WHEN THE AMATEUR KEEPS BEES: BY E. I. FARRINGTON

One fine Saturday afternoon in August a commuting friend came into the house carrying a tray loaded down with pound sections of clear, white honey and the thought came, "why should not all people who live in suburban homes, or wherever a little land is available, keep a few colonies of bees, thereby supplying the table with one of the most wholesome delicacies to be found in Nature's storehouse?"

"Walter," I said, addressing my friend, "If you reckon your profits by the dollar sign, with your fun as a bonus, how much do your bees earn for you?"

"About five dollars a colony," was the reply, "sometimes more and sometimes less, depending upon the season."

Then he went on to tell me about one colony which he purchased in the spring for ten dollars and which had paid for itself the first season, yielding over sixty pounds of honey in pound sections. That is not an unusual occurrence, either. Often a strong colony will produce 100 pounds or even more in the course of a season. On the other hand, the yield may be practically no honey at all. Everything depends upon starting the season with full, vigorous colonies and then taking pains to prevent overmuch swarming. Each time a swarm leaves, the colony is divided and made weaker.

One colony is enough for the amateur to begin with, for some time is required to learn the habits of the insects, so that they may be properly handled. It is fascinating work, the management of bees, but should not be undertaken until a good book on the subject has been read. Maurice Maeterlink's famous volume, "The Life of the Bee," will fire the reader with enthusiasm, but should not be depended upon as a guide. The A.B.C. of Bee-Keeping, by A. I. Root, and How to Keep Bees for Profit, by Rev. D. Everett Lyon, contain advice and instruction which may be followed implicitly. And both are easy reading.

In most parts of the country, a strong colony of Italian bees may be purchased for ten dollars, including a ten-frame hive. There are eight-frame and ten-frame hives on the market. The larger hives have some advantages over the smaller ones, but if the operator be a woman or somewhat lacking in muscular force, it is well to use the eight-frame style.

A hive is simply a strongly made box, into which are set frames of wood to which the bees attach their combs. Each frame may be handled separately and removed from the hive if desired, even though it be filled with honey or comb containing young bees. This fact makes the manipulation of a hive a very simple matter, but all the hives should be uniform, so that frames may be shifted from one to another. Bee-keeping was revolutionized when these
modern hives were invented, for now the bee-keeper can pull a colony to pieces and put it together again without killing a bee or causing more than a temporary cessation of its activities. Even the removal of honey in the old days meant the killing of bees by the hundreds.

Usually it is best to order frames filled with "foundation," which is a sheet of wax as thin as paper, for then the work of the bees is greatly lightened, the wax being quickly drawn out into comb, in the cells of which the honey is stored by the worker bees and eggs laid by the queen. If the bees are compelled to manufacture the wax for their combs, honey storing is delayed, for fourteen pounds of honey are required to produce a single pound of wax. The exceedingly interesting process by which the honey is transformed into wax is delightfully described in Maeterlink's book.

There is no reason for buying an expensive equipment in order to begin bee-keeping in an amateurish way. A smoker will be needed, together with a pair of long sleeved gloves, a good veil, a hive tool, a Porter bee-escape fitted into a honey board, a soft brush, a queen and drone trap and an entrance feeder. These supplies, which cost but little, may be purchased of a local dealer, if there is one, or ordered by mail.

The smoker is indispensable. Even experienced bee-keepers who pay scant attention to stings and scorn gloves and veil, seldom are separated from their smokers. Bees have a deep seated fear of smoke, perhaps handed down from the days when a forest fire was the greatest calamity of which a bee could conceive. Be that as it may, a few puffs of smoke will demoralize the insects, so that even when aroused they may be quickly subdued. A smoker is a tin cylinder in which punk from a decayed tree, old rags or anything else which creates a pungent smoke may be burned, a small bellows attached being used to keep the fume smoldering and to force out the smoke. When opening a hive, it is customary to puff a little smoke into the entrance, then to lift the cover slightly at one corner and to send a little smoke under that. Next the cover is entirely removed and more smoke administered, if it seems to be needed. It is not well to use more smoke than is needed, for it interferes with the work of the bees. Amateurs are prone to apply it rather too freely.

The best bee gloves have long sleeves which come well up to the elbows, so that the insects cannot find entrance at the wrists. There are several types of veil, but both the Globe and the Alexander are efficient and convenient. It is the fear of stings which deprives many people of the pleasure of keeping bees. Properly protected, the amateur is absolutely safe. The Italians are the best bees to keep, most strains being comparatively gentle. Some colonies are remarkably good-natured. After becoming familiar with the insects,
even amateurs often dispense with veil and gloves when doing ordinary work around the hives. It is well for men to slip a rubber band around the bottom of each trouser leg, as the bees often fall into the grass and are inclined to crawl upward. Some women wear overalls under their skirts, if bloomers are not preferred.

