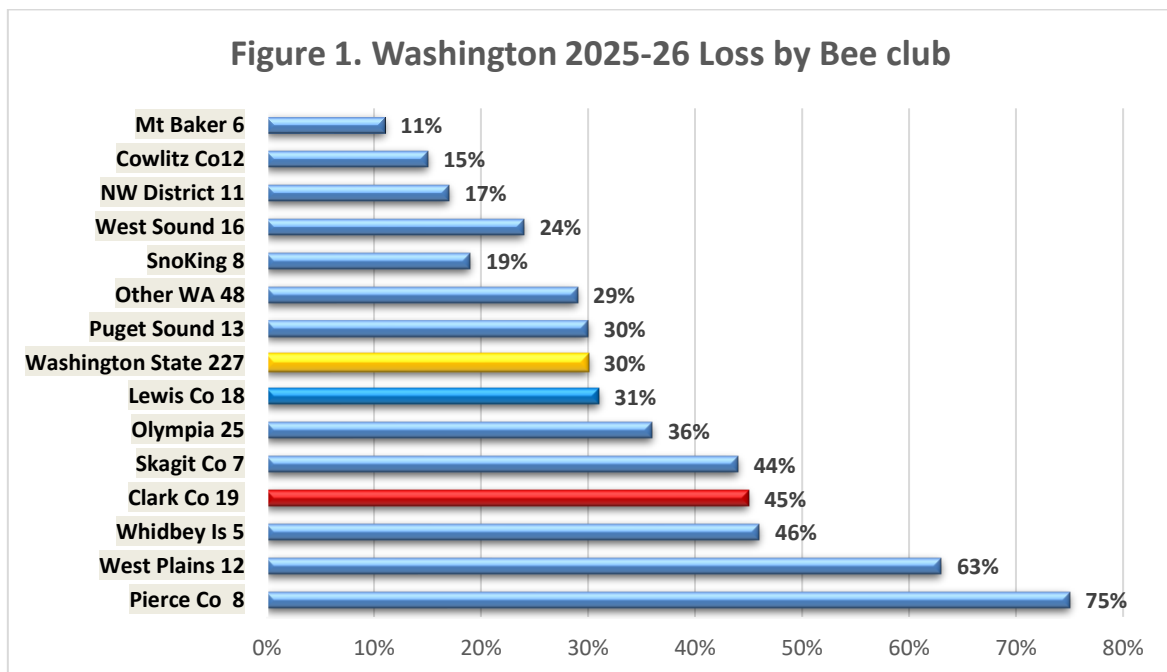


Winter Bee Losses of Clark County Washington Backyard Beekeepers for 2025-2026

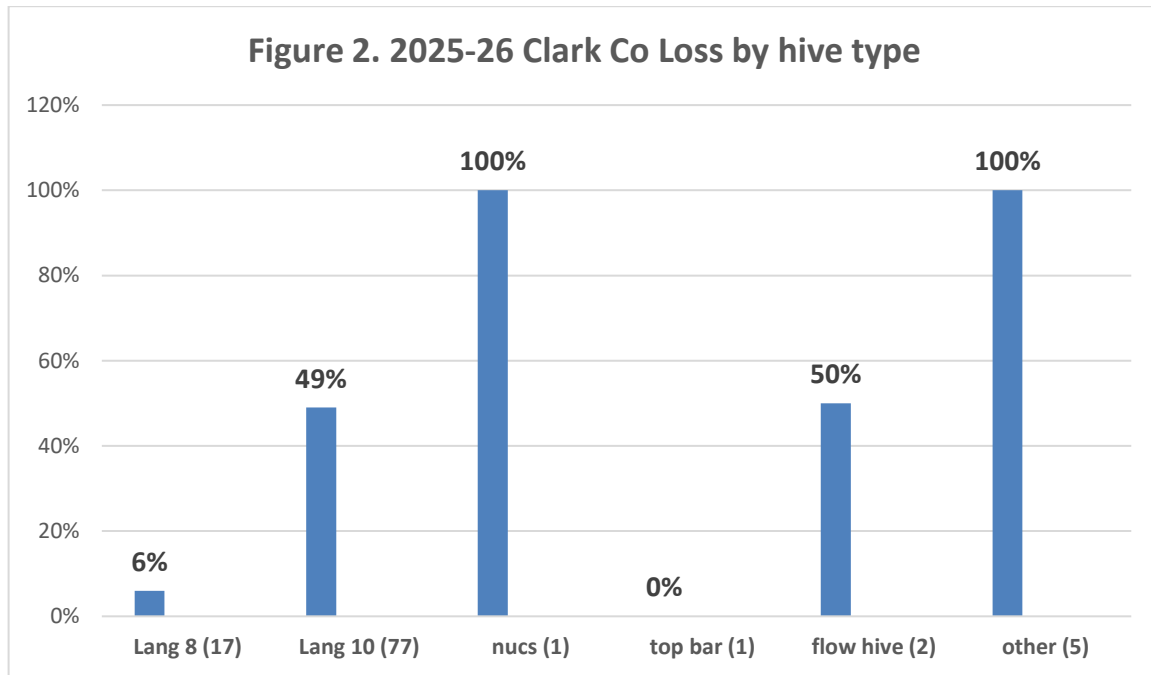
by Dewey M. Caron

Overwintering losses of small-scale Washington backyard beekeepers = 30%, a decrease of four percentage points from last year, 14 percentage points below the 10-year loss average. Two hundred twenty-seven Washington beekeepers completed a survey; individuals maintained up to 1547 fall colonies. Nineteen members of Clark County beekeepers returned a survey. The loss level was 45%, 15 percentage points over the statewide level. The high loss level was due to 10 individuals with 1 to 3 colonies (19 total) having a 47% colony loss and the four individuals with double digit colony numbers having the heaviest losses (54 colonies, 55.5% loss). The 19 Clark Co individuals maintained 103 colonies. Last year there were only 5 Clark Co respondents. Full reports can be found on honey bee survey instrument www.pnwhoneybeesurvey.com

