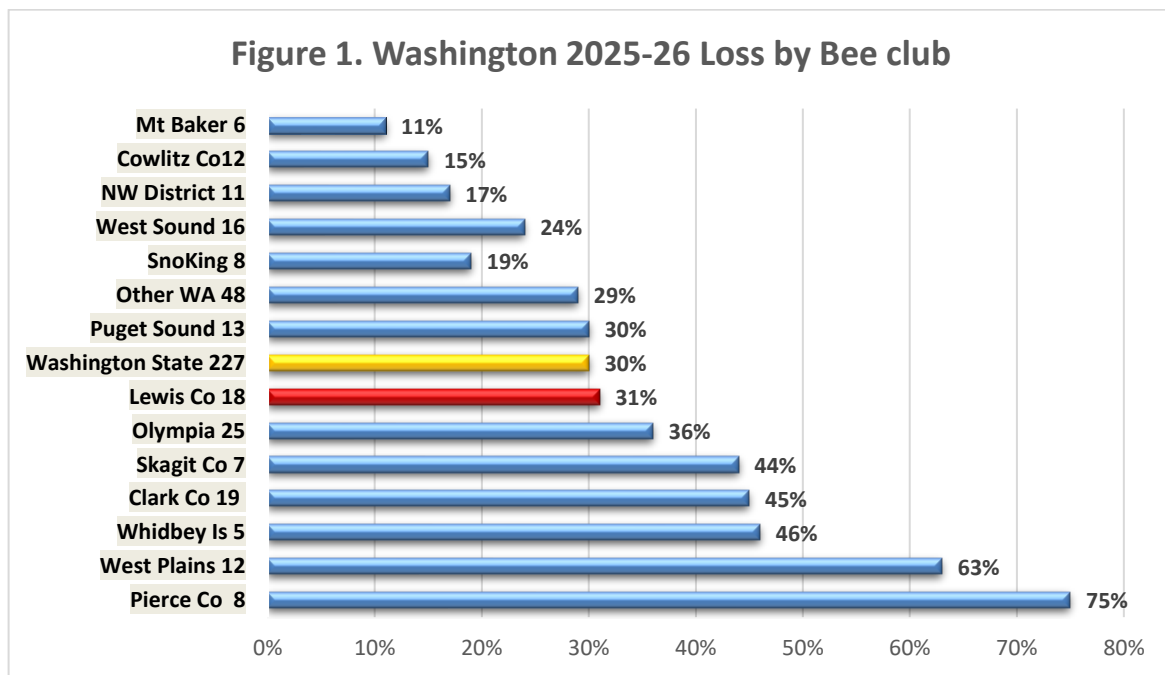


# Winter Bee Losses of Lewis Co Backyard Beekeepers for 2025-2026

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, 97 more than last year, completed a survey and 106 more responses above the 120.8 average respondent rate for the last seven years. Information on winter losses and several managements related to bee health was included on the electronic honey bee survey instrument [www.pnwhoneybeesurvey.com](http://www.pnwhoneybeesurvey.com)



Responses by local Washington (WA) association members varied as indicated by numbers adjacent to club name. Losses of those club individuals are shown in blue bars in Figure 1. Statewide loss level was 30%. The eighteen Lewis Co beekeepers who returned a survey (two fewer than last year) had loss level one percentage point above statewide of 31%. Survey included 1547 fall Washington beekeeper colonies, with 135 belonging to Lewis Co beekeepers, an increase for Lewis Co beekeepers of 27 from last year.

