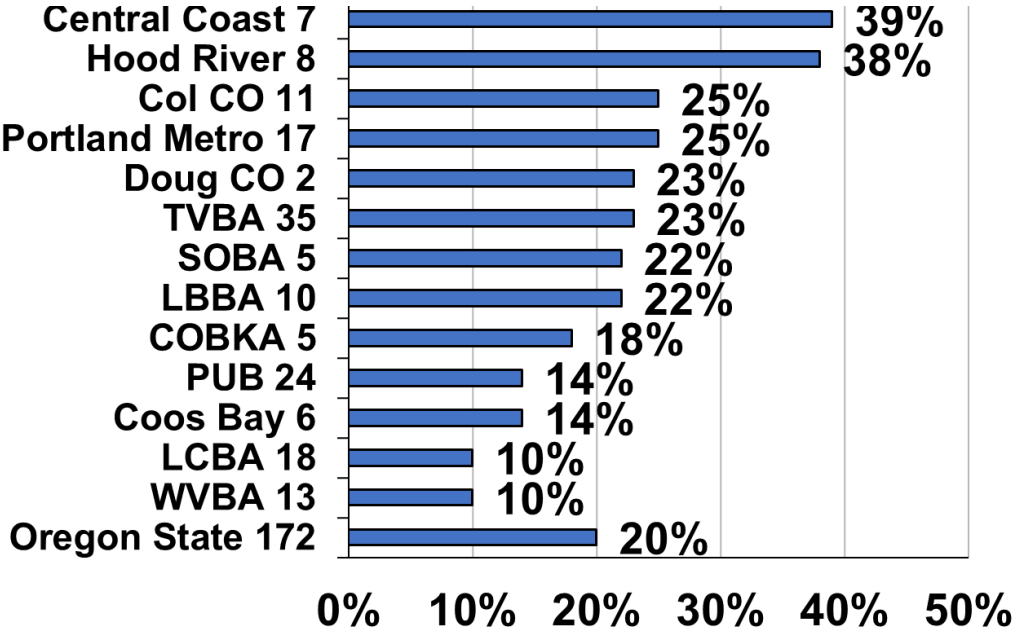
2023-2024 LCBA Winter Loss Report by Dewey M. Caron

Lane Beekeepers were encouraged to complete a web-based survey document in a continuing effort to define overwintering losses/successes of backyard beekeepers in Oregon and Washington. This was the 15th year of such survey activity. I received 171 responses from OR backyarders (1/3rd fewer than last year), keeping anywhere from 1 to 41 colonies; LCBA members sent in 18 surveys, 20 fewer responses than last year. These 18 individuals had 107 fall colonies, barely more than ½ the colony numbers last year.

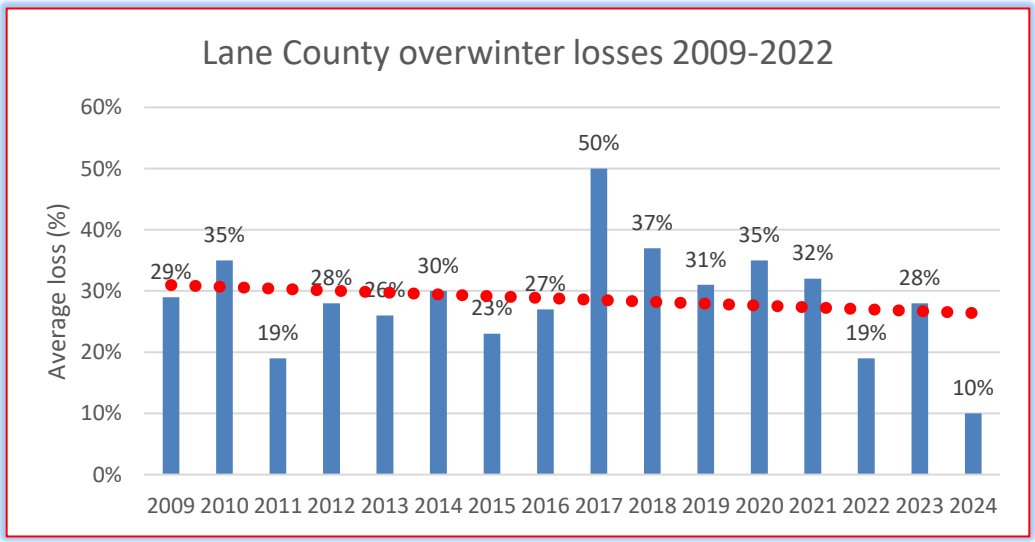


Overwintering losses of LCBA respondents = 10 %, an 18-point decrease from the previous year and the lowest recorded loss level of my 15 years of surveying. This was a considerable improvement over the 14-year loss average of 29.8 average loss for Lane County members. Percent losses, determined by hive types, were 0% for Langstroth 8-frame (7 colonies total) and 10.5% for Langstroth 10-frames hives (94 fall colonies). One of four nucs were lost (25%); there were no Top Bar or Warré hives managed by respondents. A single Layens hive survived winter.

