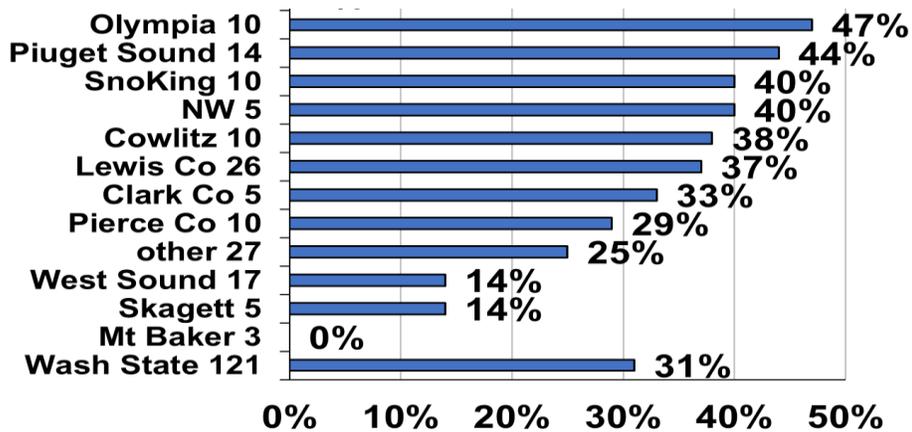


# Winter Bee Losses of Olympia Washington Backyard Beekeepers for 2023-2024

by Dewey M. Caron

Overwintering losses of small-scale Washington backyard beekeepers=31%, a decrease of five percentage points from last year, 14 percentage points below the 9-year loss average. One hundred twenty-one Washington respondents completed a survey, one more than last year and two above the 119 average respondent rate of last five years. There were 10 Olympia beekeepers submitting a survey which is an increase of 3 from last year. Olympia beekeeper losses were 47%.

[www.pnwhoneybeesurvey.com](http://www.pnwhoneybeesurvey.com).



Response by local Washington (WA) associations varied as indicated by blue bars in Figure 1. Statewide loss level is the lowest bar. The number of respondent individuals is listed next to the association name. The bar length is the average club loss percentage for the year. Survey included 693 fall Washington beekeeper colonies same as last year of which 34 were from Olympia. This analysis is of the 10 club members, there were 7 additional respondents “following” club activities.

The PNW survey overwintering loss statistic was developed by subtracting number of spring surviving colonies from fall colony number supplied by respondents by hive type. Of four Langstroth 8-frame colonies, a single one survived (7% loss), of 21 Langstroth 10-frame fall hives 9 were loss (45% loss). A single nuc survived and 4 Layens colonies survived. Statewide results were 37% loss of Langstroth 8-frame and 30% loss of Langstroth 10 frame hives.

The WA respondents to the electronic survey managed up to 26 fall colonies, largest number for Olympia beekeepers was 8 colonies. Six Olympia individuals had one or two colonies (11 total) with 45.5% loss, 3 respondents had 4 to 6 colonies (15 colonies total) with 73% loss and the individual with 8 colonies had total survival. Statewide, fifty-one individuals (42% of respondents) had 1, 2 or 3 fall colonies (loss level of 41%), thirty-five individuals had 4 to 6 fall colonies (loss 43%), 18 individuals had 7 to 9 colonies (loss level 19%) and the 16 individuals had 10+ colonies lost 27%. This relationship of increasing colony ownership having a lower percentage of losses has been consistent.

For Olympia beekeepers, 3 had 1-3 years experience with 60% loss, four had 5 years experience with 48% loss and 3 had 10+ years experience with 33% loss. 20 was maximum. Statewide thirty-six respondents (31% of total) had 1, 2 or 3 years of experience; they had a 30% loss, forty-two individuals (36% of total respondents) had 4 – 6 years' experience (medium number = 5 years experience) with a 42% loss, 14 individuals had 7-9 years experience (loss level 41%), 26 had 10+ years keeping bees and 22% loss (64 was maximum). Examining the relationship of colony numbers and years experience related to loss shows that loss of colonies decreases with the greater the number of colonies and/or years of experience.

