

Thank you for participating in the **2020-2021 Bee Informed Partnership National Colony Loss and Management Survey**

Commercial beekeeper version (51+ colonies on 1 October 2020)

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/

Completion of all or part 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.

We expect the survey to take about 30-45 minutes of your time. We really appreciate the time you put into this to make your responses as accurate as possible. You will want to refer to your beekeeping notes when going through this survey, and it may be helpful to review the Survey prior to starting.

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. 'Splits' are increases made by dividing your own colonies.

1*	How many colonies did you own on 1 October 2020? (Please select one of the following.)											
	O 50 or fewer colonies		● 51 or more colonies									
2*	In what states a	nd territorie	s were yo	our colonies stat	ioned b	etween 1 April 2	.020 a	nd 1 April 2021?				
	(Please choose AL	L options rele	ant to yo	u, including areas	visited j	or pollination serv	ices an	d indoor colony storage	. Do not include			
	areas passed through when transporting your colonies.)											
□ Alabama		☐ Georgia		☐ Maryland		New Jersey		Rhode Island	☐ Vermont			
☐ Alasl	ка	☐ Hawaii		Massachusetts		New Mexico		South Carolina	□ Virginia			
☐ Arizo	na	☐ Idaho		Michigan		New York		South Dakota	☐ Washington			
☐ Arka	nsas	☐ Illinois		Minnesota		North Carolina		Tennessee	☐ West Virginia			
☐ Calif	ornia	□ Indiana		Mississippi		North Dakota		Texas	☐ Wisconsin			
☐ Colo	rado	☐ Iowa		Missouri		Ohio		Utah	☐ Wyoming			
☐ Conr	ecticut	□ Kansas		Montana		Oklahoma		Other, please specify:				
☐ Distr	ict of Columbia	☐ Kentucky		Nebraska		Oregon						
☐ Dela	ware	☐ Louisiana		Nevada		Pennsylvania						
☐ Flori	da	☐ Maine		New Hampshire		Puerto Rico						

Time Period Covered by this Survey:

The survey covers the period between the start of summer 2020 and the start of summer 2021.

This year we made a big change to how we define the survey period for commercial beekeepers! In response to your feedback, we now consider the 'Start of Summer' to be the **morning of the date you made your first split** of the year. We want to know your number before you started splitting.

If you did not make any splits before April 1st, then we consider April 1st to be your 'Start of Summer'.

For example, if you started making your first splits of 2020 on 15 March 2020, your 'Start of Summer 2020' was 15 March 2020. BUT, if you started making your first splits of 2020 on 20 April 2020, then your 'Start of Summer 2020' was 1 April 2020.

If you started making your first splits of this year on 19 March 2021, your 'Start of Summer 2021' was 19 March 2021. If you have not made any splits by 1 April 2021, then we will consider your 'Start of Summer 2021' to be 1 April 2021.

Note that 1 October 2020 is always the 'Start of Winter 2020-21'.

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



Your answers to Question 3 and Question 4 will determine what dates to use as your 'Start of Summer 2020' and 'Start of Summer 2021' for the rest of the survey.

3*	Did you make one or more split last year between 1 January 2020 and 1 April 2020?										
	O No	O Yes	If Yes, on what date did you								
	(1 April 2020 is your 'Start of Summer 2020')		start splitting in 2020?	(This date is your 'Start of Summer 2020')							
4*	Did you make one or more split this year between 1 January 2021 and 1 April 2021?										
	O No	O Yes	If Yes, on what date did you								
	(1 April 2021 is your 'Start of Summer 2021')		start splitting in 2021?	(T):							
			(This date is your 'Start of Summer 2021')								
5*	How many colonies did you own at each time?										
	Start of Summer 2020:	1 October 2	020:	Start of Summer 2021:							
6*	How strong was your average colony at 6	each time? E	Stimate the number of 'frame	es of bees'.							
	(One 'frame of bees' = One deep Langstroth fi	rame fully occ	cupied by bees on both sides).								
	Start of Summer 2020:	1 October 2	020:	Start of Summer 2021:							
		1									

