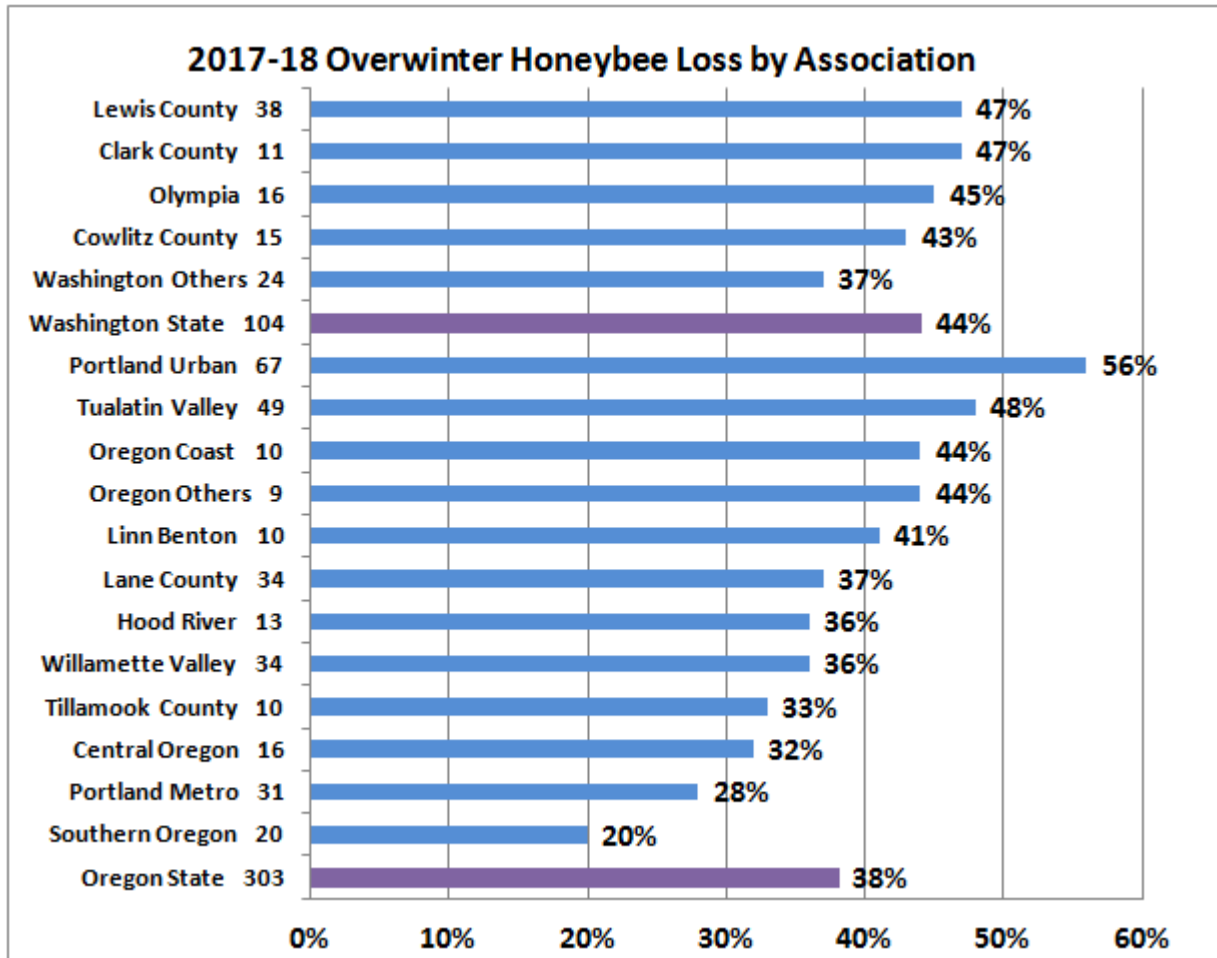


Clark Co backyard beekeeper Losses 2017-18 Winter Dewey Caron

Overwintering losses of small scale Washington beekeepers was reduced from the previous elevated loss levels in 2016-2017. 104 WA beekeepers supplied information on winter losses and several managements related to bee health with an electronic honey bee survey instrument www.pnwhoneybeesurvey.com. Figure 1 shows total WA & OR response – WA state level losses of 44% were, down 16 percentage points from the previous year; Or losses 38% were down 10 percentage points.



