



# Pollination Updates

Chris Heintz, Moderator





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# Pollination Updates

Presenters:

**Chris Heintz**, ABC Bee Task Force  
Liaison



# Keys to Healthy Bees in Almonds

Chris Heintz, ABC Bee Task Force Liaison





# Keys to Healthy Bees in Almonds



## Today's Topics

- **Honey bee status - *Christi Heintz & Eric Mussen***
- **Building a successful grower/beekeeper relationship**
  - What you can do to help your beekeeper pollinate your crop
  - Impact of fungicides
- **Introduce conference poster session**
- **Bee supply and the business of pollination**  
*with Matt Beekman and John Miller*



**YOU NEVER KNOW WHERE LIFE TAKES YOU,  
SO WE FLY ALL OVER THE COUNTRY.**

**OVER 65 DESTINATIONS ACROSS THE COUNTRY**

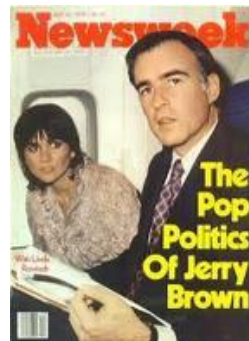




# Keys to Healthy Bees in Almonds

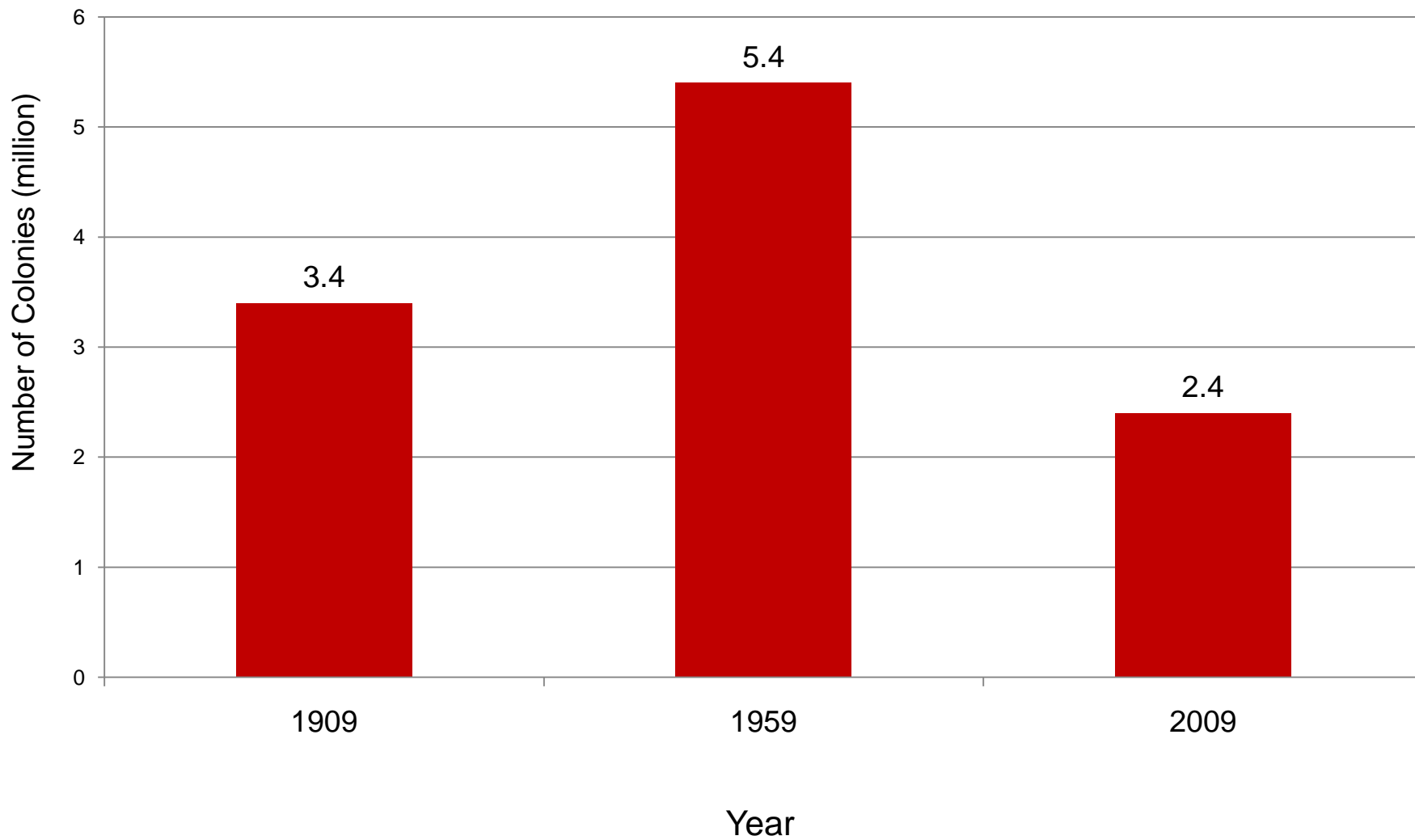
## The Changing Landscape in California

	<u>1980</u>	<u>2010</u>
<b>Population</b>	<b>23,667,902</b>	<b>36,961,664</b>
<b>Farm Acres</b>	<b>32,156,894</b>	<b>23,364,695</b>





