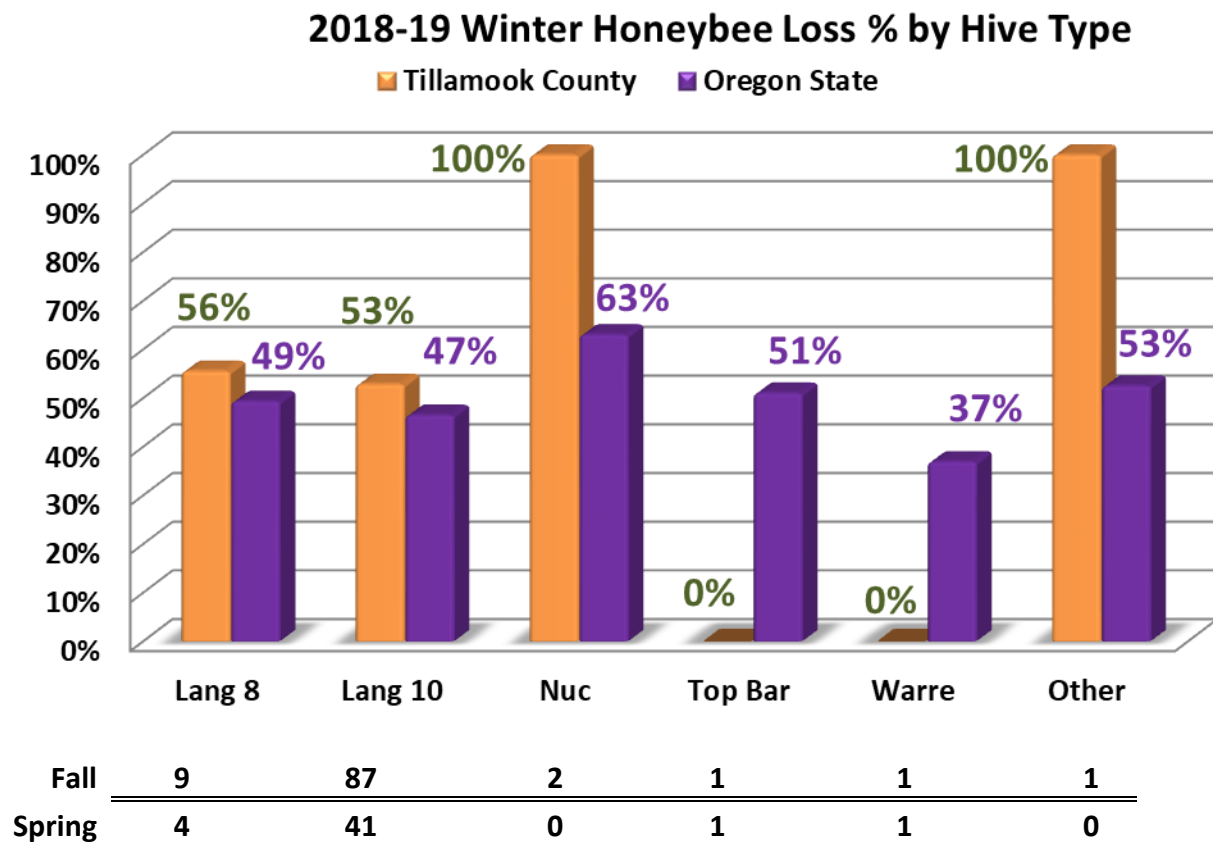


2018-19 Tillamook Winter Loss by Dewey M. Caron

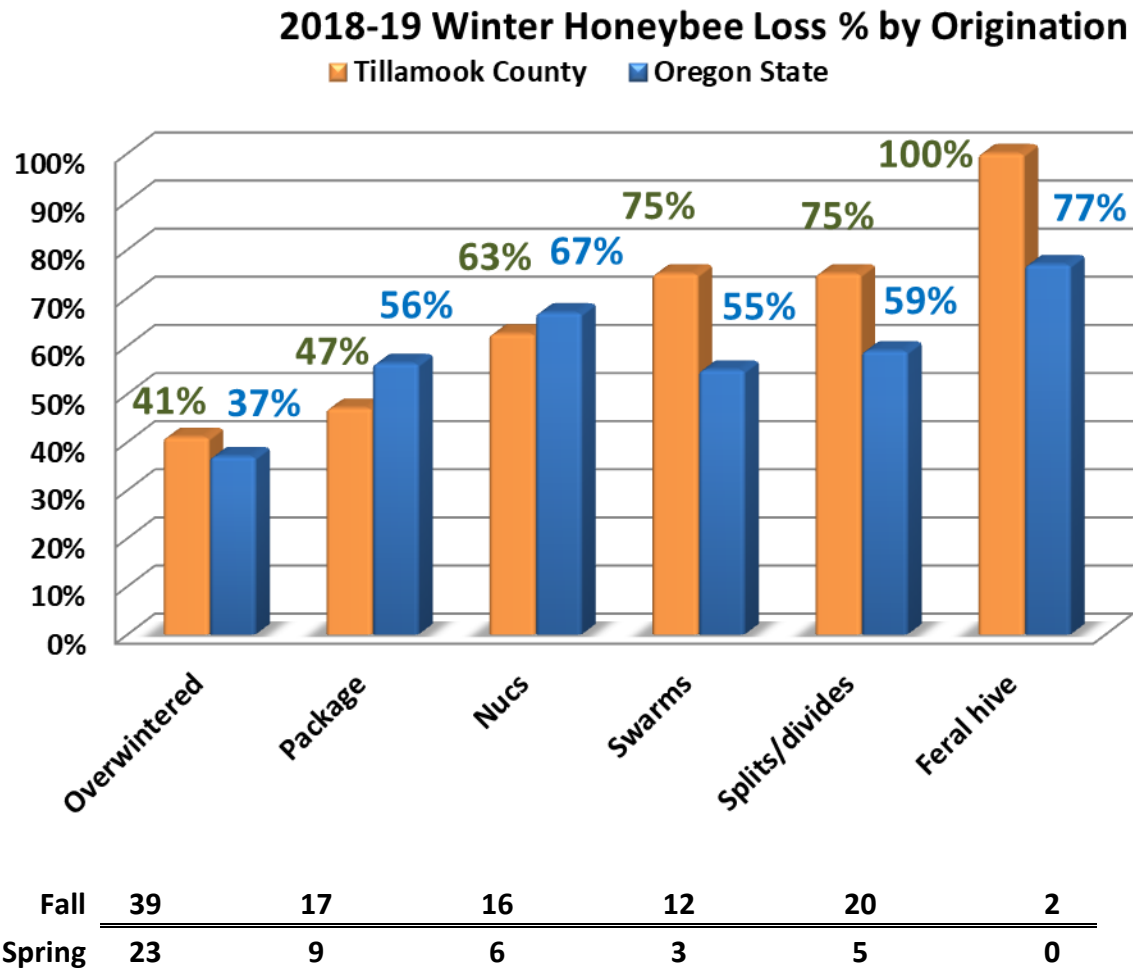
Tillamook beekeepers at the March meeting were directed to a web-based survey document in a continuing effort to define overwintering losses/successes. This was the 10th year of such survey activity. I received 416 responses from Oregon backyarders and 98 from Washington beekeepers keeping anywhere from 1 to 38 OR/40 WA colonies. Twenty Tillamook Association members, 10 more than last year, completed a survey reporting 101 fall colonies.

Overwintering losses of Tillamook respondents was 53%. This loss is 5 percentage point higher than the statewide loss of 48% (database of 416 OR backyarders). Percent