And a beekeeper is born . . .

THE A. I. ROOT CO.
P. O. Box 706, Medina, Ohio 44258-0706
P. O. Box 6, Council Bluffs, Iowa 51502-0006
P. O. Box 9153, San Antonio, Texas 78204-0153
Remember your very first garden? Maybe it was a little plot of ground in your back yard with tomatoes, beans and watermelons — lovingly planted and eagerly watched. Or maybe it was as simple and space-saving as a Dixie-cup with a marigold seed tucked gently into the soil. It might have been almost anything, but I'll bet you remember it.

It was your participation in a miracle — the miracle of life — that made that marigold so beautiful and those tomatoes so tasty.

Beekeepers are very special people, not unlike yourself. They are people who care about the environment we live in and the creatures we share it with. Some began beekeeping at an early age with several generations of beekeepers to guide, encourage and assist them. Others began in high school or college after getting to know another beekeeper. Maybe their interest was sparked by a course they took, an article they read or a swarm they found. Some simply wanted a business requiring little initial investment but with limitless potential. The ways and reasons for becoming a beekeeper are as fascinating and varied as the people themselves. The one thing they all have in common is the creatures they have come to care for: honey bees.

Honey bees are among the most hard-working and highly organized creatures sharing our world. What is more, they are (by nature) quite non-violent, using their sole means of defense only when absolutely necessary. Their life span ranges from a short six weeks during the busy summer to a few months during the less active winter. Their every move is carefully calculated to assist in the survival of the colony. The work they are most well known for is, of course, the production of honey: one of the oldest sweeteners. And speaking of honey, did you know that it takes 80,000 trips by the bees to bring you a single pound of this delicious and natural food?

While the last statement is proven fact, folklore does exist about bees and honey — even today. No doubt you have taken honey with lemon for a sore throat or hoarseness. But did you know that it is also thought to be good for insomnia, burns, hay fever and nerves?

• BECOMING A BEEKEEPER: You and the Honey Bee •

There is much to be gained through the keeping of bees. In fact, even if you never gave honey bees another thought, you could not possibly escape benefiting from them each time you eat any fruits and vegetables. Since more than fifty agricultural crops are dependent on the honey bee for pollination, some of your favorite foods might not exist if not for these winged wonders. Apples, for example, along with cherries, blueberries, pears, raspberries, celery, carrots and watermelon are only a very few of the foods assisted by honey bees. Every time you walk through a flower garden you behold the handiwork of the honey bee. Like many things we take for granted, honey bees add more to our lives than we will ever know.

Today's beekeepers began much as you did. They took the time to learn just a little bit about some of the creatures who share their existence — and were so interested in what they learned that they decided to learn more. One day they found themselves so interested and learning so many new and fascinating things that they decided to have their own hive, and a beekeeper is born.

Perhaps you are like these people and find that you too would like keep bees for your own pleasure . . . and profit. Whatever your desire, there are some very
good books available from The A. I. Root Co. designed especially for those such as yourself. *Gleanings in Bee Culture* is also recommended as a monthly magazine, designed for those interested in bees and beekeeping. The articles are varied and informative as well as entertaining. Every month readers questions are answered and we always welcome your comments. We further invite you to send for our newest Bee Supply Catalog, free of charge. This will give you an idea of just how easy it can be to start your own apiary.

**LOOKING AHEAD**

Now that you remember how you felt when your family sat down for a meal which included things you had grown yourself, just think how proud you will be when you present them with jars of honey from your very own hive!

**THE HONEY BEE COLONY**

THE HONEY BEE (*Apis mellifera* L.). Honey bees, whose Latin name means Honey Maker are one of the most beneficial insects in the world. Not only do they give us beeswax, which is mostly used in cosmetics today, but they have also provided the sweetness of honey for thousands of years. Most valuable of all, however, is the fact that they pollinate the flowers they visit.

