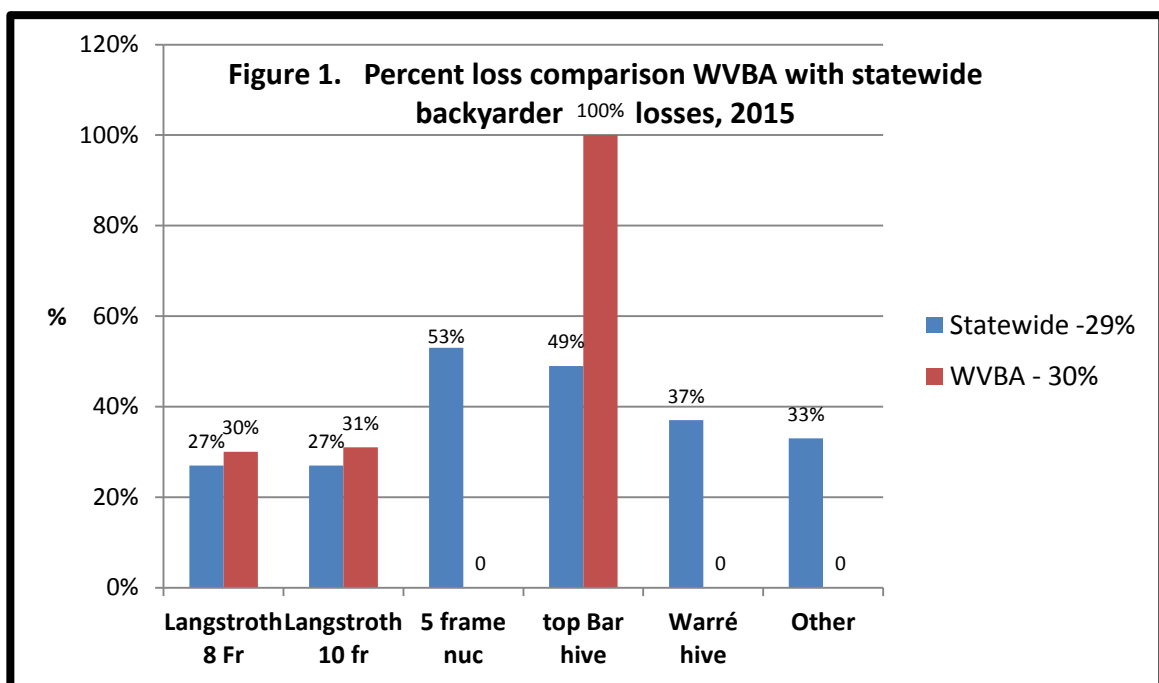


2015 WVBA Winter LOSS by Dewey M. Caron with statistical assistance of Jenai Fitzpatrick

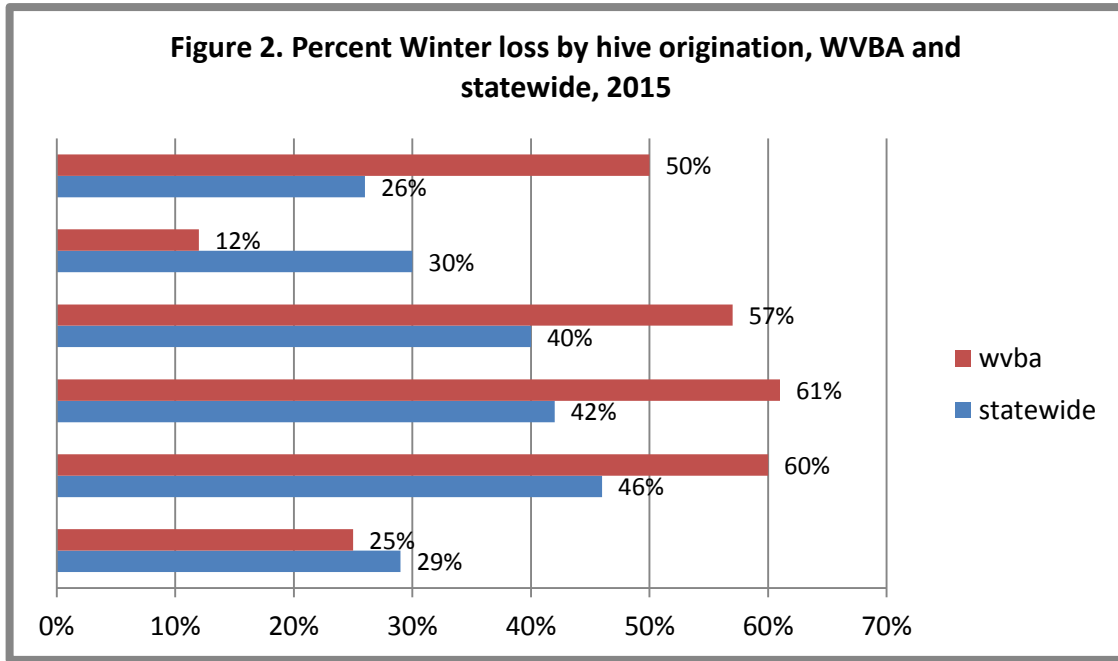
At the March and April WVBA meetings I distributed paper copies and directed members to a web-based survey document as a continuing effort to define overwintering success. This was the 8th year of such survey activity. I received 230 responses from OR backyarders, keeping anywhere from 1 to 50 colonies; Willamette Valley members sent in 22 surveys, a third fewer responses compared to the 31 survey returns last year but colony numbers were slightly higher (140 vs 132 last year).

Overwintering losses of WVBA respondents was 42 colonies = 30%, slightly higher than the statewide loss of 29% (database of 230 OR backyarders.) Percent losses, determined for 6 hive types, is shown in Figure 1 comparing WVBA with the statewide backyarders. WVBA member respondents started winter with 93 Langstroth 10-frame and 40 Langstroth 8-frame hives (95% of total), 1 Top bar hive, 6 5-frame nucs but no Warré or other hive types. Loss of Langstroth hives was essentially the same as statewide, the single Top bar hive was lost but all 6 nucs survived the winter.



