Vermont Apiary Status Report: 2024

Introduction

The Apiary Program at the Vermont Agency of Agriculture, Food & Markets (VAAFM) registers, inspects, and provides education and training to Vermont's beekeepers in accordance with 6 VSA 172. This report presents the number of registered apiaries and colonies reported to VAAFM from 2020 to 2024, along with beekeeper-reported data on colony losses. *Varroa* mite pressures are determined through beekeeper reports and the VAAFM inspection process. American Foul Brood (AFB) is a reportable disease that is verified by VAAFM through laboratory analysis. This report contains additional data provided by the National Agricultural Statistics Service (NASS).

A colony is defined as one hive and its equipment, including bees, comb, and honey. An apiary is defined as a place where one or more colonies are kept.

Numbers of Honeybee Colonies and Apiaries in Vermont

The number of colonies registered in Vermont in 2024 at publication date was 18,013. The number of colonies managed by Vermont beekeepers is generally increasing, while the number of beekeepers has decreased. Our records indicate a total of 750 beekeepers in 2020 and 670 in 2024.

The number of apiaries registered in Vermont in 2024 was 1,156. The increase in the number of colonies alongside the relatively stable number of apiaries indicates an increase in the number of colonies in the existing apiaries. Table 1 provides the number of colonies and apiaries registered from 2020 to 2024.

Table 1. Colonies and apiaries registered with VAAFM, 2020-2024

Year	Number of colonies	Number of apiaries
2020	**14,845**	**1,263**
2021	**15,110**	**1,251**
2022	**14,695**	**1,203**
2023	**17,145**	**1,213**
2024	**18,013**	**1,156**

In 2024, Vermont had 20 beekeepers managing 100 or more colonies, representing 14,145 colonies; 44 beekeepers managing 20 to 99 colonies, representing 1,773 colonies; and 553 beekeepers managing 1 to 20 colonies, representing 2,095 colonies (Table 2). Compared to 2023, the category with the greatest increase in colony count and number of individual beekeepers by operation size was the sideliner operation (20-99 colonies).

Table 2. Number of colonies managed by operation size, 2023-2024

	Number of individual beekeepers		Total number of colonies managed	
	2023	**2024**	**2023**	**2024**
Backyard operations managing <20 colonies	608	553	2,149	2,095
Sideliner operations managing 20-99 colonies	40	44	1,457	1,773
Commercial operations managing 100+ colonies	22	20	13,539	14,145

Parasites and Diseases of Honeybees in Vermont

Varroa mites are the major pest of managed honeybees in Vermont. VAAFM inspectors assist beekeepers in identifying elevated levels of mites in apiaries to assist in the management of this parasite. The recommended management threshold for *Varroa* is less than 3% infestation or fewer than 9 mites per 300 bees. Current data suggest that maintaining infestations below this rate is a key component of maintaining colony health and reducing the risk for colony losses. Figure 1 shows the monthly average of mite counts conducted during 2024 regulatory field inspections. Each month shows the average count at or above the economic threshold for management.

