

Beekeeping in Manitoba - 2021 Annual Report

The number of active, registered beekeepers in Manitoba as of October 8, 2021 is 926, which is slightly up from last year. Although there has been a steady increase in the number of beekeepers over the last 10 years, the growth rate appears to have slowed down significantly over the last three years (Fig 1). We are therefore seeing that the expansion of the beekeeping industry in Manitoba is starting to plateau. This is also being reported to be the case in most of the Canadian provinces.

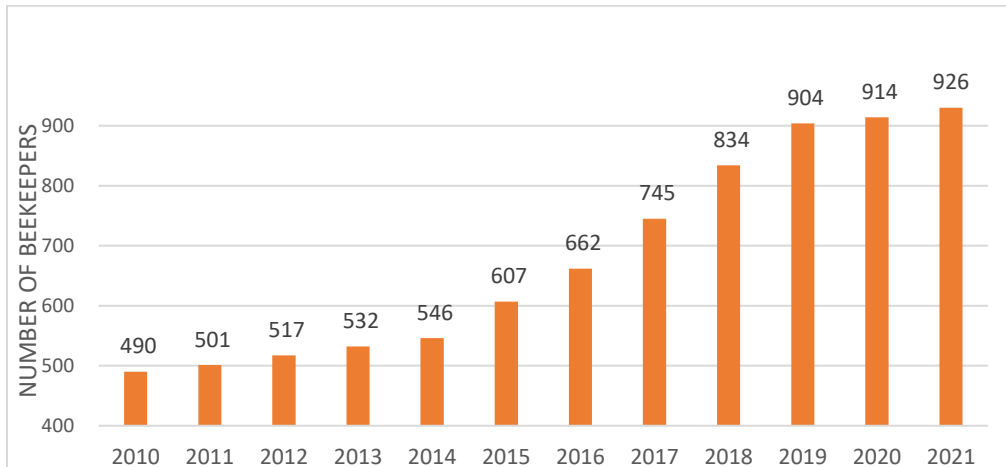


Figure 1. Number of Active Beekeepers in Manitoba (2010 – 2021)

The number of colonies in Manitoba is slightly lower than last year at 114,837. Similar to the number of beekeepers, the growth rate of Manitoba's beekeeping industry appears to have slowed down and is already showing signs of reaching its plateau (Fig 2). The reason behind the decrease in colony numbers from this year to last year is more directly related to a large commercial beekeeping operation relocating the business to another province to focus on pollination.

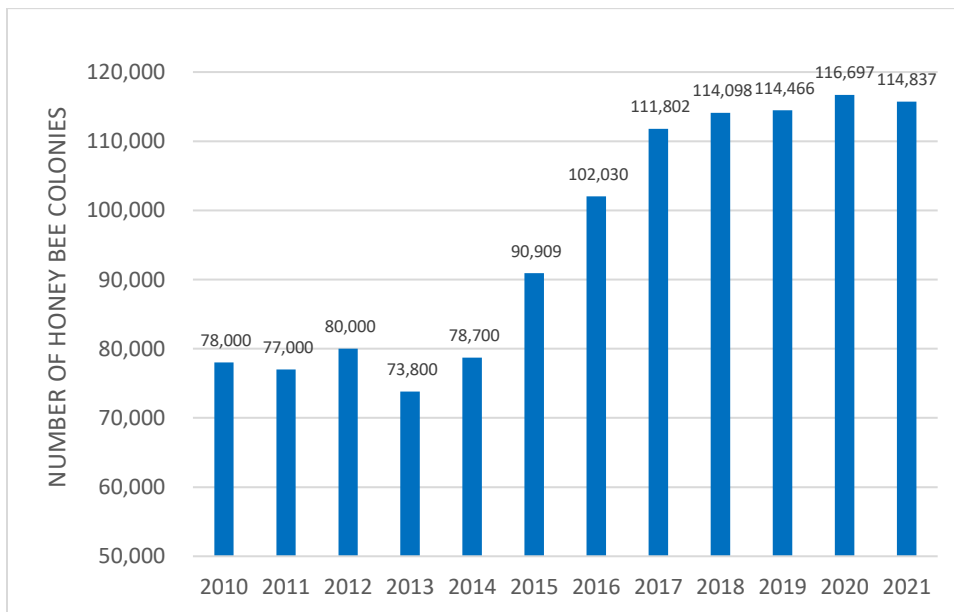


Figure 2. Number of Honey Bee Colonies in Manitoba (2010 – 2021)

Winter Mortality Statistics:

As reported in the summer issue of the Manitoba Beekeeper, the percent colony mortality in Manitoba this past winter was 15.4%. Given that the typical range for wintering loss is between 15 to 25 percent, this year's wintering losses would be considered on the low side of typical losses. Figure 4 outlines the losses from 2010 – 2021 with a moving average trend line that shows that the 10 year average loss value has stabilized around 20%. It is also important to note that only in 2011 and 2013 was the average loss value higher than the typical wintering loss range of 15 to 25 percent, suggesting that losses in Manitoba since 2013 have been relatively stable for most beekeepers. (Fig 3).

