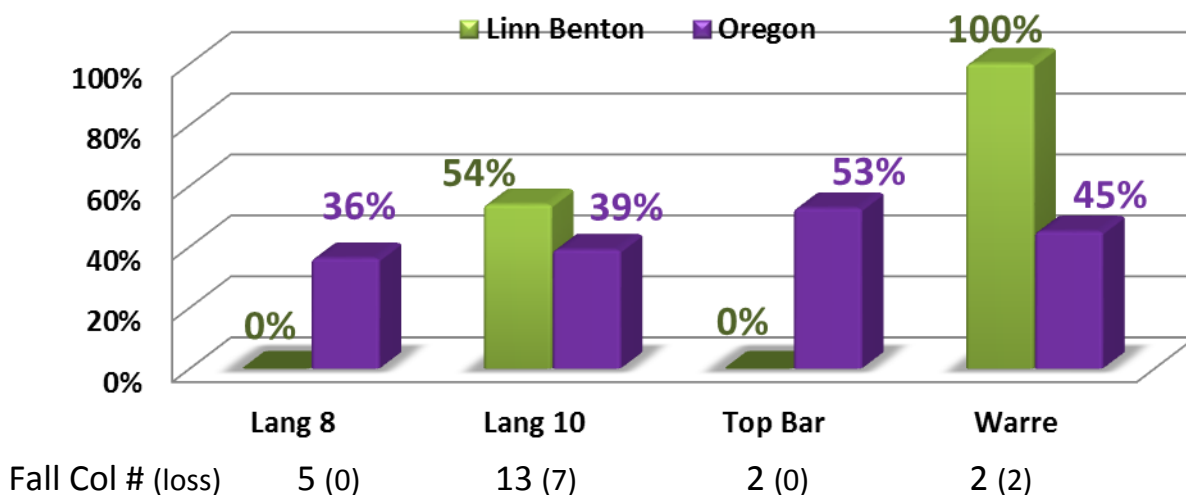


## 2017-18 LBBA Winter Loss Report by Dewey M. Caron

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 and the fourth to include a 10+ beekeeper response from Linn Benton Beekeepers. I received 303 responses from Oregon backyarders and 104 from Washington beekeepers keeping anywhere from 1 to 50 colonies. Ten LBBA Association members completed a survey (last year 23 LBBA responses were tallied [14 responses in 2015 and 17 in 2014] so this is the “poorest” response rate for LBBA to date).

Overwintering losses of LBBA respondents, as for total OR beekeepers, was determined for number of fall colonies minus number of spring survivors by 5 hive types. Data are shown in Figure 1 comparing LBBA with the statewide backyarders. LBBA member respondents started winter with 23 Langstroth 10-frame, 5 Langstroth 8-frame hives (all of which survived), 2 Top bar hives (both survived) and also 2 Warré hive (both did not survive). **Overall loss rate 41%** [for Langstroth hives 39% , same as Langstroth 8 and 10 frame loss rate statewide. See Figure 1.

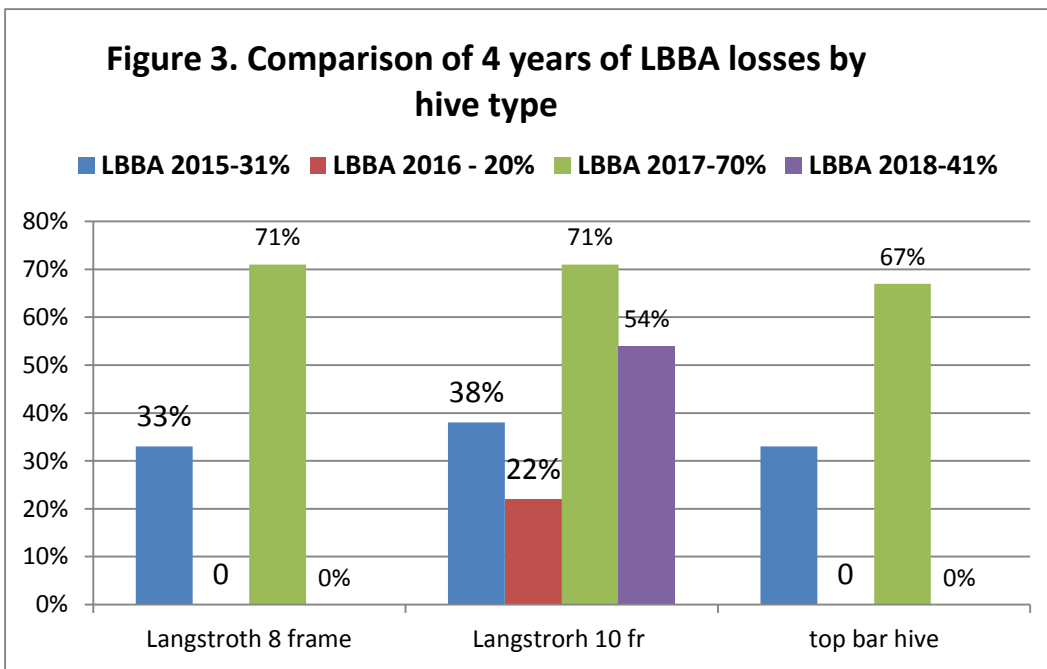
**Figure 1 2017-18 Winter Honeybee Loss % by Hive Type**



