Winter Loss Survey

MOEBA

24 April 2025

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Overview

Questions:

1. Name (kept anonymous)
2. Number of colonies that went into Winter 2024
3. Number of colonies present in Spring 2025
4. Did you identify any disease symptoms this fall?
5. What did you feed your colonies this fall? (select all that may apply)
6. How did you monitor for varroa mites this season? (select all that may apply)
7. Approximately how often did you monitor for varroa mites this past season?
8. What did you use to treat your hives for varroa mites this season? (select all that may apply)
9. Approximately when did you treat your hives for varroa mites this season? (select all that may apply)

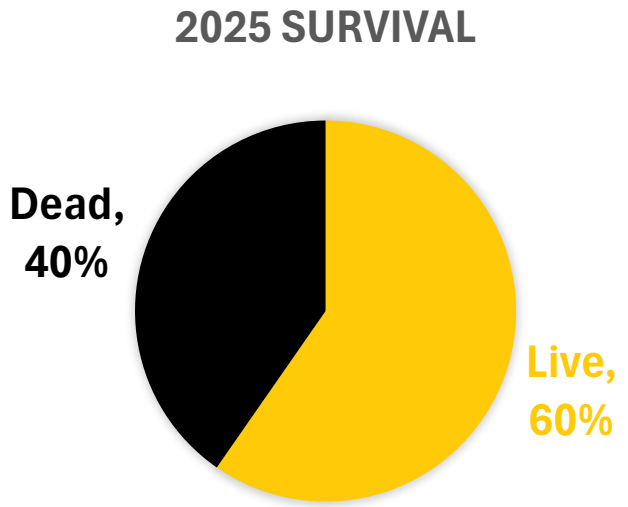
Goals:

- Identify improvement areas for MOEBA programming to target (**last year**: varroa management, more information)
- Try not to overwhelm respondents with questions!

Summary

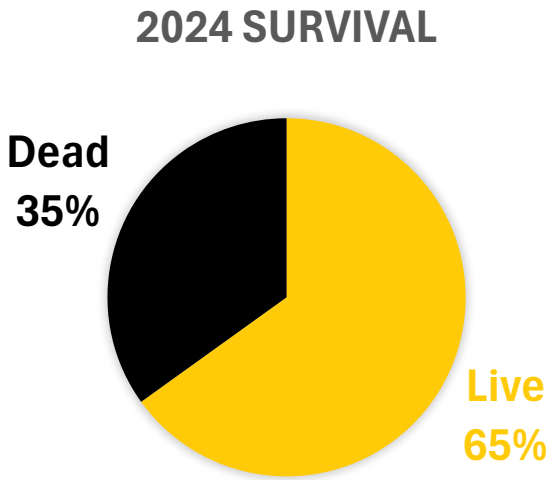
Total beekeepers: 28

- Total hives in winter 2024: 672
- Total hives in spring 2025: 401
  - Total hives lost: 271
  - Percent of hives lost: 40%



Last year total beekeepers: 30

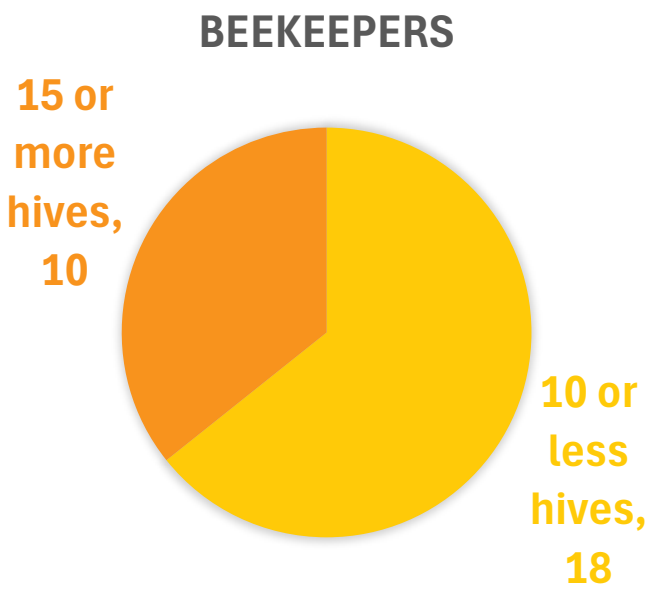
- Total hives in winter 2023: 1031
- Total hives in spring 2024: 671
  - Total hives lost: 360
  - Percent of hives lost: 35%