7*		u obtain from outside your operation during	Remember: 'Summer 2020' is defined as the period					
	each period?		between your 'Start of Summer 2020' and the					
		at did AND did not successfully establish in your	morning of 1 October 2020. 'Winter 2020-21' is defined as the period between 1 October 2020 and					
	operation after your initial ins		your 'Start of Summer 2021'.					
	Summer 2020:	Winter 2020-21:	your start of summer 2021.					
8*	How much net increase in	colonies did you make from splitting your	Examples of net increase by splitting:					
	own colonies during each p		1) You might break down an entire colony while					
		at did AND did not successfully establish. Also	making splits. If you break down 1 colony into 3					
	include packages, nucs, and sp	olits that were eventually sold.)	smaller colonies, this represents a net increase of 2					
	Summer 2020:	Winter 2020-21:	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					
9*	How many colonies did you	u sell or give away during each period?	increase of 1 colony. Remember: our definition of a colony includes full-					
9	Summer 2020:	Winter 2020-21:	sized colonies, as well as newly made splits/nucs and					
	Summer 2020.	Willer 2020-21.	packages.					
			puckages.					
10*	How much was your net de	ecrease in colonies due to intentionally	Example of net decrease by combining: You might					
	combining your colonies?		combine 2 weak colonies into one. This represents a					
	Summer 2020:	Winter 2020-21:	net decrease of 1 colony.					
11*	What percentage of loss o	ver the last winter (Winter 2020-21) would yo	ou consider Between					
	acceptable?	· · ·	0-100%					
12	What factors do you think	were the most prominent cause(s) of colony	death in your operation in					
	Summer 2020? (Select up t	to 3)						
□Idid	not experience summer loss	☐ Natural disaster (e.g. hurricane, flood)	☐ Shipping stress (e.g. overheating, truck issues)					
	erse weather (e.g. drought)	☐ Nutritional stress (pollen deprivation)	☐ Equipment failure (e.g. moisture, ventilation)					
☐ Broo	od diseases (e.g. EFB, AFB)	☐ Starvation (honey/nectar/sugar water)						
☐ Que	en issues	☐ Non-apicultural pesticides	☐ Predators (e.g. bears)					
□ I do	n't know	\square Apicultural treatments (e.g. formic acid,	☐ Scavenger pests (e.g. small hive beetle, wax					
		amitraz)	moth)					
☐ Oth	er, please specify:		☐ Varroa mites and associated viruses					
13		were the most prominent cause(s) of colony	death in your operation in					
	Winter 2020-21? (Select up		addin iii yool opolaaacii iii					
□Idid		☐ Natural disaster (e.g. hurricane, flood)	☐ Shipping stress (e.g. overheating, truck issues)					
	erse weather (e.g. cold snap)	☐ Nutritional stress (pollen deprivation)	☐ Equipment failure (e.g. moisture, ventilation)					
	od diseases (e.g. EFB, AFB)	☐ Starvation (honey/nectar/sugar water)	☐ Failure of environmental controls in sheds					
□ Que	en issues	☐ Non-apicultural pesticides	☐ Predators (e.g. bears)					
□ I do	n't know	\square Apicultural treatments (e.g. formic acid,	\square Scavenger pests (e.g. small hive beetle, wax					
		amitraz)	moth)					
□ Oth	er, please specify:		☐ Varroa mites and associated viruses					
0.11	ci, picase specify.							

14	What was the ZIP code of your base of operations during the survey period? (Please provide only one even if you keep bees in multiple locations.) 5-digit ZIP codes only																
15	What percentage of the colonies you owned during the 2021 almond bloom were used to pollinate almonds in California ? Between 0-100%																
16	What per stored in	_			s you ov	vned on	1 Janua	ary 2021	L were						Between 0-100%	7	
17	If on 1 Jar storage, i	-	-				ors?										
18	Did you move any of your colonies across state lines between your Start of Summer 2020 and Start of Summer 2021? (Do not include colonies you obtained from out of state before you installed them.)																
	O No			O Y		If Yes	, what pe	ercentag	e of your es at leas	operati	-	istanca t	,,,,,		Between 0-100%		
19	At the sta	art of ea	ch mon	th, how	many c	olonies	did you	own in	each sta	ate/terr	itory?						
State	1 Jan	1 Feb	1 Mar	1 Apr	1 May	1 Jun	1 July	1 Aug	1 Sept	1 Oct	1 Nov	1 Dec	1 Jan	1 Feb	1 Mar	1 Apr	
	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2021	2021	2021	2021	
-																	
-																	
-																	
-																	
-																	
20	Did the SARS-CoV-2 (COVID) pandemic, or pandemic-related restrictions, affect your beekeeping operation during the survey period? O No O Yes If Yes, please describe how:																
21	Did you ta	ke part	in any o	of the fo	llowing	monito	ring eff	orts?	E	ntering y	our part	ticipant c	ode lets	us link yo	our respo	nses to	
	APHIS Natio	onal Hon	iey Bee [Disease S	urvey	Ole	don't kno	ow ON				our bee h pling coc		asures.			
	Bee Inform	ed Tech	Transfer	Teams		010	don't kno	ow ON	lo OY	es BIP	Tech Te	am partio	cipant co	de:			
	Bee Inform	ed Senti	nel Apiaı	y Progra	m	010	don't kno	ow ON	ю Оү	es Sen	tinel Api	iary parti	cipant co	ode:			
22	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.																
23	Would yo												O Ye	es O	No		
24	Would yo				nal upd	ates fro	m the B	ee Infoi	rmed Pa	rtnersh	ip and I	earn	O Ye	es O	No		
	about its various programs?																

