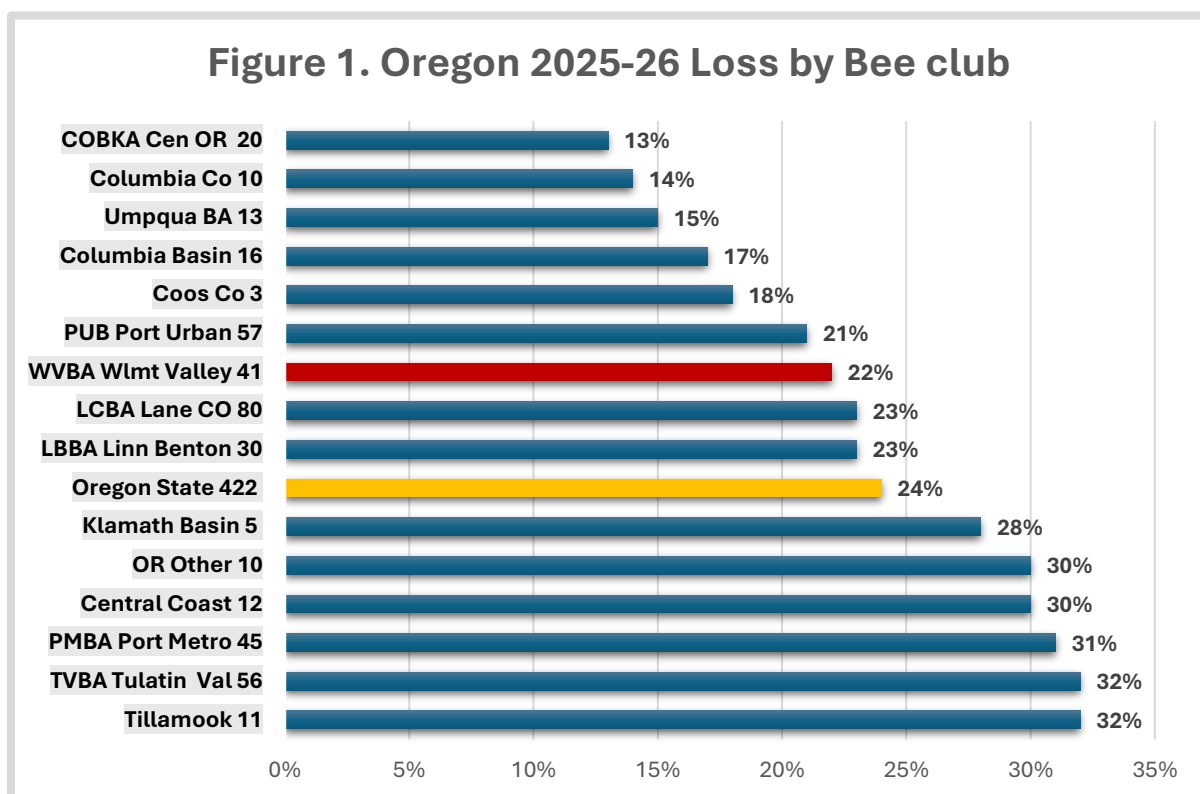


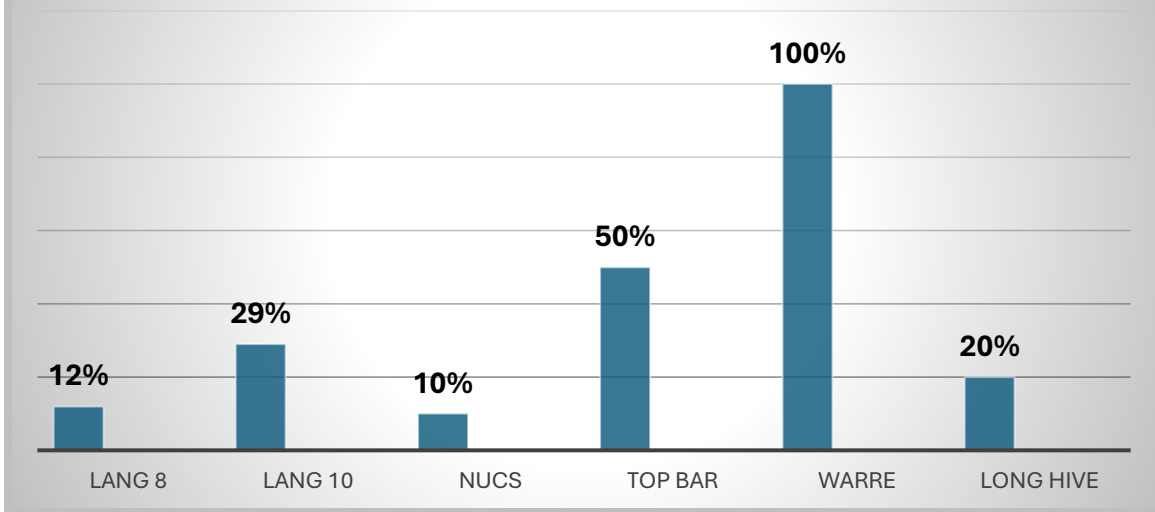
Winter Bee Losses of WVBA Backyard Beekeepers for 2025-2026

