Dear Brokers, 22 April 2014

Thank you for participating in the pollinator availability survey. The Bee Informed Partnership appreciates your continued participation. We hope to continue providing valuable information to the beekeeping community through all of our surveys. Attached are the initial results of this year’s pollinator availability survey. This marks the 5th year of the survey. We are in the process of writing an article for a peer review journal and hope to have a full multi-year analysis of the results available no later than August 2014. If you have any questions or concerns about the survey results, please feel free to contact Jai Holt at (502)554-6088 or jaiholt2@illinois.edu.

Sincerely,

The Bee Informed Partnership Team

### Kathy Baylis 1, Jai Holt1, Grace Kunkel2, Meghan McConnell2, Karen Rennich2, Dennis vanEngelsdorp2, The Bee Informed Partnership3

1 University of Illinois, 2University of Maryland, 3[www.beeinformed.org](file:///C:\AppData\Local\Microsoft\Windows\Users\baylis\AppData\Local\Microsoft\Windows\Temporary%20Internet%20Files\Content.Outlook\WY3FOUV7\www.beeinformed.org)

In March and April of 2014, 17 brokers responded to the Pollinator Availability survey. These brokers collectively placed 352,972 colonies. This response represents about half of the estimated 30 brokers in the industry. The number of colonies collectively placed by the responding brokers represents 20.7% of the 1.7 million colonies used for almond pollination this year[[1]](#footnote-1). Of the colonies placed about 18.5% were managed in California exclusively. The average broker placed 20,763 colonies, owned by 13 different beekeepers, and placed these bees in orchards owned by 23 different almond growers.

The simple average[[2]](#footnote-2) rental price of these placed colonies was $175.47. The lowest rental price for a colony was $145 and the highest price was $201. When the sizes of the brokers’ operations are taken into account, the estimated average price is $181.90[[3]](#footnote-3). This suggests that, on average, brokers who placed more colonies charged a higher price for colonies. About 29.4% of the brokers surveyed rewarded beekeepers for providing high grade colonies. Of the brokers who did not include grade premiums in their contracts, several stated that it is too much extra work to provide grade premiums for high grade colonies.

The simple average grade of the colonies placed was 9.41 frames. When operation size was accounted for,[[4]](#footnote-4) the average grade of a placed colony was 10.52 frames. Of the 17 brokers surveyed, 14 brokers had all of their colonies graded. Brokers often elected to grade their colonies themselves rather than hire an agency to do it for them. The average number of colonies placed per acre was about 2, with brokers placing as few as 0.5 colonies per acre and as many as 3.5.

The brokers surveyed placed colonies for a total of 218 beekeepers. Only 32 of those beekeepers were short (14.8%) colonies, that is, they did not have enough colonies to meet their obligations. Those beekeepers were short a total of 16,448 colonies representing 4.7% of the colonies placed. The brokers estimated that they could have placed about 49,400 more colonies if demanded (14.1% of total colonies placed). Only 29.4% of brokers said they could have placed colonies for an additional 100 acre farm. The brokers surveyed collectively placed colonies for 392 almond growers.

**Multi-year Comparison**

Of the 17 brokers surveyed, 12 responded in all 5 years of this pollinator survey. For the multiyear analysis we compared the responses of these 12 brokers over the survey period to indirectly measure changes in the supply and demand for honey bee colonies for almond pollination. We chose to analyze this subset of beekeeper in order to measure true changes in the supply of colonies each year and the quality to of those colonies. If the entire sample of surveyed brokers were included in analysis, the supply of colonies would appear to be higher in years where more brokers responded. By restricting the sample to the same set of brokers, we are better able to estimate overall changes in the supply of colonies available for pollination.

The supply of colonies provided by the subsample of beekeepers has leveled off over the period from 2012-2014 (Figure 1). However, the demand for colonies was projected to increase between 2010 and 2014. In 2014, the USDA NASS Pacific Regional Office projected that almond bearing acreage in California would be 860,000[[5]](#footnote-5) acres. Assuming that projection is correct, almond bearing acreage has increased by 90,000 acres since 2010. This represents an 11.7% increase over the 5 years. The simple average colony rental price rose nearly $37 over the 5 year survey period (Figure 2). Between 2013 and 2014, the average rental price increased by about $20 per colony. The average colony grade fluctuated over the 5 years between 2010 to 2014. Among the subsample of brokers who responded to our survey every year, the average colony grade was the highest in 2014 at 9.7 frames (Figure 3). The number of shortages was lowest in 2014 (Figure 4). In the past, fewer shortages have been reported in years that coincided with lower overwintering loses[[6]](#footnote-6) as occurred in 2012.

The overwintering loss results for the winter of 2013-2014 have not been published[[7]](#footnote-7); however, based on the shortage estimates this year, it is possible the overwinter losses may be lower on average this past winter than in the previous winter. Alternatively, the lower shortages may be a result of decreased demand from almond growers. Almond growers may be placing fewer colonies because they are not planning to irrigate all of their bearing acres due to drought. Yet, the number of colonies placed per acre in 2014 was 1.96, up slightly from the 1.92 colonies placed per acre in 2013. The number of colonies placed per acre has been close to 2 in all 5 survey years. The total number of colonies placed by the subsample of brokers decreased since the previous year. The brokers indicated that they could have placed an additional 10,700 colonies. This result is almost tenfold lower than in 2013, which suggests that the demand for colonies is down from previous years.

Figure : Colonies supplied from 2010-2014 and Almond Bearing Acreage

Figure 2: Average Colony Rental Price from 2010-2014 and Almond Bearing Acreage

Figure 3: Average Colony Grade from 2010-2014 in Frames of Bees

Figure 4: Colony Shortages from 2010-2014 and Average Winter Loss

1. Based on an average stocking rate of 2 colonies per bearing acre and 860,000 bearing acres http://www.nass.usda.gov/Statistics\_by\_State/California/Publications/Fruits\_and\_Nuts/201405almac.pdf [↑](#footnote-ref-1)
2. The simple average was calculated by averaging the responses across brokers. In other words, the average price responses from each broker were added together and the sum was divided by the number of respondents. [↑](#footnote-ref-2)
3. Operation size is taken into account by calculating a weighted average. Each response is weighted by the number of colonies the broker placed. [↑](#footnote-ref-3)
4. Operation size is taken into account by calculating a weighted average. Each response is weighted by the number of colonies the broker placed. [↑](#footnote-ref-4)
5. Almond bearing acreage sourced from California Department of Food and Agriculture’s “2013 California Almond Acreage Report,” which can be found here: <http://www.nass.usda.gov/Statistics_by_State/California/Publications/Fruits_and_Nuts/201405almac.pdf> [↑](#footnote-ref-5)
6. Overwintering loss data was sourced from the Bee Informed Partnership Annual Winter Loss reports. [↑](#footnote-ref-6)
7. The results overwintering loss results for the winter 2013/2014 are due to be released on May 15, 2014. [↑](#footnote-ref-7)