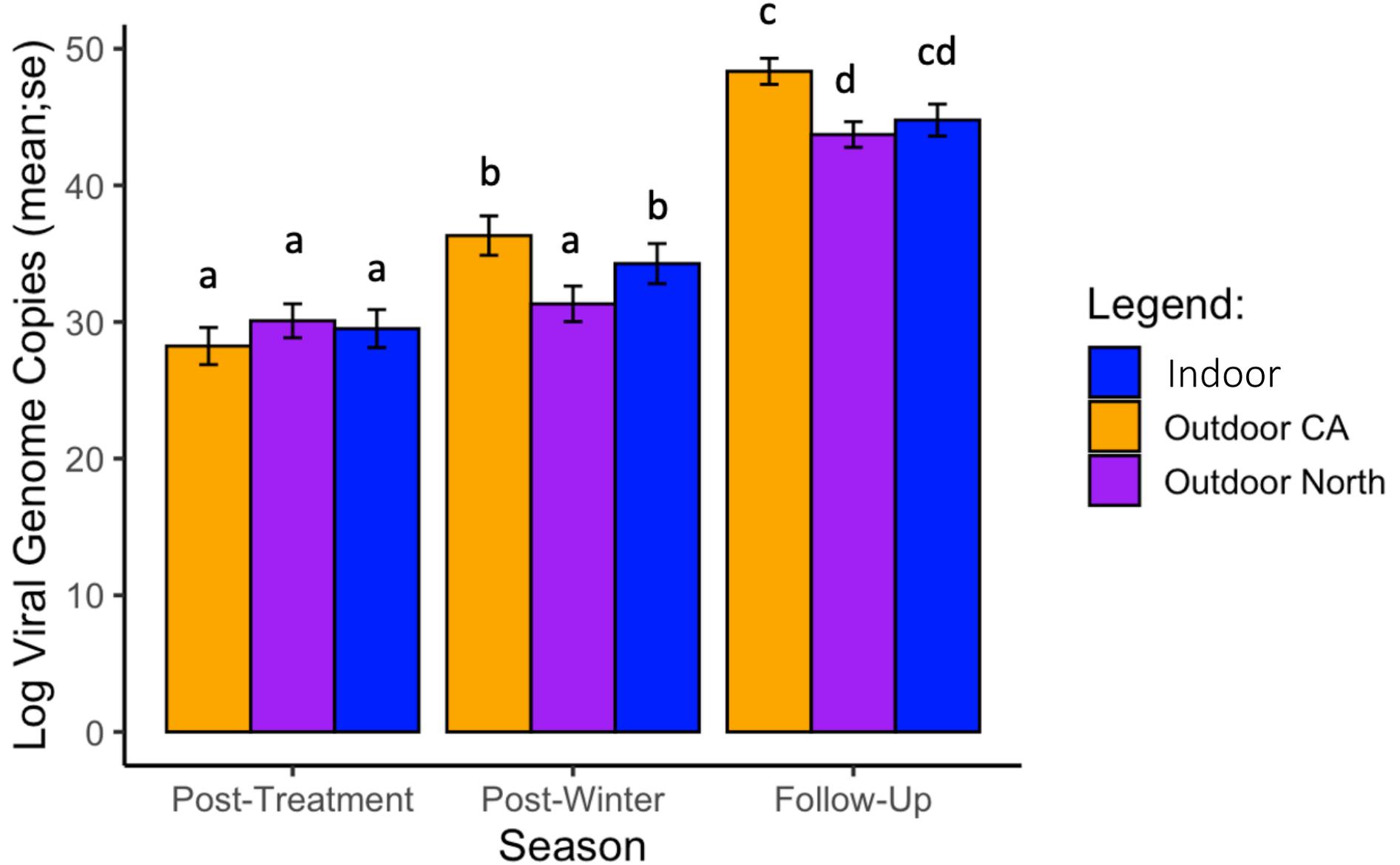
\*\* $p < 0.01$

# Nosema:

Pre-treatment = August  
Post-treatment = October  
Post-Winter = January  
Follow-up = Feb/March

