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## Bee Informed Partnership Sentinel Apiary Report

Beekeeper: Year: 2019  
Sample Kit Code: SAON

Report date: 10/12/20

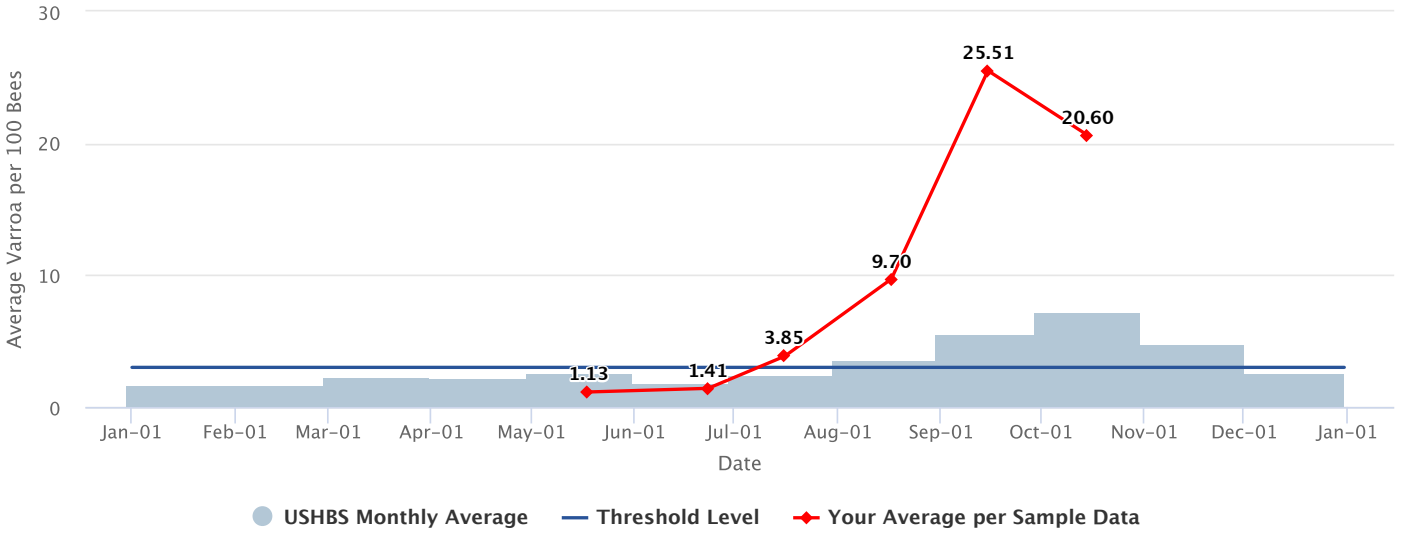
Varroa (mites per 100 bees)						
Hive	May	June	July	August	September	October
S19-SAON-1	1.0	3.2	1.4	5.8	12.5	61.9
S19-SAON-2	0.0	2.1	7.5	8.2	39.5	4.0
S19-SAON-3	4.9	2.5	10.7	10.4	10.9	11.6
S19-SAON-4	0.0	0.5	1.0	2.5	12.5	26.9
S19-SAON-5	0.0	0.9	0.8	9.4	23.7	16.1
S19-SAON-6	0.0	0.0	0.6	2.0	4.6	14.7
S19-SAON-7	2.8	1.5	6.1	22.1	62.8	
S19-SAON-8	0.3	0.6	2.9	17.1	37.5	9.0
Your Monthly Average	1.13 ±1.52 (8)	1.41 ±0.92 (8)	3.85 ±3.17 (8)	9.7 ±5.8 (8)	25.51 ±16.5 (8)	20.6 ±18.09 (7)
USHBS Average	2.53 ±0.26 (599)	1.7 ±0.13 (1144)	2.41 ±0.2 (932)	3.49 ±0.21 (1197)	5.49 ±0.34 (1259)	7.12 ±0.44 (1036)
Sentinel Average	1.04 ±0.23 (379)	1.45 ±0.26 (389)	2.82 ±0.5 (398)	3.35 ±0.57 (380)	5.95 ±1.07 (344)	6.67 ±1.09 (317)
Sentinel Last Year Average	0.99 ±0.22 (458)	1.18 ±0.32 (502)	1.99 ±0.33 (495)	2.75 ±0.41 (475)	2.73 ±0.4 (420)	4.45 ±0.61 (365)