Figure 1. Average mite count conducted during VAAFM regulatory inspections, 2024

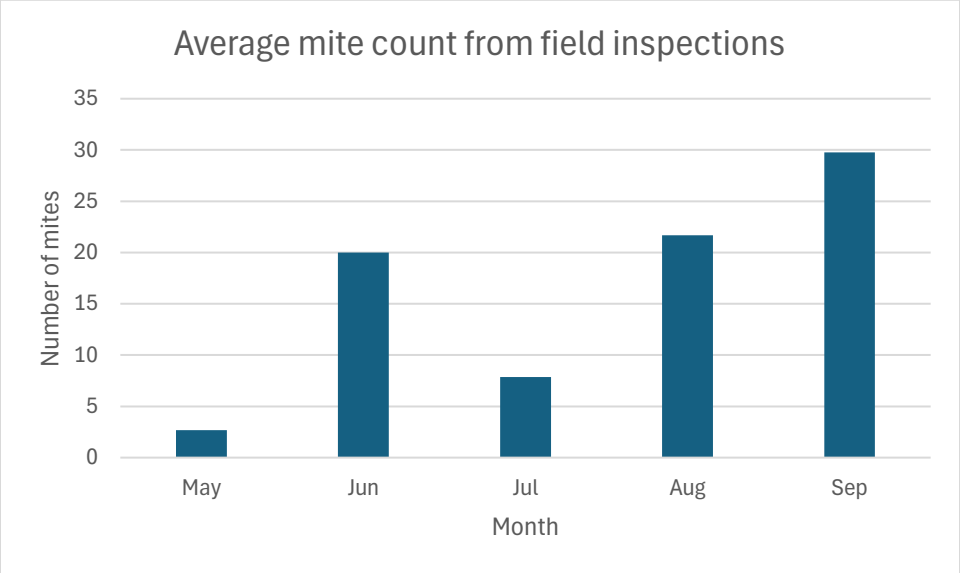
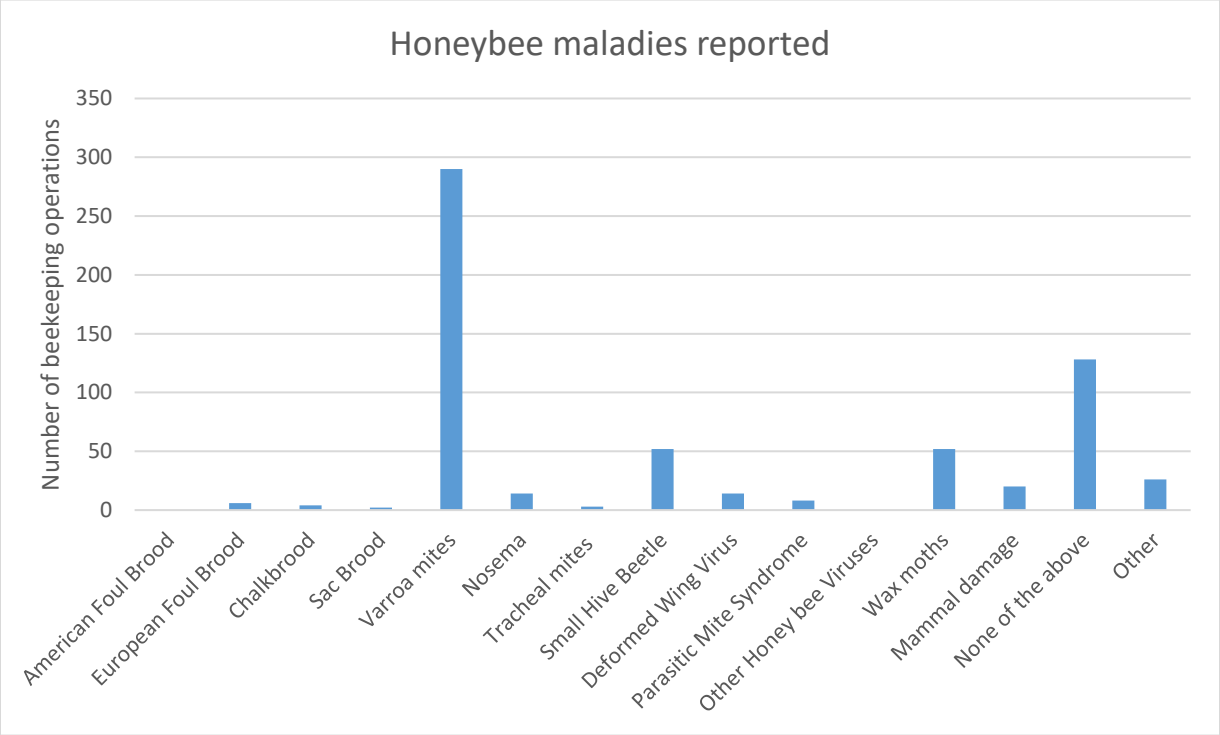


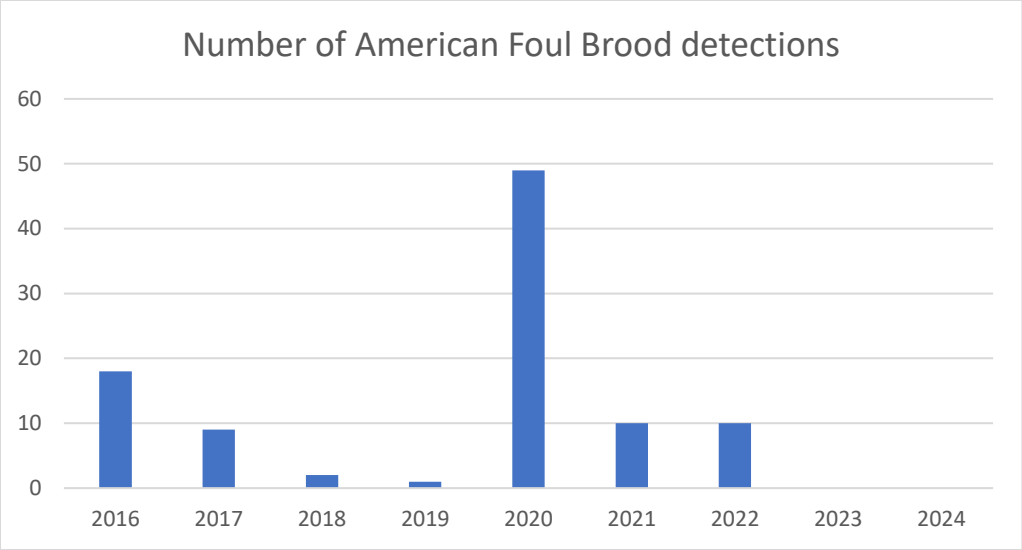
Figure 2 shows the presence of honeybee maladies reported by beekeeping operations. *Varroa* mites are the most prevalent malady reported in Vermont apiaries, emphasizing that management of *Varroa* mites is a major consideration for beekeepers in Vermont.

