

2017 ALBERTA PROVINCIAL APICULTURIST ANNUAL REPORT

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A. Beekeeping Industry Statistics

. No. of Beekeepers	<u>1591</u>
. No. of Producing Colonies	<u>315,128</u>
. Average Yield/Colony (lb/kg)	<u>130 lb/59.0 kg</u>
. Total Estimated Crop (lb/Kg x1000)	<u>40.2 mil lb /18.2 mil kg</u>
. Colonies Wintered Last Year	<u>302,908</u>
. Average Winter Mortality (%)	<u>28.8%</u>

B. Diseases and Pests

Disease/Pest	Number of Colonies Inspected	Number of Apiaries Inspected	Disease Incidence (Percentage)
AFB	450	60	1.7
EFB	450	60	0.001
Chalkbrood		N/A	
Sacbrood		N/A	
Tracheal Mite		N/A	
Varroa Mite	Average infestation was 1.5% in a sample of 300 bees washed using a Varroa Shaker		
Other Pests	512 beehives imported from Ontario without a permit were inspected for Small Hive Beetle (SHB). Nine SHB were found in 5 apiaries.		
Other Pests	5028 bee colonies moved from British Columbia were inspected for SHB. Small Hive Beetle was not found in hives moved from BC.		

C. Comment:

• Winter mortality:

- Beekeepers with 400 colonies or more were surveyed in spring 2017. 61.6% of the surveyed beekeepers responded. The total number of colonies owned by the respondent beekeepers was 193,290. Overall the average winter mortality for the province, weighted by number of colonies reported by responded beekeepers, was 28.8%. This reported winter mortality is the highest in the past 5 years.
- The winter conditions of 2016/2017 were unpredictable. As early as March, winter mortality was estimated at 10%. However, April was the coldest April in 20 years, especially in the Northwest, Northeast and Peace River regions. As beekeepers fed bee colonies pollen patties for early spring buildup, the produced brood was chilled and bee colonies suffered from high noseema infections. Additionally in some operations, the fall treatment of Varroa mites was too late after honey extraction in the fall, consequently, these colonies died by early winter.

- 2016/2017 winter bee colony losses may be attributed to one or a combination of potential causes reported by beekeepers. Beekeepers ranked causes of winter mortality from the highest to lowest possible causes as follows: 1) ineffective Varroa mite control, 2) winter and early spring poor weather conditions, 3) Nosema, and 4) weak colonies in the fall due to late splits.

- **Beekeeping Industry and Management:**

- In 2016 the number of registered beekeepers increased to 1591. The number of bee colonies reached 315,128. This number has doubled since 1987 when the reported number of colonies was 147,000.
- The distribution of beekeepers and bee colonies by regions is summarized in the following table.

Region	Number of Beekeepers	Total Number Of Colonies	% Bee Colonies in the Province
1	203	84220	26.7
2	580	31568	10.0
3	157	39316	12.5
4	534	86896	27.6
5	116	73128	23.2
Grand Total	1591	315128	100

- The pedigreed hybrid canola seed production industry continues to grow in Southern Alberta. Alberta Beekeepers this year supplied about 72,000 colonies for canola pollination. The average fee for renting a bee colony was approximately \$170-180/colony.

- **Bee Pests and Disease:**

- **American Foul Brood (AFB):**

- The inspection of bee colonies across the province was conducted as a part of the Alberta Apiculture Surveillance program.
- American Foul Brood (AFB) was found in a few (1.7%) commercial operations.
- Starting December 1, 2018 Antibiotics will not be available over the counter for use by beekeepers. A prescription by veterinarians is required for beekeepers use as needed.

- **Small Hive Beetle (SHB):**

The annual inspection for SHB was conducted in 5028 bee colonies. These colonies were returning to Alberta from British Columbia. The inspection included visual inspection of top bar and the bottom board of bee colonies for SHB. Inspections included bee colonies that were going to be moved to pollination fields in southern Alberta and had been in British Columbia. SHB was not found in any colonies imported from British Columbia, or any other local- non-migratory bee colonies that were included in the Alberta routine inspections.

- Alberta Quarantine of SHB infested bee colonies in Peace River:
 - In spring 2017, two SHB were found in a bee operation in the Peace River Region of Alberta. The operation imported 512 bee colonies from Ontario without the proper written permission (permit) as required by the *Bee Act and Regulations*.
 - As a result, a quarantine area was established. This quarantine area restricts the movement of bee colonies out of the region. 14 beekeepers have been impacted within the quarantined area.

- Inspection of the affected 512 colonies was conducted through the summer and fall. By the end of September 2017, 9 SHBs were found in 5 different apiaries.
 - Investigation showed that the bees brought to Alberta had originated from an operation infested with SHB, and not an apiary that was SHB-free, as claimed and shown in an inspection report issued by Ontario Ministry of Agriculture, Food and Rural Affairs.
 - Inspection of bee colonies that were 15km away from the bee yards where the SHB infested bees from Ontario were located showed that SHB was not detected. The quarantined bee colonies in the core zone where infested Ontario bees and other adjacent local bee colonies (2500 bee colonies) are located, are not allowed to move out of the core zone. However, 6000 bee colonies in the surveillance zone were accepted to move for wintering to British Columbia. Once these colonies return back to Alberta, they will be placed back in the quarantine surveillance zone.
 - Quarantine is extended until October 1, 2018. Further inspections will commence in spring 2018. If the SHB is not found in two consecutive inspections, the quarantine zone may be reduced.
- **European Foul Brood (EFB) like symptoms:**
 - In mid-July several beekeepers in Peace River reported a decline in populations in bee colonies and an outbreak of EFB-like symptoms persisted in brood combs. Investigation was carried out and bee brood was sampled for analyses. It appeared that all of these colonies were used for blueberry pollination or close to blueberry field in B.C. There may be a correlation between these symptoms and in-crop-fungicide-used at a time when the bees were foraging. This issue continues to be under investigation.
 - **Parasitic Mites and Nosema:**
 - Survived bee colonies were quite strong in 2017. However, the populations of bee colonies infested with nosema kept dwindling through spring. Beekeepers had to treat with fumagillin in the spring. Once the nosema levels of infestation was brought under control, the colonies started to rebuild the population.
 - Apivar continued to show good results in many operations. Alberta Agriculture highly recommends that beekeepers treat on time using the proper dose (One Apivar strip for every five frames covered with bees). Beekeepers must continue monitoring Varroa mite populations to ensure that bees are going to winter with less than 1% Varroa infestation.

Note

If you plan to move or purchase bees, queens or used equipment from any other province please contact the Provincial Apiculturist to issue Alberta Government permit for allowing bees, queens or used bee equipment into Alberta.

If you are importing bees or queens from other country, please contact the Provincial Apiculturist and email a copy of the CFIA permit to issue Alberta Government permit for allowing bees or queens into Alberta.

AF is obligated under the *Bee Act and Regulations* to take necessary actions if bees, queens or used bee equipment are imported to Alberta from any Province without a Permit.

For more information, please check Alberta Bee Act and Regulations:

[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/acts6032](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/acts6032)