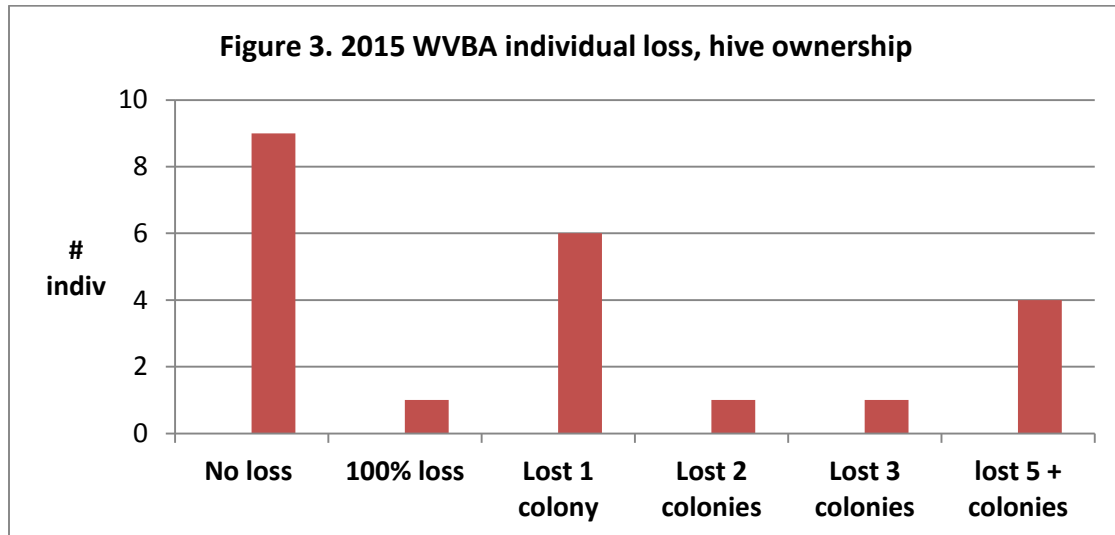
WVBA	Fall	40	93	6	1	0	0	= 140 colonies
	Spring	28	64	6	0			= 98 colonies = 30% loss

The survey also asked for hive loss by hive origination. Fifty-two of 69 overwintered WVBA colonies were alive in the spring (25% loss rate), a lower loss rate compared to statewide (29%) overwintering colonies. Respondents reported very similar loss levels of newly established colonies, 60% of packages, 61% of nucs and 57% of swarm captures, all about a third higher than statewide. WVBA beekeepers had fewer losses with colony divides (splits) compared to statewide. One of two feral colony transfers did not survive. See Figure 2



Losses this past winter, based on survey respondents, were 17% lower than the previous year (36%) and 22% lower than the last 7 years of LCBA losses (38.5%), as reported in previous member surveys.

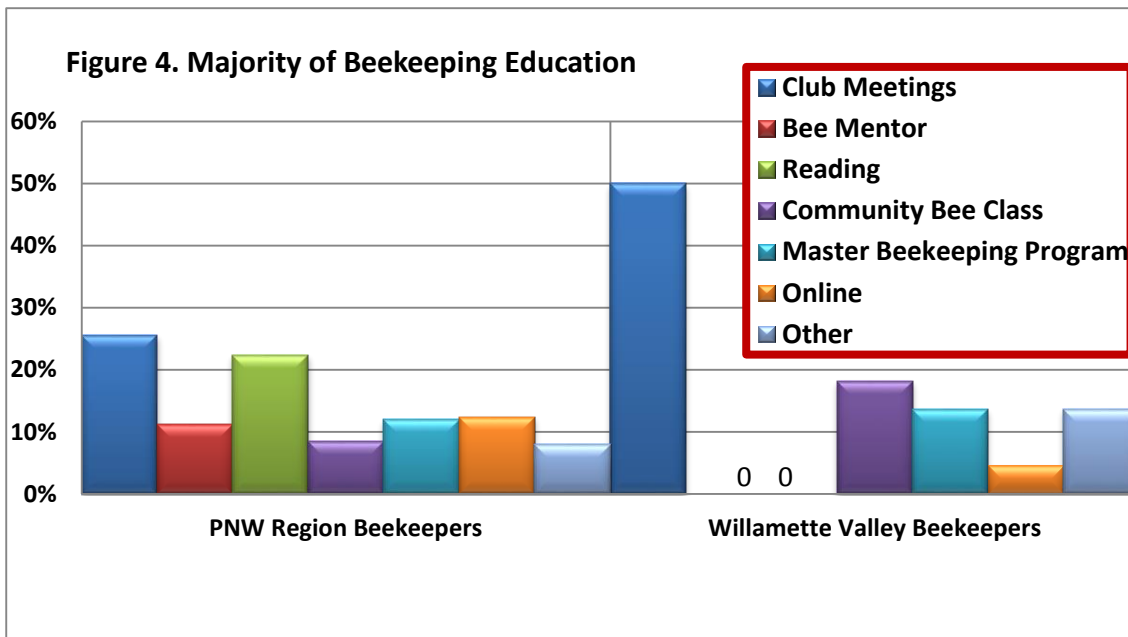
Not everyone had loss. Nine individuals (41%) reported total winter survival compared to 48% statewide; 1 individual lost 100% of their colonies. Six individuals lost 1 colony, 1 lost 2, 1 lost 3, 4 lost 6 or more colonies with heaviest loss 10 colonies. Data shown graphically below in Figure 3. Seventy-two percent indicated acceptable overwinter loss as zero or 5-15%.



