

the latter part of May when the hive was quite busy gathering pollen and nectar, and the comb about a fourth filled with brood. The results are grouped in three-hour periods, and then expressed upon a twenty-minute basis.

Old Queen.

	A. M.				P. M.			
	3-6	6-9	9-12	12-3	3-6	6-9	9-12	
Eggs	12.8	9.4	11.2	10.6	9.4	12.0	8.0	
Times fed...	1.5	4.0	9.0	3.0	0.0	3.5	2.5	
Rest...	4.25	6.6	9.2	9.4	10.0	8.8	8.4	

Above table covers twenty minute periods.

More observations were made on the young queen. During her egg-laying period she was watched at irregular intervals for eight days. The period of continuous observation was twenty minutes, usually one every three hours. The next table gives the results, expressed in the same way as in the preceding.

Young Queen.

	A. M.				P. M.			
	3-6	6-9	9-12	12-3	3-6	6-9	9-12	
Eggs	8.8	7.8	7.4	5.4	9.2			
Times fed.	.66	.65	.37	1.37	.55	.82		
Rest...	1.17	1.81	1.89	2.66	2.39	1.00	4.10	

Above table covers twenty minute periods.

Average for the Two Queens.

	A. M.				P. M.			
	3-6	6-9	9-12	12-3	3-6	6-9	9-12	
Eggs	12.8	9.1	9.5	9.0	7.2	10.6	8.0	
Times fed..	1.08	2.33	4.69	2.19	.28	2.16	2.5	
Rest..	2.69	4.21	5.55	6.03	6.18	4.90	6.25	

Above table covers twenty minute periods.

The observations were not extended in enough to establish any small differences there might have been between the activities of the day and night. The figures are too irregular. It seems evident that there is no great difference. She is about as active during the night as during the day. There is some slight suggestion she is a little more active during

the very early morning, and then becomes gradually less so until midnight. See the lower column of figures in the last table. Another interesting suggestion is the difference in the amount of resting for the old and the young queen. The young queen rests less than a third as much as the old.

The observations on the worker bees were of three kinds. First, watching individual bees that had been marked with water colors, in the same way as the queens were watched. Counting the number of bees that came in per twenty minutes with pollen during the day, and, third, counting the number of resting bees in the hive every hour during the day and night. A mere glance at the hive at any time will show that the workers do not all rest or are all active at the same time. At any time of the day or night one may find "resting" bees in the hive. They rest either on or in the cells. On the cells they are usually along the margin of the comb where there are fewer bees to run into and over them, and usually here her rest is disturbed every minute or so by another bee running into her. When the number of resters is larger there is frequently a complete ring around in the margin of the comb where nearly all the bees are sitting quietly while the central area remains more or less active. As a rule a period of continuous resting on the cell is not longer than a minute or so, on an average probably less than this, although off on the side where the other bees do not run much it may reach half an hour. This would seem to depend almost entirely upon how crowded and active the hive is. In the cell she may rest for several hours, at least I have observed them remaining in the same cell for that length of time. When in a state of profound repose she has every appearance of a dead bee. She