2019-2020 Honey Bee Colony Losses in the United States: Preliminary Results

Embargoed until Monday, June 22nd, 2020 at 2.00 PM EDT

Note: This is a preliminary analysis. Sample sizes and estimates are likely to change. A more detailed state-specific report will follow at a later date.

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The Bee Informed Partnership (BIP; beeinformed.org) recently conducted the 14th annual survey of managed honey bee colony losses in the United States. This past year, 3,377 beekeepers collectively managing 276,832 colonies as of October 2019 provided validated colony loss survey responses. The number of colonies managed by surveyed respondents represents 9.9% of the estimated 2.81 million managed honey-producing colonies in the nation (USDA, 2020).

During the 2019-2020 winter (1 October 2019 – 1 April 2020), an estimated 22.2% of all managed honey bee colonies in the U.S. were lost (Fig. 1). This loss represents a decrease of 15.5 percentage points compared to last year (37.7%), and a decrease of 6.4 percentage points compared to the 28.6% historic average winter colony loss rate documented by previous surveys. This year's estimate is the second lowest level of winter loss reported since the survey began in 2006-2007, and it directly follows the highest loss on record that occurred during the 2018-2019 winter.

Similar to previous years, backyard beekeepers lost more colonies over the winter (32.8%) compared to sideline beekeepers (31.8%), but this difference was negligible. Commercial beekeepers experienced less drastic winter colony losses (20.7%) than the other two groups. Backyard, sideline, and commercial beekeepers are defined as those managing 50 or fewer colonies, 51 to 500 colonies, and 501 or more colonies, respectively.

During the summer 2019 season (1 April 2019 – 1 October 2019), an estimated 32.0% of managed colonies were lost in the U.S. (Fig. 1). This is the highest summer loss rate ever reported by this survey. It is much higher than last year's summer colony loss estimate of 20.0% (an increase of 12.0 percentage points), and much higher than the 21.6% average summer loss reported by beekeepers since 2010-2011 (a 10.4 percentage point increase), when summer losses were first recorded by BIP. The observed increase in summer mortality during 2019 can most likely be explained by the high losses experienced by commercial beekeepers (33.0%). Their historic average summer loss rate was 22.0%.

For the entire survey period (1 April 2019 – 1 April 2020), beekeepers in the U.S. lost an estimated 43.7% of their honey bee colonies (Fig. 1). This is the second highest annual colony loss rate reported since the survey began estimating this measure in 2010-2011. This average annual loss rate is greater than last year's estimate of 40.4% (a 3.3 percentage point increase), as well as the average annual loss rate since 2010-2011 (39.0%, a 4.7 percentage point increase).

Please note that lost colonies are represented by those that died or were combined with others, and that annual loss rate was not estimated by summing the individual summer and winter loss rates. This year's state-specific loss rates will be added to previous years' results on the BIP website in the near future (https://bip2.beeinformed.org/loss-map).

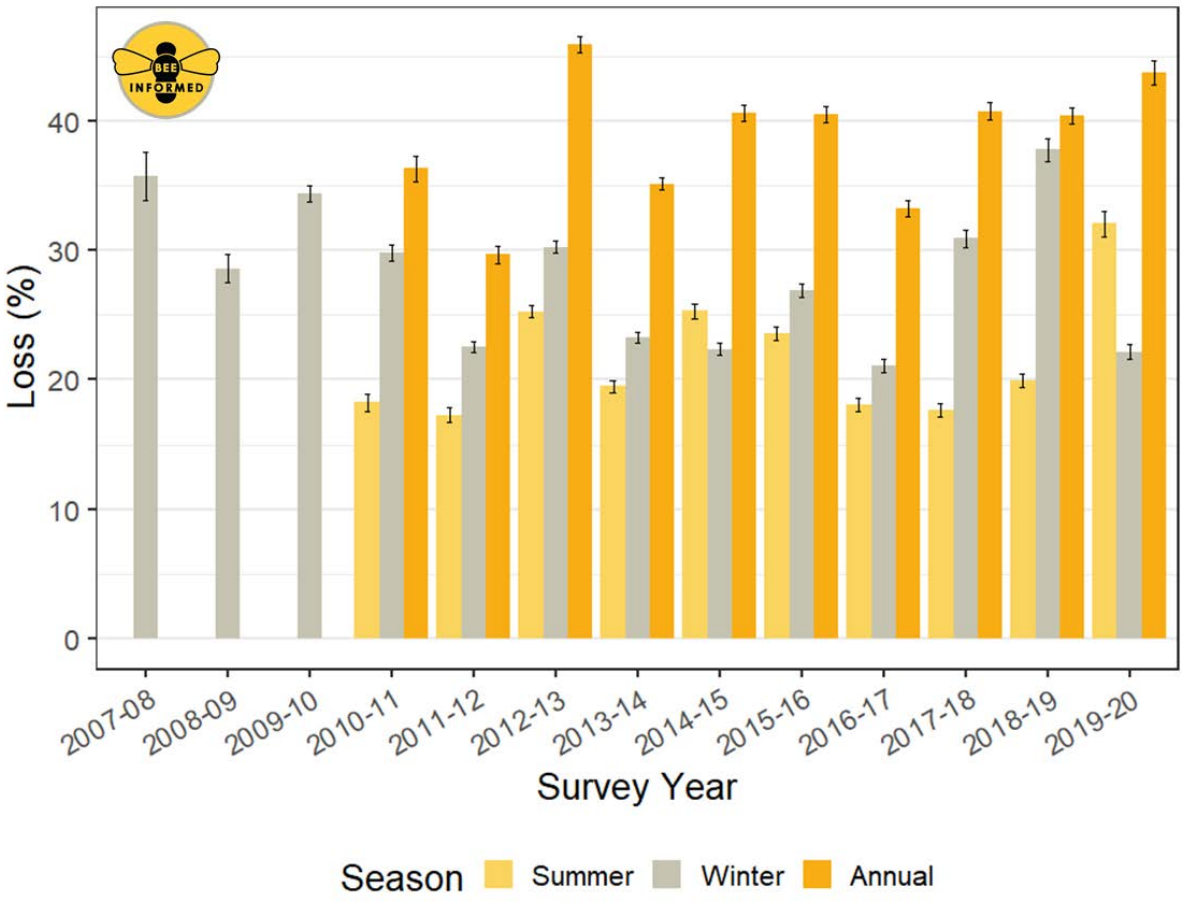

Fig 1. Total summer (yellow bars; 1 April – 1 October), winter (gray; 1 October – 1 April), and annual (orange bars; 1 October – 1 October) honey bee colony loss rates in the United States across years of the Bee Informed Partnership's national honey bee colony loss survey. Results from the inaugural survey commissioned by the Apiary Inspectors of America and performed in 2006-07 are not included.

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Abstracts and peer reviewed papers of previous annual BIP-associated loss surveys

Note: reported numbers may vary slightly from previously published results due to additional data validation efforts

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