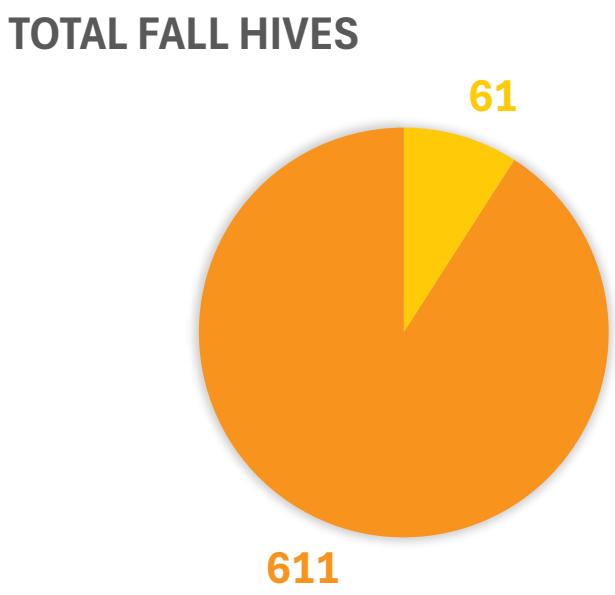


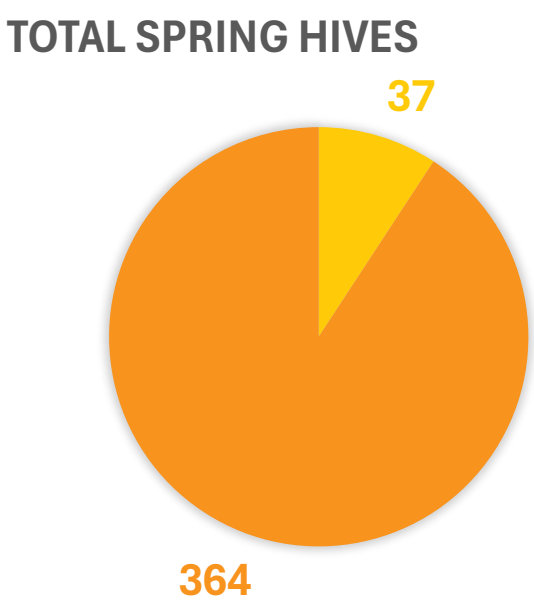
Summary

Total beekeepers: 28

- Total hives in winter 2024: 672
- Total hives in spring 2025: 401
  - Total hives lost: 271
  - Percent of hives lost: 40%
  - **Percent losses didn’t vary much across scales of beekeeping**