losses, were determined by asking fall colony numbers and surviving spring numbers. Tillamook member respondents started winter with 82 Langstroth 10-frame and 9 Langstroth 8-frame hives plus 2 5-frame nuc (3 did not survive), 1 top bar, 1 Warre (also did not survive) and 1 other, IDed as a horizontal hive. Comparison of loss with statewide OR beekeeper losses is shown in Figure 1 below.



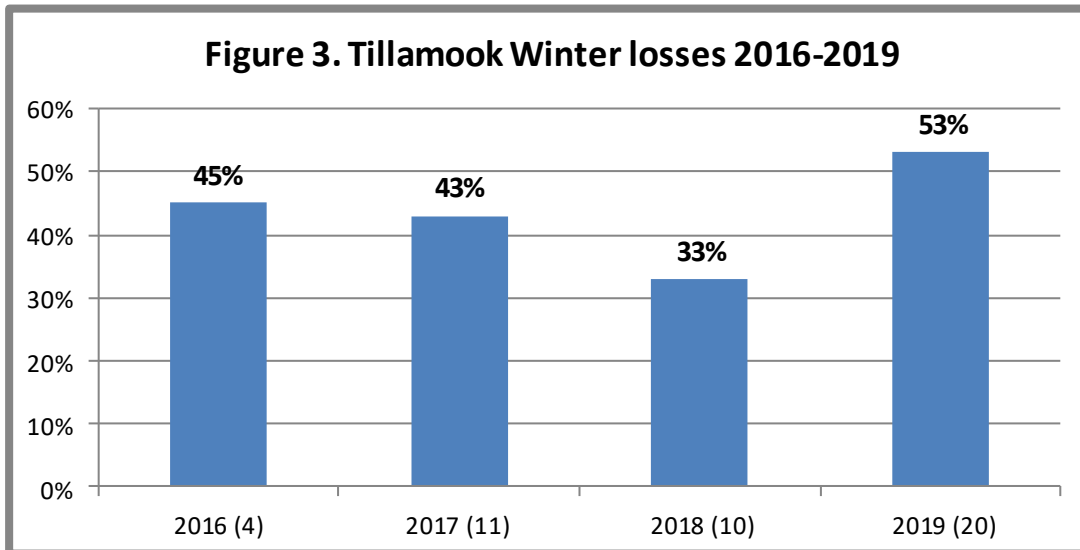
The survey also asked for hive loss by hive origination. Twenty three of 39 overwintered Tillamook beekeeper colonies were alive in the spring (41% loss rate), four percentage points

higher than statewide. Other hive survival was very similar to statewide. See Figure 2 for Tillamook and statewide comparisons.

