



Thank you for participating in the **2021-2022 Bee Informed Partnership National Colony Loss and Management Survey**

Backyard beekeeper version (50 or fewer colonies on 1 October 2021)

Your participation in this research is confidential. All your answers will be stored in a secure, password protected database application that uses SSL encryption. No personally identifiable information will be disclosed in any publication or presentation resulting from this research. Mention of a beekeeping product/practice in this survey does not constitute an official endorsement or approval by the Bee Informed Partnership. Please only complete this survey if you are 18 years or older.

Please enter your answers electronically, on:

<https://beeinformed.org/take-survey/> (1 April 1 – 30 April 2022)

Completion of this survey is voluntary. If you are not comfortable answering a question, please leave it blank. That said, questions marked by an asterisk (*) are very important! Without answers to them, your data will have limited value.

Loss Survey

For the purpose of this survey, a 'colony' is defined as any unit of bees housed in a hive. That is, a full-sized colony, a nuc, a newly created split, a newly installed package or swarm, but NOT a mating nuc. It must be headed by a mated queen, or at least contain young brood, a queen cell, or a virgin queen. In other words, it should not be hopelessly queenless.

1* How many colonies did you own on 1 October 2021? (Please select one of the following.)

- 50 or fewer colonies 51 or more colonies

2* In what states and territories were your colonies stationed between 1 April 2021 and 1 April 2022?

(Please choose ALL options relevant to you, including areas visited for pollination services and indoor colony storage. Do not include areas passed through when transporting your colonies.)

- | | | | | | |
|---|------------------------------------|--|---|---|--|
| <input type="checkbox"/> Alabama | <input type="checkbox"/> Georgia | <input type="checkbox"/> Maine | <input type="checkbox"/> New Hampshire | <input type="checkbox"/> Puerto Rico | <input type="checkbox"/> Vermont |
| <input type="checkbox"/> Alaska | <input type="checkbox"/> Guam | <input type="checkbox"/> Maryland | <input type="checkbox"/> New Jersey | <input type="checkbox"/> Rhode Island | <input type="checkbox"/> Virginia |
| <input type="checkbox"/> Arizona | <input type="checkbox"/> Hawaii | <input type="checkbox"/> Massachusetts | <input type="checkbox"/> New Mexico | <input type="checkbox"/> South Carolina | <input type="checkbox"/> Washington |
| <input type="checkbox"/> Arkansas | <input type="checkbox"/> Idaho | <input type="checkbox"/> Michigan | <input type="checkbox"/> New York | <input type="checkbox"/> South Dakota | <input type="checkbox"/> West Virginia |
| <input type="checkbox"/> California | <input type="checkbox"/> Illinois | <input type="checkbox"/> Minnesota | <input type="checkbox"/> North Carolina | <input type="checkbox"/> Tennessee | <input type="checkbox"/> Wisconsin |
| <input type="checkbox"/> Colorado | <input type="checkbox"/> Indiana | <input type="checkbox"/> Mississippi | <input type="checkbox"/> North Dakota | <input type="checkbox"/> Texas | <input type="checkbox"/> Wyoming |
| <input type="checkbox"/> Connecticut | <input type="checkbox"/> Iowa | <input type="checkbox"/> Missouri | <input type="checkbox"/> Ohio | <input type="checkbox"/> Utah | |
| <input type="checkbox"/> District of Columbia | <input type="checkbox"/> Kansas | <input type="checkbox"/> Montana | <input type="checkbox"/> Oklahoma | <input type="checkbox"/> Other, please specify: | |
| <input type="checkbox"/> Delaware | <input type="checkbox"/> Kentucky | <input type="checkbox"/> Nebraska | <input type="checkbox"/> Oregon | | |
| <input type="checkbox"/> Florida | <input type="checkbox"/> Louisiana | <input type="checkbox"/> Nevada | <input type="checkbox"/> Pennsylvania | | |