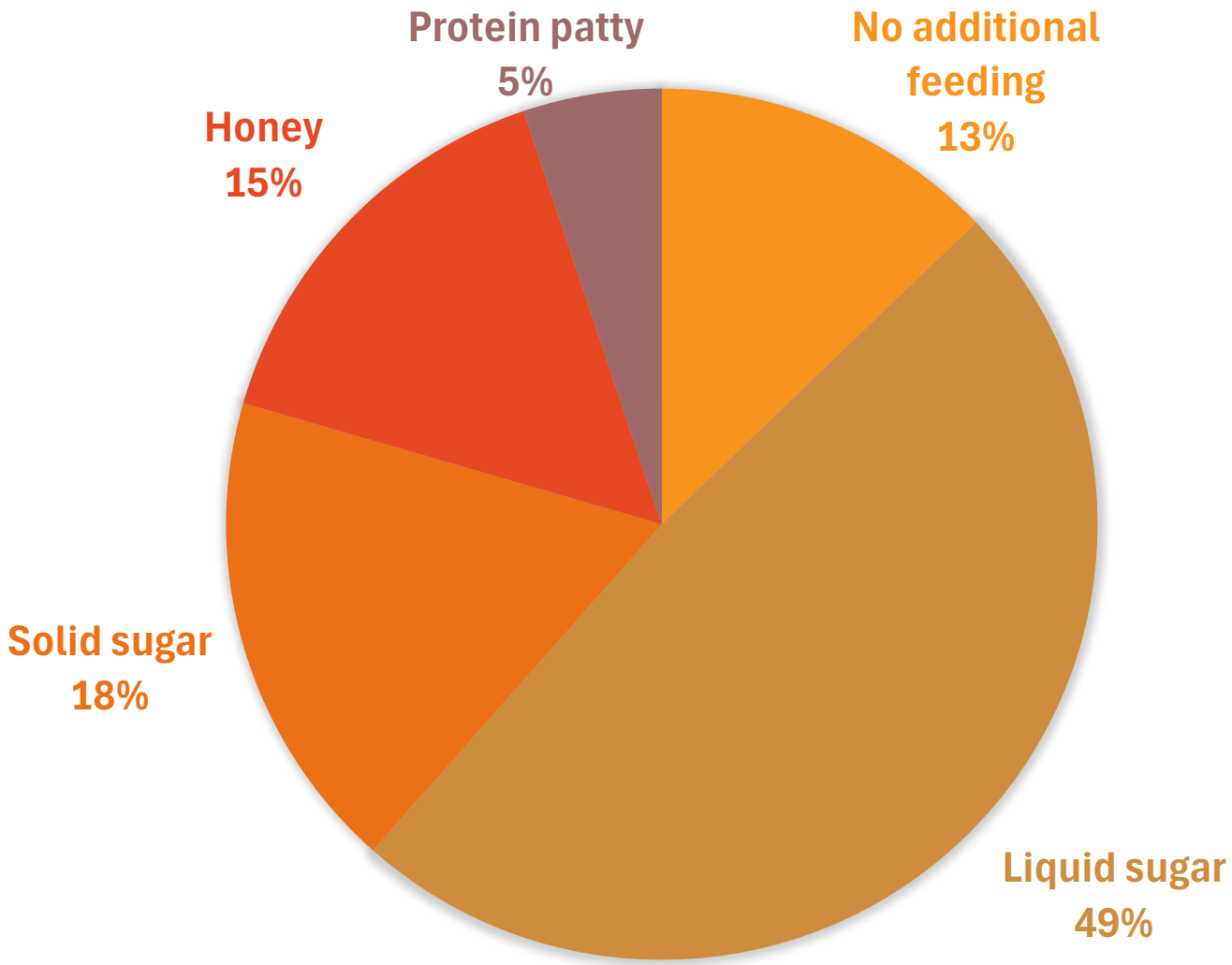






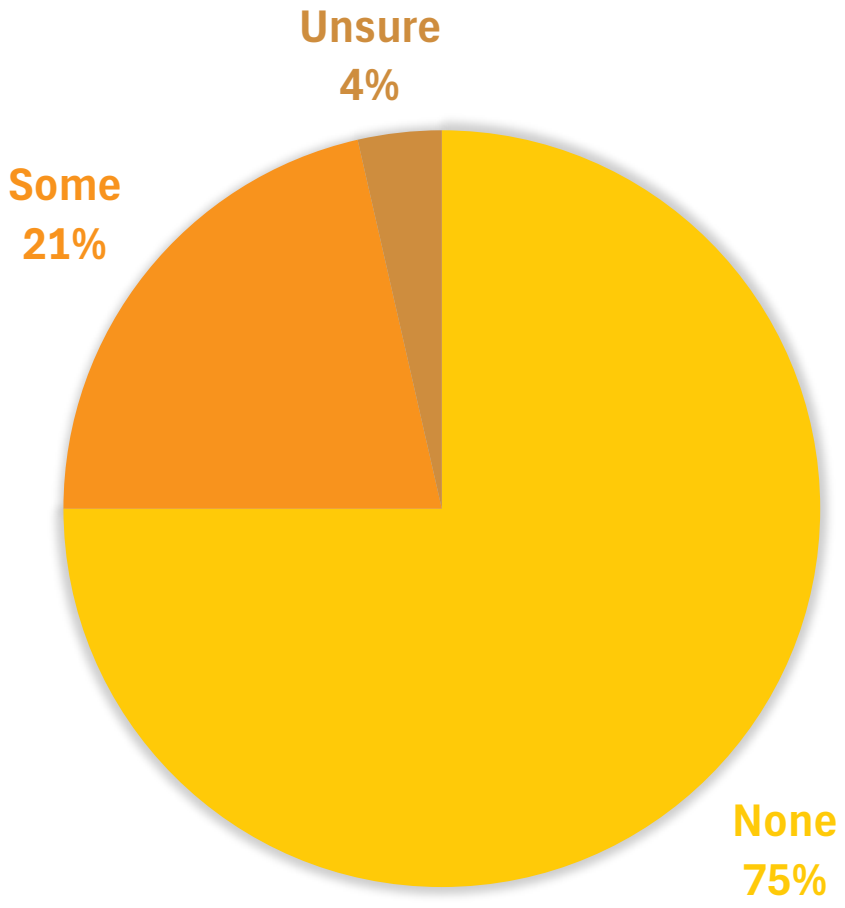
Feeding

- Hives with “no additional feeding” were 21% more likely than the average hive to **die** over the winter
- Hives were never fed protein patties alone, but protein patties isolated as a factor in our hives’ overwinter survival are suspect