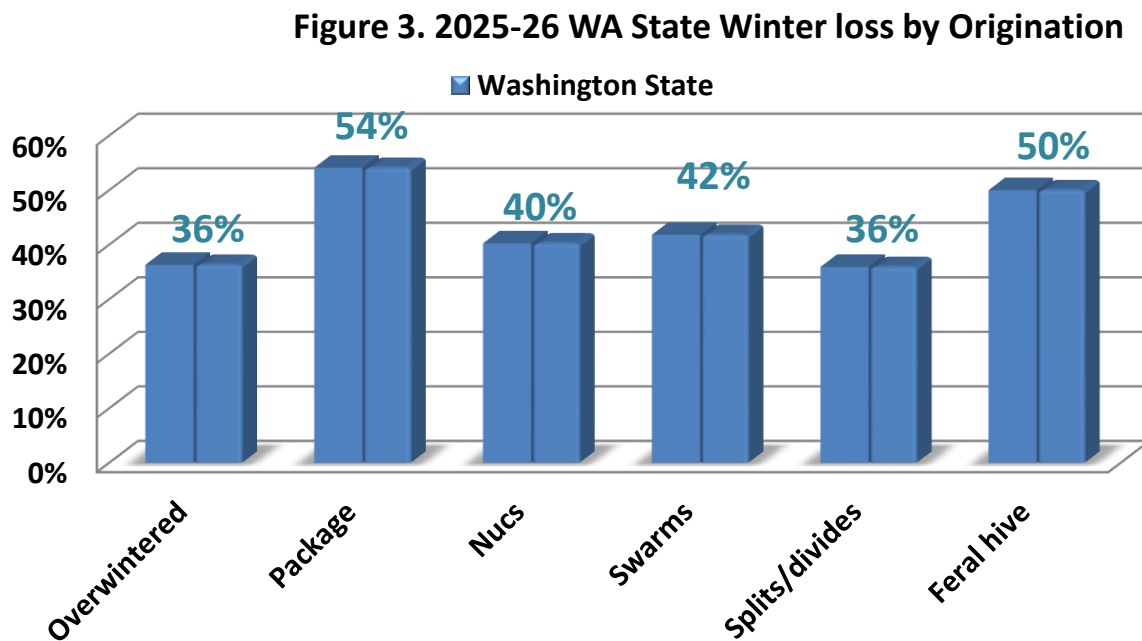


2025-2026 Overwinter Loss by Hive Type

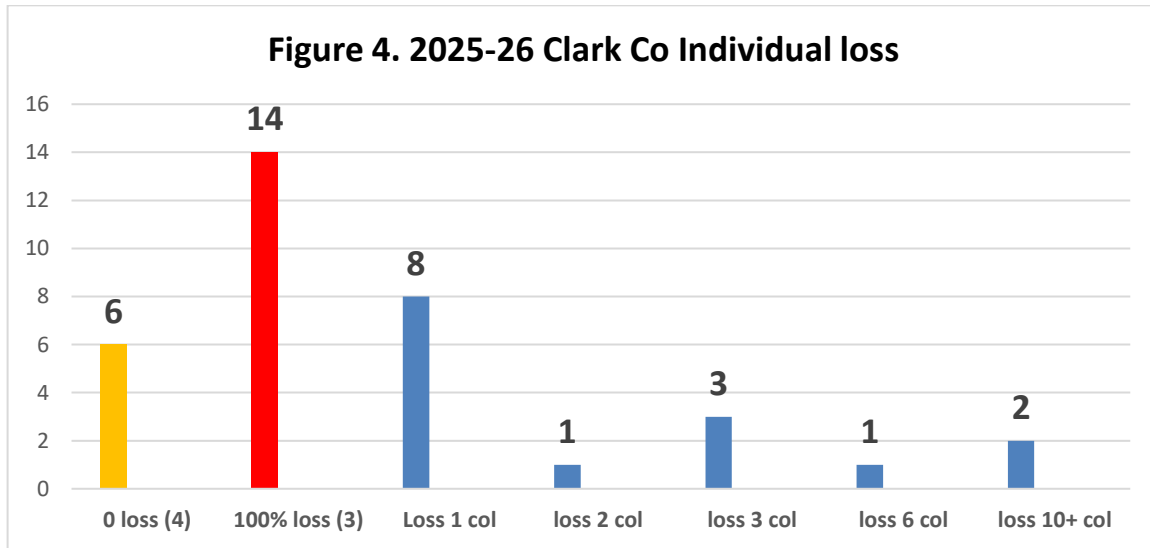
The Washington survey overwintering loss statistic was developed by subtracting number of spring surviving colonies from fall colony number supplied by respondents by hive type. Results, for 227 Washington state respondents was 23% loss of Langstroth 8-frame beehives and 30% loss of Langstroth 10-frames hives; nucs losses were 47.5%. For the 19 Clark Co beekeepers, a single Langstroth-8 frame hive died =6% loss (4 beekeepers), while nearly half the 77 Langstroth-10 hives (14 beekeepers) died – 49% loss. The single overwintered nuc did not survive, the single top bar hive survived. There were 2 flow hives (one died = 50% loss) and 5 “other” hives all died, type not specified. In most of the survey years Langstroth-8 frame hives exhibit better survival than Langstroth 10-frame hives, as was the case statewide and dramatically so for Clark Co beekeepers. Figure 2 numbers in () are hive numbers.