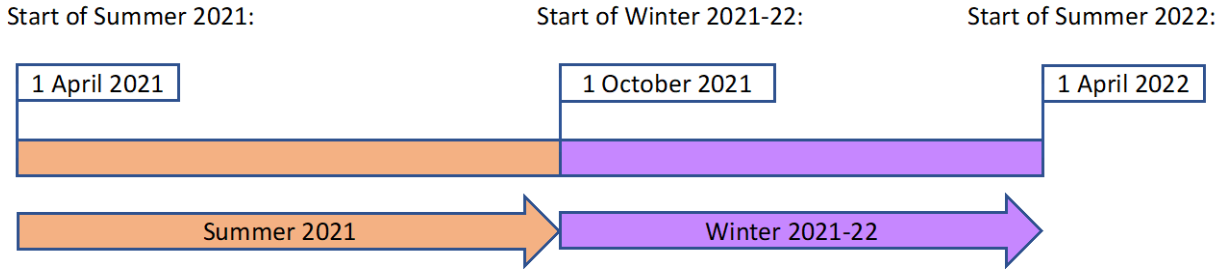
Time Period Covered by this Survey:

The survey covers the period between 1 April 2021 and 1 April 2022.

Summer 2021 is defined as the period from **1 April 2021** to the **morning of 1 October 2021**;

Winter 2021-22 is defined as the period from **1 October 2021** to the **morning of 1 April 2022**.

Please refer to these definitions and the timeline below when completing the survey.



| | | |
|-----|---|---|
| 3 | Did you make one or more split during 2021 ? <input type="radio"/> No <input type="radio"/> Yes If Yes, on what date did you start splitting in 2021? | <input style="width: 100%;" type="text"/> |
| 4 | Did you make one or more split during 2022 ? <input type="radio"/> No <input type="radio"/> Yes If Yes, on what date did you start splitting in 2022? | <input style="width: 100%;" type="text"/> |
| 5* | How many colonies did you own at each time? 1 April 2021 1 October 2021 1 April 2022 | <input style="width: 100%;" type="text"/> <input style="width: 100%;" type="text"/> <input style="width: 100%;" type="text"/> |
| 6 | How strong was your average colony at each time? Estimate the number of 'frames of bees'. (One 'frame of bees' = One deep Langstroth frame fully occupied by bees on both sides). | 1 April 2021 1 October 2021 1 April 2022 |
| 7* | How many colonies did you obtain from outside your operation during each period? (Please include both those that did AND did not successfully survive in your operation after your initial installation.) | Summer 2021 Winter 2021-22 |
| 8* | How much net increase in colonies did you make from splitting your own colonies during each period? (Please include both those that did AND did not successfully survive. Also include packages, nucs, and splits that were eventually sold.) | Summer 2021 Winter 2021-22 |
| 9* | How many colonies did you sell or give away during each period? | Summer 2021 Winter 2021-22 |
| 10* | How much was your net decrease in colonies due to intentionally combining your colonies? | Summer 2021 Winter 2021-22 |

Remember: 'Summer 2021 is defined as the period between 1 April 2021 and '1 October 2021. 'Winter 2021-22' is defined as the period between 1 October 2021 and 1 April 2022.

*Examples of net increase by splitting:
 1) You might break down an entire colony while making splits. If you break down 1 colony into 3 smaller colonies, this represents a net increase of 2 colonies.
 2) You might take extra bees and brood from strong colonies. Two strong colonies results in one new colony AND the two original colonies. This represents a net increase of 1 colony.*

Remember: our definition of a colony includes full-sized colonies, as well as newly made splits/nucs and packages.

Example of net decrease by combining: You might combine 2 weak colonies into one. This represents a net decrease of 1 colony.

11* What **percentage of loss** over the last **winter (Winter 2021-22)** would you consider acceptable? *Between 0-100%*

12 What factors do you think were the most prominent **cause(s) of colony death** in your operation in **Summer 2021?** *(Select up to 3)*

I did not experience summer loss Natural disaster (e.g. hurricane, flood) Shipping stress (e.g. overheating, truck issues)
 Adverse weather (e.g. drought) Nutritional stress (pollen deprivation) Equipment failure (e.g. moisture, ventilation)
 Brood diseases (e.g. EFB, AFB) Starvation (honey/nectar/sugar water) Failure of environmental controls in sheds
 Queen issues Non-apicultural pesticides Predators (e.g. bears)
 I don't know Apicultural treatments (e.g. formic acid, amitraz) Scavenger pests (e.g. small hive beetle, wax moth)
 Other, please specify: Varroa mites and associated viruses

13 What factors do you think were the most prominent **cause(s) of colony death** in your operation in **Winter 2021-22?** *(Select up to 3)*