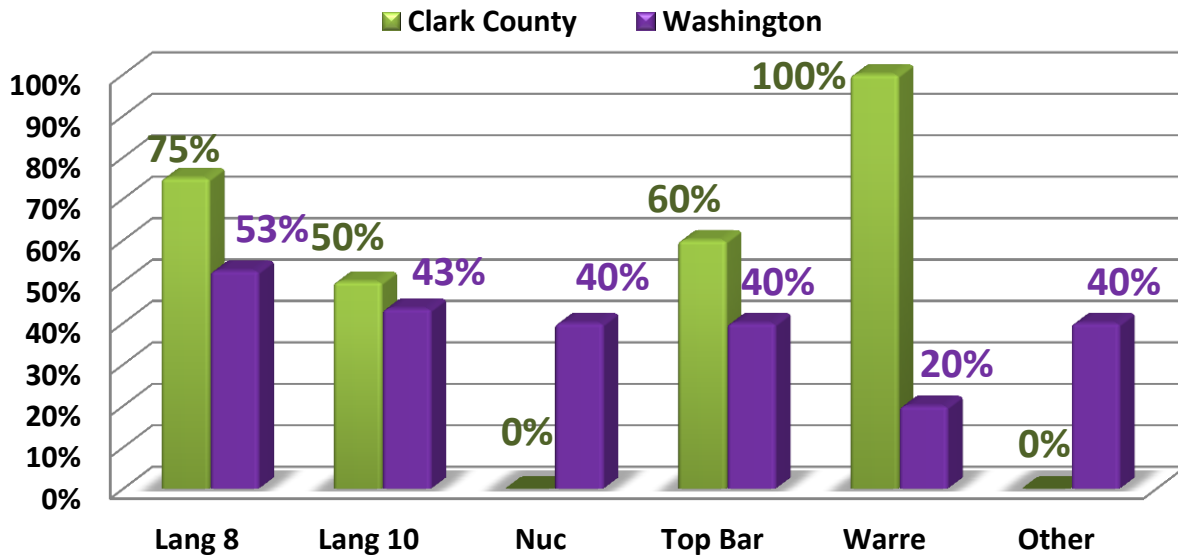
The 11 Clark Co respondents to the electronic survey (1 less than the previous year) were almost exclusively single digit colony owners with only a single respondent with more than 10 colonies. Five individuals (45.5%) had 1 or 2 colonies and an additional 5 individuals (45.5%) had 4 to 7 colonies. One individual respondent had 16 fall colonies. Five individuals (45.5%) had 3 or 4 years of experience, 1 had 6, another 7 years and 4 had 10+ (36%) years experience, with 18 years the largest. Last year 64% of Clark beekeepers said they had an experienced mentor available as they were learning beekeeping; for 2 previous surveys this figure was 60 and 62%

2017-2018 Overwinter Bee Losses

Total Clark Co backyard beekeeper overwinter loss = 47% loss.

The loss survey overwintering statistic was developed by our asking number of fall colonies and surviving number in the spring by hive type. Results, shown in Figure 2 bar graph, illustrates overwintering losses. One of 4 fall 8 frame Langstroth and half of the 38 10 frame Langstroth hives survived, the single nuc survived, 2 of 5 top bar hives survived and the Warré hive survived. The 6 “other” hive types (3 skeps and 3 tree hives) all survived. Clark Co respondents reported 40% of the alternative hives (top bar, Warré and other) in the total WA data base. Three individuals had 2 hive types, including the 2 individuals with the tree and skep hives. Figure 2 below.

Figure 2 2017-18 Winter Honeybee Loss % by Hive Type

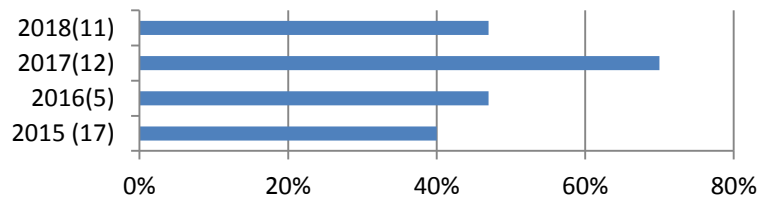


Fall Col # (loss) 4(3) 38(19) 1(0) 5(3) 1(1) 6(0)

For the 11 total Clark beekeepers, 1 (9%) had no loss and triple that number (3 individuals =27%) loss all their colonies. Three individuals lost 1 colony, 3 individuals lost 2 colonies and the remaining lost 3,4, 5 and 6 colonies.