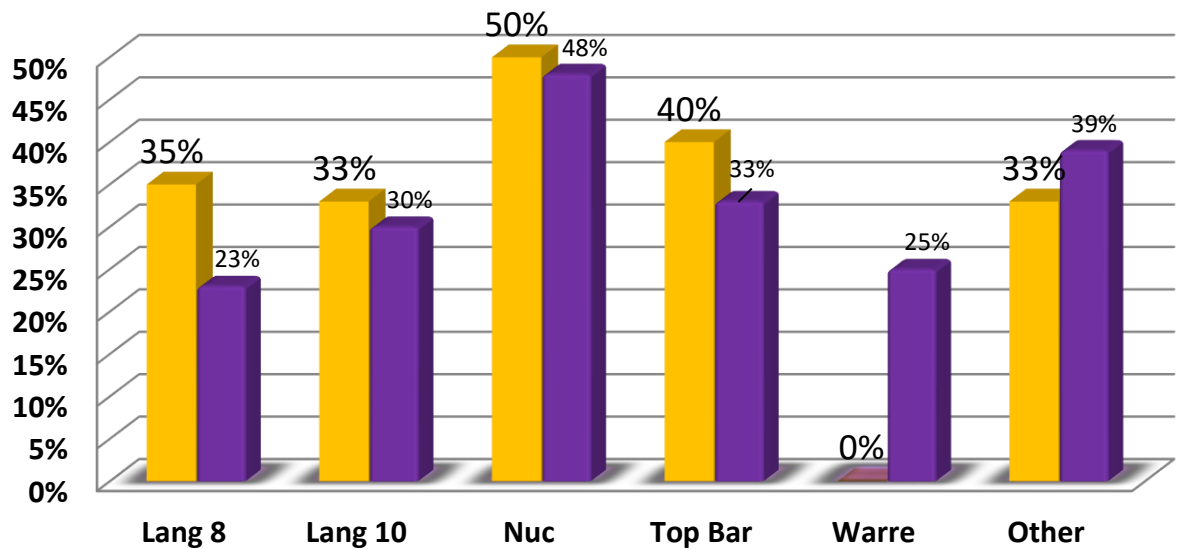
## 2023-2024 Overwinter Losses by Hive Type

The Lewis Co survey overwintering loss statistic was developed by subtracting number of spring surviving colonies from fall colony number supplied by respondents by hive type. Of 17 Langstroth 8-frame hives, 11 survived (35% loss while 31 (of 93 fall) Langstroth 10-frame hives died (33% loss). One of two nucs overwintered; there were no Warré hives in survey responses. Three Top bar hives survived

(of 5) while for category “other” 1 of 3 AZ hives; the single tree hive survived while the type of the 2 other hives were not identified.