I did not experience winter loss Natural disaster (e.g. hurricane, flood) Shipping stress (e.g. overheating, truck issues)
 Adverse weather (e.g. cold snap) Nutritional stress (pollen deprivation) Equipment failure (e.g. moisture, ventilation)
 Brood diseases (e.g. EFB, AFB) Starvation (honey/nectar/sugar water) Failure of environmental controls in sheds
 Queen issues Non-apicultural pesticides Predators (e.g. bears)
 I don't know Apicultural treatments (e.g. formic acid, amitraz) Scavenger pests (e.g. small hive beetle, wax moth)
 Other, please specify: Varroa mites and associated viruses

14 What was the ZIP code of your **primary apiary** during the survey period? *5-digit ZIP codes only*

15 If you keep bees in additional apiaries, in which ZIP code(s) are they located? *5-digit ZIP codes only*

16 How many colonies on average share the same location (apiary)?

17 At the start of each month, how many colonies did you own in each state/territory?

| State | 1 Jan 2021 | 1 Feb 2021 | 1 Mar 2021 | 1 Apr 2021 | 1 May 2021 | 1 Jun 2021 | 1 July 2021 | 1 Aug 2021 | 1 Sept 2021 | 1 Oct 2021 | 1 Nov 2021 | 1 Dec 2021 | 1 Jan 2022 | 1 Feb 2022 | 1 Mar 2022 | 1 Apr 2022 |
|-------|------------|------------|------------|------------|------------|------------|-------------|------------|-------------|------------|------------|------------|------------|------------|------------|------------|
| - | | | | | | | | | | | | | | | | |
| - | | | | | | | | | | | | | | | | |
| - | | | | | | | | | | | | | | | | |
| - | | | | | | | | | | | | | | | | |

18 Please provide your **email address**
This email is requested for administrative purposes and will never be disclosed.
The Bee Informed Partnership does not share any email addresses.

19 Would you be willing to be **contacted** regarding survey results and future surveys? Yes No

20 Would you like to receive additional updates from the Bee Informed Partnership and learn about its various programs? Yes No

Congratulations and thank you! You have just completed **Part 1** of the survey. Your information will be used to generate **colony loss** information that is critical to monitor the health of honey bee colonies in the country.

Please keep going! **Part 2** focuses on how you managed your colonies last year. This information allows us to understand how your management practices are connected to the health of your colonies.

Core Management Survey

New colonies & queens

Note that **'providing a new queen'** includes giving a colony a mated queen, a queen cell, and even the opportunity to raise a new queen by making a walk-away split or removing the old queen.

| | | | |
|------------|--|--------------------------|---------------------------|
| 21* | During the survey period, did you start or obtain any new colonies ? | <input type="radio"/> No | <input type="radio"/> Yes |
| 22 | If Yes, how did you start or obtain your new colonies during the survey period? <i>(Select all that apply)</i> | | |
| | <input type="checkbox"/> Splits <input type="checkbox"/> Swarms <input type="checkbox"/> Packages <input type="checkbox"/> Nucs <input type="checkbox"/> Full colonies | | |
| 23* | Did you provide any new queens to your colonies during the survey period? <i>(Include queens provided both during splitting and requeening.)</i> | <input type="radio"/> No | <input type="radio"/> Yes |
| 24 | If Yes, how many of each type of queen did you provide to your colonies during the survey period? | | |
| | Type | Number | |
| | New mated queens | <input type="text"/> | |
| | Queen cells | <input type="text"/> | |
| | Walk-away splits, or killed queen to allow colony to raise emergency queen | <input type="text"/> | |
| | Other, please specify: | <input type="text"/> | |

Inputs, pest monitoring, and pest management

| | |
|------------|--|
| 25* | Which, if any, of the following did you apply to any of your colonies between April 1, 2021 and April 1, 2022? <i>(Select all that apply)</i> |
| | <input type="checkbox"/> None of the following <input type="checkbox"/> Amitraz-based product (Apivar/other) <input type="checkbox"/> Fluvalinate-based product (Apistan) |
| | <input type="checkbox"/> Fumagillin (Fumadil B) <input type="checkbox"/> Thymol-based product (ApiLife VAR, ApiGuard) <input type="checkbox"/> Coumaphos-based product (CheckMite+) |
| | <input type="checkbox"/> Terramycin <input type="checkbox"/> Menthol-based product (Mite-A-Thol) <input type="checkbox"/> Tylan-based product (Tylosin) |
| | <input type="checkbox"/> Hop oil based product (HopGuard) <input type="checkbox"/> Formic Acid (MiteAway QuickStrips - MAQS) <input type="checkbox"/> Essential oils |
| | <input type="checkbox"/> Mineral oils <input type="checkbox"/> Oxalic Acid |
| | <input type="checkbox"/> Other, please specify: <input type="text"/> |