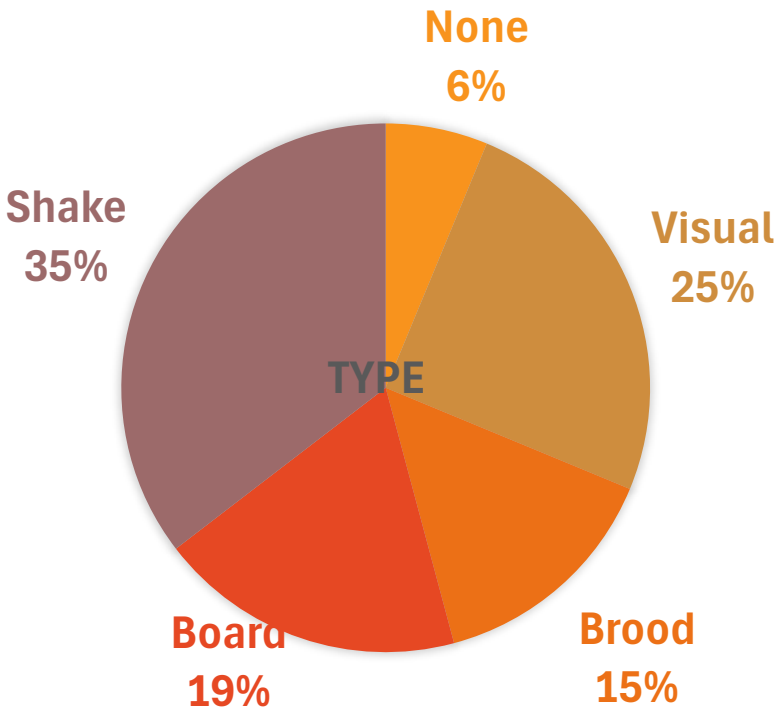
Disease

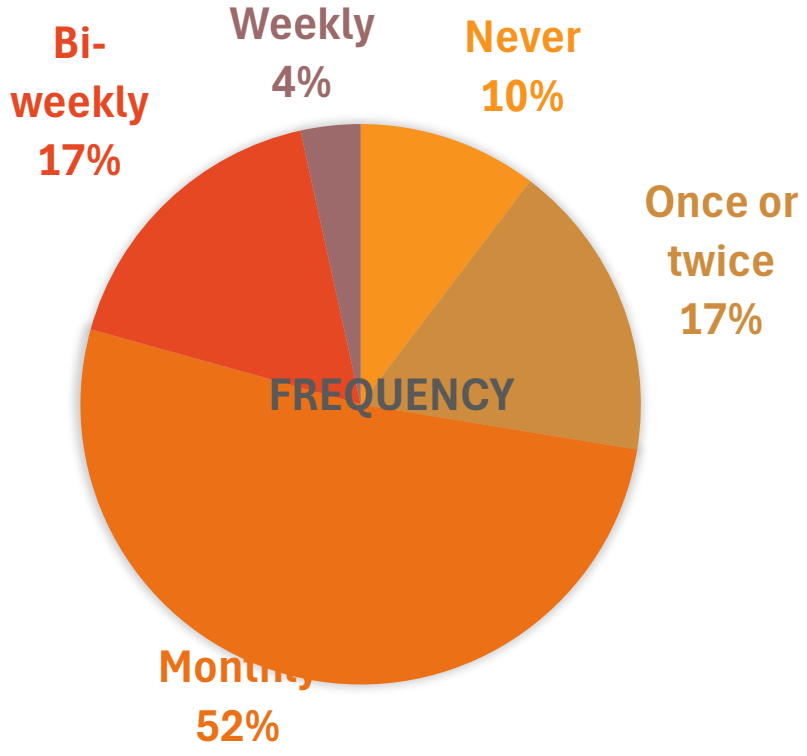
- Average winter loss rates for respondents who “identified no disease symptoms” was approximately 66%
- Average winter loss rates for respondents who “identified some disease symptoms” was approximately 48%