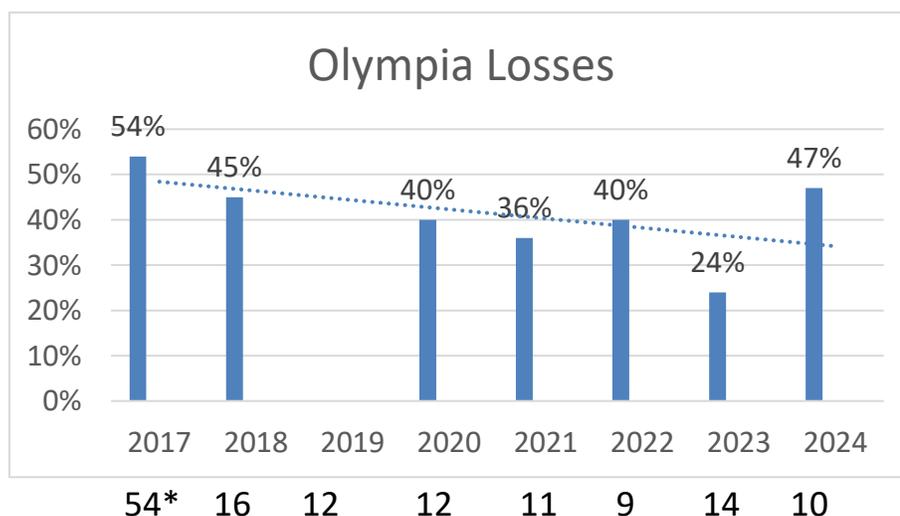
Among 121 WA beekeepers, 46 individuals (38%) had no loss and 22 individuals (18%) had total loss. Twenty-seven individuals lost one colony, nineteen individuals lost 2 colonies and 8 individuals lost 3 colonies.. 74% of beekeepers losing colonies lost one to three colonies.

Numbers for the 10 Olympia beekeepers were four individuals (40%) with no loss (16 colonies) and another four (14 colonies) with total loss. Three individuals lost one colony, one individual lost 2 colonies and one lost 5 and another 6 colonies. Heaviest loss was 6 colonies.

Eighty-eight (75%) WA beekeepers had an experienced beekeeping mentor available as they were learning beekeeping. This percentage was also the 5-year average. For Olympia respondents, 8 individuals had a mentor (72%).