Without bees, we would be eating mostly rice, wheat and corn instead of the variety of fruits and vegetables we enjoy. There are about fifty commercially grown crops that depend on bee pollination. Some of these crops are: melons and cucumbers, apples and most other fruits and berries, almonds and all clovers and alfalfa. Without this insect, BILLIONS OF DOLLARS a year would be lost due to un-pollinated crops.
MORE ABOUT BEES. A colony of honey bees is, simply, a group of bees that live together as a family within a single hive.

There are three castes of bees in each colony. The most important of these is the QUEEN bee. She is the egg machine in the hive and can lay up to 1,500 eggs PER DAY, if there are enough worker bees to incubate them. Without a queen mother, the colony would soon dwindle to nothing.

WORKER bees are all female. It is their duty to care for the various stages of young bee development or brood, from eggs to adult bees. Workers also clean and guard the hive, build honeycomb and gather nectar and pollen from the flowers. These worker bees are what you see traveling back and forth from the hive throughout the day. These industrious and laboring bees are responsible for that most delicious and healthful sweets: honey. There are usually between 40,000 and 70,000 workers in a good sized colony.

DRONES are male bees and congregate in special flight areas looking for young queens with which they can mate. In the summer time they will number up to 1,500 or so, but come fall the workers will drag them out of the hive to die. Since they cannot sting, they are defenseless against attacks by birds, toads or skunks which love to eat bees.

BEE COMMUNICATION. Bees are very successful in bringing back large amounts of nectar because they are able to communicate the location and kinds of food available. They do this by a series of body movements called DANCING. A returning forager bee lets the house bees taste the nectar, and smell the scent of the flower that adheres to her. As she starts to dance, the direction she points to relates to the sun's position AT THAT TIME. Her body movements, or wags, indicate the distance to the food. Remember, it is pitch dark inside a colony. By touching the dancer with their antennae, other bees can decipher such movements and odors and make a kind of road map to the flower.
BEE ARCHITECTS. Beeswax comes from special wax glands located underneath worker bees' abdomens; once gorged with honey, they begin to secret small wax chips. With their strong jaws, they chew, bend and shape the chips into the hexagonal (six-sided) honey comb shape so familiar to us. Hexagons have been studied by engineers for a long time. They have concluded that hexagons are one of the strongest shapes used in construction. They provide more storage space than, say, circles, and also take the least amount of wax. It takes seven pounds of honey for the bees to make one pound of wax.

SWARMING. Where do new bee colonies come from? They don’t last forever and must duplicate themselves in order to survive. They do this by swarming. This means that the colony will grow so large that it will split in half. The old queen will fly out with the swarm and begin a new colony in another location.

Meanwhile, the original colony, now queenless, has made some new queens. They do this by feeding selected worker larvae (immature bees) with a high protein substance called royal jelly. With this special food, the young larvae soon grow so huge that a large, peanut-like cell is constructed. This queen cell contains a virgin queen which will hatch in 16 days (workers hatch in 21, drones in 24). When she is about a week old, the virgin queen will fly outside the hive in search of drones (male bees). They mate in the air; one queen will mate with about 10 or so drones, who die shortly afterwards. Once mated, the queen will not leave the hive again, unless she too swarms. Have you seen a swarm? If so, did you call a beekeeper to put them into a new beehive?
A FINAL NOTE

Bees need your help if they are to continue living. Recent introductions of parasitic mites, called the tracheal mite, as well as diseases and the careless misuse of poisonous insecticides, have severely damaged bee colonies throughout the world. Destruction of honey plants by building construction has also limited the amount of honey that a colony can produce. A strong colony of bees can produce over 100 pounds of honey on an average year. YOU CAN HELP!

Learn to distinguish bees from more troublesome wasps, hornets or yellow jackets. Bees are fuzzy and brown, not black and yellow. Bumble bees, our native pollinators, produce small amounts of honey, but they are most important as pollinators for blueberries and other fruits and therefore should be protected as well.

Before using insecticides, read all instructions carefully and never spray directly on blooming flowers that bees might visit. Make sure that none of the poison gets into puddles of water that bees might drink. If in doubt, call a beekeeper or extension agent.

HONEY BEES ARE A VITAL LINK IN THE WEB OF ALL LIVING THINGS.

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