WVBA respondents mostly keep 1,2 or 3 colonies (50%); the largest number was 34. Only one individual had more than one apiary location. Two individuals (9%) moved bees during the year, both to pollinate.

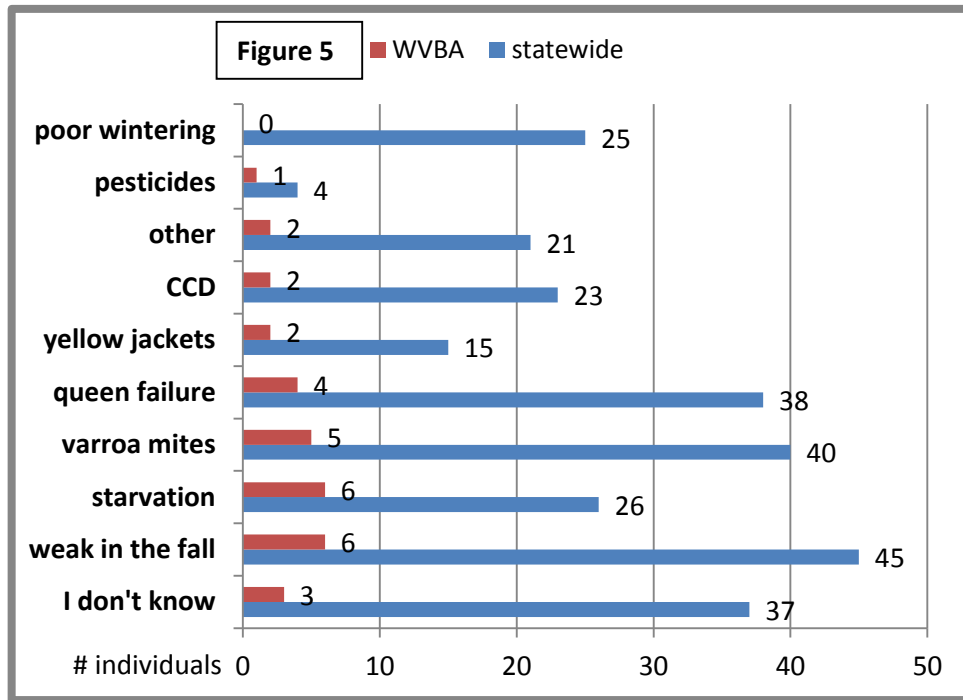
When asked to indicate where the majority of their beekeeping education was received, WVBA respondent numbers varied from statewide, with club meetings listed by 50% while none indicated bee mentor or readings. The bee school (community bee class) was the second most important source of beekeeping information (18%). Response information graphically in Figure 4.

Although no WVBA individuals listed bee mentors as their most important source of beekeeping information, (64%) of WVBA respondents said they had a mentor available as they were learning beekeeping; statewide 69% said they had a mentor.



WVBA survey respondents reported a wide range of beekeeping experience. Four individuals (18%) had 18 years or more of bee experience, with the highest 28 years, while 11 (50%) had 1, 2 or 3 years of experience. Thirteen individuals (59%) said they had a mentor available as they were learning their beekeeping.

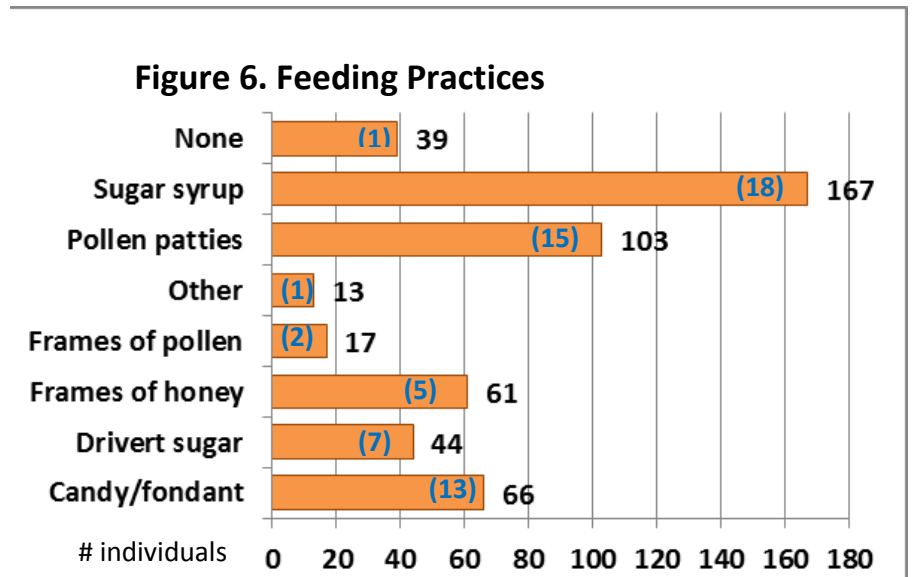
We asked for individuals that had colony loss to estimate what the reason might have been. Multiple responses were permitted. Of 276 statewide responses, 45 chose weak in the fall (16%), 40 selected Varroa mites (15%) and 38 said queen failure (14%). I don't know was also 14%. Of 28 responses by WVBA beekeepers, these same choices were 4 of the top 5 statewide responses. CCD and yellow jackets were each listed; one individual said pesticides and none Nosema or wintering. Under other, WVBA responses included robbing and colony that never developed. See Figure 5.