| | |
|------------|--|
| 26* | Which, if any, of the following physical or cultural practices did you apply to any of your colonies between April 1, 2021 and April 1, 2022? <i>(Select all that apply)</i> |
| | <i>Note: the following list includes proven and unproven practices, which may or may not control Varroa mites.</i> |
| | <input type="checkbox"/> None of the following <input type="checkbox"/> Splitting |
| | <input type="checkbox"/> Bees bred for resistance to Varroa <input type="checkbox"/> Indoor winter storage <input type="checkbox"/> Splitting that induced a brood break |
| | <input type="checkbox"/> Drone brood removal ↳ <input type="checkbox"/> Mitecide in conjunction with brood break from indoor wintering ↳ <input type="checkbox"/> Mitecide in conjunction with above brood break |
| | <input type="checkbox"/> Screened bottom boards <input type="checkbox"/> Location/strategic migration that induced a brood break <input type="checkbox"/> Other method of inducing a brood break |
| | <input type="checkbox"/> Small-cell foundation ↳ <input type="checkbox"/> Mitecide in conjunction with above brood break ↳ <input type="checkbox"/> Mitecide in conjunction with above brood break |
| | <input type="checkbox"/> Powdered sugar |
| | <input type="checkbox"/> Heat treatments |
| | <input type="checkbox"/> Other, please specify: <input type="text"/> |

| 27 | During the survey period, did you initiate a round of... | If Yes, how often per month did you initiate each activity? (e.g. 3x for May) | | | | | | | | | | | | | | |
|----|--|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | Jan '21 | Feb '21 | Mar '21 | Apr '21 | May '21 | Jun '21 | Jul '21 | Aug '21 | Sep '21 | Oct '21 | Nov '21 | Dec '21 | Jan '22 | Feb '22 | Mar '22 |
| | ... chemical treatment against Varroa? <input type="radio"/> No <input type="radio"/> Yes | | | | | | | | | | | | | | | |
| | ... physical or cultural practices against Varroa? <input type="radio"/> No <input type="radio"/> Yes | | | | | | | | | | | | | | | |
| | ... colony inspections? <input type="radio"/> No <input type="radio"/> Yes | | | | | | | | | | | | | | | |
| | ... Varroa mite monitoring? <input type="radio"/> No <input type="radio"/> Yes | | | | | | | | | | | | | | | |
| | ... Nosema monitoring? <input type="radio"/> No <input type="radio"/> Yes | | | | | | | | | | | | | | | |
| | ... supplemental carbohydrate/sugar feed? <input type="radio"/> No <input type="radio"/> Yes | | | | | | | | | | | | | | | |
| | ... supplemental protein feed? (e.g. protein patties) <input type="radio"/> No <input type="radio"/> Yes | | | | | | | | | | | | | | | |

Focused Management Survey

This year's Management Survey focuses on practices related to the **Environment** your colonies experience. This includes questions on nectar and pollen flows, supplemental feeding, honey harvest, pollination events, and pesticide and weather impacts.

We'd like to understand how the environment contributes to your colonies' nutrition, and how forage conditions change across the country through the season.

Forage, feeding, and supplements

28 During which months did the majority of your colonies experience a noticeable **nectar flow**? (Select all that apply)

I don't know

| Jan 2021 | Feb 2021 | Mar 2021 | Apr 2021 | May 2021 | Jun 2021 | July 2021 | Aug 2021 | Sept 2021 | Oct 2021 | Nov 2021 | Dec 2021 | Jan 2022 | Feb 2022 | Mar 2022 |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

29 During which months did the majority of your colonies experience a noticeable **pollen flow**? (Select all that apply)

I don't know

| Jan 2021 | Feb 2021 | Mar 2021 | Apr 2021 | May 2021 | Jun 2021 | July 2021 | Aug 2021 | Sept 2021 | Oct 2021 | Nov 2021 | Dec 2021 | Jan 2022 | Feb 2022 | Mar 2022 |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

30* During the survey period, did you feed a **food supplement/substitute or stimulant** to any of your colonies? No Yes

