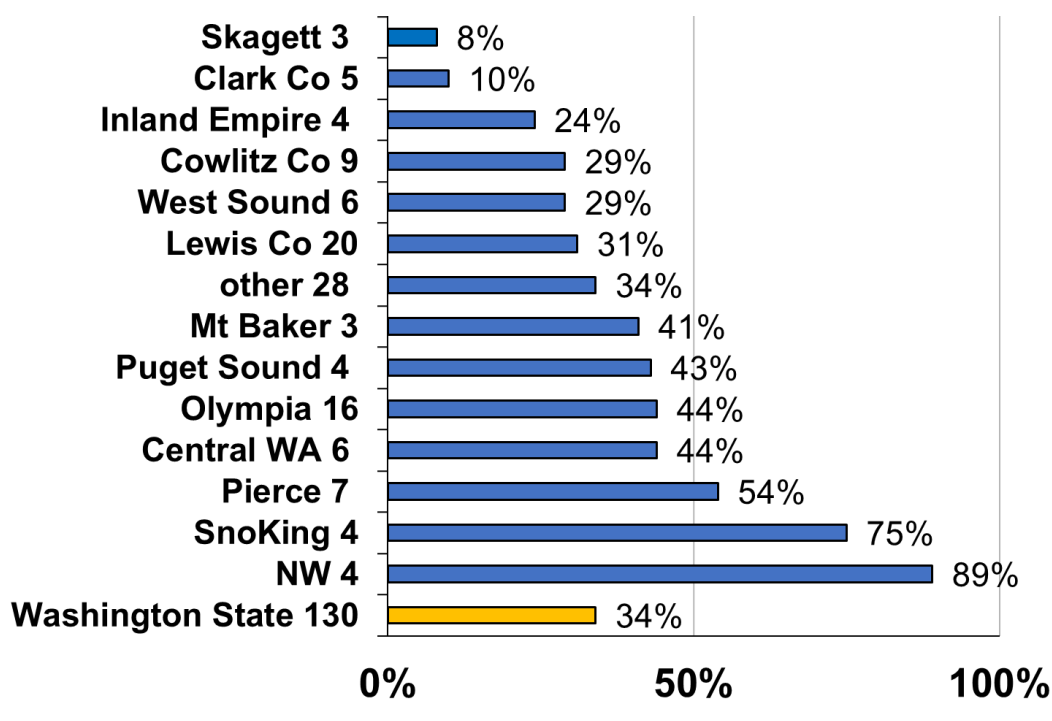


Winter Bee Losses of Olympia Washington Backyard Beekeepers for 2024-2025

by Dewey M. Caron

Overwintering losses of small-scale Washington backyard beekeepers=34%, an increase of three percentage points from last year, 11 percentage points below the 9-year loss average. One hundred thirty Washington beekeepers completed a survey, slightly above the 119 average respondent rate of last five years. There were 16 Olympia beekeepers submitting a survey, which is an increase of 6 from last year and also 6 percentage points above losses since 2018. Olympia beekeeper losses this past winter were 44%. 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 676 fall Washington beekeeper colonies, 17 fewer than last year.

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. There were an identical number of Langstroth 8-frame and 10-frame colonies overwintered (26 fall colonies), but survival was better in Lan 8-frmae (9 colonies lost vs 13 lost for Lang 10-frame colonies – a 35% loss level of Lang 8s and 50% of Lang 10s. One of 2 nucs (50% loss) and 3 of 5 Top Bar hives (60% loss) a where also reported by Olympia beekeepers. This apparent advantage of 8 frame hives was also apparent statewide - results were 28% loss of Langstroth 8-frame and 36% loss of Langstroth 10-frame hives.

Statewide 39 individuals had no loss (124 colonies) while 30 beekeepers lost 100% (87 colonies). The greatest loss was one colony. The heaviest loss was 10 colonies. For Olympia members. 4 members lost 100% (9 total colonies) while 6 individuals had no loss (14 colonies). Range of colonies was 1 to 13 (WA state respondents managed up to 40 fall colonies). Three Olympian beekeepers lost 1 and 2 colonies, one lost 3, two lost 4, and heaviest loss was 6 colonies.

