

WHAT FARMERS OWE to the BEE



Colonies of honey makers necessary to fruit raising because they are the chief fertilizing agent: : And there can be nothing more tempting than hot biscuit and honey for breakfast on a crisp winter morning

By ROBERT H. MOULTON.

FARMERS in this country are just coming to realize the debt which they owe to the honey bee. It has long been understood, of course, that this busy little insect fertilizes the blossoms of apple and other fruit trees and so helps to increase the crop, yet the bee has seldom been credited with doing so much good as is actually the case. Indeed, in times past some fruit growers have sought to get rid of the bees on the ground that they damage the ripe fruit. The crop so quickly decreased in size, however, that the fruit men were glad enough to have the bees back again. There is a well-established belief that bees puncture grapes in order to extract the sweet juice, but the fallacy of this belief has been proved beyond a doubt. Ripe fruit has been placed inside a beehive, with thousands of the insects present, but it has not been molested. It is true that if hornets or birds make holes in grapes, pears or other ripe fruit, the bees will feed on the juice which is exuded. In point of fact, the jaws of the honey bee are so made that it would be unable to bite into or otherwise make holes in fruit, even if it had a will to do so.

Orchards in which bees are present in large numbers are almost always much more productive than those in which only a few bees are to be found and many apple growers are now establishing apiaries in or near their orchards. It is not necessary to have the hives actually under the trees and it may be better to have them in an adjoining field if the orchard is to be cultivated, as otherwise the hives might be in the way and the horses stung. Bees seem to have an instinctive dislike for horses and will even attack the beekeeper sometimes if he starts to work in the bee yard when the odor of horses is upon his clothing. Beekeeping is not to be recommended to hostlers.

To the orchardist the honey and wax which he gets from his bees are merely by-products. An extra yield in fruit is what he is after. And he gets it, as may be judged from an instance cited by one of the state experiment stations. It seems that two orchards situated in the same part of the country were cultivated in exactly the same manner and had the same kinds of trees. Yet one was prolific and the other a failure. When the experiment station was appealed to, the trouble was diagnosed as a lack of bees to pollinate the flowers. "You are wrong," the answer was flashed back, "for there are no bees in either orchard."

The inspector was not convinced, however, and after a search he found a very strong colony of bees in a fallen log in one corner of the bearing orchard. Bees were immediately installed in the other orchard by the owner, and as a result he netted nearly \$4,000 the next season—pretty good interest on an investment of \$15 or \$20 in bees.

Most people do not know that an apple blossom requires to be fertilized several times in order to produce the best fruit, but this is a fact. Moreover, the blossoms of some trees must be pollinated from another source if fruit is to be set. The work is done largely by honey bees, although wild bees and other insects help out to some extent. Once, as a test case, 2,586 apple blossoms were covered in order to keep the bees away, and only three apples matured. Of course, the bee does not pollinate the blossoms purposely. She is in search



EXPERT HANDLER RARELY STUNG



CATCHES QUEEN, SAVES SWARM



BEEKEEPERS AT A STATE APIARY DEMONSTRATION

IOWA STATE INSPECTOR OF APIARIES EXAMINING BEES

sive to be feasible. It has to be done in greenhouses where strawberries are grown, for when bees are used the fruit is always misshapen, but the winter strawberries sell for a dollar or two a pint!

Perhaps it may be said without getting anybody into trouble that the free use of water by spraying makes possible some of the remarkable exhibitions which bees occasionally give. Water is not always used, by any means, but when it is the bees are rendered surprisingly tractable and docile. There are no bee tanners, however, who are not stung at times. Indeed, they may be stung very often, but they are injured to the experience and do not even wince. And, of course, an experienced beekeeper learns how to handle bees without making them angry. Furthermore, some bees are much gentler than others. Many times it is a good plan to kill the queen in a cross colony and replace her with a young queen from a quiet colony. Yet the cross bees are likely to be among the best honey producers in the apiary.