Varroa Monitoring

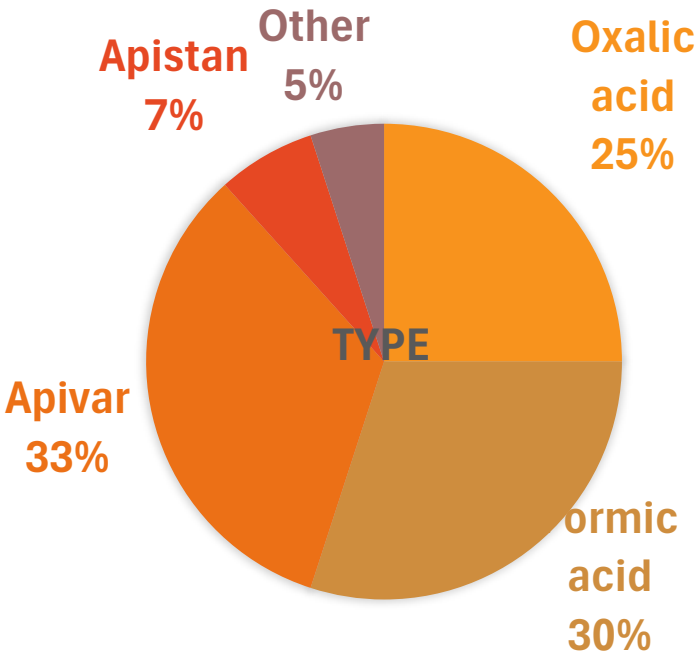
- Most of our hives (417) are monitored by quantitative destructive sampling (alcohol or soap wash, sugar shake, CO2 kill), which is an effective monitoring method (16-32% losses)
- Few of our hives are not monitored or visually monitored only, and these are equally ineffective monitoring methods (82-97% losses)
- Combinations of monitoring methods are more effective than solitary monitoring methods
- Monitoring once/twice/never is bad (83-100% losses), monitoring weekly to monthly is better