**Figure 2. 2025-26 Lewis Co Loss by hive type**

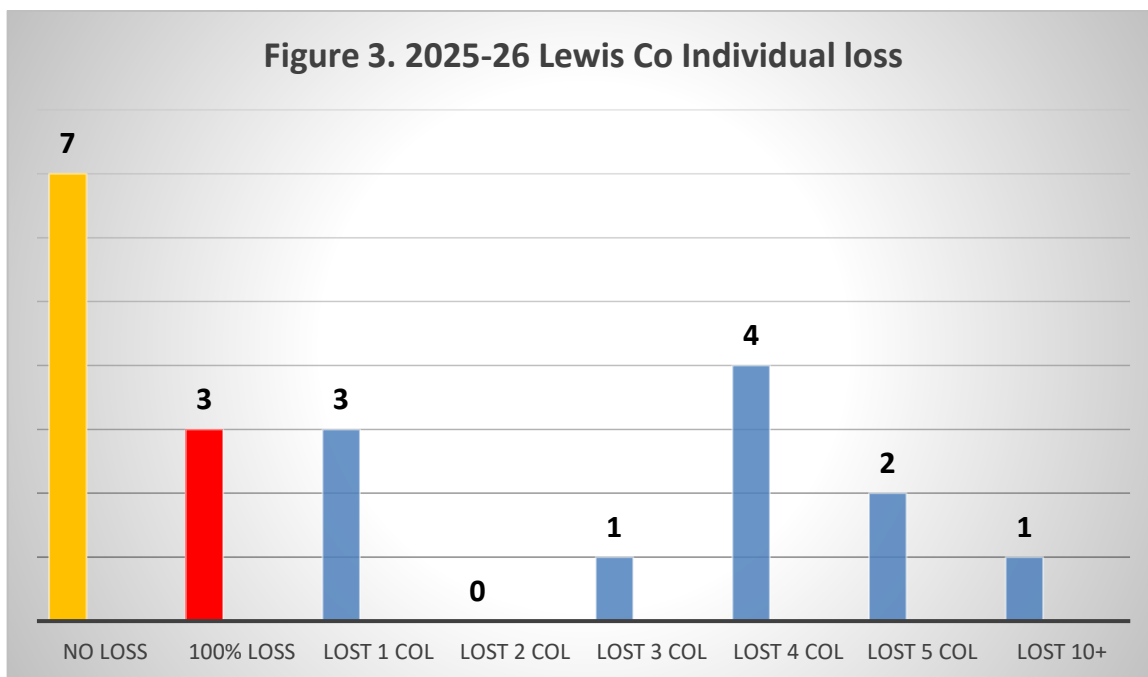
orange = Lewis Co, purple = WA State



Fall Colonies	17	105	2	5	0	6
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Seven individuals (of 16 - 44%) had no loss (35 colonies); eighty-one individuals statewide (36%) had no loss. Three LCBA individuals (19%) had total loss (8 colonies), 3 percentage points greater than statewide. Three individuals lost one colony, one lost 3 colonies, 4 lost four colonies, 2 lost five 5 colonies and 1 individual lost 11 colonies (heaviest loss).

**Figure 3. 2025-26 Lewis Co Individual loss**



Lewis Co Individuals with 1 to 3 colonies (7 individuals) had 31% loss level, the 3 individuals with 4 to 6 colonies lost 8 of 14 colonies (57%), the 3 individuals with 7 - 9 colonies (25 total) lost 5 colonies (20% loss level) and those 5 individuals with 10+ colonies (total 80 colonies) lost 24 lost (30% loss level).

In years beekeeping experience, there was one individual with three colonies and all 3 of their colonies survived, 8 individuals had 4-6 years' experience with an 18.5% loss, 5 individuals had 7 to 9 years' experience with a 38% loss and four individuals had 10+ years' experience had a 38% loss. Statewide loss of colonies decreases with the greater number of colonies and/or years of experience, although this was not the case with Lewis Co respondents.

#### Comparison Lewis with Statewide

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	<u>1-3 colonies</u>	<u>10+ colonies</u>
Lewis	31% loss (7 indiv)	30% Loss (5 indiv)
Statewide	41% loss (108 Indiv)	28% loss (42 indiv)

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	<u>1-3 years' experience</u>	<u>10+ years experience</u>
Lewis	0% loss (1 indiv)	38.5% loss (4 indiv)
Statewide	37.5% loss (61 indiv)	28% loss (60 indiv)

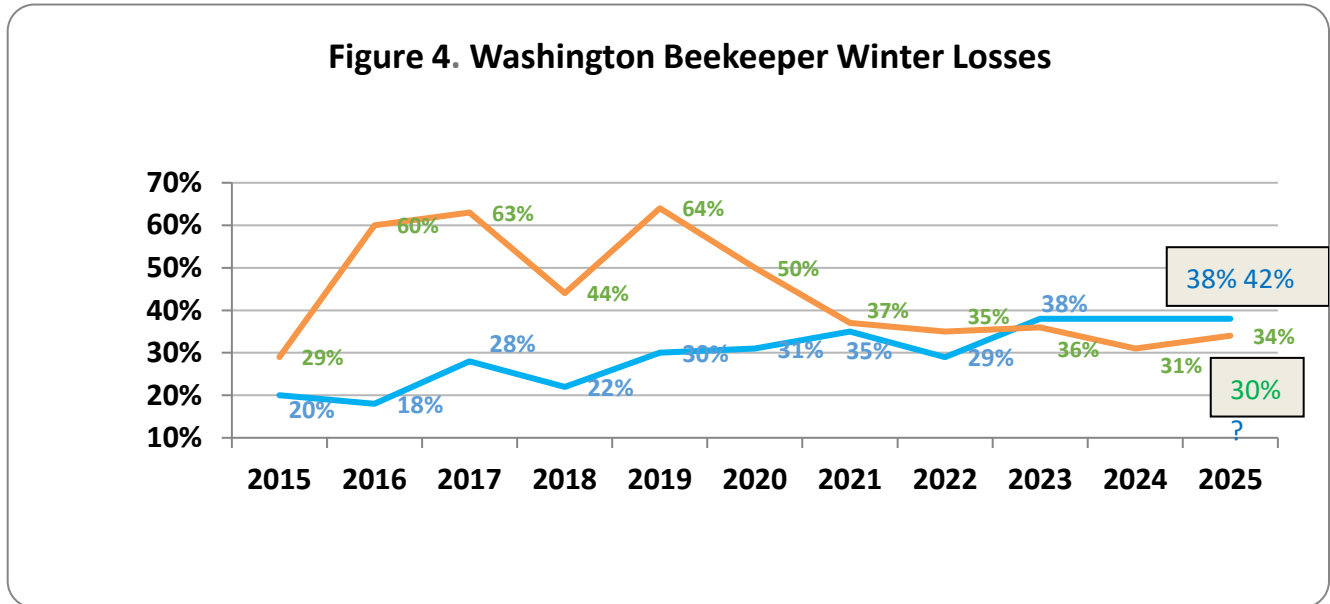
We also asked about hive loss by origination. Ten of 18 LCBA beekeepers elected to FAST TRACK and not offer responses. Seven of the 8 reported that of 34 fall colonies overwintered, 24 survived (29.5% loss), 2 packages did not survive but 3 of 3 nucs did survive. Five of 7 swarm originated colonies survived and half of 4 splits did as well. Best survival statewide was previously overwintered colonies.