Figure 2. Honeybee maladies reported by Vermont beekeeping operations, 2024



American Foul Brood is an extremely contagious disease. VAAFM inspectors prioritize inspections and responses to the incidence of this disease. Fortunately, the number of cases declined to zero in 2023 and remained at zero in 2024. Figure 3 shows the incidence of AFB in Vermont from 2016 through 2024.

Figure 3. American Foul Brood detections in Vermont, 2016-2024



Winter Colony Loss Reported by Beekeepers

Winter colony loss can be an indicator of honeybee colony health. Winter colony loss reported by Vermont beekeepers is tracked by VAAFM through annual surveys, the National Agricultural Statistics Service (NASS) of the USDA, and US Beekeeping Survey: Colony Loss and Management, a collaboration of the Apiary Inspectors of America (AIA), Auburn University (AU), and Oregon State University (OSU).

For the VAAFM survey, beekeepers are asked to report colonies lost between September of the current year and April of the following year (winter loss). Beekeepers are asked to report the reasons for these losses. Beekeepers report losses due to weather, starvation, bears, *Varroa* mite infestation, and other reasons. For the most recent data, the percentage lost is the number of colonies lost between October 2023 and April 2024 divided by the number of starting colonies in September 2023. Approximately 67% of the registered beekeepers responded to the VAAFM survey. The results are provided in Table 3.

2020-2021: **24.9%** based on 200 responses, representing 4,574 colonies at start
2021-2022: **28.7%** based on 45 responses, representing 7,208 colonies at start
2023-2024: **30.6%** based on 449 responses, representing 9,409 colonies at start

Table 3. Breakdown of colony loss by operation size

Operation size	Colonies at start	% colonies lost	% loss range	Median %
Backyard	1,412	50.2	0-100	50
Sideliner	1,949	37.15	0-100	33
Commercial in-state	3,648	37	9-60	31
Commercial migratory	2,400	3.95	2-8	5
All	9,409	30.6	0-100	50

The US Beekeeping Survey: Colony Loss and Management was formerly run by the Bee Informed Partnership (BIP). BIP ceded operation in 2023. For the 2023-2024 survey, Auburn University and Apiary Inspectors of America hosted the national survey. The beekeeper-reported responses for Vermont winter colony losses are provided in Table 4.

2023-2024: **39.5%** winter colony loss based on 54 respondents, representing 432 colonies at start.

The NASS Survey collects loss data by quarter (October to December and January to March). The NASS data are not provided in a format that allows segregation of the size of the operation. However, the survey indicates that the results include responses from operations with 5 or more colonies. The results and the number of colonies represented by their survey for the reports from Vermont for the winter of 2023-2024 are shown in Table 4. The NASS Survey results can also be compared to the numbers reported nationally. Data for the winter of 2024-2025 are not yet available.

Table 4. NASS Survey results: Vermont, winter 2023-2024

	October to December 2023	January to March 2024
Vermont reporting		
Total colonies reported	6,500	7,000
Percent loss reported	1	3
National Reporting		
Total colonies reported	2, 815,960	2,705,350
Percent loss reported	9	15

Additional data are available from NASS at:
https://usda.library.cornell.edu/concern/publications/rn301137d?locale=en

Conclusions

Colony numbers in Vermont continue to increase. There is a 2-year trend of no cases of American Foul Brood, compared to 49 cases in 2020. *Varroa* mites remain the biggest hive management challenge to Vermont's beekeepers. However, based on the increase in the number of colonies managed, Vermont beekeepers are making management decisions to mitigate colony stressors in the current environment. The Vermont Agency of Agriculture, Food & Markets remains actively engaged in supporting beekeepers through education, outreach, and regulation.