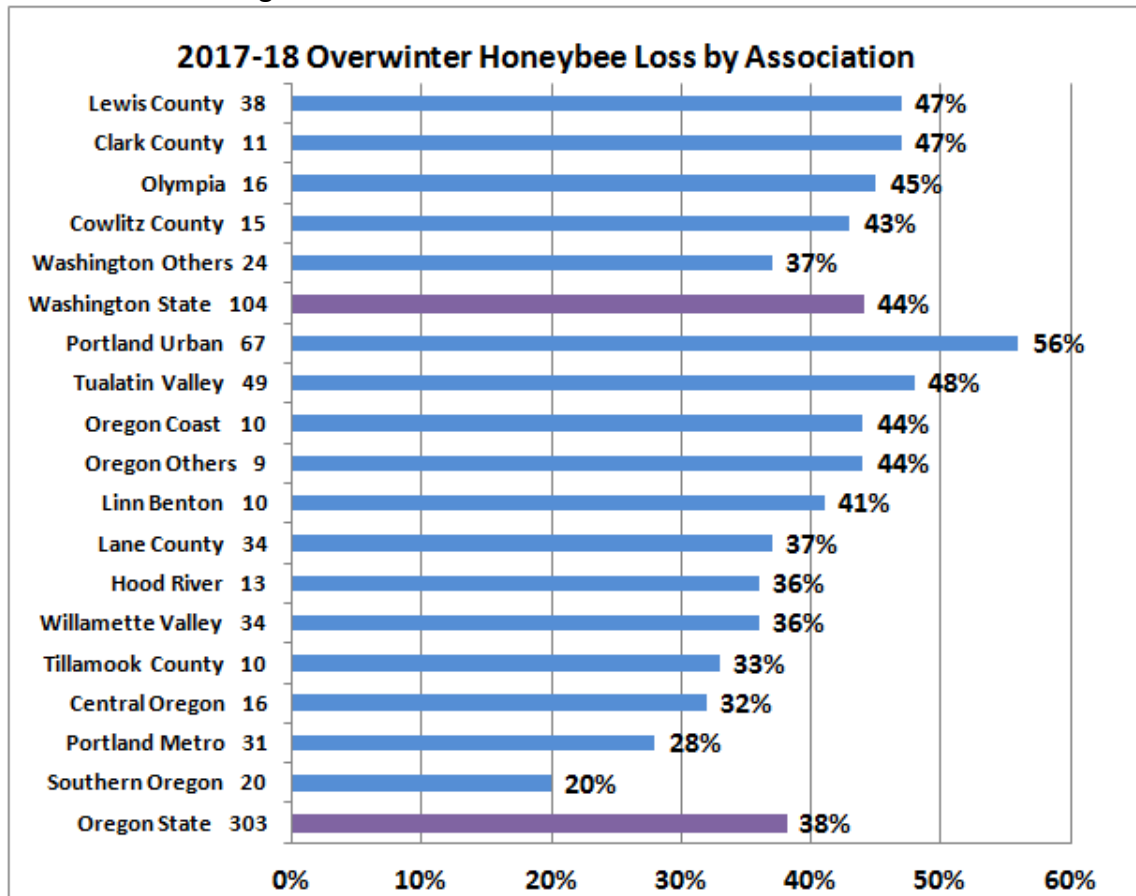


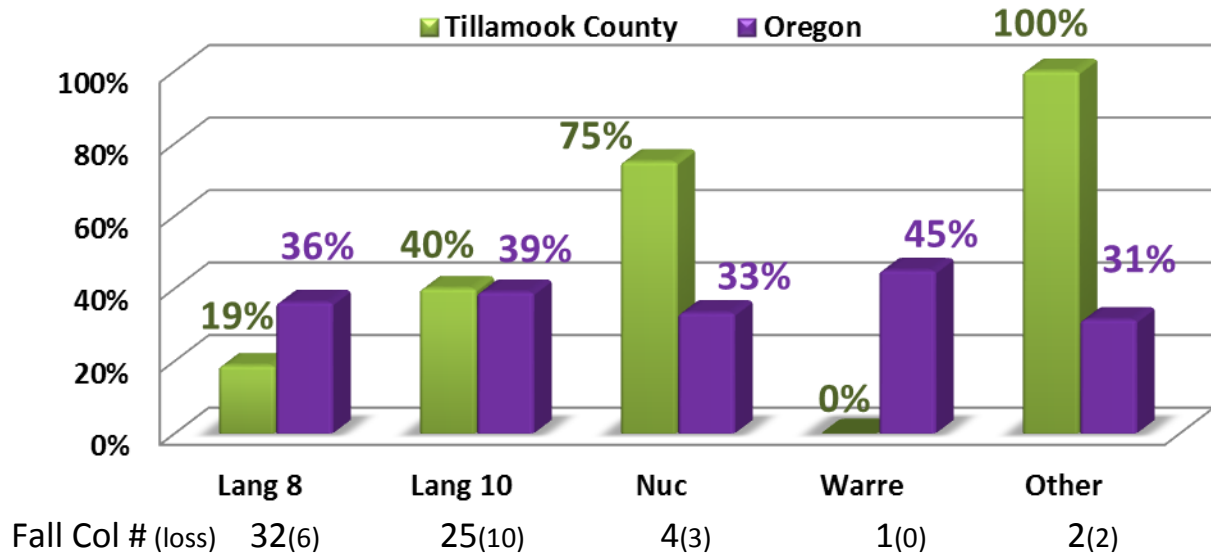
## 2017-18 Tillamook Winter Loss by Dewey M. Caron