General hive practices

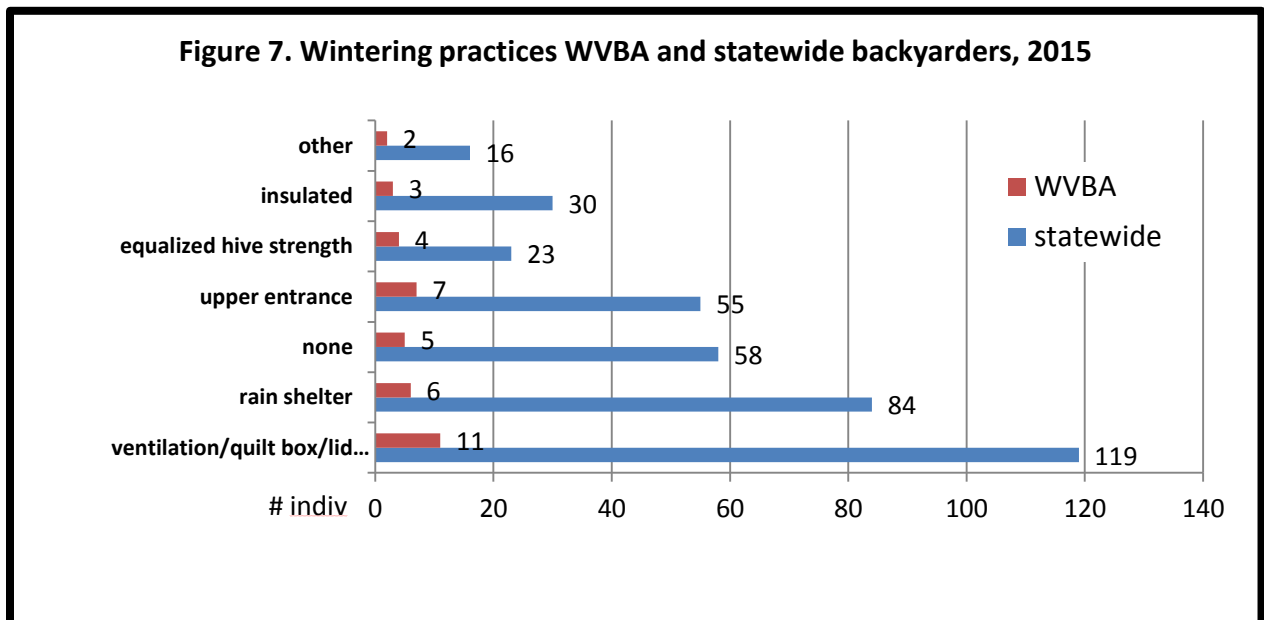
We asked in the survey for information about some managements practiced by respondents. Multiple responses were encouraged.

Feedings: The number of statewide responses (510 total) are shown in bar graph below (Figure 6). Thirty nine individuals (8% of total) did not do any of the options offered. Sugar syrup (33%) and pollen patties (20%) feeding were the most common managements. Feeding fondant/candy (13%) and providing frames of honey (12%) were next most common with drivert and frames of pollen less commonly fed. Under “other” dry sugar or dry pollen or honey as a liquid were indicated. WVBA responses shown as (# indiv) mirror the statewide responses.



WINTERING PRACTICES: We received 385 responses about wintering management practices statewide and 38 from WVBA members (more than one option could be chosen). Fifteen percent (15%) of statewide and 13% of WVBA responses indicated none of the several listed wintering practices was done. The most common wintering management selected was ventilation/use of a quilt box/lid insulation (31% statewide, 29% for LCBA). Use of a rain shelter was next most common (22% statewide, 16% WVBA). Providing upper entrance access for bees equaled equalizing hive strength and insulating lid use. Under other providing a sugar cube and moisture control were listed. More WVBA individuals listed more than one practice versus listing just one item. See Figure 7 below.

Some choices were not mutually exclusive and this question needs to be revised for a subsequent survey season. Additional items listed statewide included using thicker lumber for box or lid construction or use of lid with moisture trap or special insulated cover. One individual indicated use of a wintering shed, another specified colonies were tilted forward and 3 individuals each said they added a mouse guard or provided a winter wind break.



SANITATION PRACTICES: It is critical that we practice some basic sanitation in our bee care. We probably do too little to help insure healthy bees. We received 440 responses for this survey question. Ten percent said they did not practice any of the 8 offered alternatives. Screen bottom board use (38%) was the most common option selected – this was encouraging because bees need to get rid of diseased brood, pests and other potential negatives from within their hive. The screen bottom helps promote a “garbage pit” for getting potentially harmful organisms and materials out of the hive. The next most common selection was minimal hive intervention (15% of responses). Less intervention means less opportunity to compromise sanitation of a hive; needless inspections/manipulations can only interfere with what the bees are doing to stay healthy. As caring bee stewards we should believe we can do our inspections without necessarily compromising bee colony health. Apiary site selection (8%) was slightly

