

NASS Survey Training

Quarterly Colony Loss - October 2023 (BEE COLONY LOSS QUARTERLY)



**United States Department of Agriculture
National Agricultural Statistics Service**

Workforce Performance and Staff Development Section
August 2023



Survey Overview

- Bee diseases and death loss have become a significant issue over the last few years
 - Some of the loss is due to unknown causes
- NASS doesn't measure losses and diseases on our annual Bee and Honey survey
- You'll be collecting important information on the extent and causes of loss and disease

Survey Information

- Project Code: **115 – Bee Colony Loss Quarterly**
- Questionnaires:
 - Mailed out around September 21st
- Release:
 - *Honey Bee Colonies*
 - August 2024

Importance of Honey Bees

- Bee pollination is responsible for more than \$15 billion in increased crop value
- One in three mouthfuls of food in our diet is directly/indirectly benefited from bee pollination
- CA almond production depends completely on honey bee pollination
 - Uses 1.4 million colonies = 60% of all managed colonies in the US



Hives/colonies in an apiary/bee yard



Removable Frames



Beekeeper holding frame

Screening/Intro Questions

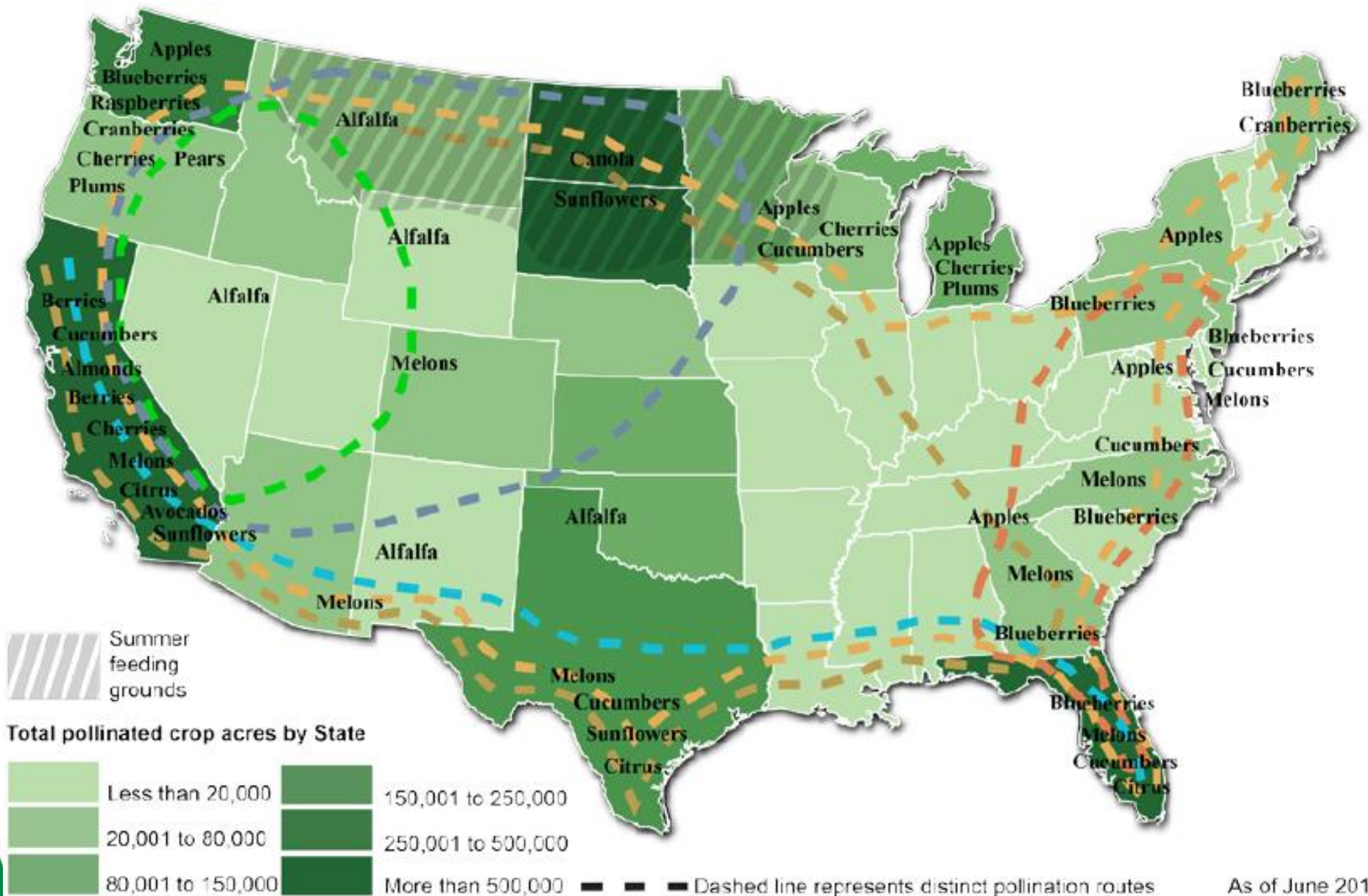
- Own or control any apiaries between July 1, 2023 and September 30, 2023?
 - If YES, how many colonies owned on:
 - July 1, 2023?
 - September 30, 2023?
 - If NO: Has operation been sold, rented, or turned over?