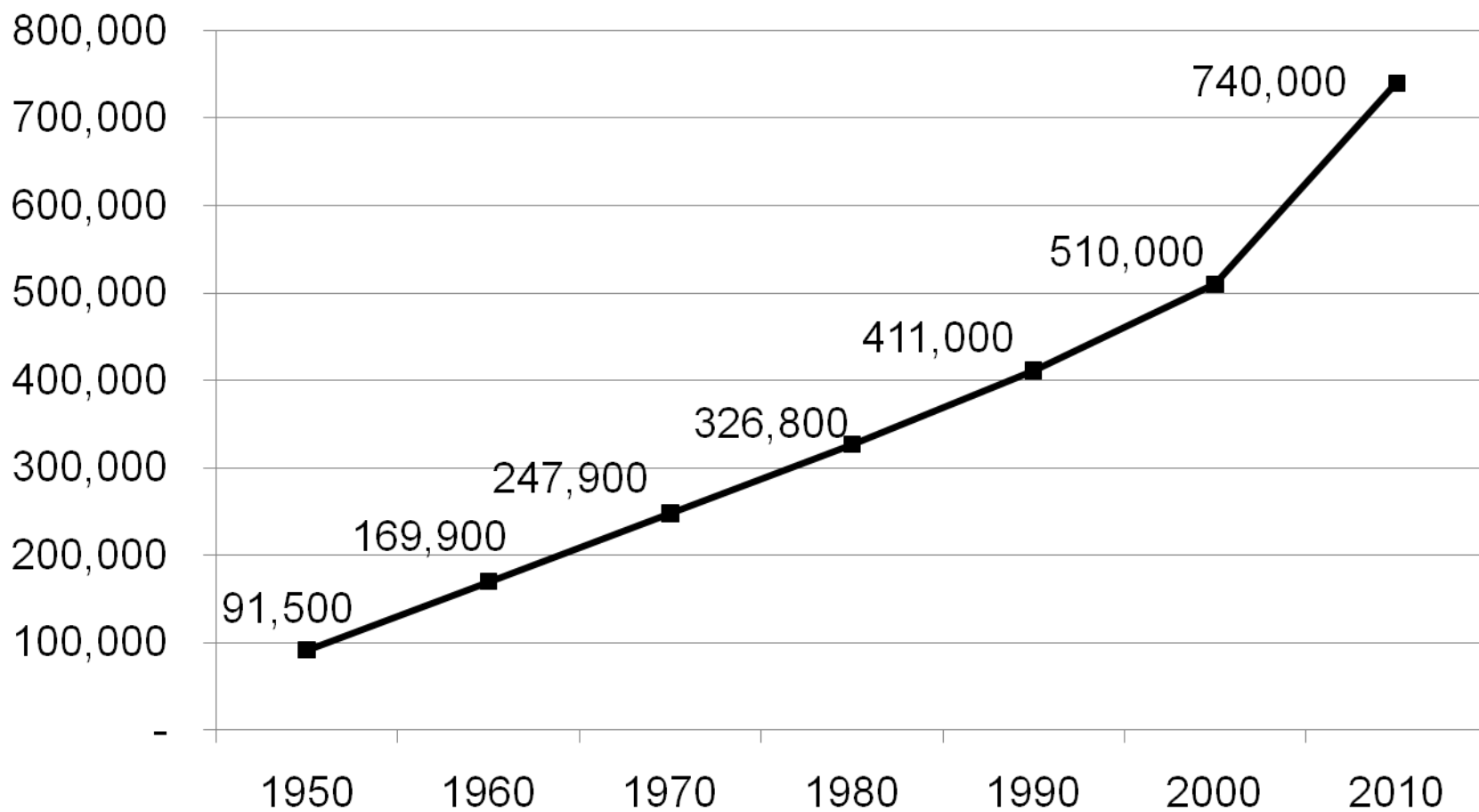
# U. S. Honey Bee Colonies







# Almond Bearing Acreage





# Keys to Healthy Bees in Almonds



## California State Beekeepers Assn Survey

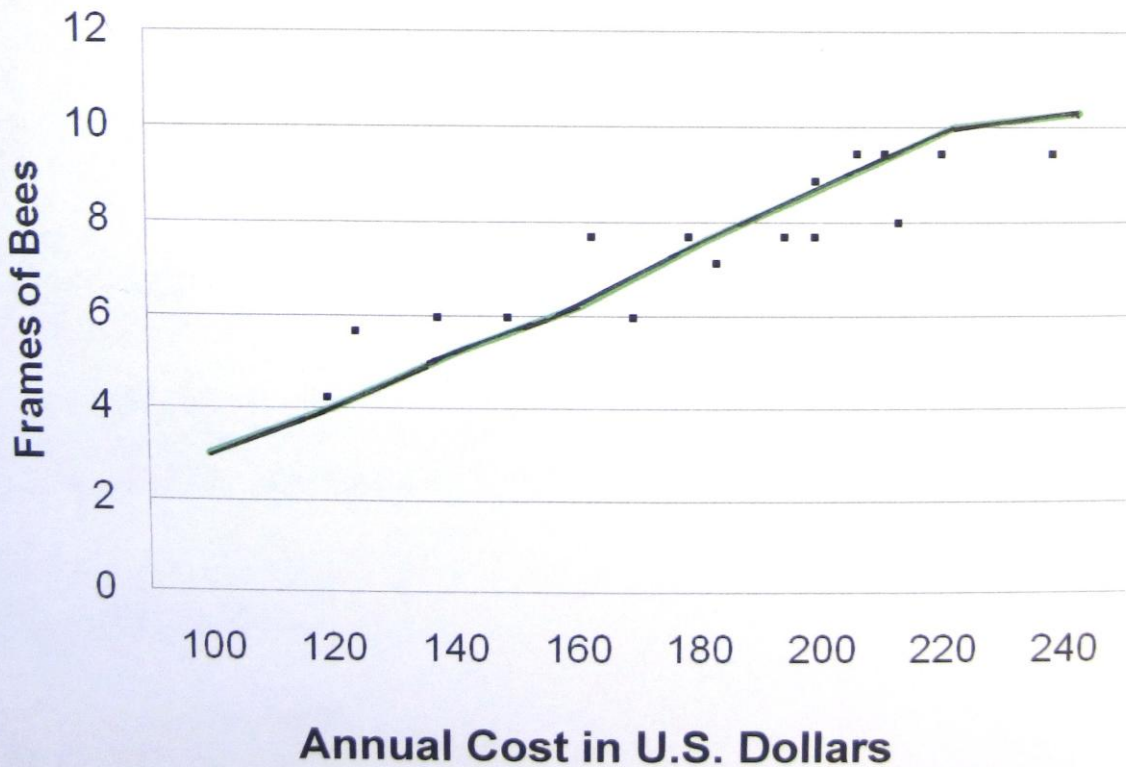
### Almond Pollination Fee

<b>2008</b>	<b>\$ 148.50</b>
<b>2009</b>	<b>\$ 157.03</b>
<b>2010</b>	<b>\$ 150.79</b>
<b>2011 (projected)</b>	<b>\$ 158.37</b>



# Keys to Healthy Bees in Almonds

## Overwintered Colonies





# Keys to Healthy Bees in Almonds



## Honey bee health status

- **Bee mortality**
  - **CCD symptoms - seemed to be decreasing, but ... now?**
  - **Queen problems - seem to be increasing**
  - **Poor nutrition - is weakening colonies**
  - **Mites + Nosema (virus + Nosema) – a deadly duo?**



## Honey bee health status

- **Overwintering losses**

- **Still 30% +**
- **Goal is to return to 10%**

**Accomplished by**

- **Continued research**
- **Changing management paradigms**
  - **2007 Specialty Crop Grant on diagnostic services**
  - **2009 Specialty Crop Block Grant on BMP's**
  - **2010 Specialty Crop Grant to improve forage resources**



# Keys to Healthy Bees in Almonds

## Building the Grower/Beekeeper Relationship

- **Forage** - If possible, help your beekeeper locate flowering forage prior to and after bloom.