31 If Yes, which of the following did you feed to any of your colonies between April 1, 2021 and April 1, 2022? (Select all that apply)

| <u>Carbohydrates/Sugars</u> | | <u>Protein</u> | <u>Stimulants</u> |
|---|---|--|--|
| <input type="checkbox"/> Honey (capped frames) | <input type="checkbox"/> High Fructose Corn Syrup (HFCS) | <input type="checkbox"/> Protein supplement (e.g. MegaBee, BeePro, UltraBee) | <input type="checkbox"/> Essential oils in sugar feed (e.g. VitaFeed Green/Gold, Honey-B-Healthy, Hive Alive, ProHealth) |
| <input type="checkbox"/> Honey (excess extracted) | <input type="checkbox"/> Sugar syrup (sucrose, sugar water, Pro-Sweet, liquid feed) | <input type="checkbox"/> Natural pollen (loose or stored in combs) | <input type="checkbox"/> Probiotics |
| <input type="checkbox"/> Dry sugar | <input type="checkbox"/> Candy (fondant, winter patties) | | |
| <input type="checkbox"/> Other, please specify: | <input type="text"/> | | |

Honey harvest

| | | | | | | |
|----|---|--|---|--|--|---------------------------|
| 32 | Did you harvest any honey during the survey period? | | | | <input type="radio"/> No | <input type="radio"/> Yes |
| 33 | If Yes, of the states your colonies were stationed in during the survey period, in which did you harvest honey? | | | | | |
| | State | Did you harvest in this state? | From how many colonies did you harvest honey in this state? | How many total pounds of honey were harvested in this state from these colonies? | What were the main nectar source(s)? <i>(Provide up to 3)</i> | |
| - | | <input type="radio"/> No <input type="radio"/> Yes | | | | |
| - | | <input type="radio"/> No <input type="radio"/> Yes | | | | |
| - | | <input type="radio"/> No <input type="radio"/> Yes | | | | |
| - | | <input type="radio"/> No <input type="radio"/> Yes | | | | |

Pollination of Crops

| | | | | | | | | |
|----|---|--------------------|--|---------------------------------|---------------------------------------|---|--|---|
| 34 | During the survey period, did you use any of your colonies specifically for pollination of agricultural crops ? <i>(i.e. crops that are commercially grown on field scales; do not include home gardens)</i> | | | | | <input type="radio"/> No | <input type="radio"/> Yes | |
| 35 | If Yes, how many colonies did you use to pollinate each crop during the survey period? | | | | | | | |
| | Crop | # of colonies used | Did the bee population of the colonies increase, decrease, or stay the same during the pollination event? | | | Did you provide carbohydrate/sugar feed during pollination? | Did you provide protein feed during pollination? | |
| - | | | <input type="radio"/> Increased | <input type="radio"/> Decreased | <input type="radio"/> Stayed the same | <input type="radio"/> No <input type="radio"/> Yes | <input type="radio"/> No <input type="radio"/> Yes | |
| - | | | <input type="radio"/> Increased | <input type="radio"/> Decreased | <input type="radio"/> Stayed the same | <input type="radio"/> No <input type="radio"/> Yes | <input type="radio"/> No <input type="radio"/> Yes | |
| - | | | <input type="radio"/> Increased | <input type="radio"/> Decreased | <input type="radio"/> Stayed the same | <input type="radio"/> No <input type="radio"/> Yes | <input type="radio"/> No <input type="radio"/> Yes | |
| - | | | <input type="radio"/> Increased | <input type="radio"/> Decreased | <input type="radio"/> Stayed the same | <input type="radio"/> No <input type="radio"/> Yes | <input type="radio"/> No <input type="radio"/> Yes | |
| 36 | Did you derive an income by renting your colonies for pollination? | | | | | <input type="radio"/> No | <input type="radio"/> Yes | <input type="radio"/> Prefer not to say |

