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## Bee Informed Partnership Sentinel Apiary Report

Beekeeper: Year: 2019  
Sample Kit Code: SAPC

Report date: 11/06/19

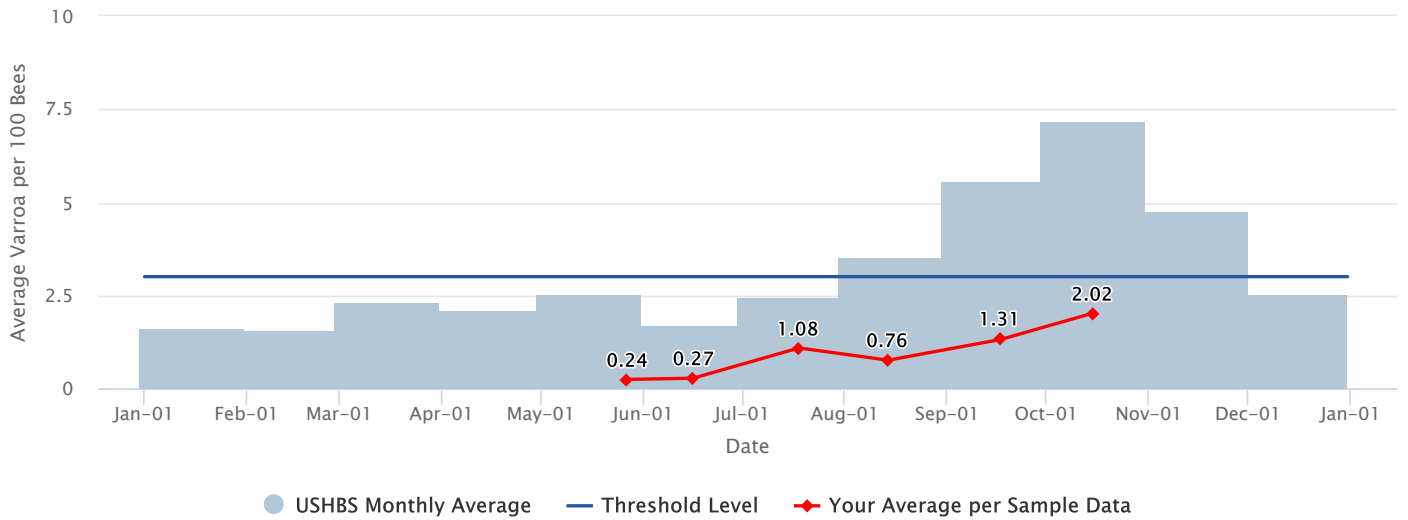
Varroa (mites per 100 bees)						
Hive	May	June	July	August	September	October
S19-SAPC-1	0.3	0.4	0.3	0.0	1.0	1.1
S19-SAPC-2	0.0	0.0	0.3	0.8	1.7	4.1
S19-SAPC-3	0.3	0.3	1.9	3.5	1.2	0.9
S19-SAPC-4	0.0	0.0	0.9	0.0	0.6	0.8
S19-SAPC-5	0.0	0.0	0.3	0.6	1.2	4.5
S19-SAPC-6	0.4	0.0	0.0	0.8	3.4	1.4
S19-SAPC-7	0.9	1.0	3.7	0.0	0.6	2.4
S19-SAPC-8	0.0	0.4	1.3	0.3	0.7	1.0
Your Monthly Average	0.24 ±0.26 (8)	0.27 ±0.31 (8)	1.08 ±1.02 (8)	0.76 ±0.98 (8)	1.31 ±0.76 (8)	2.02 ±1.24 (8)
USHBS Average	2.55 ±0.27 (579)	1.71 ±0.13 (1092)	2.46 ±0.21 (854)	3.51 ±0.22 (1109)	5.54 ±0.36 (1133)	7.17 ±0.47 (946)
Sentinel Average	1.04 ±0.23 (379)	1.45 ±0.26 (389)	2.82 ±0.5 (398)	3.35 ±0.57 (380)	5.89 ±1.07 (340)	5.77 ±1.23 (202)
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  $\Rightarrow$  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-SAPC-1	0.0	0.0	0.1	0.1	0.1	0.0
S19-SAPC-2	0.3	0.0	0.0	0.1	0.0	0.0
S19-SAPC-3	0.8	0.1	0.0	0.0	0.0	0.0
S19-SAPC-4	0.1	0.0	0.0	0.1	0.0	1.1
S19-SAPC-5	3.3	0.0	0.0	0.0	0.0	0.0
S19-SAPC-6	0.4	0.0	0.6	0.1	0.0	0.6
S19-SAPC-7	1.9	0.3	0.0	0.0	0.0	0.0
S19-SAPC-8	0.1	0.0	0.0	0.1	0.8	0.0
Your Monthly Average	0.84 ±0.96 (8)	0.04 ±0.08 (8)	0.08 ±0.16 (8)	0.06 ±0.05 (8)	0.11 ±0.22 (8)	0.2 ±0.33 (8)
USHBS Average	0.54 ±0.09 (579)	0.34 ±0.04 (1092)	0.23 ±0.04 (854)	0.14 ±0.03 (1110)	0.11 ±0.02 (1133)	0.16 ±0.03 (946)
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 (336)	0.19 ±0.08 (202)
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)