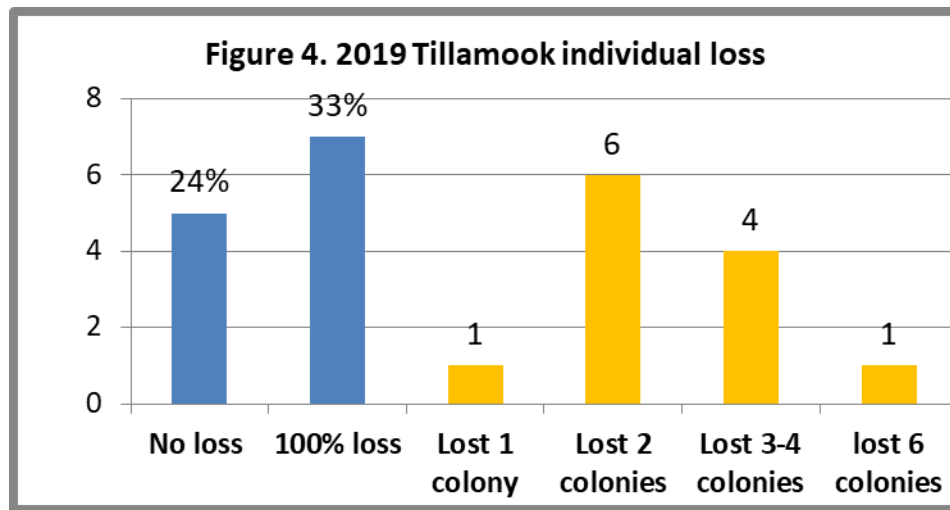


The Tillamook survey respondents were a mixture of new beekeepers with a few colonies and more experienced individuals. Two Tillamook respondents had 1 fall colony, 9 had 2 (the highest number), 1 had 3 (57% of respondents had 1, 2 or 3 colonies) 6 individuals had 4, 6 or 7 colonies, 2 had 10+ and one individual had 24 colonies the highest number. Thirteen individuals (62%) had 1, 2 or 3 year of experience (2 years with 6 individuals was most common), 8 had 4 to 7 years' experience, 1 had 9 and one individual had 11 years experience, the greatest number.

The losses this past winter were the heaviest of 4 seasons of gathering loss data from Tillamook beekeepers. Information shown in Figure 3 below. The numbers in () represent the number of County respondents.



Not everyone had loss. Five Tillamook respondents had NO LOSS (24%) but seven had total loss (33%). One individuals lost 1 colony, six individuals lost 6 colonies and two lost 3 and equal number lost 4 colonies. Heaviest losses were 6, 9 and 11 colonies. See Figure 4 for graphic of loss rates.



Reasons for Colony Loss/Acceptable loss

Two individuals had two apiary locations and three had two additional apiary sites. Loss at 2nd apiary site was 37% compared to 42% at home apiary for these 5 individuals. Three individuals moved bees during the year, two for a better site and due to bear attack.

We asked of individuals that had colony loss to estimate what the likely reason(s) might have been, Multiple responses were permitted. There were 64 selections (1.7/individual). Varroa mites (14) and weak in fall (15) were most chosen, followed by poor wintering and

queen failure. Seven said don't know. Comparison of Tillamook selections with statewide in table below.

	Varroa mites	Poor wintering conditions	Weak in fall	Queen failure	Starvation	pesticides	Yellow jackets	Other
Tillamook # %	14 (47.5%)	7 (23%)	15 (50%)	8 (27%)	4 (13%)	2 (7%)	4 (13%)	3 (10%)
Statewide %	39%	16%	24.5%	30%	9%	7%	11%	23%

Why do colonies die?

There is no single reason for loss and a good deal of variation 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. We don't know what influence our winter weather could have been a factor in heavier losses. The four major factors affecting losses are thought to be mites, pesticides, declining nutritional adequacy of the environment and diseases, especially viruses. Management, either failure to do something or doing things incorrectly, remains a factor in overwinter losses. What effects 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 seems the "normal" of backyard losses is 30-50%. Older, more experienced beekeepers recall when loss levels were 15% or less. Honey production fluctuates each year but, once again, it seems to be declining on average. Despite continuing heavy annual losses numbers of U.S. bee colonies have increased somewhat since the 1970s; worldwide numbers of bee colonies have been steadily increasing.

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 facing honey bees in the current environment. Varroa mites and the viruses they transmit are considered a major factor colonies are not as healthy as they should be.

Management selections and losses Part 2

We asked in the survey for information about some managements practiced by respondents. Multiple responses were accepted. 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 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. This requires further data crunching and analysis. Report will be posted as soon as available.

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 2019