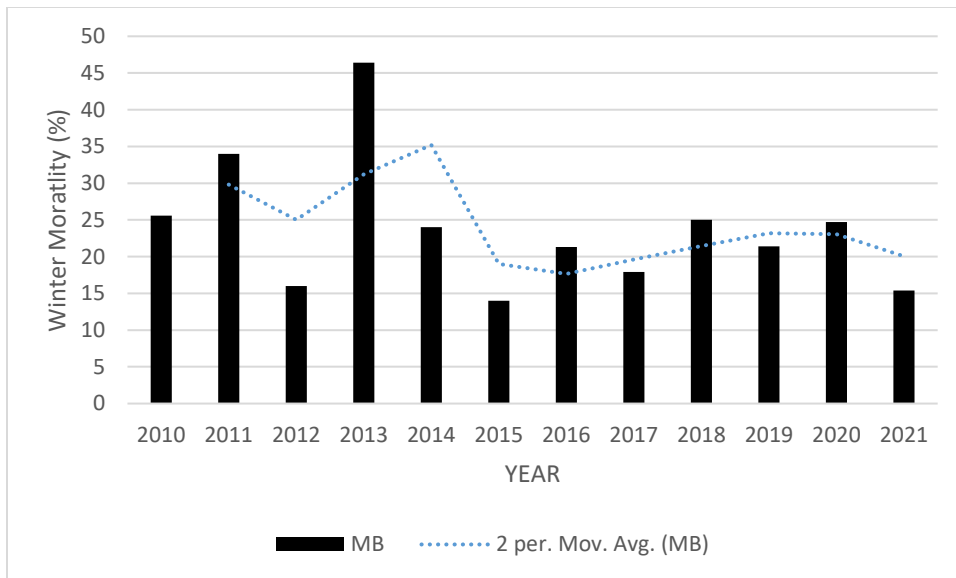


Figure 3. Percentage of Honey Bee Colony Mortality in Manitoba (2010 – 2021)

In comparison to the national average, Manitoba's winter mortality has typically been lower than the estimated Canadian average. In the first five years of the 2010 decade, Manitoba's average was similar or above the national average, but for the last five years, Manitoba's average has generally been below the Canadian average (Fig 4).

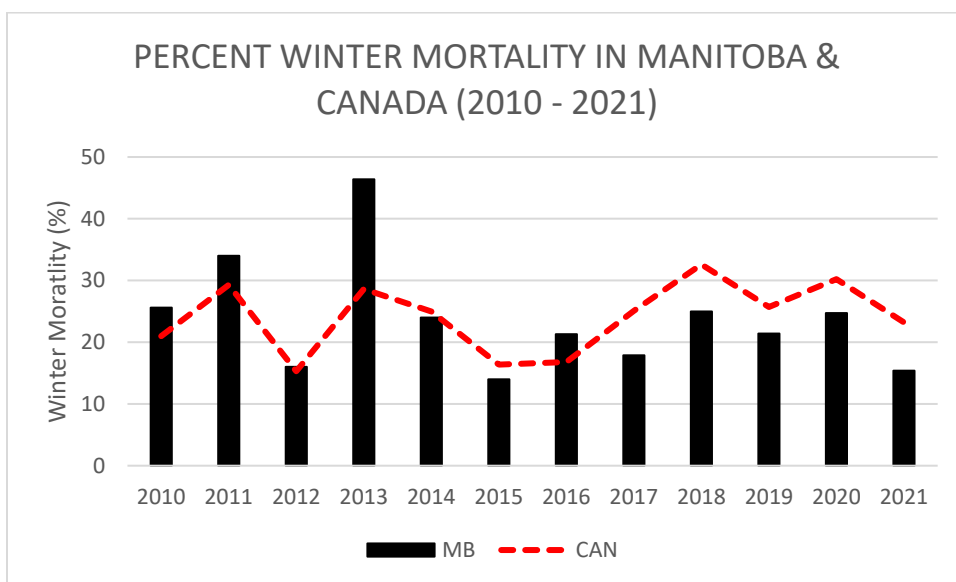


Figure 4. Percentage of Wintering Mortality in Manitoba & Canada (2010 – 2021)