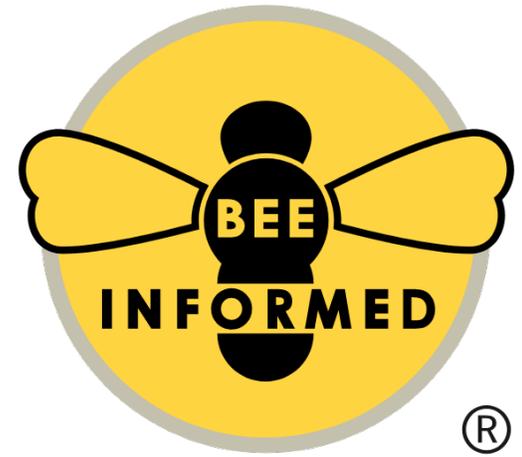


# Overall Viral Abundance



# Summary:

- Colony mortality very low overall
  - 2 colonies in 1<sup>st</sup> year (1.67%), 9 colonies in 2<sup>nd</sup> year (7.5%)
- Some improvements to Varroa, Nosema, and viral loads
- No negative effects on colony size



# Second Edition of Indoor Storage Guide

**Project** *Apis m.*

**\*Demographics of Indoor Storage**

Kelly Kulhanek, Brandon Hopkins, and Gregory Shved

**\*Wintering Strategies for the Backyard Beekeeper**

Kelly Kulhanek

**\*Potential for Varroa Control in Cold Storage: A Review**

Kelly Kulhanek

Many of the photos in this slide show are from the new guide!



SAVE THE DATE-FREE EVENT

# 2022 INDOOR STORAGE CONFERENCE

December 14th and 15th  
8:30AM-Noon (PT)

Join Beekeepers and Researchers  
virtually for panels, presentations,  
facility tours and live Q&A.



Project *Apis m.*



## Indoor Storage Website

[ProjectApism.org/Indoor-Storage-of-Honey-Bees](https://ProjectApism.org/Indoor-Storage-of-Honey-Bees)

# Acknowledgments

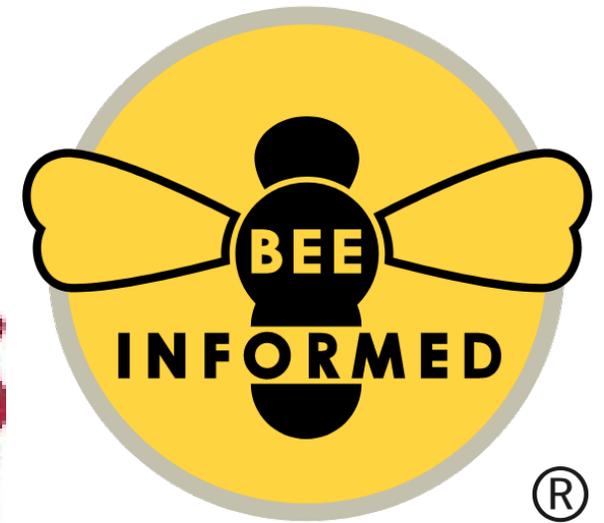


United States Department of Agriculture  
National Institute of Food and Agriculture



# Project *Apis m.*

HEALTHY *Hives*



Questions?

[bhopkins@wsu.edu](mailto:bhopkins@wsu.edu)





seeds for bees®  
Project *Apis m.*

> 80,700 Acres  
Planted since 2013

- Rory Crowley, **new Director of Habitat Programs!**
  - **Family farmer**, almonds and walnuts
  - **Research background** prior to farming
  - Field-applied, **university-led research on farm**
- *Grower Seeds for Bees Survey*
  - 90%–95% of growers will continue to plant cover crop after our free seed program.<sup>1</sup>
  - Growers are planting mainly for bee health and soil health a close second.<sup>1</sup>
- **Today:**
  - **Seeds for Bees: The Problem and The Solution**
  - **How it works: The Basics of the Program**
  - **Some Cool Research**
  - **This Year's Projected Impact**