WVBA members were encouraged to complete a web-based survey document in a continuing effort to define overwintering losses/successes of backyard beekeepers in Oregon. This was the 17th year of such survey activity. I received 442 reports from Oregon beekeepers keeping anywhere from 1 to 49 colonies; Willamette Valley members sent in 41 surveys, twenty-four more than last year, double the average return for past 6 years of 20. A total of 244 colonies were included; maximum individual colony number was 22 colonies.



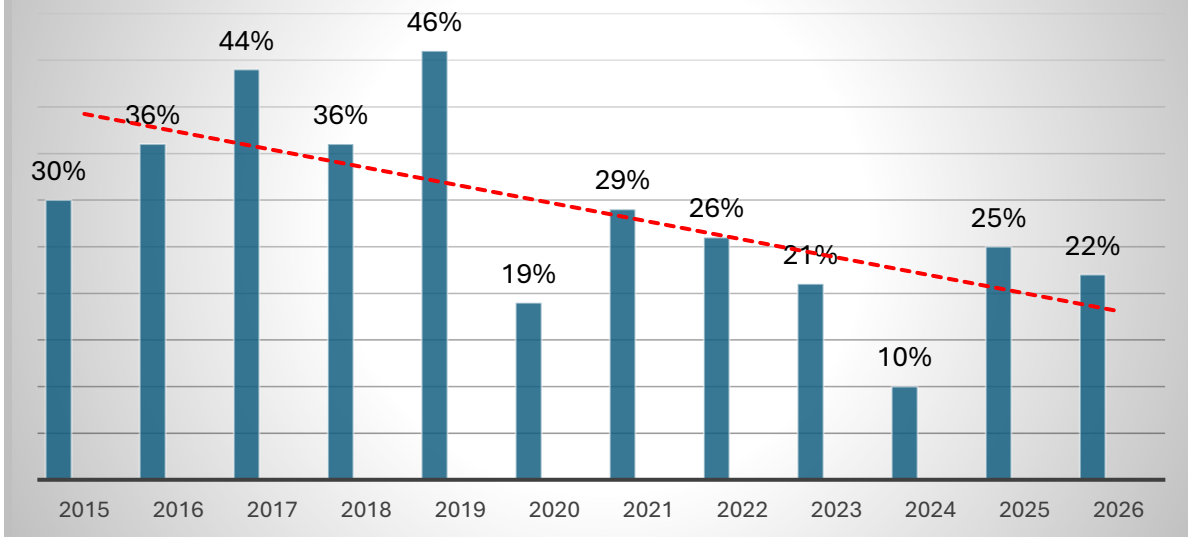
Overwintering losses of WVBA respondents = 22%, three percentage points lower compared to last year's WVBA results, and two percentage points below average statewide losses this year of 24%. Percent losses, determined by hive types were 12% for Langstroth 8-frame hives (9 of 77 fall colonies lost, 16 individuals) and 29% for Langstroth 10-frame hives (178 total colonies in fall, 27 individuals). Two of 21 nucs were lost (maintained by 5 individuals). One of two Top Bar hives survived but the single Warré hive did not. There were 5 long hives and all but one survived (managed by 3 individuals).