Bees may be purchased at any time of year, although they are active only in warm weather. The best location for the hive is the south or east side of a wall or building, where the sun’s rays will fall upon the entrance very early in the morning, warming the hive and inducing the bees to take up the burden of the day’s work before their owner is out of bed. A little shade, natural or otherwise, is an advantage in midsummer.

Often a shed open at one side is used and to advantage, if the location is one swept by strong winds or where the snow piles deeply. There should always be a walk at the back, as it is not convenient to manipulate a hive of bees from the front.

Some people like to have their hives close by the garden or as a part of it. Ornamental hives may be used in such situations. Bee-keepers in Europe do this sort of thing more often than those in this country. Wherever the hive may be placed, the bees will quickly fix the location and will return to it, however far they may fly in search of nectar. They will fill the hive body with honey and brood, and will then be prepared to work in the “supers,” where the only honey which the bee-keeper feels privileged to remove is stored. The “super” is a bottomless box which rests on the hive and in which are placed rows of pound sections, the latter being the little frames in which comb honey is sold in the stores. The bees swarm up from below and fill these sections. This work may be done very quickly, if there is a generous yield of nectar, in which event the bee-keeper will add another “super” and possibly a third and fourth. The “supers” partly or wholly filled are not removed at once, because it is advisable to allow the bees to cap the combs completely and to allow the honey to ripen a little in the hive.

Taking away the honey was formerly an exciting and lively operation. Now it is very simple, owing to the invention of a little device known as a Porter bee-escape, which is attached to the center of a thin board commonly called a honey board. This board is slipped between the hive and the “super,” after which a little smoke is blown into the latter. The bees pass down through the bee-escape into the hive, but find themselves unable to get back, because of the peculiar construction of the little device. In the course of a few hours the “super” will be practically free of bees and may be carried to the house with its burden of liquid sweetness.
THE BUSY BEE AS A MONEY-MAKER

A colony of bees consists of many thousand workers, which are undeveloped females, a few hundred drones or males and a queen, the latter a very important individual, but not the martinet she formerly was supposed to be. The queen is waited upon in the most slavish manner by the other bees, given special food and jealously guarded, but only because she is the mother of the colony and has duties assigned her which no other member of the community can perform. She is not a ruler in the common sense of the term and is not permitted to have her way in all things. If she were, she would quickly turn to and slay the young queens which the bees have begun to rear in anticipation of emergencies.

A queen bee when two years old will frequently lay 3,000 eggs in one day, each in a different cell and worker eggs in a different sort of cell from that in which drone eggs are deposited. Her activity is almost incredible, but it is most necessary, if the population of the colony is to be maintained. A worker bee lives only seven or eight weeks in summer and great numbers of recruits are needed to keep the ranks from thinning. It is a common thing for bee-keepers to substitute new queens for those which are not as prolific as they should be. Rearing queens to sell for this purpose is a line of work carried on by several expert professional bee-keepers, and the queens are sold for from seventy-five cents to as high as ten dollars.

When, in spring or summer, a hive becomes crowded with bees, the queen and a considerable proportion of the other bees swarm out in search of a new home. It is this proceeding which the amateur usually dreads, but without much reason. To begin with, the bees are invariably good natured at swarming time, seemingly care free and at peace with the world. As a fact, they fill themselves with honey before leaving the hive, and are so full that stinging would be a difficult matter, were they disposed to sting.

When the swarm issues, it first settles upon a bush or other object near at hand. This gives the bee-keeper his opportunity to capture it. He sets an empty hive under the swarm or else close by with a sheet or newspaper spread before the entrance. Then he simply shakes the bees into the hive or in front of it. If the hive has been kept in a cool place, the bees usually will scurry in at once, the queen with them. The new hive is then given the place occupied by the old one and the latter moved to one side. Many of the bees which were not with the swarm will return to the old location and go into the new home, aiding to build up a strong colony at the start.

Meantime, the old colony is readjusting itself to the changed conditions. In several parts of the hive are large cells, resembling peanuts, in which queens are being reared. In a few days one of them will emerge and become the mother of the hive. Sometimes a new queen will lead a second swarm in a few weeks, but this is not to be desired, as it weakens the parent colony to such an extent that no honey is stored for the owner. To prevent it, a queen and drone trap is placed at the entrance a few days after the first swarm has issued and is kept there for some weeks. Then there can be no swarming, for the queen cannot get out and the bees will not leave without her. The trap should be cleared of dead bees every three or four days.