**Project** *Apis m.*

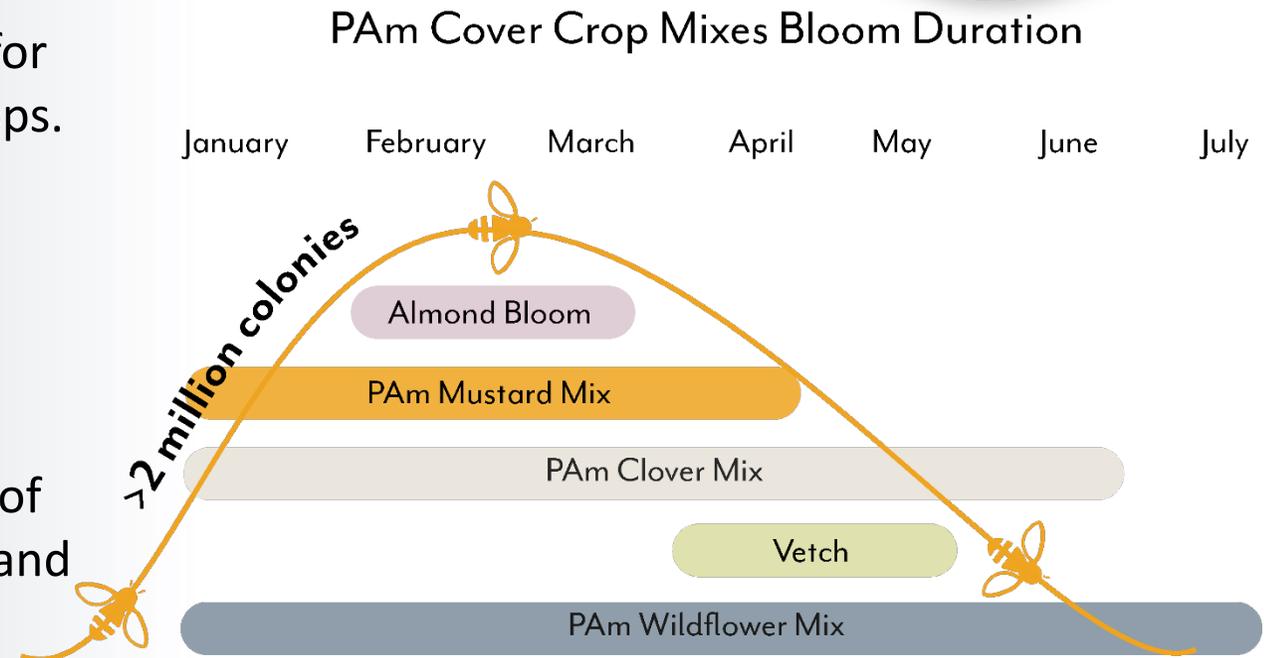
1. 2021–2022 Seeds for Bees Annual Survey.



# Goals for Healthy Bees, Smart Farming, and Changing Practices



- 1. Feed bees** – Increase diverse, nutritious forage for honey bees pollinating California’s Specialty crops.
- 2. Feed the soil** – Improve soil conditions in and around orchards, farms and ranches.
- 3. Educate & Assist** – Build grower, beekeeper and industry stakeholder knowledge of the benefits of cover crops by providing subsidized seed mixes and technical advice.



# How It Works

## 4 seed options

- PAm Pollinator Brassica Mix
- PAm Annual Clover Mix
- BioBuild3 Mix
- Vetch-Grain Mix

## Cost share structure

- 1st year enrollees are eligible for a \$2,500 discount off their total seed purchase (50-120 +/- acres)
- 2nd year enrollees are eligible for a \$1,500 discount off their total seed purchase

## All awardees receive:

- Discounted pricing (wholesale, no margins)
- Free shipping
- Free technical advice and support

seeds for bees®



**Project** *Apis m.*

**Project** *Apis m.*

# PARTNERING FOR POLLINATORS IN CALIFORNIA ALMOND ORCHARDS

Project *Apis m.*

## NONPROFIT PARTNERS



**PROVIDES SEEDS** FOR GROWERS TO PLANT COVER CROPS THAT PROVIDE ESSENTIAL **NUTRITION** FOR POLLINATORS AND INCREASE **SUSTAINABILITY** OF AGRICULTURE

- WATER QUALITY
- SOIL HEALTH
- BIODIVERSITY

**HELPS GROWERS QUALIFY** FOR BEE FRIENDLY FARMING CERTIFICATION



**BEE FRIENDLY FARMING** CERTIFICATION PROVIDES **VISIBILITY** AND **VERIFYS** THAT POLLINATOR-FRIENDLY PRACTICES ARE BEING IMPLEMENTED