The **attached figure 2 shows LCBA losses for the past 14 years**. Dashed red line is loss trend. The average for last 15 years is 28.6%.

The survey also asked for hive loss by **hive origination**. Members reported 13% loss of previously overwintered colonies, a 20% loss of packages (1 total lost), zero loss of nucs (10 total) and two each of swarms and splits were lost.

Not everyone had loss. In fact, 11 members (61% of survey respondents, 31 colonies) reported NO LOSS. Two respondents (11%) reported total winter loss, total of three colonies. Greatest loss was three colonies with three losing a single colony and two losing 2 colonies each.



Fifteen Individuals with 1 to 3 fall colonies lost 18% of their colonies, 4 individuals with 4-6 fall colonies lost 10.5%, the single individual with 8 colonies had no loss while the 2 individuals with 10+ colonies had a 9% loss. This same relationship has been found each year statewide - the greater the number of colonies means a reduced loss percentage.

Atypical of the statewide data, the LCBA respondents are not new beekeepers. Seven individuals had one to three years experience (39% of LCBA respondents); they had a 56% loss. One individual had 4 to 6 years experience (loss rate = 7%), one had 7-9 years experience (9% loss) while 7 respondents had 10+ years experience (loss rate 18.5%). Greatest experience was 23 years. Statewide, as when colony numbers increase, as individuals report increasing years of experience the survival rate increases.

Some Other Numbers

Two individuals had more than a single apiary location. The loss level at 2nd apiary was the same as at home apiary. Seventy-two percent (72%) of respondents said they had a mentor available as they were learning beekeeping up slightly from 68% last year. One individual reported need to move their bees to seek better overwintering which apparently worked as they had zero loss.

Reasons for Colony Loss/Acceptable loss

We asked of individuals that had colony loss to estimate what the likely reason(s) might have been, Multiple responses were permitted. Four individuals said varroa, three a queen issue and one didn't know. One individual said 5% loss was an acceptable level of loss, five said 10%, three indicated 15% (the median level), two said 20% and four more said 25%.

Why do colonies die?

There is no straightforward way to verify reason(s) for colony loss. Colonies in the same apiary may die for several reasons. Examination of dead colonies is, at best confusing, and, although some options may be ruled out, we are often left with two or more possible reasons for losses. There is a good deal of variance in opinion as to what might be an acceptable loss level. We are dealing with living animals which are constantly exposed to many different challenges, both in the natural environment and the beekeeper's apiary.

Major factors in colony loss are mites and their enhancement of viruses especially DWV (deformed wing virus) and declining nutritional adequacy/forage and diseases. Pesticide exposure in the agricultural environment weakens colonies. Yellow jacket predation is a constant danger to weaker fall colonies. Management, especially learning proper bee care in the first years of beekeeping, remains a factor in losses. What effects our changing environment such as global warming and other factors, play in colony losses are not at all clear. There is no simple answer to explain the levels of current losses nor is it possible to demonstrate that they are necessarily excessive for all the issues facing honey bees in the current environment. We welcome the lowest level of lose in last 15 years and hope this reduction continues.

Management selections and losses

We asked in the survey for information about some managements practiced by respondents. The survey inquired about feeding practices, wintering preparations, sanitation measures utilized, screen bottom board usage, mite monitoring, both non-chemical and chemical mite control techniques and queens. Most Oregon beekeepers do not perform just one management to their colony (ies) toward improving colony health and overwintering success. This analysis however is of a single factor equated with loss level of those same individuals. Such analysis is correlative - doing a similar management as fellow beekeepers does not necessarily mean you too will improve success. It takes

me longer to do this analysis. It will be posted when completed.

Closing comments

This survey is designed to 'ground truth' the larger, national Bee Informed loss survey. Some similar information is additionally available on the BeeInformed website www.beeinformed.org and individuals are encouraged to examine that data base as well. Recall that the BeeInformed survey is measuring the larger scale OR beekeepers not the backyarders; unfortunately, it no longer has funds and was discontinued this year.

I intend to continue to refine the survey instrument each season and hope you will join in response next April. If you would like a reminder when survey is open, please email us at info@pnwhoneybeesurvey.com with "REMINDER" in the subject line. We have a blog on the pnwhoneybeesurvey.com and will respond to any questions or concerns you might have.