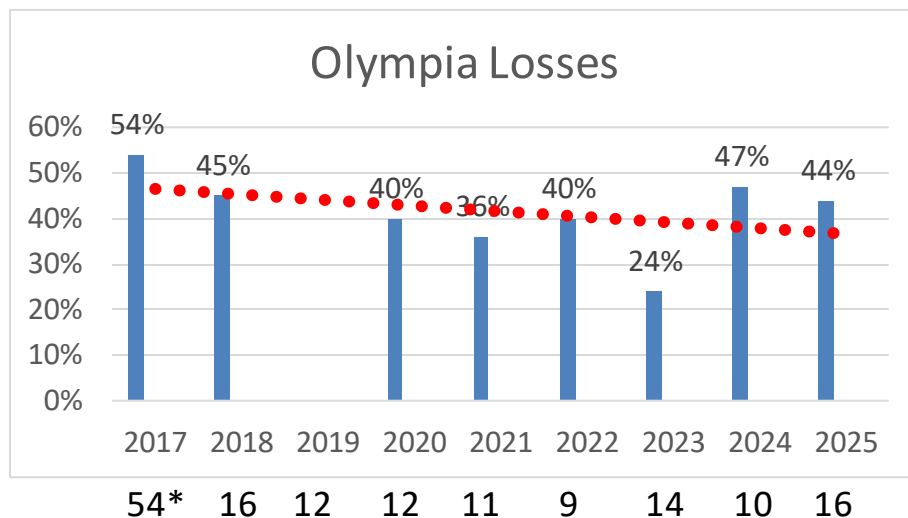
Two Olympia individuals had one colony (50% lost), 7 individuals had 2 colonies (median number and greatest number of colonies managed) but only 8 survived (43% loss), the one individual with 3 colonies had total survival. The 10 Olympia individuals with 1 to 3 colonies – of 16 total respondents (62.5%) - had 37% loss. Four individuals each with 4 fall colonies had only 7 survive (56% loss). The two Olympia Co individuals with more than 10 colonies lost 10 of 24 total (42% loss). As relationship of increasing colony ownership having a lower percentage of losses has been consistent statewide.

For Olympia beekeepers, 5 individuals had 1-3 years' experience with 50% loss (4 of 8 colonies), six had 4-7 years' experience (29 fall colonies, 14 survived – 44% loss) and the 5 that had 10+ year experience (highest was 40 years) lost 11 of 26 fall colonies = 42% loss. Four years was median beekeeper experience. 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 years' experience related to loss shows that loss of colonies decreases with the greater the number of colonies and/or years of experience statewide as well as for Olympia beekeepers, barely.

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, 13 individuals had a mentor (81%).

We also asked about hive loss by origination. Statewide best survival was overwintered (8% loss, for Olympia 12 of 20 (40%). Splits/divides (statewide 27% Olympia 43%), swarms (statewide 23%, Olympia only 1 of 5 - 80% loss). One of four package bee originated colonies were lost 25% loss and 4 of 8 nuc originated colonies did not survive (50% loss). Statewide package bee losses were 39% and nuc originated colony loss was 51%.

Eight-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, but it was a heavy loss year with cool wet spring. The 2017 numbers include numbers generated by the club, with 10 individuals from the PNW survey added to total. Average Olympia loss for 8 years is 41.25%, compared to a 46.15% 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. Ten Olympia members had 17 selections including two who said didn’t know. Weak in the fall, 4 choices and yellow jackets with 3 were the most common. Varroa mites, queen issues and starvation were each selected twice and 1 said pesticides. Varroa was the most common choice statewide. Weak in the fall, starvation and poor wintering were next most common followed by yellow jackets and don’t know.

Acceptable loss: Survey respondents were asked reason for loss. Two indicated zero (no loss). One each said 5% and 2 said 10%. Three said 20%, medium for both Olympia and statewide, and four said twenty-five. Three said 50% or above.

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 12 Olympia respondents (remainder FAST TRACKED and did not respond) 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.

I intend to continue to refine this 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. I have a blog on the pnwhoneybeesurvey.com and will respond to any questions or concerns you might have. Email me directly for quicker response. dmcaron@udel.edu

Thank You to all who participated. If you find any of this information of value, please consider adding your voice to the survey in a subsequent season.

Dewey Caron May 2025