Many farmers fail to succeed with bees simply because they neglect to learn anything about their management. It is true that bees do not require a great amount of attention and do best when left alone most of the time. Yet there are certain things which have to be done just at the right time and in just the right way. These are the few things that the farmer should know about. In early spring, for example, the bees may easily starve to death for lack of stores, although they may have come through the winter safely. In that event they must be fed on sugar syrup if no honey is available. Equal amounts of sugar and water may be used and it is best to have the water warmed, but the sugar should never be melted on the stove, as it is likely to be burned. The syrup may be given in one of several different kinds of feeders, but few are better than a shallow pan from the ten-cent store with a little excelsior in it for the bees to walk on. If this pan filled with syrup is placed on top of the frames

of the hives the bees will quickly take the liquid down and be tided over the period of famine. It is a mistake for any farmer to try to keep bees in the old-fashioned box hives, for they cannot be managed so well and getting the honey out is likely to be a painful as well as exciting process. Likewise, thousands of bees are needlessly sacrificed, and the hives are almost sure to be neglected. Modern hives cost but little, yet may be taken entirely to pieces and the bees looked over without the loss of a single one. And taking honey out is no trouble at all, when a bee escape is used, for the bees do not even know what is going on.

The best way to begin beekeeping is to buy a colony or two from some up-to-date apiarist in the neighborhood, but a hive full of bees can be shipped by express or the insects may be bought by the pound if one already has an empty hive. Indeed, this is a practice which is becoming very common, for even experienced beekeepers often invest in one, two or three-pound packages of bees in order to build up weak colonies. It is not an unusual thing for bees to be shipped all the way from Texas to Canada.

Sometimes wild bees may be captured in the woods and brought home. Although called wild bees, these honey makers which are found in logs and hollow trees have escaped from captivity at some time, for there were no honey bees in this country until they were brought here by the Pilgrim Fathers.

If the farmer owns more than half a dozen colonies of bees it will pay him to get an extractor. This is a simple device for separating the honey from the combs, the latter being placed in a frame which revolves at a high rate of speed, the liquid honey being thrown out of the wax cells by centrifugal force, just as cream is separated from milk. Then the combs may be put back in the hives for the bees to fill again. The farmer can usually get more honey this way and will have less swarming.

lying on the Pacific coast of South America (like the states of California, Oregon and Washington, on the Pacific slope of the United States), covering an area of nearly 300,000 square miles, or more than that of Texas, and directly tributary to the Panama canal, bought and sold in foreign commerce products valued at nearly \$262,000,000.

Advantages of the Telephone.

Evan B. Stotsenburg, attorney general, tells a story concerning the early days of the telephone in New Albany.

A character of the town, who operated an office in rooms just above the livery stable, was impressed with the benefits of the telephone and had one placed in his office.

Meanwhile the new-fangled instrument also went into the livery stable. Then the town character sat down and waited for someone to take advantage of the new instrument. No one did.

One day the telephone bell in the livery stable, however, rang with all its might.

"Hello," yelled the livery stable proprietor.

"Hello, yourself," answered the voice of the town character, upstairs.

"Just pass me the broom up through the front windows, will you?" said the voice.—Indianapolis News.

Seventy per cent of the world's cork supply is said to be produced in Spain and Portugal.

INTERNATIONAL SUNDAY SCHOOL LESSON

(By D. O. BELLERS, Acting Director of the Sunday School Course of the Moody Bible Institute, Chicago.)
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LESSON FOR OCTOBER 1

PLOT THAT FAILED.

LESSON TEXT—Acts 23.
GOLDEN TEXT—They shall fight against thee; but they shall not prevail against thee; for I am with thee, saith Jehovah, to deliver thee.—Jer. 1:19.

The stirring events of this lesson occurred in the Castle Antonia and the Sanhedrin hall, near the temple court of Jerusalem; also in Caesarea, the Roman capital of Judea, on the Mediterranean coast, in the year A. D. 57, just at the close of Paul's third missionary journey. The lesson pictures two successive days of strange adventures in which Paul was concerned, a narrow escape and the unexpected providences used in his deliverance. The day was inaugurated by Paul's magic words "I am a Roman citizen," which caused the commander, Lysias, to release him from the threatened scourging, and made him more than ordinarily careful in his treatment of Paul.