Honey Bee Inspection Program Statistics:

The principal focus of the annual honey bee inspection program is to inspect honey bee colonies for diseases such as American and European Foulbrood diseases (AFB/EFB) and pests such as Small Hive Beetle (SHB) so that outbreaks can be contained and the spread of disease minimized. Inspectors also inspect for Varroa mite when live honey bees and/or used hive equipment moves out of province (i.e. inter-provincial movement) or is sold at auction.

In Manitoba, a third party inspection service provider conducts the inspections and DLJ Consulting won the contract again for the next two year (i.e. 2021 & 2022). The target in the new contract was to inspect approximately 5450 colonies, which the program essentially achieved by inspecting 5442 colonies and 212 beekeeping operations. To help put this year’s inspection statistics into perspective, Table 1 provides a summary of the numbers of honey bee colonies and beekeeping operations inspected over the last 10 years.

Table 1. Honey Bee Inspection Statistics in Manitoba (2011 – 2021).

Inspection Statistics	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
No. of Beekeepers	501	517	531	546	607	662	746	834	904	914	926
No. of Colonies	77,000	80,000	73,800	78,700	90,909	102,030	111,802	114,098	114,466	118,697	114,837
No. of Inspected Colonies	4,400	2,890	185	1711	4217	3796	4324	4067	5665	5421	5442
Percentage of Inspected Colonies	5.7%	3.6%	0.3%	2.2%	4.6%	3.7%	3.9%	3.6%	4.9%	4.6%	4.7%
No. of Inspected Bee Operation	188	115	10	84	114	173	138	203	287	298	212
Percentage of Inspected Operations with disease (e.g. AFB/EFB)	3.2%	7.0%	0.0%	2.4%	4.4%	2.3%	3.6%	1.5%	1.4%	1.7%	1.4%

Over the years, the number of honey bee colonies and beekeeping operations inspected annually has fluctuated from year to year. The on-going goal of the program has always been to try to inspect enough colonies to estimate the level of disease in the province. The long-term inspection target is 5% of the total number of colonies in the province. The “Percentage of Inspected Colonies” in 2021 was 4.7%. Although in the last 10 years, it has been difficult to reach the 5% target every year, the last three years have been very close (Figure 5).

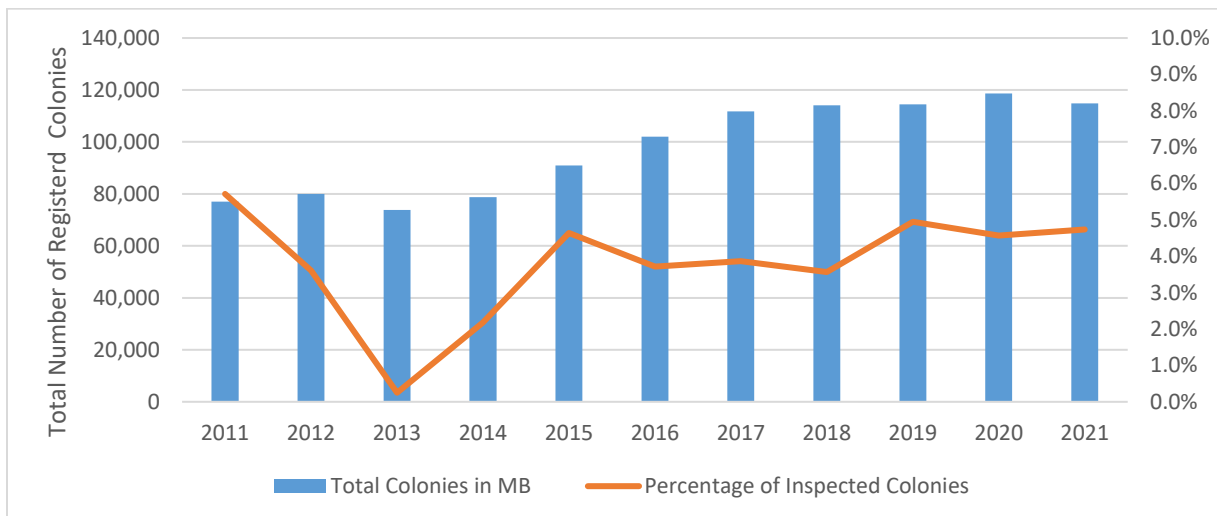


Figure 5. Annual Honey Bee Colony Count in Manitoba and the Percentage of Colonies Inspected Between 2011 –2021