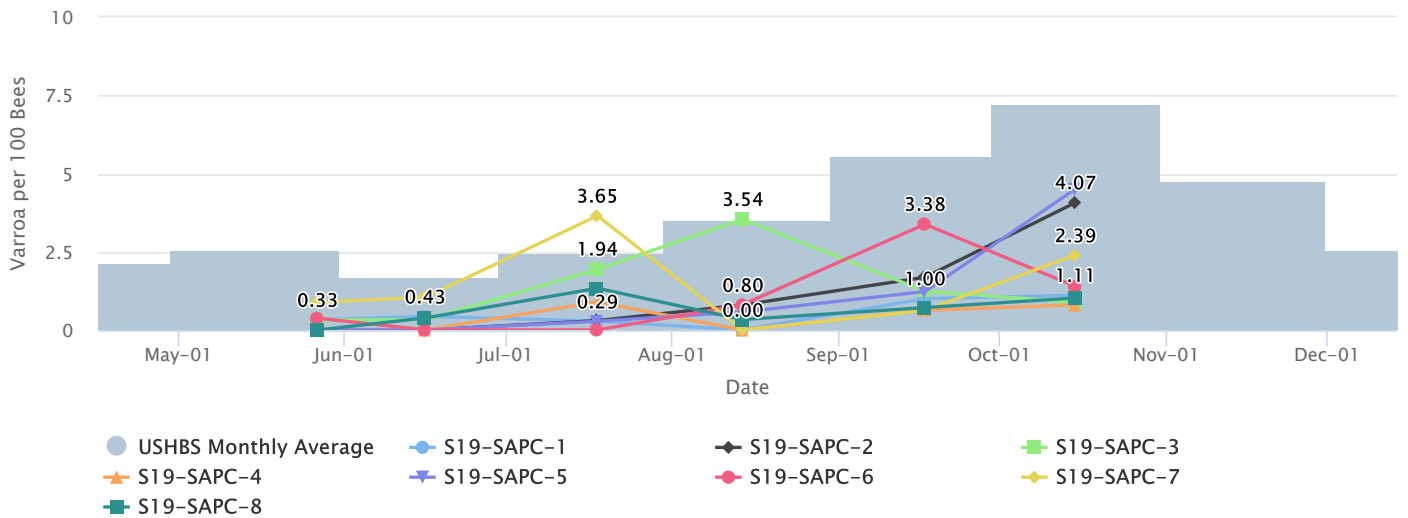
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- We consider => one million spores per bee (highlighted in red) to be the acceptable threshold in a hive. Your nosema levels will fluctuate with temperature and colonies' sun exposure every month.

