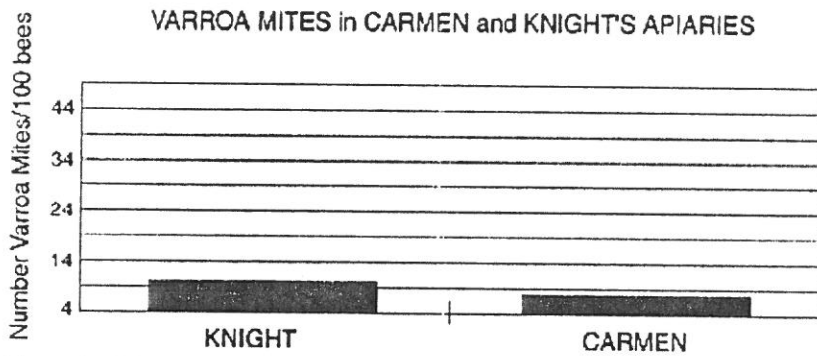


Beekeeper Believes Smaller Size Cell Diameter is the Answer to Mite Problems

Arizona Beekeeper Believes Smaller Size Cell Diameter is the Answer to Mite Problems

ABJ, December, 1997 – Page 837-838

On 11 September Dr. Eric H. Erickson, the director of the Carl Hayden Bee Research Facility in Tucson, Arizona, went with us to two bee locations, in unisolated areas, to test for both tracheal mites and *Varroa* mites. Samples taken in the center of the brood nest also contained drones where possible. We choose unisolated locations because we wanted to show him, to beat the problem, one must be able to accomplish business as normal in doing bee management within the field. Please note that beekeepers around us have severely lost bees, as we ourselves have, to both mites over the years. When taken, several adjacent yards within 2 miles were being treated, crashing, or being fed to keep them alive. Our bees were building; and at the Carmen yard were very fast drawing new foundation.



We began putting the 4.9 cm cell size in hives in May. We did a second round the end of June and did a third round ending Labor day. The Carmen yard we took samples from was worked Labor Day along with the Knight location. The Carmen yard had been drawing wax and averaged 4-8 or more frames per colony drawn. A few colonies had a full box (10 frames) drawn. The Knight location had less than 3 frames drawn on average and most brood laying was on 5.0 cm comb. Both yards still had 2-3 (3-Carmen 2-Knights) one super hives (nucs) still laying on the larger Duragilt that refused to change. Note these one super hives are now dead, not having survived through to mid-October. So much for Duragilt (5.44 cm).

With smaller 4.9 cm comb which is still bigger than the 4.83 cm comb this country was founded on in Southern latitudes, (Northern latitudes were founded on 4.9 cm to 5.0 cm sizes), we are now getting our *Varroa* populations down to field tolerant coexistent levels so we can mimic natural environment living conditions. Tracheal mite levels are down there also, having regulated the mite back to external Vagans status, as was the norm condition around 1917 in our country, before we artificially mutated the bee's thorax and breathing tube bigger on the thorax to create a parasite problem. At 0-6% tracheal mites, bees have no problem coexisting. At 10-11%, *Varroa* mites are on the cuff for trouble. In Southern latitudes in times of plenty they do fine; in times of dearth the bees do poorly and both require constant management to control secondary diseases. This is on 5.0 cm size comb. At 0-7% varroa mites, changing to 4.9 cm comb sizing, bees draw wax well and hives no longer require constant management to control secondary diseases. Business is back to normal for management in the field. We hope to cut percentages again this coming year 1998 as brood nests are continued with 4.9 cm comb and all frames are converted in our broodnests.

This shows breeding is not all the solution. We figure comb is 1/3, diet is 1/3 and breeding is 1/3. Comb must be put in by half (5) to full boxes to work.

Dee Lusby
Tucson, AZ

Note from author regarding article:
ABJ, December, 1997 – Page 837-838

NOTE:

Re: ARIZONA BEEKEEPER BELIEVES SMALLER SIZE CELL DIAMETER IS THE ANSWER TO MITE PROBLEMS

Even though we have asked for it several times, no subsequent retesting has been done by the USDA to see if mite counts have gone lower as predicted. We find this odd since so many are trying to find a solution to the problem of parasitic mites.

- Dee Lusby

HONEY BEE PARASITES FROM CARMEN

VARROA MITES

Colony #	# Bees	# Varroa	# Varroa/100 Bees
A	175	34	19.43
B	186	30	16.13
C	161	39	24.22
D	186	5	2.69
E	157	7	4.46
F	183	13	6.99
G	169	13	7.70
H	148	5	3.38
I	187	2	1.07
J	149	6	4.03
K	185	5	2.70
L	164	7	4.27
M	188	7	3.72
N	156	5	3.21
P	163	8	4.91
Q	179	17	9.50

TRACHEAL MITES IN 30 BEES

Colony #	# Tracheal Mites	% Tracheal Mites
A	0	0.00
B	0	0.00
C	0	0.00
D	0	0.00
E	1	3.33

F	0	0.00
G	1	3.33
H	0	0.00
I	1	3.33
J	7	23.33
K	0	0.00
L	1	3.33
M	1	3.33
N	1	3.33
P	0	0.00
Q	2	6.67

HONEY BEE PARASITES FROM KNIGHT

VARROA MITES

Colony #	# Bees	# Varroa	# Varroa/100 Bees
A	165	1	0.61
B	186	15	8.06
C	142	13	9.15
D	177	18	10.17
E	168	21	12.50
F	184	23	12.50
G	171	26	15.20
H	186	9	4.84
I	181	53	29.28
J	200	8	4.00
K	189	19	10.05
L	182	4	2.20
M	175	23	13.14

TRACHEAL MITES IN 30 BEES

Colony #	# Tracheal Mites	% Tracheal Mites
A	2	6.67
B	3	10.00
C	0	0.00
D	0	0.00
E	0	0.00
F	0	0.00
G	5	16.67
H	8	26.67
I	0	0.00
J	4	13.33
K	2	6.67
L	1	3.33
M	1	3.33

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