Sometimes a swarm issues when there is no one at hand who knows how to capture it, although the process is so simple that any member of the family can undertake it. In such a case, however, the best plan is to sprinkle water on the bees with a whisk broom occasionally. They cannot fly with wet wings and will remain where they have clustered until arrangements for hiving them have been made.

Sometimes the queen trap is used on a hive from which a swarm is expected when the owner is to be away all day. The queen will be caught if she tries to escape from the hive and the bees will return in case they leave without her. At night she may be removed from the trap and placed in the hive. Some bee-keepers find swarming made easy by using this trap. When the swarm comes out, the trap containing the queen is taken away and a new hive placed on the stand of the one from which the swarm issued. Having missed the queen, the ascending bees will soon come circling back and will rush into the new hive without noticing the change. As they go in, the queen may be removed from the trap and quietly dropped among them. She will hurry in, too. If the hive has been fitted out with frames containing foundation, the insects will perceive that in some marvelous manner a vast amount of work has been cut out for them and go busily.
about it. To all intents and purposes they will have swarmed.

When winter comes the bees cluster in the hive and move about but little except on warm days, when some of them indulge in a short flight. They must have an abundant store of honey, for they keep eating, and the hive must be protected in some way. Wrapping in heavy paper or packing straw around them will answer for ten-frame hives, but those with eight frames are better protected with an outer case sold by dealers in bee supplies.

People who keep a few colonies of bees and study their habits often become very much interested in them, so much so that they would like to see just what goes on within their little houses. Observatory hives have been invented for the satisfaction of such people and may be placed in a window of the living room, with the entrance outside. The walls of these hives are glass, making all the details of the bees' housekeeping plain.

Even people who live in cities may keep a colony or two of bees. I have seen populous hives on the roof of a business block in the heart of Boston, and I know a banker who has two hives at the windows of his bedroom. Bees will fly three or four miles in search of nectar and in most cities there are parks and gardens where flowers bloom all summer. And bee-keeping in the city or the country, as a pastime, a hobby or for profit, is well worth while.

LITTLE GARDENERS OF NEW ENGLAND WHOSE FLOWERS AND VEGETABLES HAVE WON DISTINCTION

The interest of American schoolchildren as well as their parents and teachers in the making of gardens is steadily growing, and each week brings to our notice some new development along these pleasant lines, or some proof of what the young folk of our towns and cities have accomplished in their efforts to transform bare ground into fruitful places and convert idle hours into useful happy ones.

Among the recent displays of work by youthful gardeners is the annual exhibition of the Massachusetts Horticultural Society, which was held the last few days in August and the beginning of September in Boston's Horticultural Hall, where prizes including $200 appropriated by the State were awarded to the successful competitors for their specimens of vegetables and flowers.

The ages of the contestants ranged from five and one-half to eighteen years, and according to The Boston Globe the entries were more numerous than usual and the competition keen. In fact, the exhibition was the best of its kind ever held in Boston.

One little girl, not yet six years old, displayed stalks of corn three times as tall as herself, one of the stalks being ten feet high and bearing excellent ears. While another young gardener only thirteen managed to produce on a plot of ground sixty feet square, as many as seventy varieties of vegetables.

In addition to the many workers in individual gardens, whose energy and enthusiasm achieved such encouraging results, there was also represented at the exhibition the collective work of boys and girls who tended together the gardens of their homes, schools and clubs.

"The Waltham school gardens," reports the paper previously quoted, "which were tended by twelve boys, made a fine showing under the direction of Charles Roberts and William Mccolgan, as did the exhibits of the Boy Scouts' gardens under the direction of the Women's Municipal League of Boston, with Miss Persis Bartholomew as teacher. The home and school gardens of Groton pupils, with Miss Bertha C. Rixby, assistant supervisor of gardens, in charge, sent an attractive display."

Other exhibitors were the Quincy Woman's Club, through whose efforts nine hundred children made school and home gardens; the Roxbury and Jamaica Plain Neighborhood Houses; the Sterling Gardens, representing one hundred and fifty plots of flowers and vegetables; the South Bay Union roof garden; the Social Union and other settlement houses.

Altogether it was a very interesting and representative display, and one that spoke well for the efforts of these garden workers, both young and old. And aside from the actual worth of the products, there is the value that such an undertaking always brings to the home, school or community where it is accomplished, in changing barren or untidy gardens into spots of greenery and loveliness, and in letting the children themselves taste the wholesome joy of outdoor work.