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



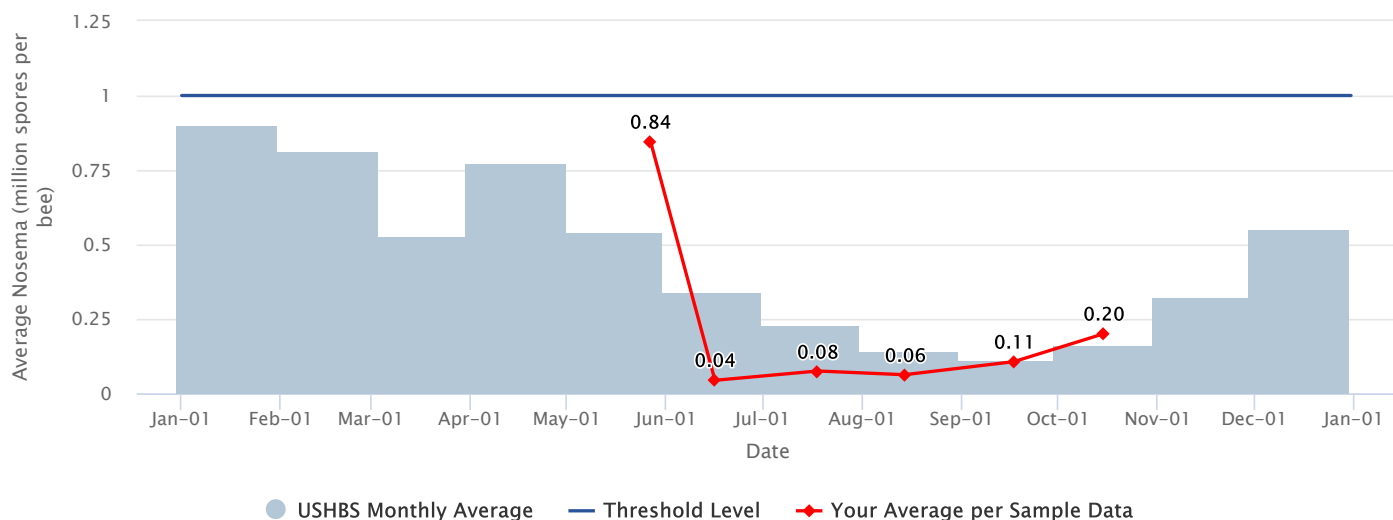
Highcharts.com

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



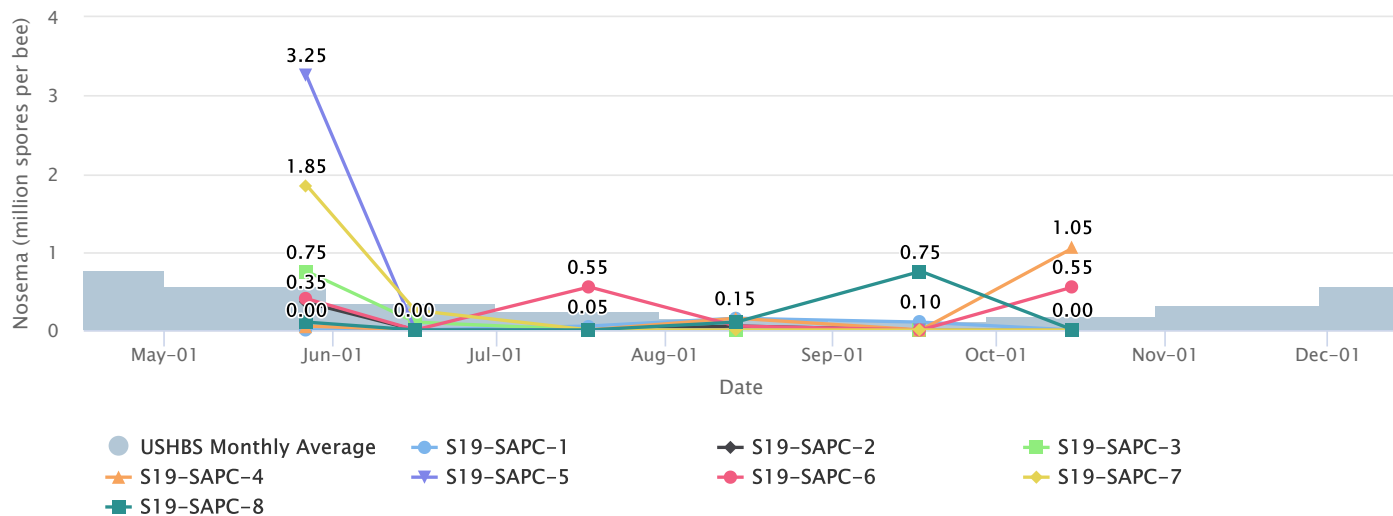
Highcharts.com

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



Highcharts.com

## 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-SAPC-1	May 27, 2019	QS	4.0	5.0	we marked the queen, queen (virgin) was installed 4.22.19, laying nice	movement management	302	0.3	0.00
S19-SAPC-2	May 27, 2019	QR	3.0	10.0	marked the queen	movement management	235	0.0	0.35
S19-SAPC-3	May 27, 2019	QR	4.0	7.0	donated hive, split with an old queen, gentle	movement management	309	0.3	0.75
S19-SAPC-4	May 27, 2019	QR	4.0	9.0	drawing frames nice, needs a super	management	283	0.0	0.05
S19-SAPC-5	May 27, 2019	QS	4.0	4.5	painted queen today, requeened 5.11.19	requeen movement management	215	0.0	3.25
S19-SAPC-6	May 27, 2019	QL	0.0	24.0	lost queen somehow, giving a frame of eggs to raise a queen	movement management	267	0.4	0.40