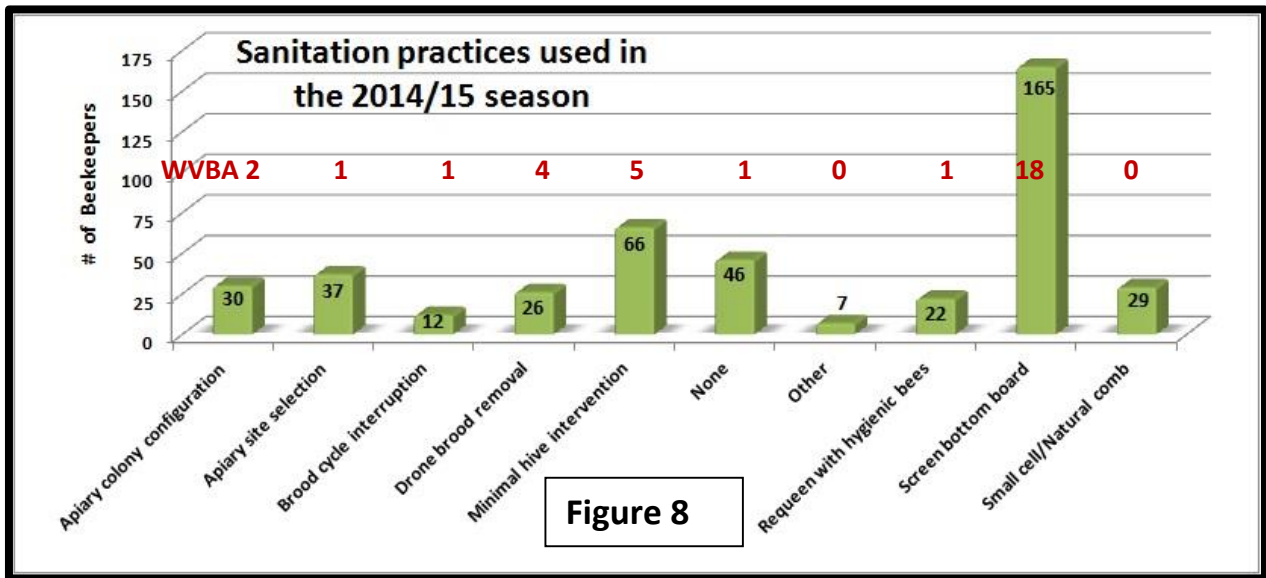
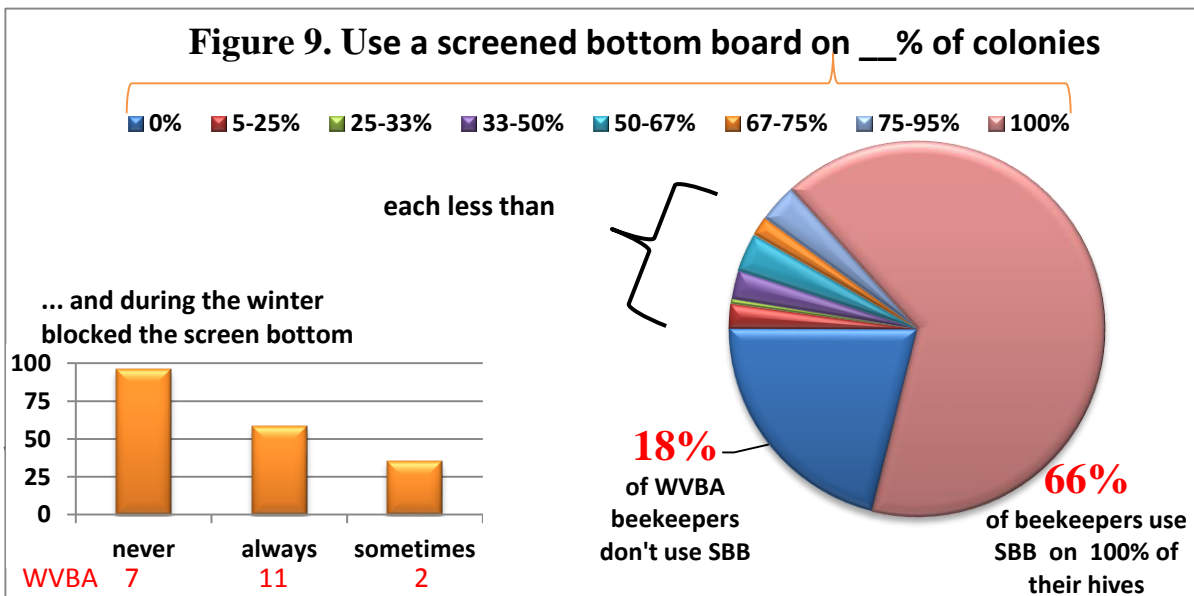


Figure 8

more common as a choice compared with small cell/natural brood, apiary colony configuration, drone brood removal and requeening with hygienic bees (7% to 5%). WVBA sanitation selections, 33 total, are shown in red line at 100 beekeepers, were screen bottom board (18 of 22 individuals), 5 who listed minimal hive intervention and 4 who did drone brood removal. All other selections were 1 or 2 individuals; nobody indicted small cell/natural comb. Figure 8 above.

Other sanitation measures listed (none from WVBA returns) were cleaning of hive tool between inspections, planting medicinal plants in apiary and replacing/cleaning moldy boxes/frames. What we intend to do is compare individuals who had heavier winter losses with those who did not have losses and their responses to these three categories of feeding, wintering and sanitation.

Screen bottom boards: In our national BIP surveys, fully 95% of respondents indicate they have modified colony bottom boards and now use a screen bottom board. We asked what percentage of hives had screen bottom boards and whether they were blocked during the winter. Statewide 21% said they did not use screened bottoms; for WVBA members only 4 individuals (18%) said they did not use them. Statewide 66% used them on all their hives while 50% of those using Screen bottom boards in WVBA County used on all their hives. The majority statewide (51%) and in WVBA (68%) left them open over the winter period (never response). 18% statewide and 9% in Lane County sometimes blocked them and 31% statewide and 23% in WVBA said they closed them (always response) during the winter .



Mite monitoring/sampling and control management

We asked percentage of hives monitored for mites during the 2014 year and/or overwinter, whether sampling was pre- or post-treatment or for both pre and post-treatment and by which of the 5 possible sampling methods was that tool used. In order of popularity of use, statewide sticky boards was used by 37% (for WVBA 41%), with visual inspection of adults and drone brood about the same statewide and for WVBA members. Washing adults with powdered sugar was indicated three times as frequently as use of alcohol wash (11 vs 4% for WVBA). Figure 10. Most sampling was done in August September and October as might be expected (Figure 11).

