2020-2021 Cowlitz Winter Loss Report by Dewey M. Caron

Cowlitz members were encouraged to complete a web-based survey document in a continuing effort to define overwintering losses/successes of backyard beekeepers in Oregon and Washington. This was the 12th year of such survey activity. I received 163 responses from WA backyarders, keeping anywhere from 1 to 39 colonies; Cowlitz County members sent in 25 surveys, 2 more than last year, reporting on 178 fall colonies.

Overwintering losses of Cowlitz Co respondents =45 %, an improvement from last year (losses last year were 54%) but much poorer than overall losses for Washington beekeepers of 37%**.** Percent losses, determined by hive types were 26% for Langstroth 8 and 50% loss for Langstroth 10 frames hives (there were 4 times the number of Langstroth 10 frames hives compared to 8 frame hives of respondents – 139 10-framers vs 36 8-framers). In addition, there were 2 nucs (1 lost) and 3 top bar hives (1 lost).

The survey also asked for hive loss by **hive origination**. The members reported 31% loss of previously overwintered colonies, a heavy 67% loss of the 6 packages and 69% of nucs (32 total), while swarm (44%) and split (37%) losses were intermediate. Most impressive was no loss of the 9 feral transfers.

Average winter losses of Cowlitz members was the 2nd highest of all 6 Washington clubs. It was lower than the past 5-year average of 47% colony losses for club members completing a survey. The **attached figure shows Cowlitz losses for past 5 years**. The number below the year in ( ) is the number of survey respondents for the year.

Typical of the statewide data, the Cowlitz respondents are largely new beekeepers. 50% of Cowlitz respondents had 1 to 4 fall colonies while 5 respondents (20%) had 10+ colonies – maximum number for any respondent was 30 colonies. Not everyone had loss. Five Cowlitz individuals (20%) reported total winter survival; but unfortunately 4 had 100% winter loss of colonies.

Reasons for Colony Loss/Acceptable loss

We asked of individuals that had colony loss to estimate what the likely reason(s) might have been, Multiple responses were permitted. Nine individuals (45%) of those having losses said Varroa mites, 30% said weak in fall, 5 (25%) indicated queen issues, 4 individuals said poor winter conditions and 3 indicted yellow jackets.

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. 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. 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 mites and their enhancement of viruses especially DWV (deformed

wing virus) and declining nutritional adequacy/forage and diseases. Pesticide exposure in the agricultural environment weakens colonies. 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 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.

Management selections and losses

I will be preparing a report of how managements affected winter losses similar to earlier years. A full report will be posted to pnwhoneybeesurvey.com for the state respondents along with a **Cowlitz individual club report** when that analysis is completed. I thank all Cowlitz members who sent in a report. Please get in touch directly if you have questions or comments. dmcaron@udel.edu