S19-SAPC-7	May 27, 2019	QR	4.0	24.0	brood chamber has a lot of honey, just given a super 1 week ago	movement management	225	0.9	1.85
S19-SAPC-8	May 27, 2019	QR	4.0	30.0	packed with honey, needs super, gentle	movement management	227	0.0	0.10
S19-SAPC-1	June 16, 2019	QR	4.5	14.0	Very gentle, did see 2 mites on drone brood, adding 1 medium	management	231	0.4	0.00
S19-SAPC-2	June 16, 2019	QR	3.0	12.0	can't find queen-many queen cells	management	306	0.0	0.00
S19-SAPC-3	June 16, 2019	QS	4.0	13.0	Remarked queen-bees gentle, adding another super next time	management	311	0.3	0.10
S19-SAPC-4	June 16, 2019	QR	2.5	10.0	large pattern-very spotty, didn't touch second foundation	management	337	0.0	0.00
S19-SAPC-5	June 16, 2019	QS	3.0	11.0	added 2 mediums		220	0.0	0.00
S19-SAPC-6	June 16, 2019	QNS	2.0	24.0	full medium of honey-many queen cells		221	0.0	0.00
S19-SAPC-7	June 16, 2019	QR	3.0	23.0	very full-bees are gentle	management	287	1.0	0.25
S19-SAPC-8	June 16, 2019	QNS	0.0	24.0	filled with bees-multiple hatchings	management	260	0.4	0.00
S19-SAPC-1	July 18, 2019	QR	4.0	19.0	nice brood, hive need supered, over full of bees	management	350	0.3	0.05