Oregon beekeepers were directed to a web-based survey document in a continuing effort to define overwintering losses/successes. This was the 10<sup>th</sup> year of such survey activity. I received 303 responses from Oregon backyarders and 104 from Washington beekeepers keeping anywhere from 1 to 50 colonies. Ten Tillamook Association members, 1 fewer than last year, completed a survey reporting 64 fall colonies. Representation responses of clubs in OR and WA shown in figure below.



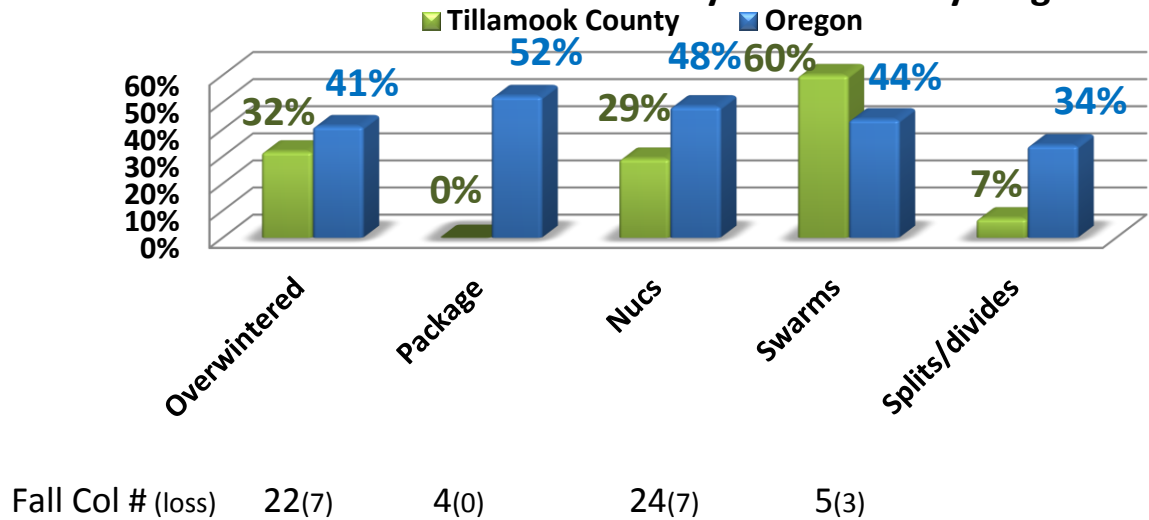
**Overwintering losses of Tillamook respondents was 33%.** This loss is 5 percentage point lower than the statewide loss of 38% (database of 303 OR backyarders). Percent losses, were determined by asking fall colony numbers and surviving spring numbers. Tillamook member respondents started winter with 25 Langstroth 10-frame and 32 Langstroth 8-frame hives plus 4 5-frame nuc (3 did not survive), 1 Warre (also did not survive) and 2 other, IDed as flow hives. Comparison of loss with statewide OR beekeeper losses is shown in Figure 2.

### 2017-18 Winter Honeybee Loss % by Hive Type



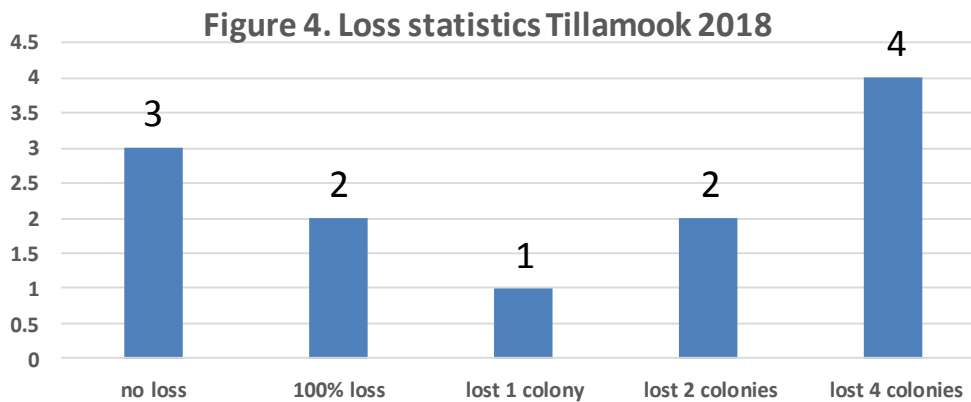
The survey also asked for hive loss by hive origination. Eight of 15 overwintered Tillamook beekeeper colonies were alive in the spring (47% loss rate), nine percentage points higher than statewide. All 4 packages survived, slightly better than 2/3rds of the nucs 1 of 3 nucs (67% loss), 7 of 16 swarm captures and 12 of 15 splits (20% loss) were survivors. See Figure 3 for Tillamook and statewide comparisons.