One hundred sixty-three (72%) WA beekeepers had an experienced beekeeping mentor available as they were learning beekeeping. Of the 18 Lewis respondents, 12 (67% had an experienced beekeeping mentor available as they were learning beekeeping.

### Comparison to Larger-Scale Beekeeper Losses

The BeelInformed.org (BIP) losses for Washington beekeepers for 2015 to 2023, the last year of the BIP survey, are representative of the larger scale beekeepers and are shown in **blue** in Figure 4. Losses of backyard beekeepers from this survey are shown in **orange** line with **green** loss numbers.

Average BIP loss (9 years) = 32.1% and average WA backyarder loss (12 years) = 44.7%. In 2023 the larger-scale beekeeper loss exceeded losses of backyarders. In 2024 a new National survey was started by group Apiary Inspectors of America, Auburn University and Oregon State University. Overwintering Washington losses in this initial survey was 37.7. This survey was continued in 2024-25 season; preliminary loss is 42%. The 2026 numbers are not yet available.



**#backyarders**      31   52   101   104      98   133   163      80   120   121   130   227

**BIP (# hives)**      113,237   32,184   83,000   52,500   48,600   48,000   33,300   72,700   50,145

The reasons backyarders have had higher losses are several. Commercial and semi-commercial beekeepers examine colonies more frequently and they examine them first thing in the spring as they move virtually all their colonies to pollinate almonds in February. They also are more likely to take losses in the fall and are more pro-active in varroa mite control management. We think mite resistance to the miticide amitraz is partly responsible for heavier losses and we are gathering data to see if this can be verified.

### Apiary sites and moves

No LCBA survey respondents had bees at more than a single apiary and none indicated they moved a colony in past year.

### Colony death perceived reason and acceptable loss level

We asked survey takers who had winter losses for the “reason” for their losses. Seven had no loss and 4 said they didn’t know. Fourteen reasons were supplied by the 7 offering a reason (2/individual). Four individuals indicted varroa, 3 said starvation and the remainder are shown below.

**Acceptable loss:** Survey respondents were asked reason for loss. Recall that 7 individuals, 30% of LCBA respondents, had no loss. Two individuals each indicated 0 and 5 were acceptable, 3 each said 10% and 15% were acceptable, the medium response was between 10% and 15%, four said 20 % (the most common response), two selected 25% and one said 33%, the actual club loss level.

<b>Reasons – 7 individuals</b>	<b>Acceptable loss - 16 individuals</b>
• <b>Don't know 4</b>	<b>None 2</b>
• <b>Varroa 4</b>	<b>5% 2</b>
• <b>Starvation 3</b>	<b>10% 2</b>
• <b>Poor wintering 2</b>	<b>15% 3 Medium</b>
• <b>Queen issue 1</b>	<b>20% 4</b>
• <b>Moisture 1</b>	<b>25% 2</b>
• <b>Pesticides 1</b>	<b>33% 1</b>
• <b>Weak in fall 1</b>	
• <b>CCD 1</b>	
• <b>Absconding 1</b>	

### **Why do colonies die?**

There is no easy 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. A dead colony necropsy can be of use. Opinions vary 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. Interestingly, acceptable level was less than actual average loss for all but two Lewis Co individuals.