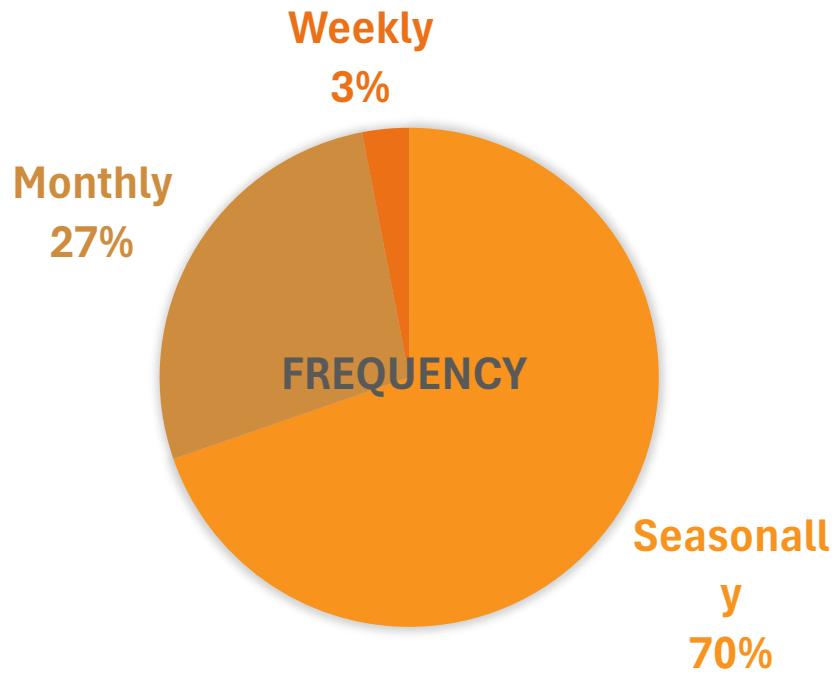




Varroa Treatment

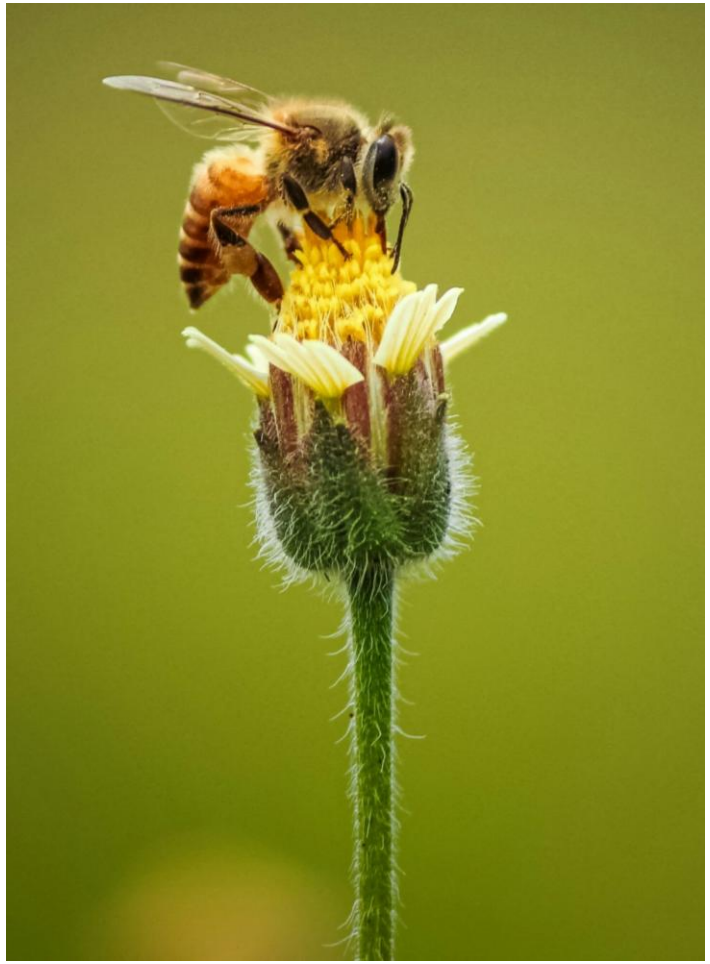
- Oxalic acid, Formic acid, and Apivar in combination, treated monthly or seasonally, was the most effective treatment regime (22-25% losses)
- Solitary treatments (oxalic, formic, apivar, or apistan) were less effective (50-100% losses)
- Apistan in any combination was the least effective treatment (79%-94% losses)
- There seems to be a sweet spot for timing, between monthly and seasonally
- Brood breaks look promising, but our association doesn't have enough data on them





Tentative Conclusions

- This was a worse winter than last (60% vs 65% survival)
- While approximately the same number of beekeepers responded to this year's survey, this year we saw only 65% of the hives of last year (672 vs 1031 in winter)
- **Feeding**: lots is good, none is bad, pollen patties might not be useful
- **Varroa monitoring**: more important than feeding and even varroa treatment
- **Varroa treatment**: Apistan doesn't look good, combinations of oxalic, formic, and Apivar look best



Directions and Next Year

- How do we want to use these data?
- Which of these factors should we investigate further?
- Which new factors should we consider? (e.g., pollination sources, overwintering preparations, queen health, etc.)