- Data presented: average ± 95% Confidence Interval (# of samples)
- The ± 95% Confidence Interval represents the range of expected values for 95% of the data. Observations outside this range may have occurred, but we consider those outliers and not representative of the majority of the data.
- Sentinel Average, Last Year includes Sentinel data starting in June 2013.
- APHIS Honey Bee Disease Survey is a national effort sponsored by USDA Animal and Plant Health Inspection Service (APHIS) in collaboration with the Agricultural Research Service (ARS) and University of Maryland (UMD). To date, the data provided for the APHIS monthly average is a composite of data from 2009 - Present.
- We consider => 5 mites per 100 bees (highlighted in red) as approaching a high threshold at or beyond where you may want to consider some varroa mite control strategy.
- If you collected two sets of samples within the same calendar month, they are reported in the two separate closest months in this table. Example, samples collected on May 30th may show up in the June column if you already have samples collected earlier in May.

Nosema (millions of spores per bee)						
Hive	May	June	July	August	September	October
S19-SAON-1	0.0	0.0	0.0	0.0	0.0	0.0
S19-SAON-2	0.0	0.0	0.0	0.0	0.0	0.0
S19-SAON-3	0.0	0.1	0.0	0.0	0.0	0.0
S19-SAON-4	0.0	0.1	0.0	0.0	0.0	0.0
S19-SAON-5	0.0	0.1	0.0	0.0	0.0	0.0
S19-SAON-6	0.0	0.0	0.0	0.0	0.0	0.0
S19-SAON-7	0.0	0.0	0.0	0.0	0.5	
S19-SAON-8	0.0	0.0	0.0	0.0	0.0	0.0
Your Monthly Average	0.0 ±0.0 (8)	0.04 ±0.05 (8)	0.0 ±0.0 (8)	0.0 ±0.0 (8)	0.06 ±0.13 (8)	0.0 ±0.0 (7)
USHBS Average	2.53 ±0.26 (599)	1.7 ±0.13 (1144)	2.41 ±0.2 (932)	3.49 ±0.21 (1197)	5.49 ±0.34 (1259)	7.12 ±0.44 (1036)
Sentinel Average	1.21 ±0.23 (379)	0.45 ±0.11 (389)	0.19 ±0.05 (398)	0.23 ±0.1 (380)	0.18 ±0.07 (340)	0.18 ±0.07 (317)
Sentinel Last Year Average	1.05 ±0.17 (459)	0.49 ±0.11 (502)	0.12 ±0.05 (495)	0.14 ±0.05 (471)	0.29 ±0.14 (421)	0.22 ±0.06 (365)

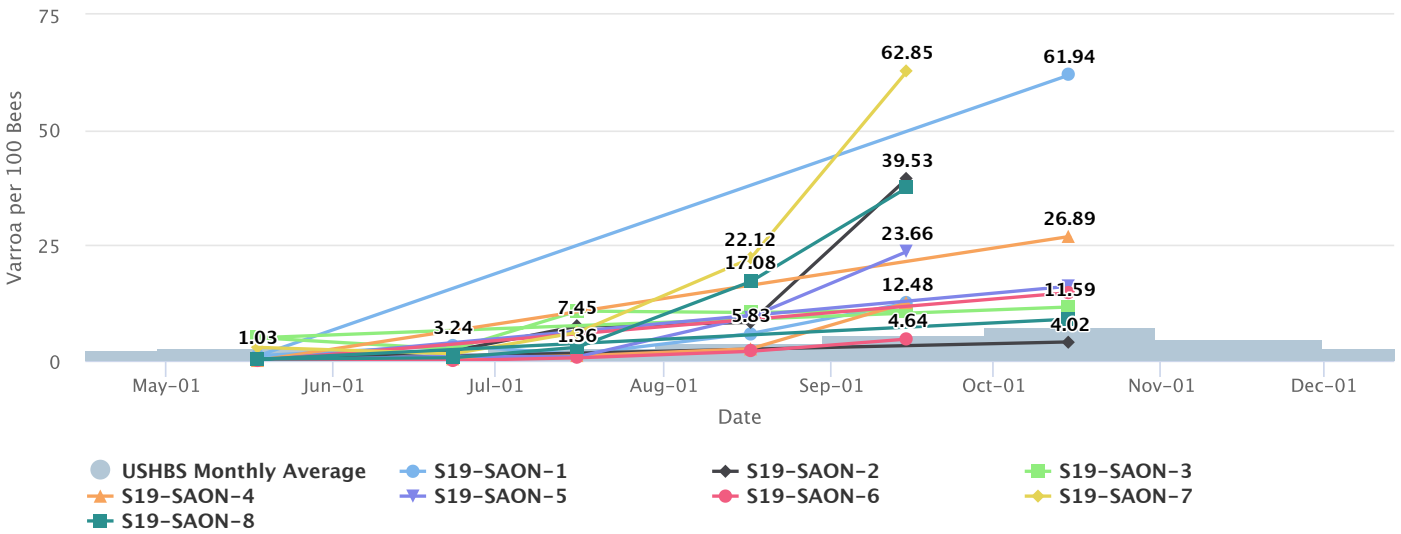
- Data presented: average ± 95% Confidence Interval (# of samples)
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- Sentinel Average, Last Year includes Sentinel data starting in June 2013.
- APHIS Honey Bee Disease Survey is a national effort sponsored by USDA Animal and Plant Health Inspection Service (APHIS) in collaboration with the Agricultural Research Service (ARS) and University of Maryland (UMD). To date, the data provided for the APHIS monthly average is a composite of data from 2009 - Present.
- We consider => one million spores per bee (highlighted in red) to be the acceptable threshold in a hive. Your nosema levels will fluctuate with temperature and colonies' sun exposure every month.