The survey also asked for hive loss by hive origination. Seven of 19 overwintered LBBA colonies were alive in the spring (63% loss rate), 22 percentage points higher loss rate than statewide average. Both packages survived, 1 of 2 nucs survived and 1 of 2 swarm captures also survived .

In the previous season (2016-2017). LBBA members had the highest loss rate of any of the OR associations – 70%. Data was based on 23 respondents while year earlier they had the lowest rate – 20% compared 40% of 249 OR beekeepers. In 2014-15, LBBA losses of 17 member respondents were 31%, about the same as statewide loss of 29% (230 OR beekeepers). The three years of LBBA losses for 3 hive type are shown in Figure 3.

Why did LBBA beekeeper losses flip from 20%, lowest of spring 2015-16, to 70%, largest in spring 2016-17 and then back again to the lowest level of all state groups this past year? Maybe it was small number of club respondents and, in 2016-17, returns from 2 individuals who had extremely heavy



losses. In one instance the owner of 20 colonies (mixture of 8 and 10 frame colonies) had a 100% loss; a second individual also had a 100% loss of 28 Langstroth 10-frame colonies. With small number of 10 respondents this survey year it is RECOMMENDED that LBBA individuals use the larger data base of OR beekeepers as a more reliable “snapshot” of beekeeping. This is on [www.pnwhoneybeesurvey.com](http://www.pnwhoneybeesurvey.com) website.

The 10 LBBA survey respondents were all single digit beekeepers (4 had 1 fall colony, 3 had 2 colonies, 2 had 3 colonies. one individual had 4 colonies; the largest had 5 colonies). Thi year respondents had 2 to 6 years of beekeeping experience. Four individuals had zero loss and three individuals had 100% loss. The 6 with losses lost either 1 or 2 colonies (3 individuals each). All respondents kept bees in a single apiary. One of the 10 moved hives in year, to a family member’s residence.

### 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 6 LBBA beekeepers checked 16 choices total (2.7/individual). Queen failure, weak in the fall and don’t know were each indicated by 3 individuals, 2 said varroa; starvation, yellow jackets, swarming, pesticides and CCD were all checked by one person. LBBA and statewide comparison shown in Table below.

	Varroa mites	Poor wintering conditions	Weak in fall	Queen failure	starvation	I don’t know	Other 4
LBBA # indiv	2	1	3	3	1		Yj, CCD, pesticide, swarming
Statewide %	23%	10%	14%	17%	5%	9%	23%

Survey individuals are asked to indicate what might be an acceptable loss level. LBBA responses were: zero (4 individuals), 1 said 5%, 2 said 10% loss acceptable and one each indicated 20 and 25%.

**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 (necropsy) 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. On the PNW website see report on the workshop I did in mid-April on Dead Colony Examination.

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. For LBBA members the medium was 5%; statewide, the medium was 15%.

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, may 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 or add additional items; most beekeepers often do not do just one thing/management to their colony (ies) to control mites/improve bee health. It takes effort to improve overwintering success.

With only 10 responses I will not do an analysis of the effects managements have on bee losses for Linn Benton. Members are encouraged to consult the analysis of statewide responses posted, on the [www.pnwhoneybeesurvey.com](http://www.pnwhoneybeesurvey.com) website, once completed.

**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