Colonies and Losses/Addition by State

Between July 1 and September 30:

- Report colonies by state
- Were colonies in that state July 1?
 - If yes: How many in that state on July 1st?
 - If no: How many when they first moved into the state?
- How many of those colonies were completely lost/died out between July 1 – September 30.

The Bee “Route”



Colonies and Losses/Additions by State

Between July 1 and September 30

- Of the colonies in that state, how many:
 - Were requeened?
 - *Excluding* any completely lost/died out colonies
 - Received nucs or packages?
 - *Excluding* any completely lost/died out colonies
- How many NEW colonies added in that state?
 - Include splits, newly created, and replacement of lost colonies
 - Exclude any colonies that received a new queen and/or additional bees (already reported)

Adding a queen



Colonies Sold

- Between July 1 and September 30, did the operation sell any colonies?
 - Exclude packages and nucs created specifically for sale
- How many colonies were sold?



Nuc (“nucleus” colony): Essentially a standalone colony. Comes with laying queen, worker bees, and brood. More expensive but will produce honey much faster



Package (being added to hive): has workers bees and queen, but no comb. Cheaper, but takes longer to start producing honey.



Lost Colony Symptoms

Between July 1 and September 30

- Did any of the *lost* colonies exhibit **ALL** four of these symptom:
 - Little to no build-up of dead bees
 - In the hive or at hive entrance
 - Rapid loss of adult bees
 - Despite presence of queen, capped brood, food reserves
 - Food stores not immediately robbed by other bees
 - Loss not attributable to Varroa or Nosema
- If YES, how many colonies lost due to *ALL four* symptoms?

Colony Health Issues

Between July 1 and September 30

- Of the total colonies owned, the number of colonies in each state affected by:
 - Varroa mites; Other pests and parasites; Diseases; Pesticides; Other; Unknown
- Note that:
 - Affected, but not *necessarily* lost to
 - BUT also include colonies that were lost/died out
 - Can also have more than one affecting a colony





Things to Remember:

- There are many potential “relationships” between different answers throughout the survey
 - Be mindful of the data reported across the different sections
 - We don’t want to miss OR double count anything
- If it seems odd, probe. Leave good notes.
- Watch out for any differences across states

Watch out for:

- Large change in July 1 to September 30 number of colonies
- Large number of lost colonies
- Large portion of colonies receiving new queens and/or additional bees
- “Double reporting” of colonies lost, colonies receiving bees, new colonies added
 - Watch the specific includes/excludes for the items
- Inconsistent total number of colonies and sum of colonies for all states

Watch out for:

- Sum of new colonies/new bees added not consistent with sums reported for all states
- Colonies lost exhibiting ALL four symptoms exceeds total losses reported
- Losses/hives renovated but no problems reported
- NOTE: Across each section, these numbers may not all *exactly* match up...BUT they should be in the ballpark
 - If I initially report 100 colonies BUT then the sum across all states is 500 colonies—that's probably a problem!
 - If I report losses or that I had to replace bees, but then report 0 hives with problems—that's probably a problem!

Reluctant Response

- Why should I report?
 - The survey results provide a statistical benchmark on honey bee colony numbers and death loss for comparison each year. The information will allow the USDA, beekeepers, and any other interested parties to analyze data on a state-by-state basis, and compare specific quarterly losses, additions and movements.

Conclusion

- Very important survey, in service to the bee and honey industry and agriculture as a whole
 - NASS will be a primary source of nationally representative data on losses and disease prevalence
- Be sympathetic towards struggles beekeeper may be facing
- Comments are your friend
 - When in doubt, comment it out!
- Concerns, Comments, Questions?
 - Practice Exercises