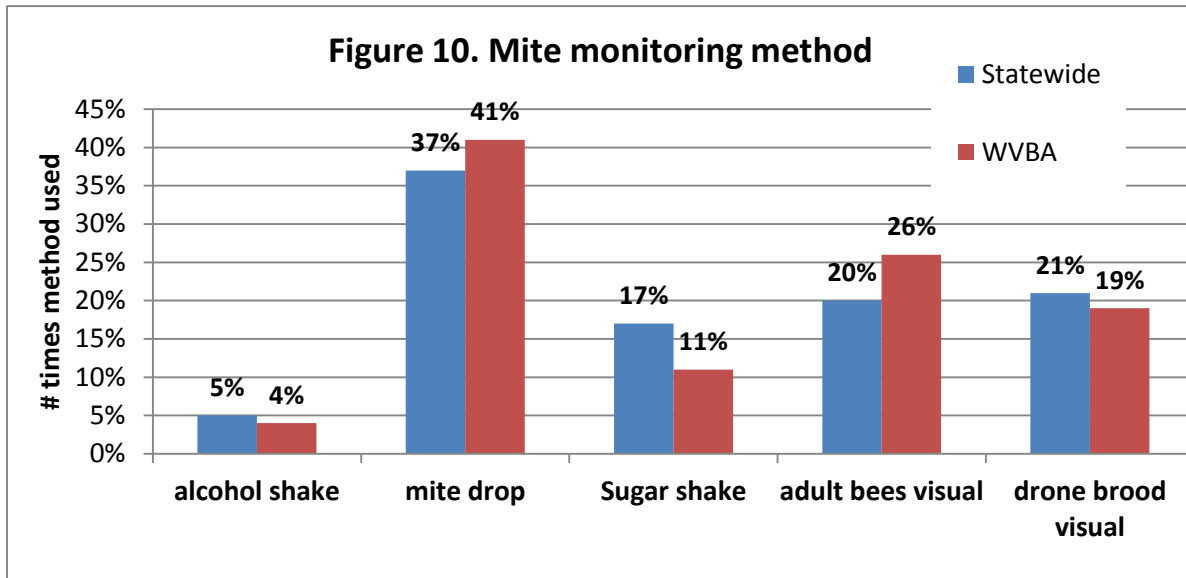
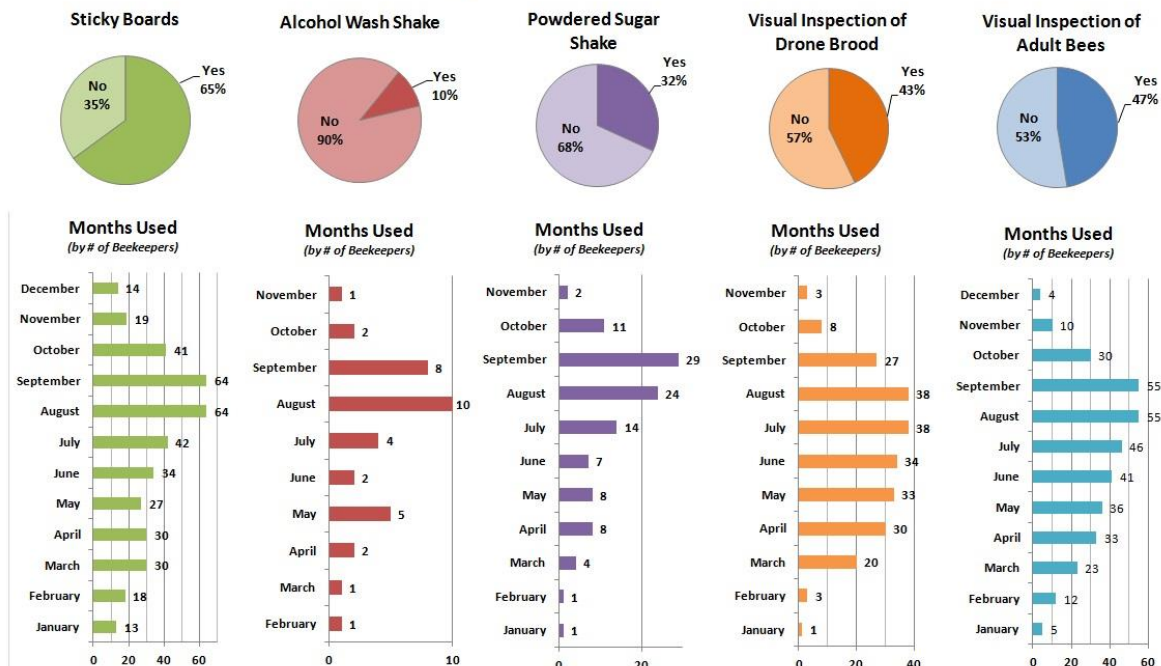


