wax. This could be multiplied by ten without much difficulty. First, however, the farmers must be taught the art of bee culture, and this is precisely what it is proposed shall be attempted. Next year a plant will be established for the purpose by the division of entomology, and experiments will be made with methods for caring for bees. Also it will be ascertained which of the various races are best adapted to the climate, and a study will be made of their diseases. Possibly Dr. Benton, the expert referred to, will be sent abroad to secure fine stocks. Of course there were no honey bees on this continent until the white man brought them hither from the old world.

A REASONABLY POPULOUS HIVE.

One may well spend a lifetime in the study of bees without acquiring nearly all the knowledge that is obtainable respecting them. Nothing can be more interesting as well as instructive than observation of these little creatures, so wonderful in their social organization and manner of living. regulated by laws as strict as those which govern mankind. With them is realized the condition recognized as ideal by advocates of women's rights, where the females run everything, the males being considered useful only for the purpose of perpetuating the species. A reasonably populous hive will contain about 30,000 workers, all of whom are of the gentler sex, though sexually undeveloped. They are not obliged to lay eggs, because the single queen attends to that business entirely.

Within a few days after the queen becomes a full-fledged insect she flies out of the hive and mates with one of the drones, as the males are called, which at the proper season are always flying about. In this way provision is made for the fertilization of all the eggs that she will lay within the next three years or more. Upon returning to the hive she at once begins laying, crawling over the comb and depositing in each cell one egg. Thus she oviposits in many hundreds of cells at a time, perhaps, and on the third day the eggs hatch out into little worm-like larvæ, It is the duty of the younger workers to take care of these larvæ, and this they do by going from cell to cell and depositing in each a very nutritious fluid composed of albumen, sugar and fatty matter from glands in their heads. The larvæ grow very rapidly on this diet and on the twelfth day the nurse bees seal up each cell by covering it over with wax. When the twenty-first day arrives the little ones bite their way out of the cells and appear as perfect bees. For three days more they do nothing but clean their plumage and feed, but after that they immediately take up the duties of nurse bees themselves and devote their attention to feeding and caring for the young. So it goes on continually, the queen constantly laying eggs and the young workers taking care of the growing larvæ. In this manner the population of the hive is maintained, notwithstanding the fact that most of the workers do not live more than two or three months. They literally work themselves to death, gathering honey and building.

APPROACH OF THE SWARMING SEASON.

At the approach of the swarming season, which arrives in May and is also the time for mating, the queen bee begins laying male eggs. They are the same sort of eggs as produce the workers, but they are not fertilized. For that reason they hatch out only drones, and of these several hundreds may be born in a hive. Cells of special size and shape are constructed by the workers for the incubation of these drones, which are given a somewhat different food and require twenty-four or twenty-five days of nursing before coming out of their capsules. When the mating is over and the harvest of honey begins to diminish they are driven out of the hives into the cold world, where they quickly starve to death, because they are not provided by nature with any instruments for getting food from the blossoms.

When the swarming time is coming on the workers know that it is necessasry to rear more queens, because she who is the mother of them all will shortly desert them and the population of the hive would be wiped out in the absence of an egg-laying female. Luckily, any worker egg can be made to produce a queen. It is all a matter of proper diet for the larva and accommodation for it while it is developing. So the workers build a number of unusually large cells of elongated shape, perhaps as many as a dozen. In each of these they see that an egg is lodged, and, as soon as the occupant is hatched, they begin feeding it with a quality of food, likewise secreted by the glands in their heads, such as is never given to any but queen larvæ. So rich is this food, particularly in sugar, that by the sixteenth day the young queen is ready to emerge from her sealed capsule.

THE OLD AND NEW QUEENS.

Just a day or two before this, however—so carefully is the whole affair calculated—the old queen has made up her mind that a change of residence is desirable for her. So she runs about in the hive and makes a great disturbance, trying to excite the workers and persuade them to accompany her. Presently she flies out and takes with her a swarm, leaving perhaps