The 2011 inspection year was the last year when the government operated inspection program had a full inspection season. In 2012, the inspection season was shorter due to extremely poor weather conditions during the inspection season, especially during the month of May (i.e. cold and rainy). In 2013, funding for the government operated inspection program was no longer available, so no hiring of term bee inspectors and only 185 colonies inspected that year! In 2014 -15, the department investigated the possibility of transferring the responsibility for bee inspections to the Manitoba Beekeepers' Association. During that time, a small amount of funding was available to hire some term bee inspectors, but due to delays in hiring, the program only inspected 2.2% of the colonies in 2014. The inspection program in 2015 was a lot closer to normal with no delays in hiring term bee inspectors, but it was during that time, that the plan to transfer the program to industry evolved into contracting the service out to an independent contractor. In 2016, the department followed through with the plan and started contracting out the bee inspection services to a third party contractor.

From 2016 to 2018, contracting out inspection services to a third party provider, D.W Consulting, replaced hiring term inspectors. The contract was for 4000 colonies per annum. Although inspecting 4000 colonies per year was less than the 5% inspection target, it was a compromise based on budget and the need at least stay on top of inspecting commercial honey bee colonies as well as colonies for inter-provincial movement and auction sales. What also contributed to the growing gap from the 5% target was the fact that during this time (i.e. 2016-2018), the number of honey bee colonies operated in the province was growing every year and by 2018 the number of colonies in the province had grown by 25% since the start of the contract (i.e. 2016).

In 2019, the winning bid for the two-year inspection contract (2019-2020) was DLJ consulting. In order to get closer to the 5% inspection target, the contract target increased to 5450 colonies per annum. This required an increase in the inspection budget, which the MBA and the regional beekeeper associations strongly supported. In addition to increasing the overall number of colonies inspected annually, the program included greater inspection of noncommercial colonies.

In 2021, Manitoba Agriculture and Resource Development awarded another two-year inspection contract to DLJ Consulting. The inspection target was set again at 5450 colonies per annum and the program generally had the same focus as the 2019-2020 contract. The goal being to inspect all commercial operations once every two years and noncommercial operations every three to four years. Operations that tested positive for economically important disease such as AFB or EFB within the last three years, colonies sold or moved out of the province (i.e. inter-provincial movement) or involved in an auction sale were priorities for inspection in 2021.

Table 2 is a breakdown of the 2021 inspection statistics by region. It is important to note that the some regions appear to have significantly more inspection activity than other regions. The reason for this is that some regions like the Central and Eastern regions have many noncommercial hives in them. Many of the hobby beekeepers that live in Winnipeg keep their bees outside of the city and given the proximity to Winnipeg, the Central and Eastern regions tend to be the regions of choice. Although the Interlake region also tends to have many noncommercial hives, because this area was a priority last year, fewer beekeepers were on the priority list this year.

In 2021, the Southwest region had one operation test positive for AFB and another operation test positive for EFB. The Eastern region also had one operation that tested positive for EFB late in the season. Follow up inspections of these operations will be a high priority next year and will continue to be a high priority until these operations have three consecutive inspections with zero disease found. We also had a few self-reported cases of disease that require follow up next year. Overall, it was a very good inspection season and the inspection service provider has done an excellent job of fulfilling the contract and responding to the quick turnaround requests required for inter-provincial movement inspections.

Table 2. Summary of the 2021 Honey Bee Inspections Results Broken Down by Region

REGION	TOTAL HIVE COUNT IN INSPECTED OPERATIONS	TOTAL NUMBER OF INSPECTED HIVES	TOTAL NUMBER OF INSPECTIONS CONDUCTED	TOTAL NUMBER OF OPERATIONS INSPECTED	NUMBER OF OPERATIONS THAT TESTED POSITIVE FOR AFB OR EFB
CENTRAL	21982	1736	73	73	0
EASTERN	13628	1124	60	60	1
INTERLAKE	4171	505	16	16	0
NORTHWEST	10723	613	13	12	0
SOUTHWEST	14884	1364	40	38	2
WINNIPEG	287	100	13	13	0
TOTAL	65675	5442	215	212	3

Approximately 25% of the colonies inspected (i.e.1425) were for Inter-provincial movement or auction sale purposes. In 2021, the program identified one (1) case of AFB and two (2) cases of EFB. Veterinary Diagnostics Services provided lab confirmation. There were additional cases of AFB and EFB reported through producer submitted samples that require additional follow up next season to determine if the incidence is detectible at the level of inspection provided by the inspection service provider.