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 establish baseline knowledge about the health of commercially-operated honey bee colonies in the country.

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.

This year, we made a huge change to **Part 2**. We focused our questions on how you managed your queens and established new colonies. This means **Part 2** has fewer questions than ever before! Next year the survey will focus on a different topic.

Management Survey

This year's Management Survey focuses on practices related to **Queens and New Colonies**.

Please refer to Part 1 (the Loss Survey) for definitions and an explanation of the periods defined as **Summer 2020** and **Winter 2020-21**.

How you started new colonies

Note that a 'new queen' is one raised in 2020. Also note that 'splits given a new queen' includes giving the split a mated queen, a queen cell, and even the opportunity to raise a new queen by making a walk-away split.

25*	During the survey	period, did yoι	u start or obtain any ne	ew colonies?	O No (Skip Q26-29)	O Yes						
26	How did you star	t or obtain your	new colonies during S		all that apply)							
	From within your o	peration:	From outside your opera									
	☐ Splits given a new (queen raised in 2		☐ Swarms	☐ Packages	☐ Nucs	☐ Full colonies						
27	What percentage	of new colonie	s started or obtained d	luring Summer 2020 l	by each method died by	1 October 2020?						
	Splits given a new o	queen	Swarms	Packages	Nucs	Full colonies						
	0-100%		0-100%	0-100%	0-100%	0-100%						
	O I don't know		O I don't know	O I don't know	O I don't know	O I don't know						
	O Not applicable		O Not applicable	O Not applicable	O Not applicable	O Not applicable						
28	What percentage of new colonies started or obtained during Summer 2020 by each method died by the Start of Summer											
	2021 ?											
	(Your percentages s	should be the sam	ne or higher than those lis	ted for Q27, depending	on your Winter 2020-21 m	ortality.)						
	Splits given a new o	queen	Swarms	Packages	Nucs	Full colonies						
	0-100%		0-100%	0-100%	0-100%	0-100%						
	O I don't know		O I don't know	O I don't know	O I don't know	O I don't know						
	O Not applicable		O Not applicable	O Not applicable	O Not applicable	O Not applicable						
29	During Summer 2	2020, when and	where did you make ir	crease through split	ting?							
					age strength of the split	ts when they were						
	established?	•	·			·						
	One 'frame of broo	d' = one deep Lan	gstroth frame mostly cov	ered with brood of any .	stage on both sides; one 'fr	rame of bees' = one deep						
	Langstroth frame fo	ully occupied by b	ees on both sides.									
					Average brood strength	Average bee strength						
	Start date	End date	State	Net increase	(# frames of brood)	(# frames of bees)						
	-											
	-											
	-											
	-											

How you managed queens

Note that a 'new queen' is one raised in 2020.

30*		y new queens to your colon	_	O No (Skip Q31-33)	O Yes
31		type of queen did you prov		Summer 2020? Number	
	Queen cells				
	Walk-away splits, or	killed queen to allow colony to	raise emergency queen		
	Other, please specify		<u> </u>		
32	If you installed nev Type New mated queens	v mated queens or queen concept obtained from: — commercial queen productions	·	nem from? (Select all that	apply) State(s) of origin
		☐ beekeeper (non-commerci	al)		
		\square reared them myself			
		☐ other, please specify:			
	Queen cells	☐ commercial queen produc	l er(s)		
		□ beekeeper (non-commerci	al)		
		☐ reared them myself			
		\square other, please specify:			
	(Include only those the Type New mated queens Queen cells	provided to colonies in Sum nat laid fertilized eggs that deve	eloped into workers)	Percentage Between 0-100% Between 0-100% Between 0-100% Between 0-100%	
34		tics of bees do you prioritize	most when selecting breed	ling stock or buying que	ens or new colonies?
	(Select up to 3) □ Low propensity to □ Large early-spring □ High brood production □ Good wintering □ Good honey production □ Economical with s □ Local adaptation □ Other, please spection	populations ction uction tores		ce eens nated queens seasonally queen cells seasonally	
35		ristics that you want in your		tain to the degree desir	ed?
	Desired characteristic	haracteristics and any major bo	arriers to adoption.) Barrier to ado	option	
	-		-		
	-		-		
	-		-		
	-		-		

