2023-24 Tillamook Winter Loss by Dewey M. Caron

For the past 15 years, PNW winter colony losses and several managements related to bee health were solicited with an electronic honey bee survey instrument developed within the PUB bee group www.pnwhoneybeesurvey.com. A total of 171 responses were received, only 2/3rds of the number last year and well below the previous 5-year average of 305 respondents. Results of the 121 Washington respondents completing surveys (the average response rate of last few years) are included in a separate loss report. Oregon average loss was 20% and Washington average loss was 31%, both the lowest reported for both state groups in my surveys. During the 2023-2024 overwintering period, 0 Tillamook member surveys were returned. The average since 2016 has been 10 respondent returns.

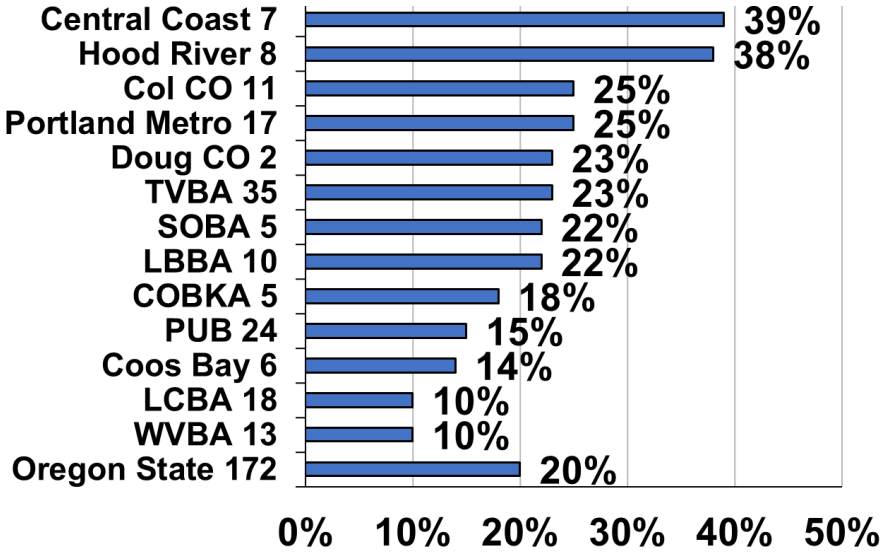
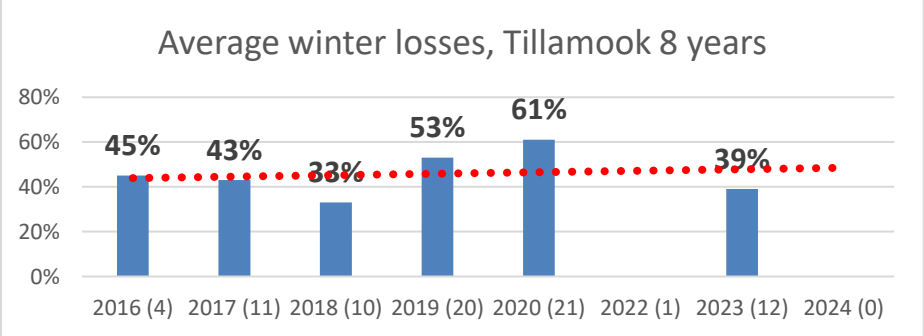


Figure 1

Figure 3 shows losses for Tillamook beekeepers the last 6 years. There was only a single survey returned in 2022 and zero in 2024 so no loss level is available. Statewide 2022 loss was 2 and in 2024 it was 20% . A bit of caution – I have had relatively few responses – the respondent numbers are shown in ( ) beside the year.

Figure 2



Claire Moody asked individuals who started nucs abut overwintering success. She found 38 of 139 purchased nucs the previous year survived – a 75% loss rate. She found 37 of the 59 people who started nucs lost everything. In my statewide survey beekeepers are asked loss rate of colonies by origination. In 2023-24 winter 33% of colonies that originated from nucs stateside were lost. Ninety-two nucs were still alive of 138 overwintered. Nuc survival is normally less than 50% most winters.

Why do colonies die?

There is no easy way to verify reason(s) for colony loss. Colonies in the same apiary may die for different reasons. Examination of dead colonies is often confusing, some options may be ruled out, we are often left with two or more possible reasons for losses. 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. Our acceptable loss level has crept upwards over time.

Major factors in colony loss are thought to be mites and their enhancement of viruses, especially DWV (deformed wing virus, plus declining nutritional adequacy/forage and diseases. Pesticides in the agricultural environment weakens colonies. Yellow jacket predation is a constant challenge 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 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 currently facing honey bees. Varroa mites and the viruses they transmit are considered a major factor why colonies are not as healthy as they should be.