### Average Varroa per 100 Bees in 2019 for Your Samples Compared to the National Average



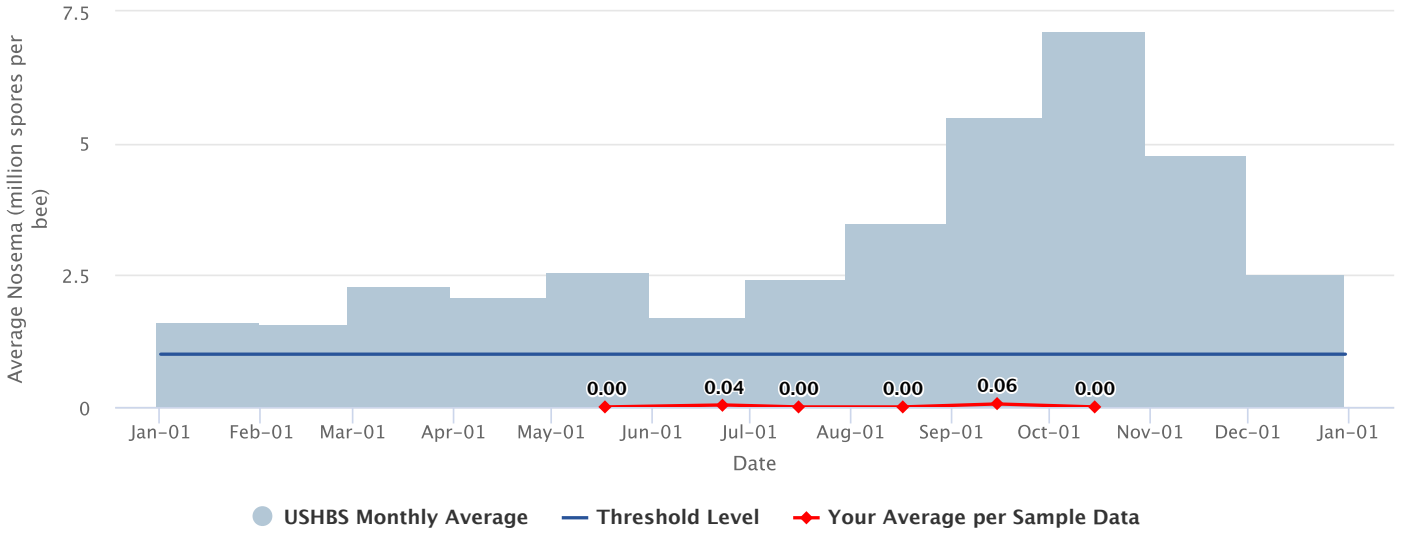
Highcharts.com

### Varroa per 100 Bees per Colony in 2019 for Your Samples Compared to the National Average



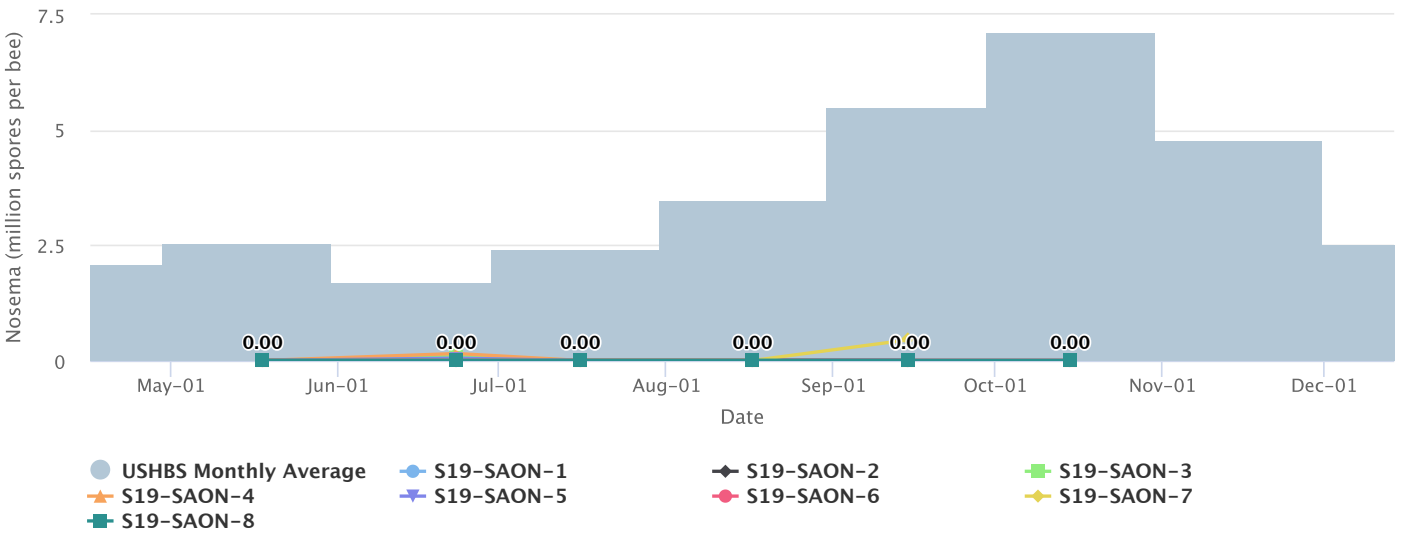
Highcharts.com

### Average Nosema in Million Spores per Bee in 2019 for Your Samples Compared to the National Average



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### Nosema in Million Spores per Bee per Colony in 2019 for Your Samples Compared to the National Average



Highcharts.com

All Samples for year

Hive	Sampling Date	Queen Status	Brood Pattern	Frames of Adults	Particular Observation	Recent Management	# Bees in Sample	# Mites / 100 Bees	Millions of Spores per Bee
S19-SAON-1	May 18, 2019	QR	4.0	12.0			291	1.0	0.00
S19-SAON-2	May 18, 2019	QR	5.0	23.0			321	0.0	0.00
S19-SAON-3	May 18, 2019	QR	5.0	17.0			304	4.9	0.00
S19-SAON-4	May 18, 2019	QR	3.0	3.5			318	0.0	0.00