1. Before the Elders (vv. 1-12). By referring back to chapter 21, v. 13, we find the charge which really underlay all of Paul's trouble, his preaching in the name of the Lord Jesus. Paul's defense is interesting. He gives us a rehearsal of his Christian life, laying emphasis upon its blamelessness and the fact that he is not an apostate Jew. The high priest speaks to silence him, but not gently. Although Paul for a moment seems to give way to his justifiable indignation, he quickly reveals his reverence for the rulers of the people. He then divides the sanhedrin. Read carefully chapter 22:6-8, and compare with verses 17 and 18. The sanhedrin could not explain this testimony of Paul, and were seeking to put aside the whole question. An interesting discussion would be to consider the insult to Paul. Was his indignation right and rightly expressed? Another question, the matter of Paul's apology. Just for what did he apologize? Is it ever wrong to speak evil of rulers? These were indeed days of stress and storm. Was Paul justified in dividing the sanhedrin in order to conquer their opposition to him? Again, how God used these incidents in the furtherance of the gospel is a suggestive lesson for us all. It has been hinted that Ananias was not in his priestly garments, and therefore perhaps not readily recognized by Paul. Paul may never have seen him, as he was elected high priest after Paul had left the council. It is interesting to note that it is not said that anyone struck Paul or that Paul did not apologize for his words or deny them to be true, but only for their being spoken to the high priest. Read in this connection what Christ said to the Pharisees (Matt. 23:27). Paul apologized because he had broken the law found in Exodus 22:28. In the trial of Christ one of the officers struck Jesus with the palm of his hand, whereupon Jesus answered him, saying: "If I have spoken evil, bear witness of the evil, but if well, why smitest thou me?" On the other hand, when Jesus was ill-treated by the common soldiers, he opened not his mouth.

11. The Plot and Deliverance (vv. 12-25). Paul's prospect was not a pleasant one. In his darkness God appeared to his faithful servant to cheer him (v. 11). Perhaps Paul was tempted to think he had made a mistake in coming to Jerusalem over the protests of his friends, but evidently the Lord heartily approved of his testimony there. A dangerous conspiracy was forming against him, but God was, as he always is, beforehand with his comfort and preparation for the crisis. We have often speculated as to what became of the forty men who entered into it (see v. 12)—whether they actually lived up to their oath. If they did, they must have died of starvation. They were determined men, willing to go any length, and fancied they were doing the will of God. There is no more dangerous man than he who fancies that he must be the judge as to who are God's friends and who are his foes, and that he is the appointed executioner of God's judgment. The plot was well laid, and seemed certain of success, but it failed miserably. (See Psalm 2:1-4; 64:1-10; Isaiah 41:10). The wicked, who leave God out of their plans, no matter how cunningly they plot, are doomed to failure (Rom. 8:31). These plotters co-operated with the priest. Ecclesiastics have often descended to the lowest villainy. Men are not murdered today, though their reputations are often blasted by unprincipled and hellishly impelled professed followers of the lowly Nazarene. Paul had friends in this city. His nephew's discovery and revelation, and the Gentile soldier, a colonel, effered his deliverance. In the boy's heart there must have been great admiration for the uncle. It would be well for teachers of boys to have them repeat in their own language this boy's story. Paul was not safe in Jerusalem. The Roman governor recognized the nature of the conspiracy, and the desperate character of the Jewish fanatics, and therefore sent him under a strong guard to Caesarea, which was reached after a journey on horseback, lasting through the night and the following day.

HUSBAND OBJECTS TO OPERATION

Wife Cured by Lydia E. Pinkham's Vegetable Compound

Des Moines, Iowa.—"Four years ago I was very cick and my life was nearly spent. The doctors stated that I would never get well without an operation and that without it I would not live one year. My husband objected to any operation and got me some of Lydia E. Pinkham's Vegetable Compound. I took it and commenced to get better and am now well, am stout and able to do my own housework. I can recommend the Vegetable Compound to any woman who is sick and run down as a wonderful strength and health restorer. My husband says I would have been in my grave ere this if it had not been for your Vegetable Compound."—Mrs. BLANCHETTE JEFFERSON, 703 Lyon St., Des Moines, Iowa.