Figure 2. 2025-26 WVBA loss by hive type

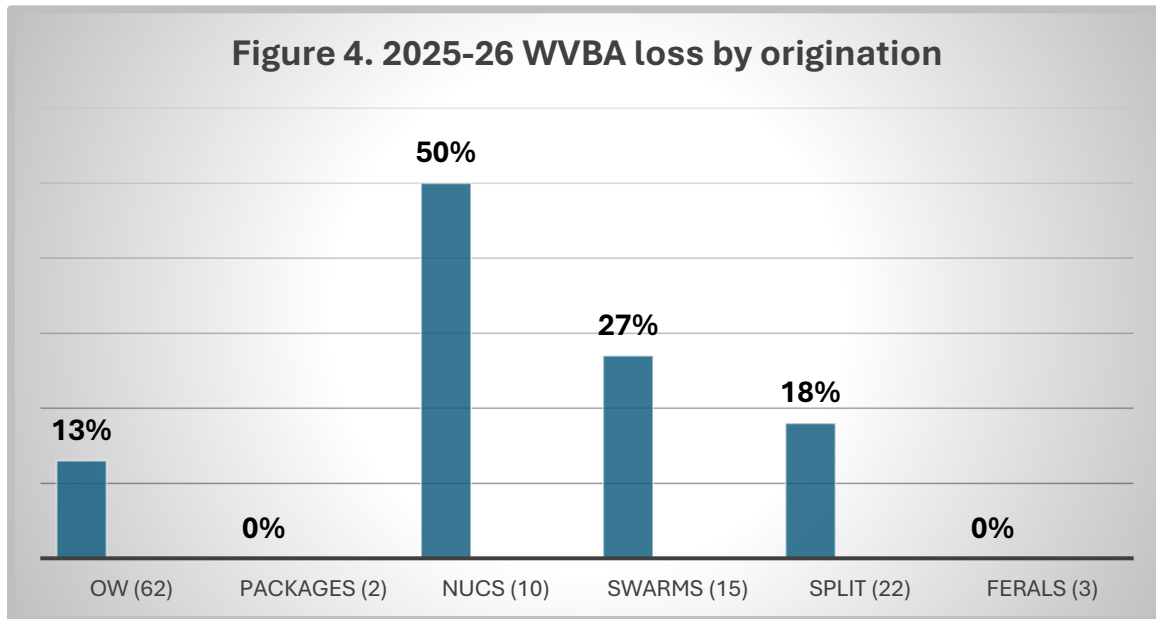


Graph 3 below illustrates the WVBA loss history of last 12 years. Dotted line in red shows trend. Obviously, the loss levels are going in right direction with losses in the last 7 years below 30%. Average loss for past ten years of WVBA members is 34.4%.