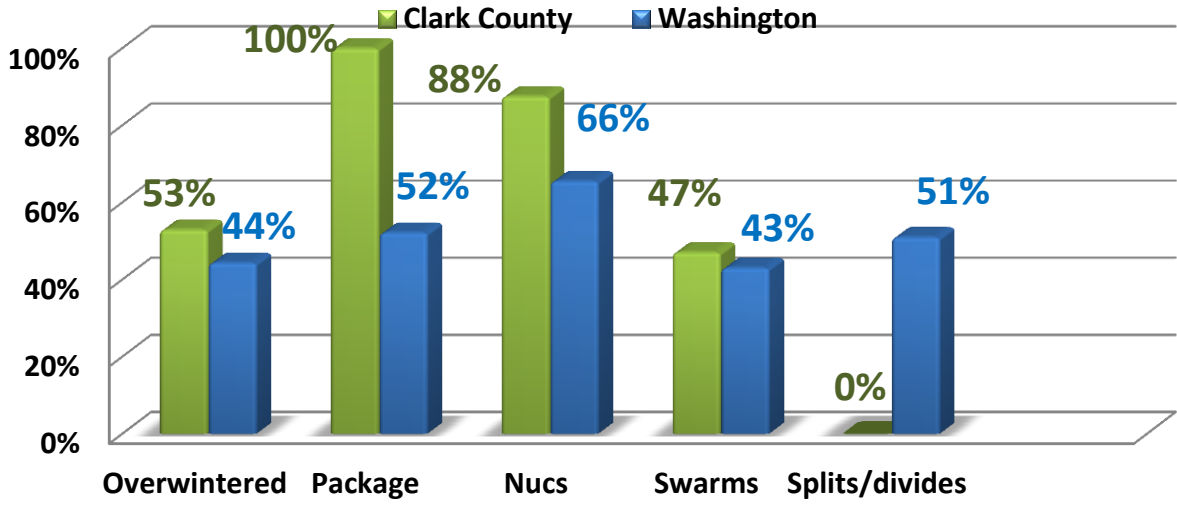
Lost rate of 47% was highest, along with Lewis beekeepers, among WA associations. Last year losses of 12 Clark CO beekeepers were 70% (from Clark/Cowlitz report on PNW website – I subtracted the Cowlitz colony numbers), the year before 5 individuals had 7% loss and in 2014-15 overwinter period loss of 17 Clark CO respondents was 40%

Figure 3. Clark Co losses # indiv (), 2015-18



Loss by hive origination: We also asked survey respondents to list their loss by hive origination. The result is graphically presented below for the 11 Clark Co respondents. Slightly over 50% of overwintered colonies were loss, all 4 packages and 7 of 8 nucs did not survive while swarm captures 8 of 17 and all 5 splits survived. See data in Figure 4 below.