Major factors in colony loss are thought to be varroa mites and their enhancement of viruses especially DWV (deformed wing virus), VDV (Varroa destructor Virus, also termed DWV B) and Israeli and chronic paralysis virus. Varroa was the major selection of LCBA members, followed by starvation.

Declining nutritional adequacy/forage and diseases, especially at certain apiary sites, are additional factors resulting in poor bee health. 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, contrails, electromagnetic forces, including human disruption of them, human alteration to the bee's natural environment 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 our honey bees face in the environment. It was encouraging to see from survey responses that losses this past year 31% were**

**still at a low level. More attention to colony strength and possibility of mitigating winter starvation will help reduce some of the losses. Effectively controlling varroa mites will help reduce losses.**

## **Colony Managements**

We asked in the survey for information about some managements practiced by respondents. Individuals in the PNW annual survey could elect to FAST TRACK and not provide responses for managements. Most Lewis Co and Washington beekeepers do not perform just one management to their colony (ies) toward improving colony health and overwintering success. This analysis compares a single factor equated with loss level. Such an analysis is correlative and doing a similar management as fellow beekeepers does not necessarily mean you too will improve success. Such an analysis is correlative and doing a similar management as fellow beekeepers does not necessarily mean you too will improve success.

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. With the smaller response level numbers can be skewed so you should consult the larger data base of the state report to compare to what you did this last winter for your overwintering success.

For the basic managements of feeding, winterizing and sanitation seven Lewis Co members elected to do so – they had a 41.4% loss rate. Responses were received from 11 individuals. The most effective statewide feeding managements were feeding protein as patties or in dry pollen form. The one individual that did both lost 1 colony (of 7 total). The seven pollen patty users had a 6% loss level and the two dry pollen feeders had a 40% loss – smaller response numbers skew results. Nine of eleven members fed sugar syrup – they had loss of 19%.

For winterizing, the six who FAST TRACKED had 65 fall colonies (which was 48% of total Lewis Co colonies in the responses) and ended up with a 41.5% loss. The two most effective managements statewide were providing a rain shelter (four Lewis Co beekeepers said they did and had a 4% loss) but none equalized. Insulated top also supported a lower loss statewide; for the seven Lewis Co members who used the insulated top they had a spectacular 10.5% loss.

Sanitation measures are important but most do not directly affect overwinter losses. The two that prove effective over the survey years are different hive colors and spacing colonies to reduce drifting. For Lewis Co five individuals used different colors and had a 25.5% loss, an improvement of 5.5 percentage points over club average of 31% loss level. None indicated spacing of colonies to avoid drifting was practiced.

For monitoring six Lewis Co members FAST TRACKED, they had loss level of 57%. For the 12 respondents who provided information, four said they did not monitor and had a 25% loss, those monitoring all or some of their colonies had a 37.5% loss \. Four used sticky boards to monitor, 2 employed alcohol and one used powdered sugar to determine mite level.

For the questions on mite control with chemical and via non-chemical managements, seven FAST TRACKED – they lost 61.5% of their colonies. All but one individual used Screen bottom boards, they had loss of 20.5%. The three individuals who did drone brood removal (42 colonies) had a 19% loss rate; the one individual who did both drone brood removal and brood break had a 15% loss.

The seven individuals who FAST TRACKED and didn't respond to questions on mite chemical treatments had a 61.5% loss. Five individuals said they used Apivar, they had a loss of 7 colonies (of 43 fall colonies) for an 18.5% loss level. The eight individuals using oxalic acid had an 18% loss levels. Both represent considerable improvement over the 31% loss level average for the club members. I recommend you compare your results against both club and statewide results for the various managements.

### **Closing Comments**

Thank you to the 18 Lewis County respondents. I hope this report is of some value to you.

Dewey M. Caron May 2026