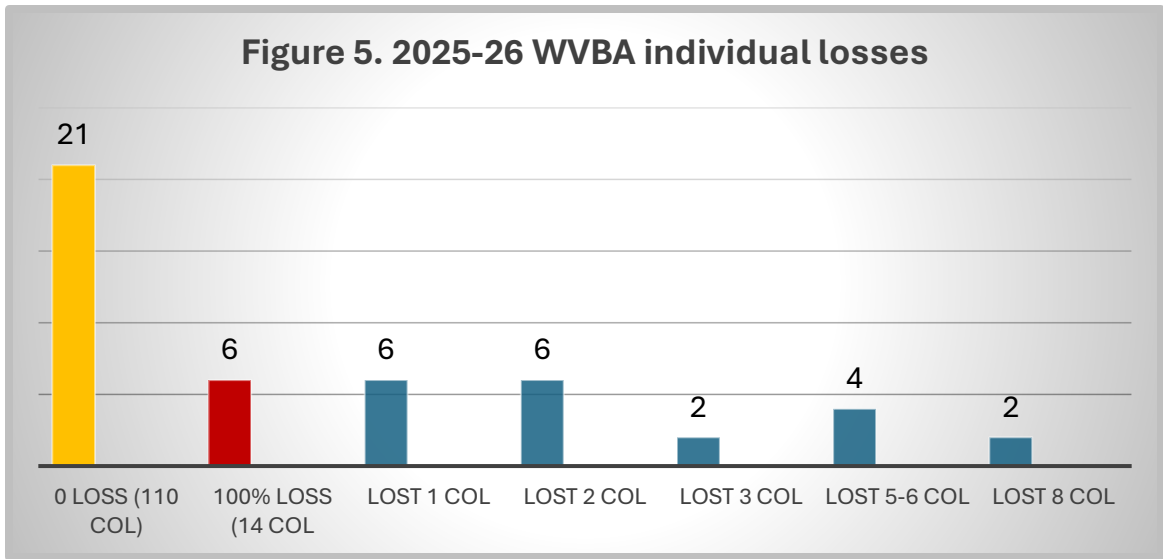
Figure 3. WVBA losses past 10 years



The survey also asked for hive loss by hive origination. Members could FAST Track and not provide information on survival by origination – 33 respondents (65%) elected to not respond – this is the record of the 18 respondents. Fourteen members reported 13% loss of previously overwintered colonies (statewide loss level was 19%). There were 2 packages (2 individuals), and both survived. Five of 10 nucs (5 individuals) were lost – 50% loss (statewide 55% of nucs did not survive). The 6 individuals with swarms lost 4 colonies for 27% loss and the 8 individuals who overwintered splits also lost 4 = 18% loss. Three individuals overwintered one feral each and all 3 survived. Figure 4.



Twenty-one individuals (51%) had no loss (110 colonies). Six (14.5%) had total loss (14 colonies). Six individuals lost one colony, 6 lost 2 colonies and 2 individuals each lost 3, 5, 6 and 8 colonies. Eight was the greatest loss. Five WVBA individuals lost 5 to 25 colonies.



(19% loss), six individuals lost 33% to 50% of their colonies (43.5% loss) and 3 individuals lost 67%-86% of their fall colonies for a 77% loss. Figure 5.

The eight WVBA members with one colony lost 2 colonies (25% loss), the 19 individuals with 1-3 colonies lost 14 of 34 fall colonies =41% loss. The 7 individuals with 4 to 6 fall colonies lost 11 colonies = 29% loss, the 4 individuals with 7 or 8 colonies lost 6 of 29 colonies = 21% loss and the 11 individuals with 11-22 colonies had the lowest percentage loss = 17%. Statewide the 70 individuals with 10+ colonies lost 20%. Statewide, as colony numbers increase, the loss level decreases, which was true for WVBA as well.

Statewide, but not for WVBA respondents, as years of experience increase, the loss level decreases (in some survey years the difference is dramatic, for this year it is not). The seventeen WVBA individuals with 1-3 years' experience had 16% loss level, the seven individuals with 4 to 6 years' experience had 36% loss level, the seven individuals with 7-9 years' experience had 17.5% loss and the 10 individuals with 11 to 37 years' experience had 23.5% loss level.

Comparison WVBA with Statewide

	<u>1-3 colonies</u>	<u>10+ colonies</u>
WVBA	41% loss (19 indiv)	17% Loss (11 indiv)
Statewide	34% loss (199 Indiv)	20% loss (70 indiv)

	<u>1-3 years' experience</u>	<u>10+ years' experience</u>

WVBA	16% loss (17 indiv)	23.5% loss (10 indiv)
Statewide	23% loss (95 indiv)	22% loss (104 indiv)

We asked survey takers who had winter losses for the “reason” for their losses. Twenty-one had no loss and 3 said they didn’t know. Thirty reasons were supplied by the 17 offering a reason (1.7/individual). Varroa, with 8 selections, and queen issues plus weak in the fall, had 7 selections each. The selections are shown in table below.

Acceptable loss: Survey respondents were asked reason for loss. Recall that 21 individuals, 41% of WVBA respondents had no loss. Ten individuals indicated 0 loss as acceptable, 1 indicated 5% was acceptable, and 13 said 10% was acceptable, the medium response. Eight individuals said 50% loss was acceptable.

Reasons – 17 individuals	Acceptable loss - 41 individuals
• Don’t know 3	None 10
• Varroa 8	5% 1
• Queen issues 7	10% 13 Medium
• Weak in the fall 7	15% 3
• Moisture 3	20% 4
• Starvation 2	25% 2
• Pesticides 2	33% 1
• CCD 2	50% 7
• Yellow jackets 1	

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 greater than actual average loss for ten Willamette association 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 WVBA members, followed by weak in the fall and queen issues.