## SUPPLY CHAIN PARTNERS

**SOURCING ALMONDS** FROM BEE FRIENDLY FARMING CERTIFIED ORCHARDS

**RE-INVESTING** IN COVER CROPS AND HABITAT THROUGH SEEDS FOR BEES

**COMMITTED** TO A MORE SUSTAINABLE SUPPLY CHAIN



## INDUSTRY PARTNERS

**CASP** (CALIFORNIA ALMOND SUSTAINABILITY PROGRAM)

**BEE+ SCHOLARSHIP** INCENTIVES TO PLANT SEEDS FOR BEES® AND BECOME BEE FRIENDLY FARMING CERTIFIED



**BEST MANAGEMENT PRACTICES** FOR HONEY BEES POLLINATING ALMONDS & FOR PLANTING COVER CROPS IN ALMONDS



**WATER FOR BEES**  
800+ CLEAN WATER BUCKETS FOR BEES DISTRIBUTED TO BLUE DIAMOND GROWERS

**SUSTAINABILITY INCENTIVE PROGRAM**  
82 BLUE DIAMOND GROWERS HAVE PLANTED OVER 4,600 ACRES OF SEEDS FOR BEES COVER CROPS



# DRIVING CHANGE: Market (Top Down) Interest in Being ‘Bee Friendly’ is Increasing

- KIND bar: **will source its almonds exclusively from bee-friendly farms by 2025**
- Walmart: **by 2025, all fresh produce suppliers must be certified** in one of ten different third party-verified sustainable farming standards (**and restore 3% of production land to pollinator habitat**)
- Blue Diamond Growers: **OSIP** offers a premium price and incentives for bee friendly almonds. **USDA Climate Smart Commodity grant!**

## PAm Opportunities:

Increase Funding to Respond to Demand  
Support Research to ‘Bust’ Cover Crop Myths  
Carbon sequestration using cover crops in almonds?