Honey Production Statistics:

Given the extremely dry conditions throughout the province, the amount of honey produced in Manitoba this season appears to be only slightly below average. Based on data from the *2021 Honey Bee and Honey Production Survey*, the estimated average honey production per colony was 161 lbs (i.e. 73 kg/colony). The long-term average honey yield in Manitoba is approximately 170 lbs/colony. This year, we used an online production survey (i.e. eForm) to gather data on honey production in Manitoba. Participation in the survey was very good with over a 150 beekeepers contributing to the survey results. Colony number representation in the dataset was also very good with over 65,000 colonies reflected in that data.

A breakdown of the honey production estimates based on survey responses by region, which includes the number of operations and colony represented in the dataset for each region is provided in Table 3.

Table 3. Summary of the 2021 Honey Production Survey – as of March 1, 2022.

Region	Number of Beekeepers	Number of Colonies	Average Yield (lbs/colony)	Number of Colonies in Fall	Wintering Indoors	Percent Indoors (%)	Wintering Outdoors	Percent Outdoors (%)
Central (includes Wpg)	50	19,935	163.1	18,210	13,775	76%	4,435	24%
Eastern	48	8,215	160.8	6,358	5,821	92%	537	8%
Interlake	19	2,895	125.1	2,753	1,601	58%	1,152	42%
Northwest	19	21,969	168.7	22,303	12,878	58%	8,974	40%
Southwest	19	10,528	150.6	10,022	4,521	45%	5,701	57%
All Regions	155	63,542	160.9	59,646	38,596	65%	20,799	35%

Figure 6 is a graphic representation of estimated annual provincial honey production since 2010. Annual honey production is calculated based on the estimated provincial honey yield per colony multiplied by the estimated number of colonies in the province. In 2021, the total estimated honey produced in Manitoba was 18.5 million lbs (i.e. 8.39 million kg).

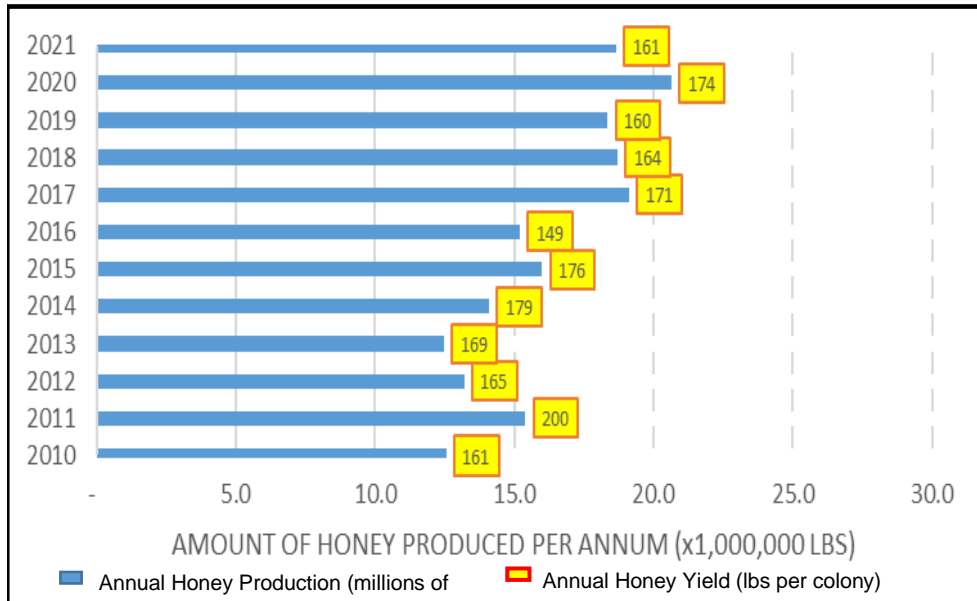


Figure 6. Annual Honey Production and Colony Yield in Manitoba (2010 – 2021)

At the time of writing this report (March 1, 2022) much of the 2021 bulk honey crop has been sold by the producer to the honey buyers that will subsequently market the honey to the end user. A survey on the price of bulk honey was completed on February 28th, 2022. The estimated honey prices paid to beekeepers for bulk honey produced in 2021 was \$2.76/lbs (\$6.08/kg). The estimated overall value of bulk and retail honey produced in Manitoba in 2021 is over \$52 million.