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 of 22% for responding WVBA members 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

Respondents to the 2025-26 survey could FAST TRACK and not need to respond to the management questions. There were questions on seasonal managements of feeding/ winterizing/ sanitation + questions on screen board use + questions on monitoring + questions on varroa, both non-chemical and chemical control, as well as questions on queen rearing.

Anywhere from 10 to 15 WVBA respondents elected to skip answering and with the one to several whose reason was none (6 for example selected none for the non-chemical options offered i.e., they reported doing zero non-chemical mite controls) numbers begin to become small - meaning the data is not very robust. I therefore recommend that you examine the larger data base of the statewide respondents and compare your results with those numbers.

For feeding management, thirteen of the 41 WVBA respondents FAST TRACKED, they had 89 colonies and lost 35%, 13 percentage points above the club average. There was an additional person who said no feeding managements were done (20% loss). This summary

is therefore of 27 individuals with 140 colonies. Smaller numbers can sometimes skew the results.

Statewide, the feeding managements found most useful in reducing losses were dry sugar (except for drivert) and pollen feeding. For WVBA, 14 of the 19 individuals fed protein. Pollen patty feeders (13 individuals) had an 18.5% loss. Two of them also fed frames of pollen, with no loss of 23 fall colonies. The single dry pollen feeder (22 colonies) had a 23% loss. For WVBA members feeding protein helped reduce average loss below club level.

The other feeding management statewide that improved success was dry sugar feeding. Neither feeding honey nor sugar syrup improved survivorship according to the statewide survey result. Fourteen candy feeders (134 colonies) had a 10.5% loss rate. Nine fondant feeders (4 of whom also fed candy) lost a mere 3 colonies (of 56 fall colonies) = 5.5% loss). The 4 dry sugar feeders, 2 of which also fed pollen patties had 46 fall colonies, lost 8 = 17.5%. The two drivert feeders had 25 fall colonies and lost 7 = 28% loss.

The several winterizing managements improve success. Equalizing colonies, using rain shelters and insulated tops were all useful to reduce loss levels the last few survey seasons. The 13 who FAST TRACKED had 84 colonies in the fall and lost 26 = 45% loss; three individuals said they did none (24 colonies) had a 46% loss. The remainder, 27 individuals (171 colonies), had 60 selections, 2.2/individual; statewide it was 2.6/individual.

Six individuals, all but one with 10+ colonies (83 total) equalized colony strength and had an 11% loss. Five individuals said they used a rain shelter – they had a 12% loss. The individuals insulating the colony top 16 individuals, 131 colonies lost 10 for 7.5% loss level.

Sanitation is important but it doesn't necessarily translate into better winter success. Six respondents said they did no monitoring. They had 9 colonies and lost five. Six individuals provided distinctive colors for their hives – they had a 19% loss and the six individuals (2 of them who also provided distinctive hive colors) that spread colonies out to reduce drifting had 51 fall colonies and a loss level of 33%. Screen bottom boards provide little help for wintering success; individuals that close the bottom during winter do a bit better.

Fourteen individuals FAST TRACKED the section on monitoring. They had 73 colonies and lost 41%. An additional six individuals said they did no monitoring and lost 4 of 9 colonies. Twenty-one individuals said they monitored for mites. Ten used sticky boards, 18 used alcohol wash (only 3 individuals did not), none used powdered sugar, three

looked for mites in drone brood and nine looked at adult bees as a monitoring tool (but some of them could have been referring to the washing of adult bees with alcohol).

Nine respondents to the survey section on non-chemical/chemical varroa control used FAST TRACK and didn't respond. They had 48 colonies, lost 10 for a 21% loss level. Six individuals said they did no non-chemical control management – they lost 23% of fall colonies. Statewide, painting hives distinctive colors provided a five-percentage point improvement and drone brood removal and brood break both provided a four-percentage point difference. For WVBA members painting their hives assorted colors, 6 individuals with 62 fall colonies lost only five colonies for an 8% loss level. Three individuals said they used brood break. They had 21 fall colonies and lost 3 for 14% loss. Ten individuals used drone brood removal (1 with a single colony that survived used both drone brood removal and brood break) and of 70 total colonies lost only a single colony (barely 1.5% loss).

Closing comment

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 2026