# A Primary Focus Area for Seeds for Bees: Almonds Offer Opportunity

- Almond systems have **significant potential to provide multiple cross-scale ecosystem services** due to their perennial nature, low disturbance regime and carbon storage in biomass.
- Resource management where **cover crop adds value**: WATER, dust control, groundwater recharge, bee health, pest management and carbon sequestration
- Growing cover crops under the tree canopy in row middles is one of the **most accessible diversification strategies to enhance ecosystem services in these systems**.
- **Clearly compatible practice** for growers.
- There is awareness of benefits, but lack of understanding is barrier

**Do they use more water? Do they increase the risk of frost?**

# Measuring and modelling year-round winter cover crop impacts on water balance and frost risk in almonds

Kosana Suvočarev, Amélie Gaudin, Samuel Sandoval, Kyaw Tha Paw U, Mark Battany  
UC Davis

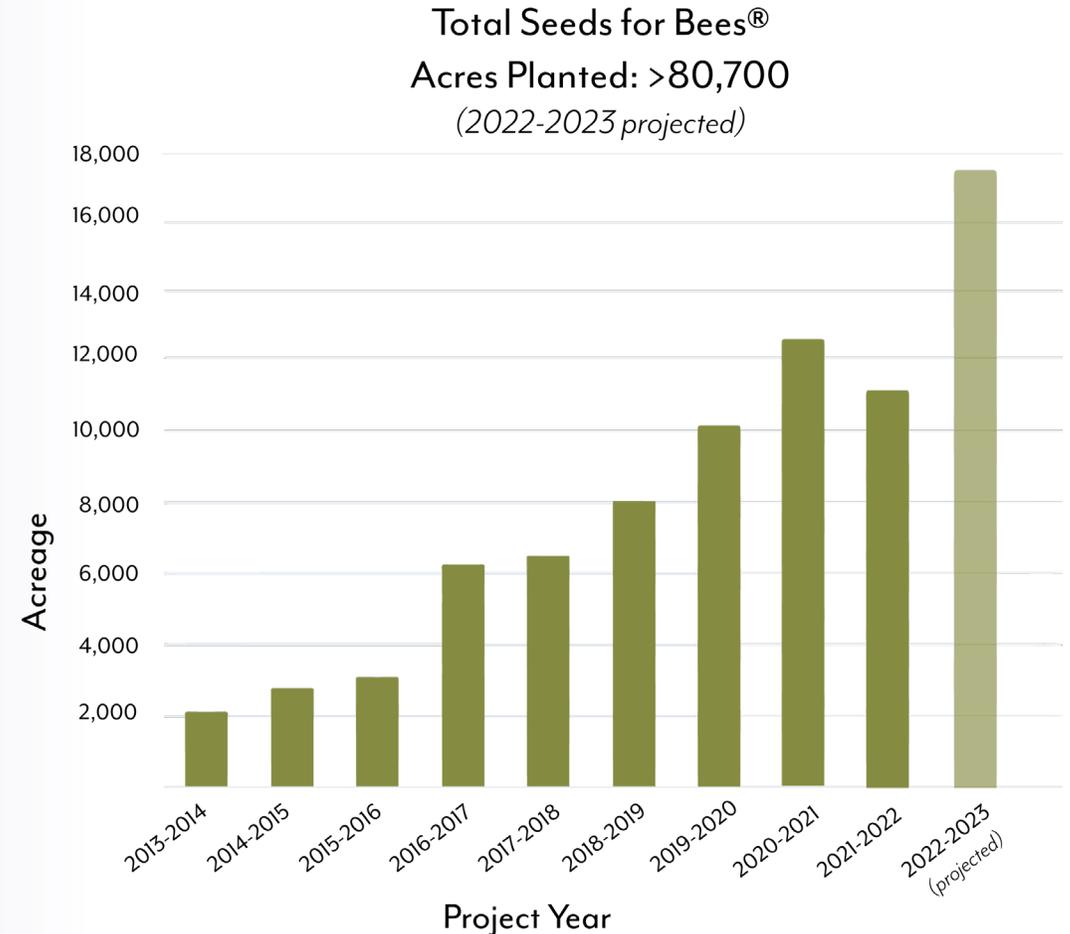
- 365-day look at “water balance” (winter period has been analyzed)
  - Cover crops take water
  - Cover crops have many water benefits
  - The Big Question: **does planting cover crops benefit or inhibit the complete water picture in the orchard?**
- Frost in Orchards?
  - Dated research, but major concern of growers
  - The Big Question: **does planting cover crops help almonds stay warmer or do they cause more frost damage?**