S19-SAON-5	May 18, 2019	QR	5.0	5.5			337	0.0	0.00
S19-SAON-6	May 18, 2019	QR	5.0	8.0			400	0.0	0.00
S19-SAON-7	May 18, 2019	QR	5.0	20.0			317	2.8	0.00
S19-SAON-8	May 18, 2019	QR	4.0	30.0			365	0.3	0.00
S19-SAON-1	June 23, 2019	QL	4.0	16.0	hopguard 6/15, capped Qcell no eggs	treatment	370	3.2	0.00
S19-SAON-2	June 23, 2019	QR	5.0	23.0	robbed 1 super	management	339	2.1	0.00
S19-SAON-3	June 23, 2019	QR	5.0	22.0	6/15 hopguard, robbed 1 super	treatment management	364	2.5	0.10
S19-SAON-4	June 23, 2019	QR	4.0	10.0	little chewed down brood		374	0.5	0.15
S19-SAON-5	June 23, 2019	QR	5.0	16.0	robbed 1 super	management	327	0.9	0.05
S19-SAON-6	June 23, 2019	QD	5.0	16.0	swarm cell with 5-6 day old larva, robbed 1 super	management	382	0.0	0.00
S19-SAON-7	June 23, 2019	QR	5.0	22.0	6/15 hopguard, robbed 1 super	treatment management	343	1.5	0.00
S19-SAON-8	June 23, 2019	QR	4.0	32.0	robbed 2 supers	management	336	0.6	0.00
S19-SAON-1	July 16, 2019	QR	4.0	15.0			368	1.4	0.00