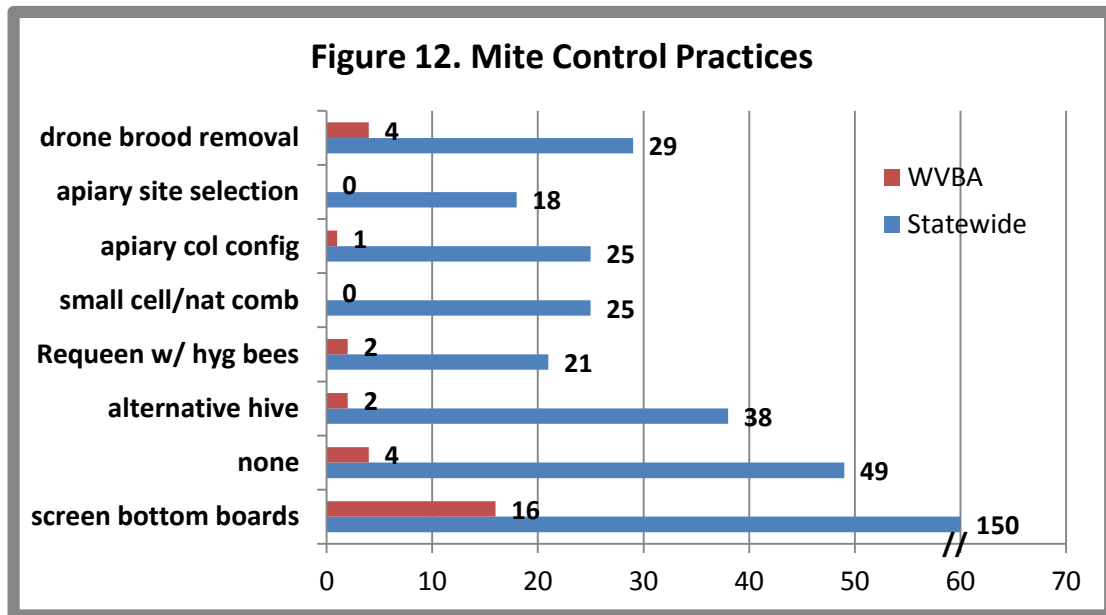
Figure 11

Use and Timing of Mite Monitoring Methods

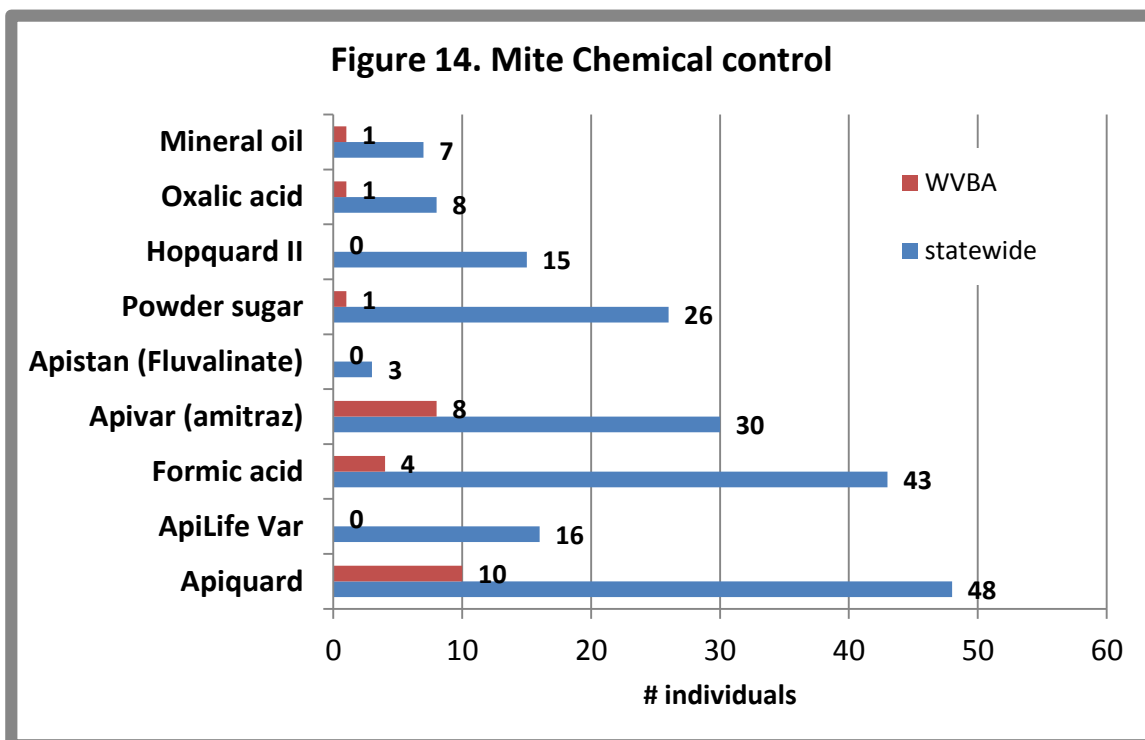


Use of medications and control treatments

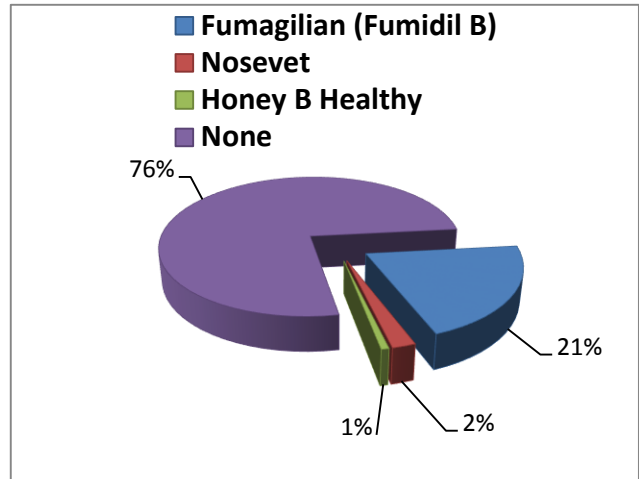
Non-Chemical control: We asked about general mite treatments and also about use of chemicals for mite control. Under general controls, 12% (49 individuals) said none of the 9 alternatives was used. For the respondents statewide who checked at least one (more than one selection was permitted), use of screened bottom board was listed by 150 individuals (42% of respondents) who did indicate use of at least one of the techniques. The next most common selection was use of an alternate hive (11%). The remaining 7 selections were indicated by fewer than 30 individuals each. The responses for WVBA individuals closely mirrored those of the statewide respondents as shown in red in graph below. Thirty-six percent of Lane county respondents used more than one of these practices.