Answering growers’ main concerns can help **increase adoption of blooming cover crops that support bees** during almond pollination.



# Seeds for Bees 2022/2023 Update: A HUGE Year

- 2022: **18,525 acres- 47% increase!**
- **72% in almonds**
- **Seed drill** now available!
- Exciting 2022 **pilot study to measure carbon**
- **Data shows retention:** growers buy seed after the free stuff
- For the first time, seed was delivered in Oct, to plant early, for bloom when bees show up. **This will directly impact beekeepers on the ground.**



**Project Apis m.**

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50  
YEARS

# Bee Friendly Farming

POLLINATOR  
PARTNERSHIP



Miles Dakin  
Pollinator Partnership  
December 6<sup>th</sup>, 2022

california  
almonds<sup>®</sup>  
Almond Board of California

# What do pollinators need?

Diverse Native plants

Non-native, non-invasive can be good too

Continuous bloom

Flowers rich in protein and nectar

Host plants

Mix: woody, herbaceous, grasses

Habitat Connectivity

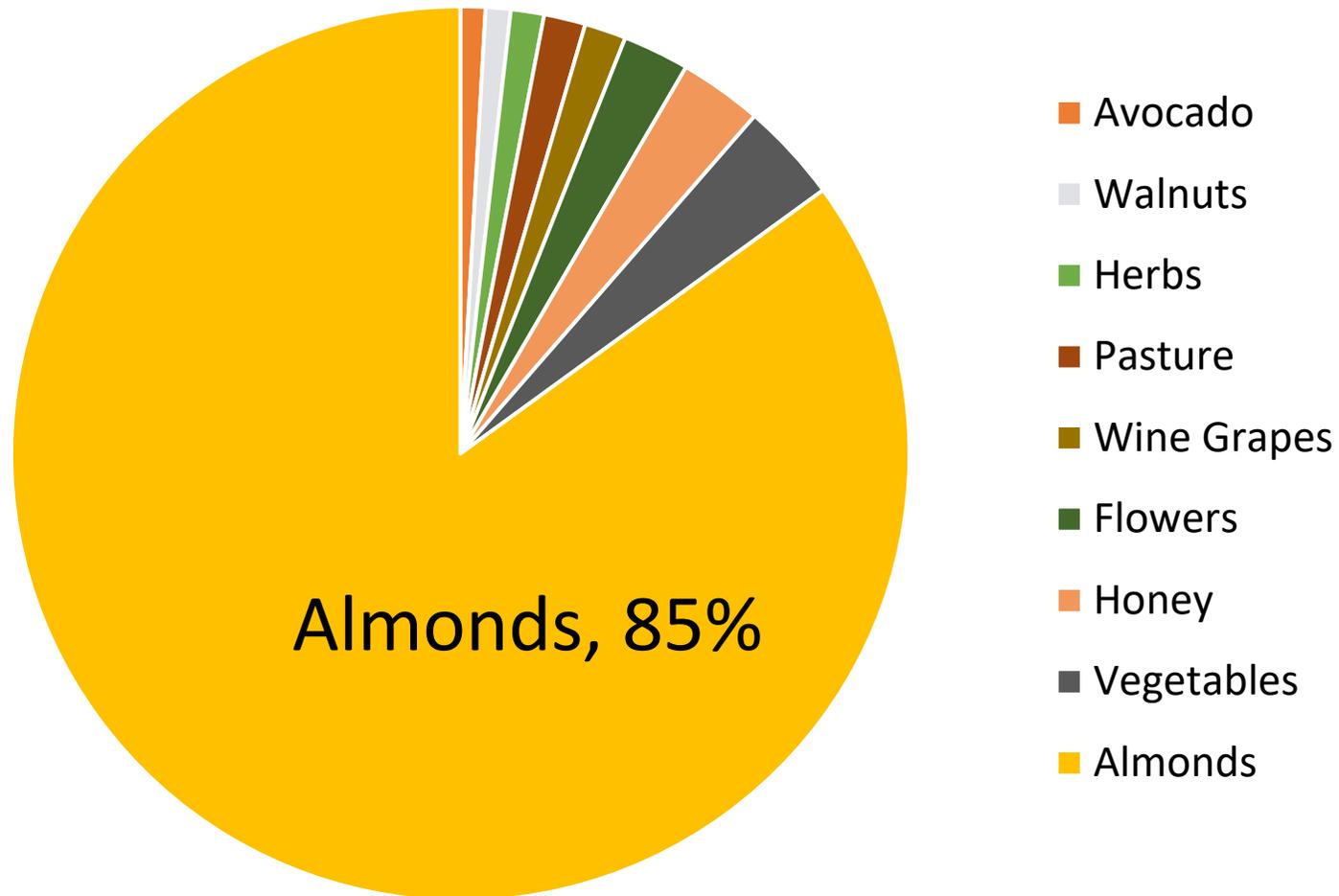
Reduced Pesticide Exposure

Nesting areas



# Certified Farmers

Almonds represent the largest number of certified farms



## BFF Certified Criteria

1. Offer forage providing good nutrition for bees on at least 3% of land. Forage can be temporary, including cover crops.
2. Provide bloom of different flowering plants throughout the growing season, especially in early spring and late autumn.
3. Offer clean water for bees if not inhibited by government mandated water restrictions.
4. Provide permanent habitat for nesting through features such as hedgerows, natural brush, buffer strips, or bare ground.
5. Practice Integrated Pest Management (IPM); reduce or eliminate the use of chemicals.
6. Pay annual certification and 3-year compliance



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# Examples of Pollinator Habitat