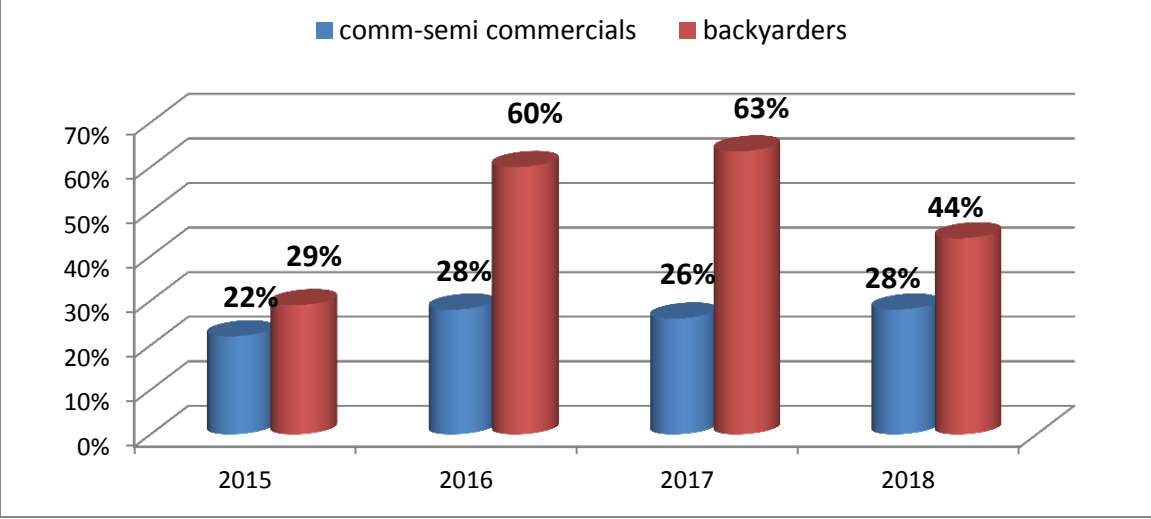
Figure 4 2017-18 Winter Honeybee Loss % by Origination



Fall Col 3 (loss) 34(18) 4(4) 8(7) 17(8) 5(0)

Comparison of backyarders and commercial/semi-commercial beekeepers

Figure 5. Comparison of WA Commercial losses with backyard beekeeper losses, 4 years 2015-18



Comm hives ~40,000 33,200 16,604 26,115
 # backyarders 31 52 101 104

A different (paper) survey instrument was mailed to Pacific Northwest (PNW) semi-commercial (50-500 colonies) and commercial beekeepers (500+) asking about their overwintering losses. Comparison is shown in Figure 5 above with approximate number of hives represented by the commercial/semi-commercial beekeepers and number of backyarder survey respondents.

Backyard losses have consistently been higher, most years double the losses of larger-scale beekeepers. The reasons for this dichotomy are complex. Commercial and semi-commercial beekeepers examine colonies more frequently and they examine them first thing in the spring as they take virtually all of their colonies to Almonds in February. They also are more likely to take losses in the fall and are more pro-active in varroa mite control management.

Self-reported “reasons” for colony losses: One survey question asked respondents to check the “reasons” for winter loss; multiple responses were possible. There were a total of 14 selections (1.4/individual) provided by Clark County respondents as the reasons for their overwintering losses. Poor wintering conditions was indicated 4 times and 2 individual each checked yellow jackets, queen failure, and varroa. Weak in the fall, pesticides fire and too late a honey harvest were each listed once.

There is no easy way to verify reason(s) for colony loss. Colonies in the same apiary may die for different reasons. **Doing a dead hive examination (necropsy) is the first step in seeking to solve the heavy loss problem. More attention to colony strength and checking stores to help avoid winter starvation will help reduce some of the losses. Control of varroa mites will also help reduce losses.** I did a workshop with Portland Urban Beekeepers at their Zenger Farm apiary (Foster road off I 201) and have a report of examination 2 dead-outs (one Bee PMS (mites) and the other Spring starvation) which is posted on the PNW website.

Why do colonies die? 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.

What effects our alteration to the bee’s natural environment and other external factors play in colony losses are not at all clear.

Langstroth wrote about the importance of taking losses in fall management saying if the beekeeper neglects such attention to his/her colonies 45% loss levels may occur, depending upon variable environmental conditions. It can be argued that losses of 30, 40, 50% or more might be “normal.” Older, more experienced beekeepers recall when loss levels were 15% or less. Honey production fluctuates each year but, once again, seem to be declining on average. Numbers of U.S.

bee colonies have declined since the 1940s, returning to numbers for 100 years ago but worldwide numbers of bee colonies are steadily increasing.

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; Our survey, asked about managements (feeding, winterizing, sanitation), mite sampling and controls and queens. I analyze these managements relative to losses. With 11 respondents the data is of lesser value (small respondent numbers can skew results – see previous year report) but I will do such analysis for the total 104 WA respondents. It will be posted to this website as soon as available.

THANK YOU Bee counted-Bee informed! If you find any of this useful please consider participating in the PNW survey. Your input is much appreciated.