Pesticide impacts

| | | | | | | | | | | | | | | | | |
|----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|---|------------------------------------|--------------------------|--------------------------|-------------------------------|---|--------------------------|------------------------------------|---------------------------|---------------------------|--|
| 37 | During the survey period, did you notice damage to your colonies that you think was caused by pesticides (excluding apicultural treatments)? | | | | | | | | | | | | | <input type="radio"/> No | <input type="radio"/> Yes | |
| | If Yes, please provide some details below. <i>(If there were several such events, please give information on the most impactful one.)</i> | | | | | | | | | | | | | | | |
| 38 | In which state did the event occur? | | | | | | | | | | | | | | | |
| 39 | Which month(s) did the event occur? <i>(Select all that apply)</i> | | | | | | | | | | | | | | | |
| | Jan 2021 | Feb 2021 | Mar 2021 | Apr 2021 | May 2021 | Jun 2021 | July 2021 | Aug 2021 | Sept 2021 | Oct 2021 | Nov 2021 | Dec 2021 | Jan 2022 | Feb 2022 | Mar 2022 | |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 40 | How would you primarily characterize the location of the affected apiary/apiaries? | | | | | | | | | | | | | | | |
| | <input type="radio"/> Urban | | | <input type="radio"/> Sub-urban | | | <input type="radio"/> Agricultural | | | <input type="radio"/> Natural | | | | | | |
| 41 | If in an agricultural/natural location, which crops were nearby? | | | | | | | | | | | | <input type="radio"/> I don't know | | | |
| 42 | What effects on the colonies did you observe? <i>(Select all that apply)</i> | | | | | | | | | | | | | | | |
| | <input type="checkbox"/> Poor buildup | | | | | <input type="checkbox"/> Population depletion | | | | | <input type="checkbox"/> Trembling bees | | | | | |
| | <input type="checkbox"/> Dead bees around the hive(s) | | | | | <input type="checkbox"/> Dead bees in hive(s) | | | | | <input type="checkbox"/> Dead or sick brood | | | | | |
| 43 | How many colonies were affected? | | | | | | | | | | | | | | | |
| 44 | What percentage of the affected colonies died? | | | | | | | | | | | | | | | |
| | <input type="radio"/> None | | | <input type="radio"/> Less than 25% | | | <input type="radio"/> 25-50% | | | <input type="radio"/> 50-75% | | | <input type="radio"/> 75-100% | | | |
| 45 | Did you report this to any government agency or official reporting system? | | | | | | | | | | | | <input type="radio"/> No | <input type="radio"/> Yes | | |
| 46 | If No, describe why you did not report it | | | | | | | | | | | | | | | |

Unusual and extreme weather impacts

The following questions are about unusual and extreme weather events you may have experienced in your region and how these events impacted your beekeeping.

47 **Drought and Fire**

Did you experience drought or unusual dry weather? No Yes

Did fire accompany the drought? No Yes

Please describe the impact of drought and fire on your beekeeping. *(Select all that apply)*

| | |
|--|--|
| <input type="checkbox"/> Colonies lost or killed | <input type="checkbox"/> No noticeable impact |
| <input type="checkbox"/> Decreased bee population or brood production | <input type="checkbox"/> Increased bee population or brood production |
| <input type="checkbox"/> Decreased honey crop | <input type="checkbox"/> Increased honey crop |
| <input type="checkbox"/> Required more supplemental feeding than usual | <input type="checkbox"/> Required less supplemental feeding than usual |
| <input type="checkbox"/> Decreased or delayed queen production or mating | <input type="checkbox"/> Improved queen production or mating |
| <input type="checkbox"/> Travel or logistic issues (including additional movement of colonies) | |
| <input type="checkbox"/> Other, please specify: <input type="text"/> | |

48 **Rain and Flooding**

Did you experience unusual rain? No Yes

Did flooding accompany the unusual rain? No Yes

Please describe the impact of unusual rain and flooding on your beekeeping. *(Select all that apply)*

| | |
|--|--|
| <input type="checkbox"/> Colonies lost or killed | <input type="checkbox"/> No noticeable impact |
| <input type="checkbox"/> Decreased bee population or brood production | <input type="checkbox"/> Increased bee population or brood production |
| <input type="checkbox"/> Decreased honey crop | <input type="checkbox"/> Increased honey crop |
| <input type="checkbox"/> Required more supplemental feeding than usual | <input type="checkbox"/> Required less supplemental feeding than usual |
| <input type="checkbox"/> Decreased or delayed queen production or mating | <input type="checkbox"/> Improved queen production or mating |
| <input type="checkbox"/> Travel or logistic issues (including additional movement of colonies) | |
| <input type="checkbox"/> Other, please specify: <input type="text"/> | |