 **california  
almonds**  
Almond Board of California

# Examples of Habitat

Cover Crops within Field



Cover Crops in Adjacent Land or Field Edge



# Examples of Habitat

Hedgerows Along Orchard Edge



Natural Habitat Areas

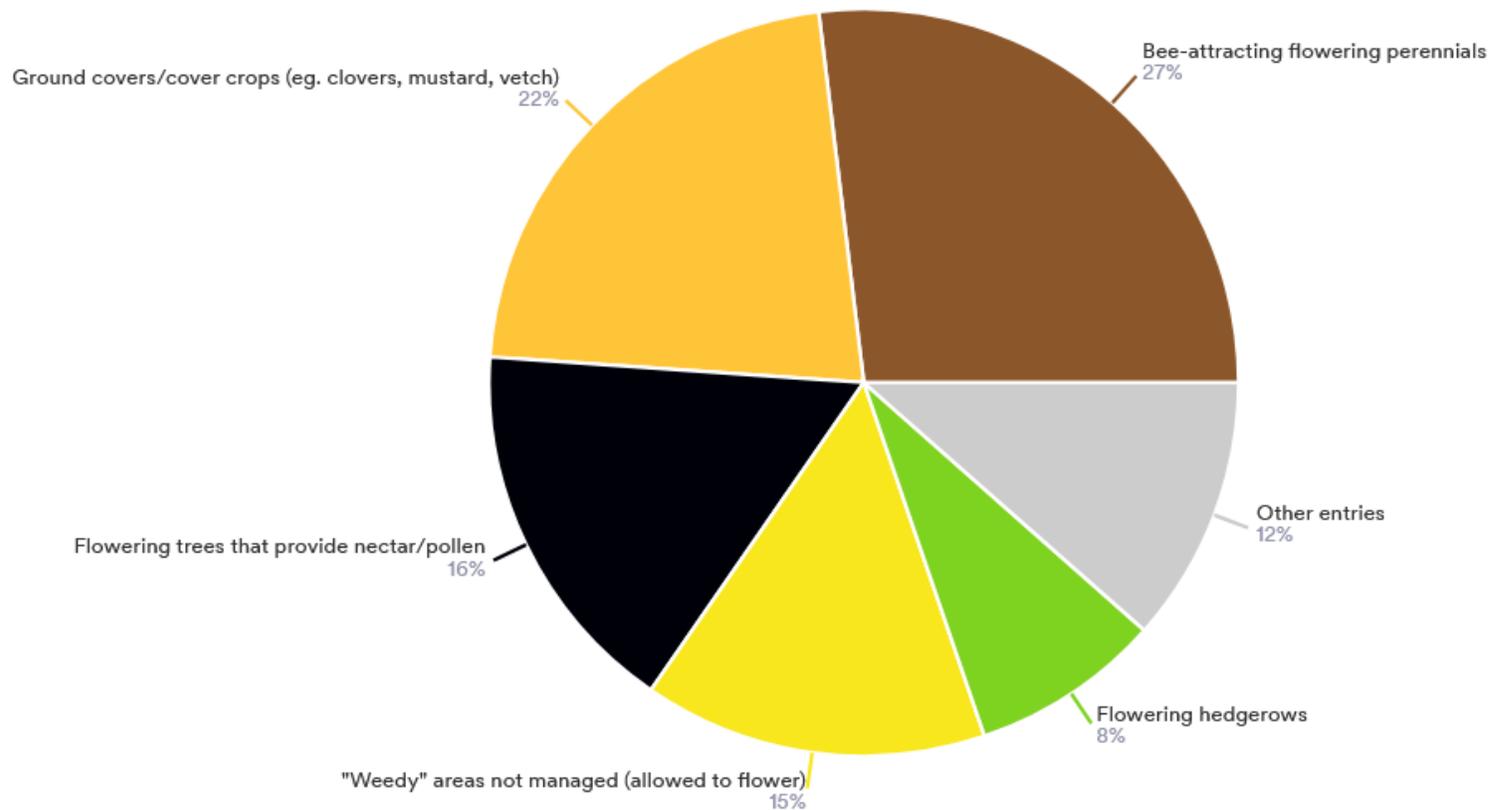


# Examples of Habitat

## Set Aside Plantings



## Type of Forage



# How to get Certified

- Plant pollinator habitat and implement IPM!
- Visit [BeeFriendlyFarming.org](http://BeeFriendlyFarming.org) to see the criteria and find the application link
- Fill out the application (30- 45 minutes) and pay annual fee of \$45/ farm
- Decision Sent within 4-6 weeks
- If necessary, BFF team members will reach out for follow up information
- Maintain certification through compliance (every 3 years)



# Use CASP BFF Report

## Expedite the Application Process!

### Confirmation and Payment

- Number of distinct properties (follow the onscreen directions)
- How you heard about BFF
- Confirmations

### Bee Friendly Farming Certification has five requirements:

1. Offer forage providing good nutrition for bees on at least 3% of land. Forage can be temporary, including crops and cover crops.
2. Provide bloom of different flowering plants throughout the growing season, especially in early spring and late autumn. There is no minimum land coverage for seasonal bloom.
3. If not inhibited by government mandated water restrictions, offer clean water for bees.
4. Provide habitat for nesting through features such as hedgerows, natural brush, buffer strips, or bare ground.
5. Practice Integrated Pest Management (IPM); reduce or eliminate the use of chemicals.

Full confidentiality is maintained for all information provided and generated this report. Individual assessment results have not been shared with other individuals or organizations.

Go to <https://www.pollinator.org/bff/bff-us> to find out more about Pollinator Partnership.