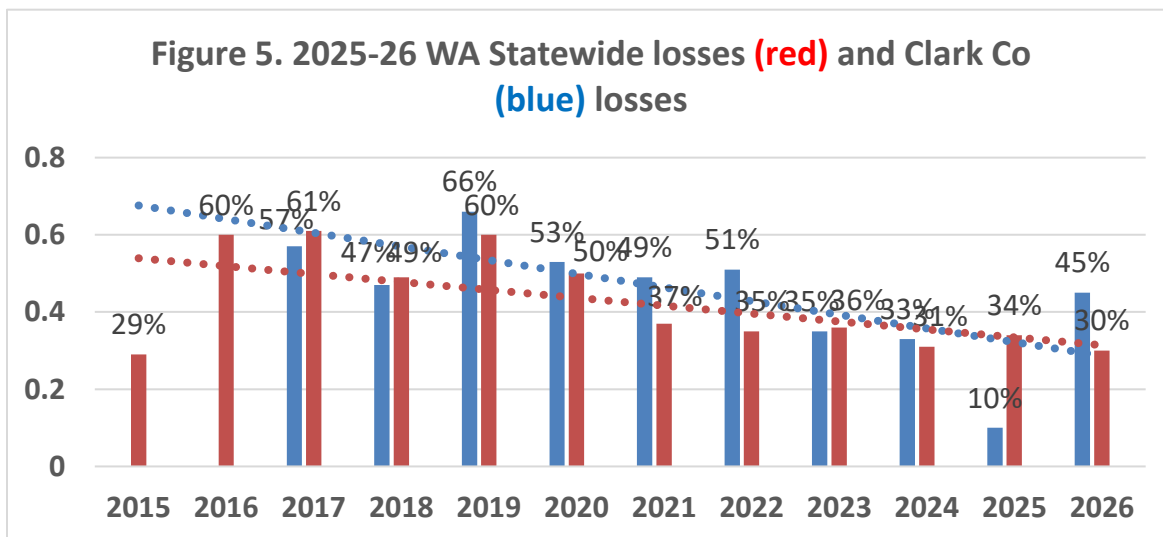
The survey asks about loss by origination. Individuals could FAST TRACK and not respond to this survey question. For Clark Co, seven individuals, 37% responded. With low Clark response, the data below of Washington State losses, is more representative of origination losses. Previously overwintered colonies usually show the best survival. For Clark Co, 3 individuals overwintered 7 colonies and lost 3 =30% loss, 3 individuals overwintered 7 nucs and lost 5 =71%, 3 individuals overwintered swarms but lost 4 of 5=80% loss and the 3 individuals who overwintered 3 splits lost 2=67% loss.



Four individuals of 19 had no loss (6 colonies) while 3 beekeepers lost 100% (14 colonies). Eight individuals lost a single colony; the greatest loss was 11 colonies. See Figure 4. For comparison, there were 81 Washington State individuals with no loss = 36% of respondents and the 54 individuals with 100% loss = 16% of respondents. The heavy losses were among the 10 individuals (52.5% of respondents) with 1-3 colonies, they lost 9 of 19 colonies = 47% loss, and the four individuals (21% of respondents) with 10-21 colonies who lost 55% of fall colonies. Six individuals with 4 to 9 colonies lost 23% of their fall colonies. Three colonies was the median number.



Ten-year loss record for Clark Co beekeepers and 12-year loss record for Washington survey respondents is shown in bar graph below (Figure 5). The numbers below the graph indicate the number of Clark Co respondents. Average Statewide loss average (12 years) = 43%; Clark Co average losses last 10 years = 44.6%.



Four respondents (21% of total) had 1, 2 or 3 years of experience; they had a 43% loss level. Six individuals (31.5% of total respondents) had 4 – 9 years' experience (medium number = 9 years'

experience); they had a 58% loss. Six individuals had 10-20 years' experience (loss level 40%) and the 2 individuals with 25- and 61-years' experience had 16% loss. Examining the relationship of colonies and years' experience related to loss did not show that loss of colonies decreases with the greater number of colonies for Clark Co respondents (although it did for statewide respondents). However, as years of experience accumulate, the loss percent decreases. Range for Clark Co respondents was 1 to 61 years' experience (1 individual each for extremes).

Comparison Clark with Statewide

	<u>1-3 colonies</u>	<u>10+ colonies</u>
Clark	47% loss <u>(10 indiv)</u>	56% Loss <u>(4 indiv)</u>
Statewide	41% loss (103 Indiv)	30% loss (42 indiv)

	<u>1-3 years' experience</u>	<u>10+ years experience</u>
Clark	43% loss <u>(4 indiv)</u>	30% loss <u>(8 indiv)</u>
Statewide	37% loss (61 indiv)	33% loss (67 indiv)

One hundred six (81%) WA beekeepers had an experienced beekeeping mentor available as they were learning beekeeping. Seventeen of nineteen (90%) Clark Co members said they had a mentor. This percentage is slightly higher than the 7-year average. One individual moved 5 colonies to another apiary site.