36	What do you think were the	most c	ommon	que	en issi	ues du	uring	Sumn	ner 20)20 in	your	oper	ation	? (Sele	ect up	to 3)		
									ature s	•								
	☐ Drone layer							Poor b	orood	patter	'n							
	☐ Colony susceptible to diseas								d quee									
	☐ Queen cell failed to emerge/mate/establish ☐ Queen absent since last inspection or killed by accident									nt								
	☐ Other, please specify:																	
37	What do you think were the most common queen issues during Winter 2020-21 in your operation? (Select up to 3)																	
	☐ I did not have queen issues								ature s									
	☐ Drone layer							Poor b	orood	patter	'n							
	☐ Colony susceptible to diseas								d quee									
	☐ Queen cell failed to emerge	/mate/es	tablish					Queer	n abse	nt sin	ce last	inspe	ction	or kille	ed by a	ccide	nt	
	☐ Other, please specify:																	
How yo	u managed your colonies			If Ye	es, ho	w ofte	en pei	r mon	ıth dic	d you	initia	te ead	ch act	ivity?	(e.g.	3x for	r May	·)
	During the survey period, o	did you		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
	initiate a round of			'20	'20	'20	'20	'20	'20	'20	'20	'20	'20	'20	'20	'21	'21	'21
	colony inspections?	O No	O Yes															
	Varroa mite monitoring?	O No	O Yes															
	Nosema monitoring?	O No	O Yes															
	chemical treatment against Varroa?	O No	O Yes															
	non-chemical intervention against Varroa?	O No	O Yes															
	supplemental carbohydrate/sugar feed?	O No	O Yes															
	supplemental protein feed? (e.g. protein patties)	O No	O Yes															
39	Did you treat for Varroa in con (This includes the brood break	-	-	_			install	ation,	and/d	or bro	od bre	aks?						
		lease des			nages	*/												
	2 2 10.5 7007 [

A little bit about you Why did you keep bees? (Select all that apply) ☐ For pollination contracts ☐ To produce honey/wax/pollen for sale ☐ To produce honey/wax/pollen/queens for personal use ☐ To produce queens or queen cells for sale ☐ To produce packages for sale ☐ For enjoyment/hobby \square To produce nucs for sale ☐ For teaching/education ☐ Other, please specify: 41 What is your gender? 42 How do you characterize your ethnicity? 43 To which **age bracket** do you belong? (Select one category) O 18-24 years old O 35-44 years old O 55-64 years old O 75-84 years old O 25-34 years old O 45-54 years old O 65-74 years old O 85 years or older 44 Approximately how many years have you been keeping bees? (in years) 45 On average **how many years** have your staff been keeping bees? (if applicable) (in years/person) 46 During Summer 2020, on average how many full-time beekeepers worked taking care of your bees? (Count two half-time beekeepers as the equivalent of one full-time beekeeper.) 47 What are your current main sources of information to improve your beekeeping? (Select up to 3) ☐ Other beekeepers that you know personally (e.g. mentor, ☐ Apiary inspector (or any state official) friends, family, neighbors...) ☐ Other beekeepers that you DO NOT know personally (e.g. ☐ University Extension / Outreach personnel contributors to magazines, blogs, YouTube videos, social media...) ☐ Beekeeping club / association (local or state) ☐ Scientists and researchers (e.g. university, USDA) ☐ Beekeeping organization (regional, national, international; e.g. ☐ Non-profit organization (e.g. Bee Informed Partnership, Honey WAS, HAS, EAS, ABF, AHPA, Apimondia) Bee Health Coalition, Project Apis m.) ☐ Suppliers (of beekeeping equipment) ☐ Other, please specify: 48 In what **formats** do you currently get most of your information? (Select up to 3) ☐ Informal discussions with other beekeepers outside of any group event ☐ Informal discussions with other beekeepers at meeting/conventions ☐ Bee journals or magazines (local, state, regional, national, international) ☐ Lectures (in-person) ☐ Extension publications ☐ Lectures (online) ☐ Scientific publications ☐ Hands-on demonstrations (in-person) ☐ Online blogs, newsletters, and websites ☐ Hands-on demonstrations (online) ☐ Online forums and social media ☐ Podcasts ☐ Other, please specify: 49 In what formats would you most like to get your information in the future? (Select up to 3) ☐ Informal discussions with other beekeepers outside of any group event ☐ Informal discussions with other beekeepers at meeting/conventions ☐ Bee journals or magazines (local, state, regional, national, international) ☐ Lectures (in-person) ☐ Extension publications ☐ Lectures (online) ☐ Scientific publications ☐ Hands-on demonstrations (in-person) ☐ Online blogs, newsletters, and websites ☐ Hands-on demonstrations (online) ☐ Online forums and social media □ Podcasts

☐ Other, please specify:

50	Is this the first year you are	O Yes O No			
51	Where did you hear about	this survey? (Select all that	t apply)		
	☐ Organization newsletter	☐ Bee meeting	☐ Friend or neighbor	☐ State apiarist	
	☐ BIP Website	☐ Email from BIP	☐ ABJ or Bee Culture	☐ Equipment suppliers	
	☐ Other, please specify:				
	L.				
52	Any comments? We would lov	e to hear about what you lik	ce about our survey, but also how we d	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.

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