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-SAPC-2	July 18, 2019	QS	5.0	10.0	new queen marked green	requeen management	335	0.3	0.00
S19-SAPC-3	July 18, 2019	QS	4.0	10.0	new queen marked green	requeen management	310	1.9	0.00
S19-SAPC-4	July 18, 2019	QNS	0.0	16.0	gentle, chewed out queen cells good brood, filled 2/3 full med in 2 weeks	requeen management	335	0.9	0.00
S19-SAPC-5	July 18, 2019	QR	5.0	21.5	good brood filled 2/3 full med in 2 weeks	management	361	0.3	0.00
S19-SAPC-6	July 18, 2019	QS	5.0	27.0	new queen saw 2 week ago, great brood filled 2/3 med in two weeks	requeen management	277	0.0	0.55
S19-SAPC-7	July 18, 2019	QNS	0.0	25.0	gentle chewed out queen cells, gave 1 frame m of eggs to be safe (scales)	requeen management	328	3.7	0.00
S19-SAPC-8	July 18, 2019	QR	4.0	41.5	4-med of honey, good brood (cut drone brood)	management	299	1.3	0.00
S19-SAPC-1	Aug. 14, 2019	QR	4.0	26.0	2-med of honey. Great brood. Treat OX dribble.	treatment management	349	0.0	0.15
S19-SAPC-2	Aug. 14, 2019	QR	4.0	12.0	Only 4 frames upstairs. Nice brood	treatment management	375	0.8	0.05
S19-SAPC-3	Aug. 14, 2019	QR	4.0	11.0	Light on honey. Nice brood (calm)	treatment management	367	3.5	0.00
S19-SAPC-4	Aug. 14, 2019	QR	4.0	17.0	Calm great brood. Some honey stores	treatment management	344	0.0	0.15
S19-SAPC-5	Aug. 14, 2019	QS	3.5	21.0	Nice honey stores. Hive full.	treatment management	348	0.6	0.00
S19-SAPC-6	Aug. 14, 2019	QR	3.5	20.0	Took 1-med of honey. Pop drop.	treatment management	372	0.8	0.05
S19-SAPC-7	Aug. 14, 2019	QR	5.0	23.0	Great brood	treatment management	346	0.0	0.00
S19-SAPC-8	Aug. 14, 2019	QS	0.0	19.0	Marked Q green. Ready to lay (she big 4 fat)	treatment management	301	0.3	0.10
S19-SAPC-1	Sept. 17, 2019	QR	5.0	26.0	20 frames of great brood. Wt-146lb. No rain in 2 weeks	treatment management	300	1.0	0.10
S19-SAPC-2	Sept. 17, 2019	QR	4.0	18.0	Honey bound + med	movement treatment management	297	1.7	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-SAPC-3	Sept. 17, 2019	QS	3.0	11.0	11 frames of bee's. 8 frames of brood. 72lb.	treatment management	321	1.2	0.00
S19-SAPC-4	Sept. 17, 2019	QR	4.5	20.0	12 frame of brood. 92lb.	treatment management	477	0.6	0.00
S19-SAPC-5	Sept. 17, 2019	QR	4.5	21.0	13 frame of brood 125 lb.	treatment management	325	1.2	0.00
S19-SAPC-6	Sept. 17, 2019	QR	4.5	35.0	3 med- of honey. 3 frames of foundation untouched and shallow	movement treatment management	266	3.4	0.00
S19-SAPC-7	Sept. 17, 2019	QR	5.0	30.0	Great brood. 98lbs of honey in 17 days.	movement treatment management	321	0.6	0.00
S19-SAPC-8	Sept. 17, 2019	QR	3.0	20.0	Added nuc (had drone layer) hive on nice rebound	movement	280	0.7	0.75
S19-SAPC-1	Oct. 15, 2019	QR	4.0	26.0	V-strong hive no show of mite damage a lot of bees.	feeding treatment management	449	1.1	0.00
S19-SAPC-2	Oct. 15, 2019	QR	5.0	13.0	Good amount of bees.	feeding treatment management	368	4.1	0.00
S19-SAPC-3	Oct. 15, 2019	QS	4.0	8.0	Smaller cluster. But lots of food. Eggs+sealed+queen observed. Likely all stages.	treatment management	456	0.9	0.00
S19-SAPC-4	Oct. 15, 2019	QR	5.0	15.0	Looking good strong colony.	feeding treatment management	374	0.8	1.05
S19-SAPC-5	Oct. 15, 2019	QR	5.0	18.0	V-good brood yet (strong). Screen bottom little used super.	feeding treatment management	466	4.5	0.00
S19-SAPC-6	Oct. 15, 2019	QR		14.0	No brood observed-cold day. Cluster size is good. 3-med of honey to pull	treatment management	357	1.4	0.55
S19-SAPC-7	Oct. 15, 2019	QR	5.0	20.0	Great cluster! All stages! 2.5 supers of honey.	treatment management	334	2.4	0.00
S19-SAPC-8	Oct. 15, 2019	QR	4.5	5.0	New nuc. Good on food for winter. All stages!	treatment management	391	1.0	0.00

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