### 2017-18 Winter Honeybee Loss % by Origination



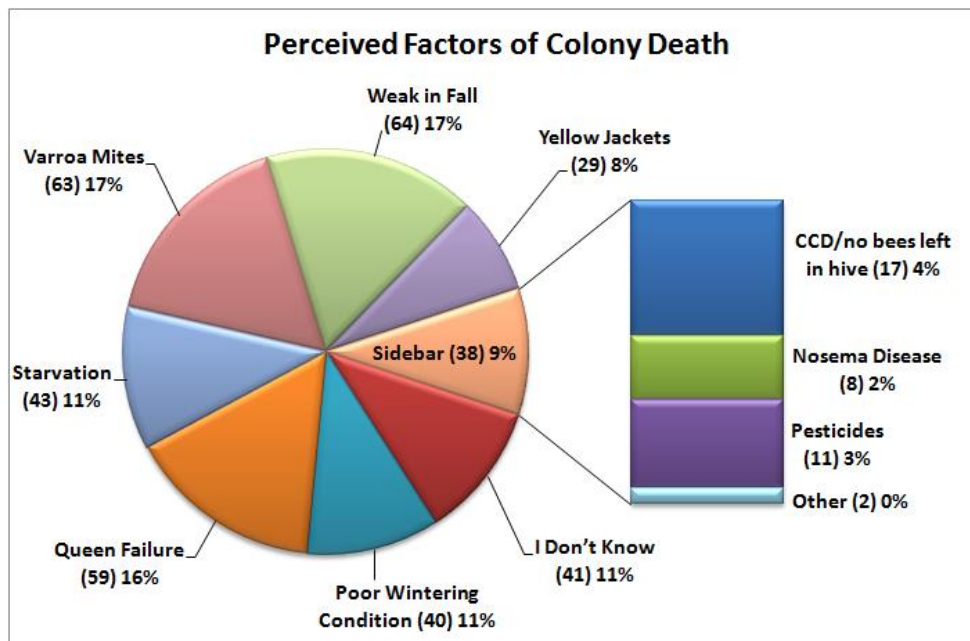
The Tillamook survey respondents were a mixture of new beekeepers and older, more experienced individuals. Three Tillamook respondents had 1 fall colony, 3 had 2 and 2 had 3 (73% of individuals), while 3 (27%) had 5+ colonies (largest number was 16). Seven individuals (63.5%) had 1, 2 or 3 year of experience, had 4 to 7 years' experience and 1 had 20 years' experience.

Not everyone had loss. Three coastal respondents had NO LOSS (23%) but an equal number had total loss. Seven individuals lost 1 colony, two individuals lost 2 colonies and one lost 5 colonies, the largest loss. See Figure 4 for graphic of loss rates.



### Reasons for Colony Loss/Acceptable loss

We asked individuals that had colony loss to estimate what the reason might have been for their loss (multiple responses were permitted). The 7 Tillamook beekeepers with losses indicated Varroa mites and queen failure (3 each) and single responses for CCD, Poor wintering, weak in the fall, pesticides, starvation and yellow jackets. Data below is for the larger data base of 303 beekeepers. Tillamook beekeepers checked an acceptable loss of zero to 25%; medium was 10%.



**Why colonies die?** There is no easy way to verify reason(s) for colony loss. Colonies in the same apiary may die for different reasons. Colony forensics on dead colonies is, at best, confusing and, although some options may be ruled out, we are often still left with two or more possible reasons for possible reasons why a colony (ies) died.

There is 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 in colony loss are thought to be mites and their enhancement of viruses such as DWV (deformed wing virus), pesticides, declining nutritional adequacy/forage and diseases, especially viruses and Nosema. Management, especially learning proper bee care and how to best use chemicals for varroa control, remain a factor in losses. What effects our changing environment such as global warming, contrails, electromagnetic forces, including human disruption of it, 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 facing honey bees in the current environment. Varroa mites and the viruses they transmit are considered a major factor but by no means are the only reason colonies are not as healthy as they should be.**

## **Management selections and losses**

The survey inquired about feeding practices, wintering preparations, sanitation measures utilized, screen bottom board usage, queens, mite monitoring techniques and non-chemical and chemical mite controls used. Individuals could check none or more than one response; most beekeepers often do not do just one thing/management to their colony (ies) to control mites. It takes effort to improve overwintering success. This analysis takes longer to complete – it will be posted as soon as available for the larger data base of OR backyarders.

**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 2018