All Samples for year

Hive	Sampling Date	Queen Status	Brood Pattern	Frames of Adults	Particular Observation	Recent Management	# Bees in Sample	# Mites / 100 Bees	Millions of Spores per Bee
S19-SAON-2	July 16, 2019	QR	5.0	21.0	getting honey bound		362	7.5	0.00
S19-SAON-3	July 16, 2019	VQ	4.0	21.0	swarmed mo eggs or larvae, lots of emerged queen cells		373	10.7	0.00
S19-SAON-4	July 16, 2019	QR	4.0	10.0	added deep	management	404	1.0	0.00
S19-SAON-5	July 16, 2019	QR	4.0	15.0			380	0.8	0.00
S19-SAON-6	July 16, 2019	QS	0.0	15.0	no brood-just eggs, marked new queen, swarmed		353	0.6	0.00
S19-SAON-7	July 16, 2019	QR	4.0	21.0			378	6.1	0.00
S19-SAON-8	July 16, 2019	QR	5.0	31.0	honey bound!		314	2.9	0.00
S19-SAON-1	Aug. 17, 2019	QS	5.0	16.0	Robbed 1 super 8/6	management	360	5.8	0.00
S19-SAON-2	Aug. 17, 2019	QR	5.0	17.0	Robbed 1 super 8/6	management	352	8.2	0.00
S19-SAON-3	Aug. 17, 2019	QR	4.0	16.0	Robbed 1 super 8/6	management	346	10.4	0.00
S19-SAON-4	Aug. 17, 2019	QR	3.0	16.0			354	2.5	0.00
S19-SAON-5	Aug. 17, 2019	QR	5.0	17.0	Incredibly mean!		285	9.4	0.00
S19-SAON-6	Aug. 17, 2019	QR	4.0	17.0			354	2.0	0.00
S19-SAON-7	Aug. 17, 2019	QR	4.0	17.0	Took super 8/6	management	348	22.1	0.00
S19-SAON-8	Aug. 17, 2019	QR	4.0	18.0	Mean!	management	368	17.1	0.00
S19-SAON-1	Sept. 15, 2019	QR	3.0	16.0	lots of bald brood		344	12.5	0.00
S19-SAON-2	Sept. 15, 2019	QR	3.5	16.0	some melted larva		336	39.5	0.00

All Samples for year

Hive	Sampling Date	Queen Status	Brood Pattern	Frames of Adults	Particular Observation	Recent Management	# Bees in Sample	# Mites / 100 Bees	Millions of Spores per Bee
S19-SAON-3	Sept. 15, 2019	QR	3.0	16.0	some melted larva		358	10.9	0.00
S19-SAON-4	Sept. 15, 2019	QS	4.0	20.0			311	12.5	0.00
S19-SAON-5	Sept. 15, 2019	QR	3.0	16.0	shotgun pattern		249	23.7	0.00
S19-SAON-6	Sept. 15, 2019	QR	4.0	16.0			323	4.6	0.00
S19-SAON-7	Sept. 15, 2019	QNS	2.0	13.0	bald brood, chewed down brood, sacbrood, circling the drain!		230	62.8	0.45
S19-SAON-8	Sept. 15, 2019	QR	5.0	20.0			327	37.5	0.00
S19-SAON-1	Oct. 15, 2019	QR	2.0	7.0	Lots of chewed down brood	treatment	377	61.9	0.00
S19-SAON-2	Oct. 15, 2019	QS	1.0	5.0	Lots of chewed down brood	treatment	323	4.0	0.00
S19-SAON-3	Oct. 15, 2019	QS	3.0	6.0		treatment	301	11.6	0.00
S19-SAON-4	Oct. 15, 2019	QS	5.0	6.0	No capped brood, lots of eggs + larvae, same green queen	treatment	301	26.9	0.00
S19-SAON-5	Oct. 15, 2019	QS	4.0	10.0		treatment	298	16.1	0.00
S19-SAON-6	Oct. 15, 2019	QS	3.0	8.0		treatment	367	14.7	0.00
S19-SAON-7	Oct. 15, 2019		0.0		Absconded!	treatment			
S19-SAON-8	Oct. 15, 2019	QS	3.0	6.0		treatment	301	9.0	0.00

- Hive # highlighted in blue indicates hive scale installed. Yellow indicates pollen trap installed.