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, statewide there were 115 WA selections (1.85/individual) provided. Clark Co respondents had 28 selections for the 12 individuals (= 2.3/individual). Three respondents said they didn't know why their colonies might not have survived and 4 individuals had no loss. Varroa mites (5 individuals, 41.5% of those 12 individuals making selections) was the most common choice. Moisture was selected by 4 individuals. Weak in the fall, poor wintering plus yellow jackets were indicated three times (25% of selections), while 2 individuals each said CCD, pesticides, starvation and queen issues. Also mentioned was absconding and loss of a colony that was too small.

Acceptable loss: Survey respondents were asked reason for loss. Four (21%) indicated zero (no loss). Twenty percent was medium choice. Four also said 50% was an acceptable loss level. See table below.

Reasons – 12 individuals	Acceptable loss - 19 individuals
• Don't know 3	None 4
• Varroa 5	5% 1
• Queen issues 2	15% 1
• Weak in the fall 3	20% 3 Medium
• Moisture 4	25% 3
• Starvation 2	33% 2
• Pesticides 2	50% 4
• CCD 2	66% 1
• Yellow jackets 3	
• Poor wintering 3	
• Absconding 1	
• Too small 1	

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 nutritional 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.

Most Washington beekeepers do not perform just one management to their colony (ies) toward improving colony health and overwintering success. This analysis however compares a single factor equated with loss level. Such analysis is correlative and doing a similar management as other

beekeepers does not necessarily mean you too will improve success. Refer to managements statewide – there were too few Clark Co returns to perform any meaningful analysis.

For feeding, winterizing and sanitation management, 11 of 19 Clark Co respondents (58 of 103 fall colonies) FAST TRACKED and did not respond. The small numbers mean data can become easily skewed. Members should consult the statewide data base for comparison to their own operation.

Statewide feeding managements of feeding dry sugar, fondant and sugar syrup had the lowest loss levels. Seven (of eight) Clark Co members fed pollen patties and had a 22.5% loss; none fed fondant. All eight reported feeding sugar syrup; they had a 16% loss rate. For winterizing, virtually all managements helped reduce losses below average with rain shelter and equalizing hive strengths the strongest managements for loss reduction. The single Clark Co individual that did both had zero loss (2 colonies). Those six that said they provided a rain shelter had a 35% loss. Likewise for sanitation, virtually all choices helped reduce losses, with distinctive hive colors and spreading colonies to reduce drifting the most helpful. The one Clark Co individuals who did both had a single colony of three fall colonies survive (67% loss) – illustrating why small numbers can be misleading.

For Screen bottom boards the improvement over average is very minimal; closing them in winter seems to improve wintering success.

For monitoring, 9 Clark Co individuals FAST TRACKED – they had 54% loss level. These individuals kept the majority of Clark Co colonies (=70 colonies, 68% of total colonies). Two individuals monitored all their colonies and 3 monitored some of them – meaning ½ (5) did not monitor.

For varroa control, 5 respondents (41 colonies) FAST TRACKED – they had 75% loss. For the question on non-chemical control four individuals said they did none of the options (they had 16% loss) so there were 10 who responded. Nine individuals said they used a screen bottom board (for 3 of the five that was their only selection) – they had loss of 25%. The individual that did 5 managements had 2 colonies and both survived. The one individual that did drone brood removal lost 1 of 9 colonies. None reported doing brood break management.

For Varroa chemical treatments, the 6 members who fast tracked had a 73% colony loss. Five said they did none and had a 15.5% loss, a great survival. The two Apivar users lost 1 of 8 colonies. All 8 who used chemical used oxalic acid but they had a 45% loss. Statewide it is highly effective so once again the small numbers are not representative of this management. Please refer to the statewide survey for your own comparison.

Thank you to the 19 Clark County respondents. I hope this report is of some value to you.

Dewey M. Caron May 2026