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Imparting Information.

The British soldier will make a joke even against himself. An elderly lady in a bus noticed the initials "R. D. C." on a soldier's tunic. She puzzled her brains, but could not solve the mystery as to their meaning. At last her curiosity overpowered her and she asked what they stood for. "Reformed Drunkards' corps, ma'am," said the soldier gravely. "Dear me," said the lady, "how very interesting." And probably not one of those who laughed at the reply could have explained what "R. D. C." really means.—London Chronicle.

True Philanthropist.

"What disposal did old Vandergelt make of his enormous fortune when he died?"

"Most of it was left as a fund to supply gasoline to indigent motorists."

Why That Lame Back?

Morning lameness, sharp twinges when bending, or an all-day back-ache; each is cause enough to suspect kidney trouble. Get after the cause. Help the kidneys. We Americans go it too hard. We overdo, overeat and neglect our sleep and exercise and so we are fast becoming a nation of kidney sufferers. 72% more deaths than in 1890 is the 1910 census story. Use Doan's Kidney Pills. Thousands recommend them.

A Kansas Case

W. C. Line, 702 Illinois St., Neodesha, Kan., says: "The first symptom of my kidney trouble was dizziness and it often got so bad I had to rest my head. My head ached intensely and I had pains above my hips, day and night. Doan's Kidney Pills removed these ailments and whenever I have felt the slightest return of attack, from a cold, this medicine has brought good results."

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Our Opportunity In Latin America

By JOHN BARRETT, in the Review of Reviews.

These are the times when everybody should be studying the twenty American republics lying south of the United States. These are the days of unprecedented and legitimate opportunity in Latin America for the commercial and financial interests of this country. This present year should be the beginning of a new epoch in the material, social and political relations of North and South America.

The next ten years are going to be "all American" years. All America is to attract the attention of all Americans. This new development is inevitable. The cause is found in the natural wealth, resources and potentialities of Central and South America, their actual commerce and trade, their remarkable progress during recent years, together with the unceasing propaganda of the Pan-American union, which was at first even ridiculed and little appreciated, but is now generally valued and recognized. The occasion of this new interest at this moment is the European war and the emphasis it has placed upon the geographical segregation and commercial solidarity of the nations of the western hemisphere.

Consider Latin America in any phase one prefers, and it is worthy of keen interest. Let us first look at it geographically and physically. We see twenty countries ranging in area from little Salvador, with less than 8,000 square miles, or smaller than Vermont, up to mighty Brazil, with 3,200,000 square miles, or greater than the United States proper with Great Britain thrown in! In

all, they spread over nearly 9,000,000 square miles, or three times the connected area of the United States! They contain mountains higher, rivers longer and more navigable, valleys wider and more fertile, and climates more varied than those of the United States.

Noting the population, we find that Costa Rica stands the small end of the list with 400,000 inhabitants, and Brazil tops it with 20,000,000. All Latin America supports today approximately a population of 75,000,000, which is increasing by reproduction faster than is the population of the United States. When the new emigration from Europe starts in after the war, and when the Panama canal is in full use by the shipping of a peaceful Europe, this total may soon overtake and pass that of the big sister nation of North America.

We are almost astonished by the figures of Latin-American commerce. They make us respect many of the southern republics and peoples, even if some other influences may not be so favorable. Last year the twenty southern neighbors of the United States, through sheer strength and capacity, pushed up the total of their foreign trade to the huge sum of nearly \$3,000,000,000. This was divided almost equally between exports and imports, with the actual balance of trade in their favor. Argentina, for example, with an ambitious, vigorous and prosperous people numbering about nine millions of souls, conducted a foreign commerce valued at the surprising total of \$300,000,000, which makes an average of about \$100 per head. Chile, a land of achievement and promise,