- **Water** - Provide abundant and potable water free from contamination and accessible to bees.



## Building the Grower/Beekeeper Relationship

- **Agricultural Sprays - Let your beekeeper know the applications used for crop protection, including tank mixes. Minimize exposure by spraying late in the afternoon or at night when bees are not flying.**





## Impact of Fungicides on Honey Bees

- May not always be direct mortality of adult bees
- Contaminated pollen can affect growth and development of larvae and pupae
  - o Dose dependent
  - o Higher doses – larval death
  - o Lower doses – pupae fail to molt
  - o Malformed bees and/or partially emerged bees





## Fungicide-Contaminated Pollens – Questions

- Shortened life span?
- Failure of internal organs to function properly?
- Other negative effects?
- Fungicide/pesticide synergies?



## Building the Grower/Beekeeper Relationship

- **Pollination contracts** - A signed contract protects both grower and beekeeper. Secure contracts early for the following pollination season so beekeepers will make the investment in colony health and strength.



- For a pollination contract template, visit [www.ProjectApism.org/Downloads](http://www.ProjectApism.org/Downloads)



## California 7% Withholding Tax

**Consult your tax advisor!**

**CA appears to be broke and looking for money**

**Go to [www.ftb.ca.gov](http://www.ftb.ca.gov) or call 800-852-5211**

**Out-of-state beekeepers**

- should be filing Form 588**
- claiming CA expenses against this CA income**

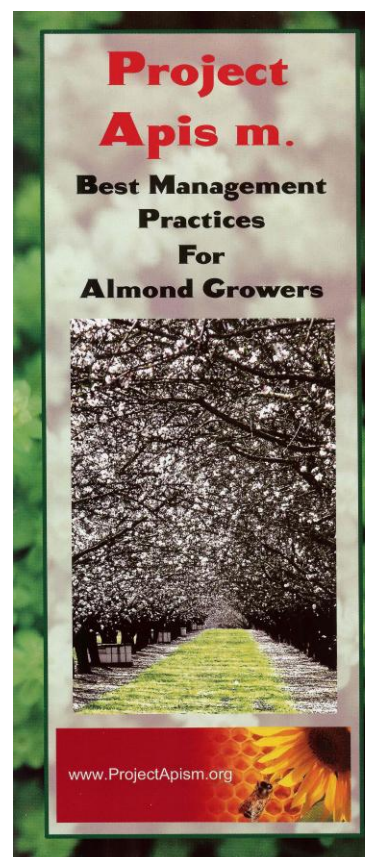


# Keys to Healthy Bees in Almonds



**Visit the PAm booth in the Pollination Pavilion**

**Pick up a copy of BMPs  
for Almond Growers  
renting bees**





## Conference poster session – Pollination Pavilion

- ❑ **David Wick – Essential oils for virus & Nosema**
- ❑ **Jerry Bromenshenk – Viruses & Nosema in CCD samples**
- ❑ **Mark Carroll – Varroa mite control using brood pheromones**
- ❑ **Diana Sammataro – Antioxidants, probiotics**
- ❑ **Gloria DeGrandi-Hoffman – Impact of fungicides, Pristine**
- ❑ **Sue Cobey – Stock improvement**
- ❑ **Marla Spivak – Tech transfer team for bee breeders**
- ❑ **Ruben Alarcon – Bee forage, Mustard**
- ❑ **Theresa Pitts-Singer/Carolyn Pickel – Blue Orchard Bees**
- ❑ **Meg Ribotto – Project Apis m.**



# **Managing Bees for Almonds 2011 Bloom**

**with beekeepers  
John Miller, ID, ND, CA  
Matt Beekman, CA**



**Thank You**



**Wrap-Up, Discussion  
and Q&A**





**Session at 2:40 pm:**

**Common Issues in the  
Orchard in Grand Ballroom**



# CEU Credits



**Continuing Education Units** are available for most sessions.

Please check in at the CEU desk in the **Doubletree Hotel lobby** for details and instructions.



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