49 **Unusual or extreme temperatures**

Did you experience unusual or extreme cold weather? No Yes

If Yes, in which season did this occur? Spring Summer Fall Winter

Did you experience unusual or extreme hot weather? No Yes

If Yes, in which season did this occur? Spring Summer Fall Winter

Please describe the impact of unusual temperatures on your beekeeping. *(Select all that apply)*

| | |
|--|--|
| <input type="checkbox"/> Colonies lost or killed | <input type="checkbox"/> No noticeable impact |
| <input type="checkbox"/> Decreased bee population or brood production | <input type="checkbox"/> Increased bee population or brood production |
| <input type="checkbox"/> Decreased honey crop | <input type="checkbox"/> Increased honey crop |
| <input type="checkbox"/> Required more supplemental feeding than usual | <input type="checkbox"/> Required less supplemental feeding than usual |
| <input type="checkbox"/> Decreased or delayed queen production or mating | <input type="checkbox"/> Improved queen production or mating |
| <input type="checkbox"/> Travel or logistic issues (including additional movement of colonies) | |
| <input type="checkbox"/> Other, please specify: <input type="text"/> | |

50 **High winds and storms**

Did you experience high winds or severe storms? No Yes

Please describe the impact of high winds or severe storms on your beekeeping. *(Select all that apply)*

| | |
|--|--|
| <input type="checkbox"/> Colonies lost or killed | <input type="checkbox"/> No noticeable impact |
| <input type="checkbox"/> Decreased bee population or brood production | <input type="checkbox"/> Increased bee population or brood production |
| <input type="checkbox"/> Decreased honey crop | <input type="checkbox"/> Increased honey crop |
| <input type="checkbox"/> Required more supplemental feeding than usual | <input type="checkbox"/> Required less supplemental feeding than usual |
| <input type="checkbox"/> Decreased or delayed queen production or mating | <input type="checkbox"/> Improved queen production or mating |
| <input type="checkbox"/> Travel or logistic issues (including additional movement of colonies) | |
| <input type="checkbox"/> Other, please specify: <input type="text"/> | |

Demographic Survey

A little bit about you

| | | | | | |
|----|--|--|---|--|--|
| 51 | Why did you keep bees? <i>(Select all that apply)</i> | <input type="checkbox"/> For pollination contracts <input type="checkbox"/> To produce queens or queen cells for sale <input type="checkbox"/> To produce packages for sale <input type="checkbox"/> To produce nucs for sale <input type="checkbox"/> Other, please specify: <input type="text"/> | <input type="checkbox"/> To produce honey/wax/pollen for sale <input type="checkbox"/> To produce honey/wax/pollen/queens for personal use <input type="checkbox"/> For enjoyment/hobby <input type="checkbox"/> For teaching/education | | |
| 52 | What gender do you identify as? | <input type="text"/> | | | |
| 53 | How do you characterize your ethnicity ? <i>(Select all that apply)</i> | <input type="checkbox"/> American Indian or Alaska Native (e.g. Blackfoot Tribe, Navajo Nation, Nome Eskimo Community, etc.) <input type="checkbox"/> Black or African American (e.g. African American, Nigerian, Jamaican, etc.) <input type="checkbox"/> Middle Eastern or North African (e.g. Iraqi, Egyptian, Moroccan, etc.) <input type="checkbox"/> White (e.g. English, German, French, etc.) | <input type="checkbox"/> Asian (e.g. Asian Indian, Chinese, Thai, etc.) <input type="checkbox"/> Hispanic, Latino, or Spanish origin (e.g. American Mexican, Mexican, Colombian, etc.) <input type="checkbox"/> Native Hawaiian or Other Pacific Islander (e.g. Native Hawaii, Samoan, Maori, etc.) <input type="checkbox"/> I prefer to not say | | |
| 54 | To which age bracket do you belong? <i>(Select one category)</i> | <input type="radio"/> 18-24 years old <input type="radio"/> 25-34 years old | <input type="radio"/> 35-44 years old <input type="radio"/> 45-54 years old | <input type="radio"/> 55-64 years old <input type="radio"/> 65-74 years old | <input type="radio"/> 75-84 years old <input type="radio"/> 85 years or older |
| 55 | Approximately how many years have you been keeping bees? | <input type="text"/> (in years) | | | |
| 56 | What are your current main sources of information to improve your beekeeping? <i>(Select up to 3)</i> | <input type="checkbox"/> Other beekeepers that you know personally (e.g. mentor, friends, family, neighbors...) <input type="checkbox"/> Other beekeepers that you DO NOT know personally (e.g. contributors to magazines, blogs, YouTube videos, social media...) <input type="checkbox"/> Beekeeping club / association (local or state) <input type="checkbox"/> Beekeeping organization (regional, national, international; e.g. WAS, HAS, EAS, ABF, AHPA, Apimondia) <input type="checkbox"/> Suppliers (of beekeeping equipment) <input type="checkbox"/> Other, please specify: <input type="text"/> | <input type="checkbox"/> Apiary inspector (or any state official) <input type="checkbox"/> University Extension / Outreach personnel <input type="checkbox"/> Scientists and researchers (e.g. university, USDA) <input type="checkbox"/> Non-profit organization (e.g. Bee Informed Partnership, Honey Bee Health Coalition, Project Apis m.) | | |
| 57 | What do you think are the most trustworthy sources of information to improve your beekeeping? <i>(Select up to 3)</i> | <input type="checkbox"/> Other beekeepers that you know personally (e.g. mentor, friends, family, neighbors...) <input type="checkbox"/> Other beekeepers that you DO NOT know personally (e.g. contributors to magazines, blogs, YouTube videos, social media...) <input type="checkbox"/> Beekeeping club / association (local or state) <input type="checkbox"/> Beekeeping organization (regional, national, international; e.g. WAS, HAS, EAS, ABF, AHPA, Apimondia) <input type="checkbox"/> Suppliers (of beekeeping equipment) <input type="checkbox"/> Other, please specify: <input type="text"/> | <input type="checkbox"/> Apiary inspector (or any state official) <input type="checkbox"/> University Extension / Outreach personnel <input type="checkbox"/> Scientists and researchers (e.g. university, USDA) <input type="checkbox"/> Non-profit organization (e.g. Bee Informed Partnership, Honey Bee Health Coalition, Project Apis m.) | | |
| 58 | In what formats do you currently get most of your information? <i>(Select up to 3)</i> | <input type="checkbox"/> Informal discussions with other beekeepers outside of any group event <input type="checkbox"/> Informal discussions with other beekeepers at meeting/conventions (local, state, regional, national, international) <input type="checkbox"/> Lectures (in-person) <input type="checkbox"/> Lectures (online) <input type="checkbox"/> Hands-on demonstrations (in-person) <input type="checkbox"/> Hands-on demonstrations (online) <input type="checkbox"/> Podcasts | <input type="checkbox"/> Books <input type="checkbox"/> Bee journals or magazines <input type="checkbox"/> University Extension / Outreach publications <input type="checkbox"/> Scientific publications <input type="checkbox"/> Online blogs, newsletters, and websites <input type="checkbox"/> Online forums and social media | | |