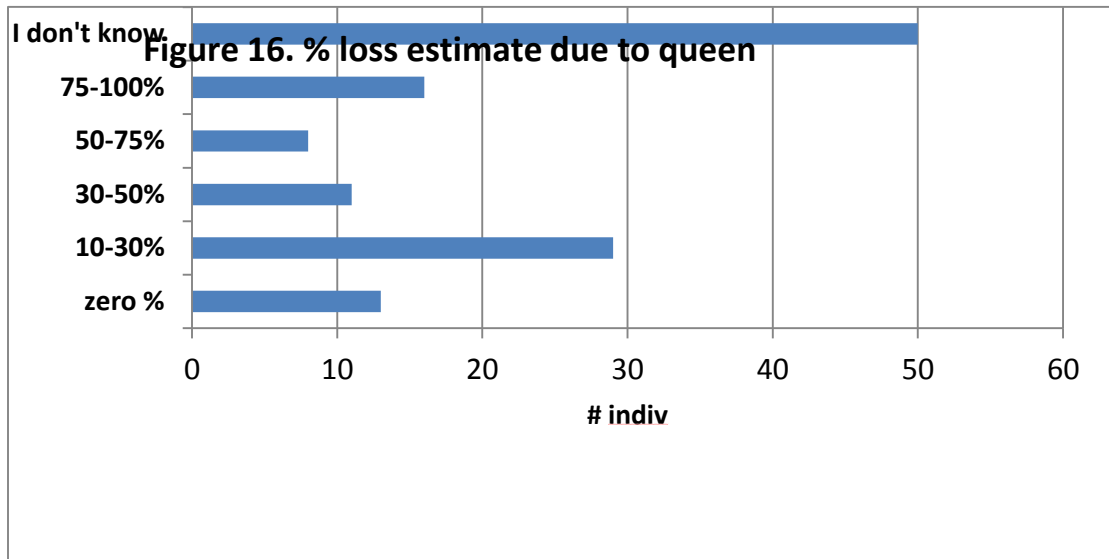
Chemical control: For chemical control there were 215 statewide responses, by WVBA members. Apiguard (40%), followed by Apivar (amitraz) (32%) (20%) were the most commonly checked alternatives with formic acid (16%). Others as shown in figure 14.



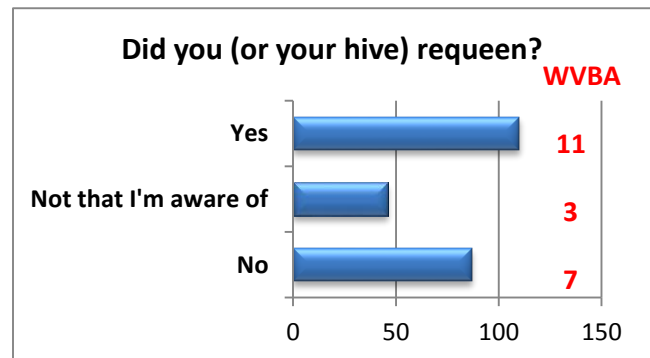
Six individuals of 144 that responded statewide (4%) indicated they treated with terramycin for foulbrood disease, one in WVBA. One used Hopguard II. Thirty individuals (21%) indicated use of Fumigillin for Nosema disease control, 4 in WVBA. Three in state used Nosevet and one Honey Bee Healthy.



We are not satisfied with our questions about queens on this year's survey. We asked what percentage of your colonies lost do you feel died because of queen problems. The largest response was I don't know (39%) followed by 10-30% at 23%. See Figure 16. WVBA responses were similar.

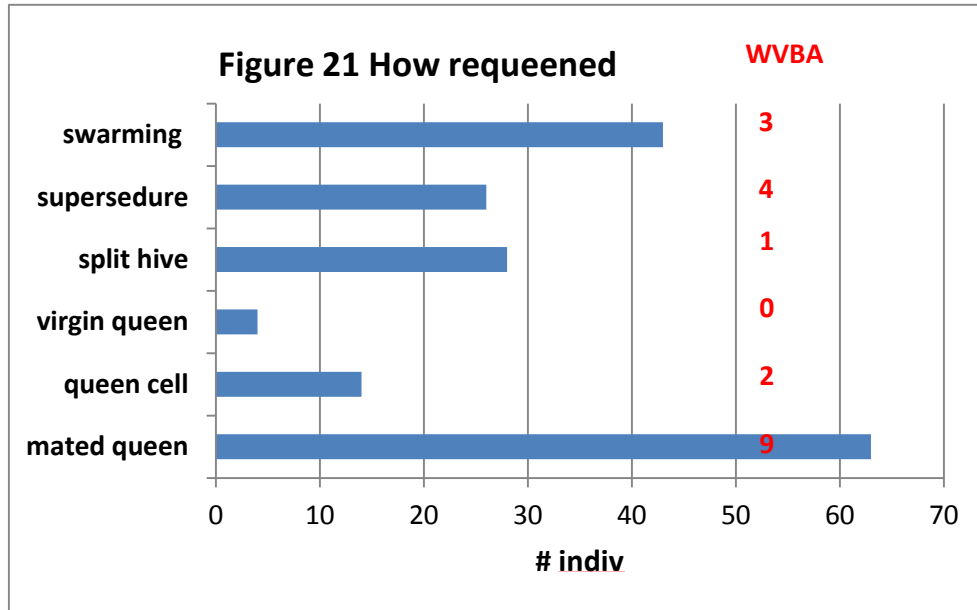


Our subsequent questions asked "Did you, or did your hive requeen, in any form during the year". Of 243 responses, 87 (36%) said no, 46 said 'Not that they were aware of' (19%) and 110 (45%) responded yes. WVBA responses are shown in red.



One hundred seventy seven individuals responded to the question "If you did requeen, how did you do it." The largest response was mated queen introduced (34.5%) followed by colony swarmed (24%).

WVBA responses are shown in red. We are not sure how to interpret the responses to these three questions. They will be modified in a subsequent survey instrument.



Summary

As indicated we will further analyze the loss by managements (feeding/wintering practices/sanitation) as well as losses relative to use of control techniques/chemicals utilized. Some of this information is available on the BeeInformed website (beeinformed.org) and individuals are encouraged to examine that data base as well.

We intend to refine this instrument for another season and hope you will join in response next April. We have a blog on the pnwhoneybeesurvey.com and will respond to any questions/concerns you might have.

Thank You to all WVBA Members who participated – if you find any of this information of value please consider adding your voice to the survey in a subsequent season.