### Summary

Location	Acres	Eligibility Status	BFF 1	BFF 2	BFF 3	BFF 4	BFF 5
West Orchard	200	Eligible	Yes	Yes	Yes	Yes	Yes
<b>Sum of Eligible Acres</b>	<b>200</b>						





Jan 17, 2023 - 10 am PT

# Webinar: Introduction to Bee Friendly Farming



Hosted by Pollinator Partnership with support from Toyota Motor North America

This short 45-minute webinar describes the benefits and steps to become a Bee Friendly Farming Certified farm, orchard, or ranch. Sign up today!



Register today!

Contact [miles@pollinator.org](mailto:miles@pollinator.org) for more information

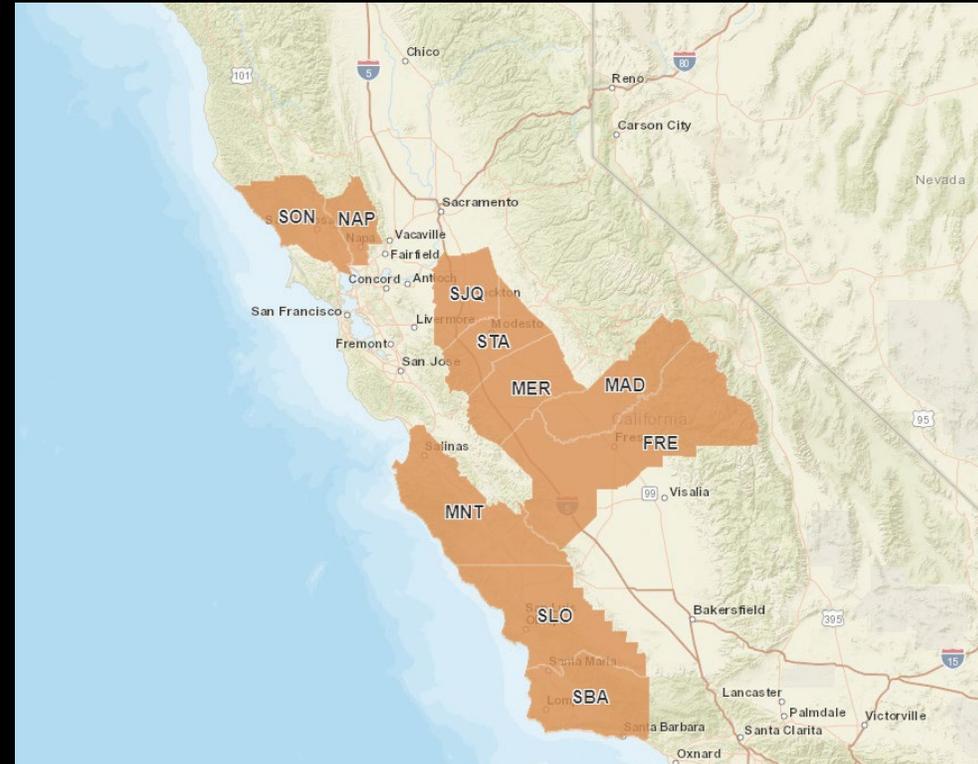
**POLLINATOR  
PARTNERSHIP**



## Coming in 2023: NRCS Regional Conservation Partnership Program

### Farmer-to-Farmer Collaboration: Increasing Pollinators Across Diverse California Farms and Ranches

- Increase capacity of California agricultural lands to provide habitat, forage, and other support to wild and managed pollinators
- Creation of pollinator corridors or refugia through collaboration among neighboring farms/ranches
- Reduction of risk to pollinators through pairing of habitat establishment with promotion of Integrated Pest Management (IPM)
- Quantitative and qualitative measurement of outputs and outcomes, including acreage, site monitoring and using models to evaluate pollinator populations and health
- Create momentum for expanded adoption through sharing success stories and opportunities across the producer/rancher community.
- \$1.2 million will go directly to farmers to implement this program





# How does this benefit you?

These practices provide numerous agronomic, ecological, and social benefits

- Habitat and cover crops improve soil health, water retention, and carbon sequestration
- IPM reduces inputs and pest pressure
- Meet sustainability requirements from buyers
- Be a part of the industry wide movement
- Buyers can use the BFF Logo on packaging and marketing material



**Coming in 2023:**  
**Third - Party Verification Option for Bee  
Friendly Farming**



## WHAT DID YOU THINK?

Scan the QR Code below and answer 4 short questions to help us in planning future presentations.





# THANK YOU

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