Other, please specify:

59 Did you take part in any of the following **monitoring efforts**? *Entering your participant code(s) lets us link your responses to this survey with your bee health measures.*

| | | | | | |
|---|------------------------------------|--------------------------|---------------------------|----------------------------------|----------------------|
| APHIS National Honey Bee Disease Survey | <input type="radio"/> I don't know | <input type="radio"/> No | <input type="radio"/> Yes | NHBDS sampling code | <input type="text"/> |
| Bee Informed Tech Transfer Teams | <input type="radio"/> I don't know | <input type="radio"/> No | <input type="radio"/> Yes | BIP Tech Team participant code | <input type="text"/> |
| Bee Informed Sentinel Apiary Program | <input type="radio"/> I don't know | <input type="radio"/> No | <input type="radio"/> Yes | Sentinel Apiary participant code | <input type="text"/> |

60 Is this the **first year** you are participating in our survey? Yes No

61 Where did you hear about this survey? *(Select all that apply)*

| | | | |
|--|---|---|--|
| <input type="checkbox"/> Organization newsletter | <input type="checkbox"/> Bee meeting | <input type="checkbox"/> Friend or neighbor | <input type="checkbox"/> State apiarist |
| <input type="checkbox"/> BIP Website | <input type="checkbox"/> Email from BIP | <input type="checkbox"/> ABJ or Bee Culture | <input type="checkbox"/> Equipment suppliers |
| <input type="checkbox"/> Other, please specify: | <input type="text"/> | | |

62 Any comments? *We would love to hear about what you like about our survey, but also how we can improve it.*

Thank You!

We appreciate your time in answering our Colony Loss and Management Survey!

The Bee Informed Partnership is a non-profit organization that works to improve honey bee health.

By answering these questions on colony loss and management, you are helping us describe a realistic picture of the losses in the US and better understand factors that contribute to colony losses, so that we can work together to reduce losses.

We rely on word of mouth to reach as many beekeepers as possible. Please share the survey announcement far and wide with your beekeeping friends and local clubs!

Please visit beeinformed.org for insights on how the results of this survey can improve your colony management decision making!