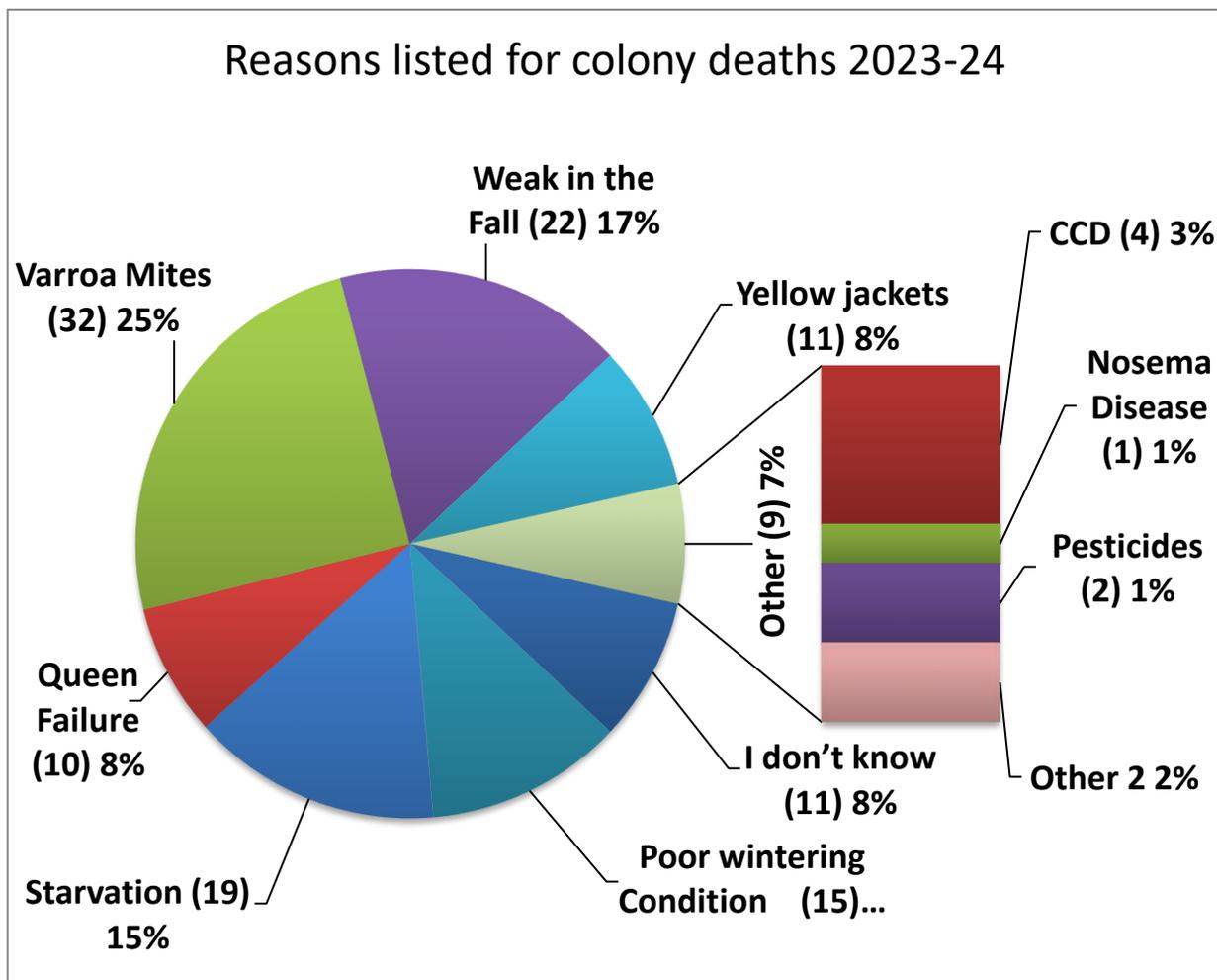
We also asked about hive loss by origination. Statewide best survival was Splits/divides (15%) with swarms and previously overwintered both at 26% loss rate. Package bee losses were over 50% and nucs were 40%. The 11 Olympia respondents had zero loss of split originated hives, 33% loss of swarms, 54.5% loss os overwiterd colnies. Losses were heavier of nucs (67%) and packages (80%).

Six-year loss record for Olympia beekeepers is shown below. The numbers below the graph indicate the number of Olympia respondents. I am unable to find the loss of 2019 year – I believe there were 12 respondents that year. The 2017 numbers include numbers generated by the club, with 10 individuals from the PNW survey added to total. Average Olympia loss for 6 years is 42.1% compared to a 47.5% statewide loss the past 9 years.



## Colony death perceived reason and acceptable loss level

We asked survey takers who had winter losses for the “reason” for their losses. More than one selection could be chosen. In all there were 115 WA selections (1.85/individual) provided. Varroa mites (32 individuals, 25% of total selections) was the most common choices. Weak in the fall, starvation and poor wintering were next most common followed by yellow jackets and don’t know. Ten individuals only listed queen issues. The two “other” listings were absconding and too small a winter cluster. Figure below shows the number and percent of factor selections statewide. The 6 Olympia respondents had 4 listing varroa and one each of poor wintering, queen issues and yellow jackets.



**Acceptable loss:** Survey respondents were asked reason for loss. Seventeen (15%) indicated zero (no loss). Thirty-three percent of individuals indicated 10% or less. Twenty percent was medium choice. Nineteen percent said 50% was an acceptable loss level. For Olympia respondents one said one none, tow each 20% and 25% (the median) and the remainder was 33% or larger with 2 listing 100% as acceptable loss.

**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. There appears to be no single reason for loss and 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 are thought to be mites, pesticides, declining nutrition adequacy of the environment and diseases, especially viruses and Nosema. Management, failure to do something or doing things incorrectly, remains a factor in our losses. More attention to colony strength and checking stores to help avoid winter starvation will help reduce some of the losses. **So, there is no simple answer to explain the levels of current losses nor is it possible to demonstrate that they are excessive for all the issues facing honey bees in the current environment.**

## Managements

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. Respondents could select multiple options and there was always a none and other selection possible. This analysis seeks to compare responses of this past season to previous survey years. With only 10 respondents I direct you to the statewide analysis. I will add Olympia respondent choices once I complete the analysis of the larger respondent pool of WA beekeepers.