

Reviving An Apiary

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I KNEW FOR a number of years that I would have to retire from my job as apiculturist with the Bee Breeding Laboratory at Baton Rouge in May 1967. While casting around for some interesting work to occupy a part of my leisure I remembered that there was a neglected apiary on Idlewild Plantation in East Feliciana Parish. Early in 1967 I offered the apiary owner \$65 for all the bees and equipment. The offer was accepted. The following is an account of my work designed to bring the apiary into reasonably good shape. My readers should remember that time was something I had a lot of; I put no value on it.

According to S. A. Lytle¹, the apiary is located on what is called the Loessial hills and Mississippi terraces, formed from wind blown silts overlying Coastal Plains material. Much of the uncleared land is covered with loblolly pine and the cleared land by broom sedge. The soils are acid with a pH of 5.2 - 5.4. Successful white clover growth requires the application of lime and phosphate.

Union Carbide Corp.

In April 1967 Union Carbide Corp. offered me a summer job with the Ecology Section at the Oak Ridge National Laboratory at Oak Ridge, Tennessee. Consequently, I spent from five to six months in 1967, 1968, and 1969 at Oak Ridge. The first year I began working at Oak Ridge on June 1 and in subsequent years on April 1. Except as noted later, all of the beekeeping operations had to be done in a short period in the spring or in the fall, while repair of equipment was carried on in the winter.

The Apiary

Originally the apiary consisted of 20 colonies in 12-frame deep brood chambers and 12-frame shallow supers. The first and hardest job was to chop down and remove the many oak, pine and sweet gum saplings, and the vines and briars in and near the apiary so that I could move around freely and also to let in more sunlight. It is unfortunate that photographs were not taken before and after the cleanup. People who have never lived in Louisiana probably cannot realize how rapidly trees and briars take over neglected areas.

Upon close examination I found that 12 hives contained live bees. These colonies were so full of honey that the queen bees did not have adequate brood rearing space. The honey was extracted as soon as possible and the empty combs returned to the colonies. Prop-

olis had accumulated to such an extent on the frames that it was impossible to remove combs from the brood chamber without some breakage.

The hives without bees were in bad condition. Wax worms had eaten all of the combs; mice had built nests in some hive bodies; a couple of hives had tipped over and lain on the ground so long that some frames, hive bodies and bottom boards had rotted beyond salvage. Hive covers, in some cases only loose cypress boards, were in fair shape, some needed renailling, and a few had to be replaced. Originally the hives were on four half or whole bricks. Over the years the bricks had sunk into the soft ground so that the bottom boards were in contact with the damp soil. Some were no longer usable and had to be replaced, mostly from extra pieces of cypress lumber that were in the apiary.

Nectar and Pollen Plants

Honeybees have been observed gathering pollen or nectar or both from the following plant species: henbit, peach, wild plum, pear, maple, elm, willow, red bud, oak, spiny leaved thistle, black locust, tupelo, holly, dew and blackberry, white clover, red clover, magnolia, Dallis grass, ragweed, partridge pea, wild sunflower, tievine, smartweed, boneset, goldenrod and aster. This is not a complete list for I never walked more than a 1/4 mile in any direction from the apiary nor spent much time in the field in the summer. Based on time of blossoming and number of trees in the area maple, elm and willow are the most valuable pollen sources. I think that the principal nectar sources are tupelo, blackberry and white clover. There is no commercial beekeeper in the parish as far as I know.

Colony Management

Brood rearing begins late in December or early in January and ceases late in October or early in November. Colony examinations early in the spring or late in the fall lead me to think that there is insufficient bee bread for maximum brood rearing at those times. This condition is in line with that reported by Oertel², i.e. that most of the colonies seen during a fall survey were rated as "weak".

I think that my management is best described as a "let-alone system". Colonies have adequate honey stores and room for brood rearing and nectar storage. Perhaps sometime I will try feeding pollen supplement. In theory, I

probably should requeen more frequently and strive for stronger colonies, but I am not particularly interested in doing more physical work. You will note that there is no charge under "expense" for queen bees. This is because the Bessonnet Bee Co., Inc. sent me queens, but returned my check uncashed.

My experience with 12-frame deep bodies has convinced me that when they are used as honey supers they are too heavy for the average person. In the brood chambers, at the Idlewild location, the outside combs are mostly unused and they tend to deteriorate in this climate. I could use dummies instead of the outside combs, but I am afraid that the wax moths would take advantage of them.

Expenses, Income and Inventory

Apiary, 12 live colonies plus all equipment, \$65; 250 sheets foundation, \$53; 50 new frames, \$12.50; 8 used 10-frame bodies plus frames, covers, bottom boards, \$16; paint, wood preservative, nails, \$10; Marine plywood, \$4.50; transportation, no charge; credit received for pollination rental, \$420.

There are at present 20 live colonies in the apiary in equipment consisting of 30 deep 12-frame bodies and combs, 24 shallow 12-frame bodies and combs, 8 deep 10-frame bodies and combs, 20 hive covers and 20 bottom boards.

Increase

Sufficient equipment was available and usable so that increase of colonies could be made in the summer of 1968. Friends of mine, Gary Reynolds and Glen Hall, split 10 colonies to make 20 by the fall of 1968. The men also requeened some colonies to get rid of black and cross bees.

Surplus Honey

I have no desire to become involved in honey extraction and sales. All surplus honey has been given to individuals who have the needed extracting equipment. According to my rough estimates the surplus removed has been about 40 pounds per colony in each of the past three years.

Improvements

As time permitted hive bodies have been cleaned, repaired and painted. Most of the drone combs have been removed and replaced with foundation. Empty frames were cleaned, renailled and foundation inserted. Bottom boards have been repaired and painted with wood preservative. The hives have been

placed on pressure-treated fence posts or on whole bricks, six to each bottom board.

Miscellany

When I returned from Oak Ridge in 1969 one colony was dead and several combs had been eaten by wax worms. Oertel³ reported that wax moth damage is common in Louisiana. A new colony was made up to replace the dead one.

MERIT BADGE — ONE FOR BEEKEEPING

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ges. So I set about buying all of the things we needed.

First it was the hive, smoker, bees, this, that and the other thing. Sears provided us with everything we needed. Our first summer was off, and Richard and Everett both received their merit badges the same year. I was proud. At least it would serve a good cause. At the time, I had about \$100 involved in the bees.

The following summer brought the promises of a great year. I set about buying foundation and more frames. Thanks to Richard though, I didn't have to buy more hives. The man that owns the lumberyard is a member of our church. We told him what we were doing, and asked him if we could have scrap wood. He told us that the kind we wanted was a little expensive, but that he would give us enough for \$5.00 to last us a long time. He did.

We made 20 hive bodies with that wood he sold us, and I bought the frames to fit them. Now, where do all the bees come from for those hive bodies?

Well, I called the Agriculture Department, and they said that if they heard of anything they would call me. I called the Animal Shelter, and all kinds of exterminators.

When spring began to bloom big, I received my first call. Someone in Las Vegas said that a big clump of bees had landed on a post between two fences. That mess turned out to be our worst swarm of bees. But it was big; very big.

Richard, Everett and I spent hours spooning those bees through the fence into a hive only to have them fly back to the swarm. In desperation as night-time came, we took slats off of the fence, and knocked the whole body of the swarm down into the waiting hive body. That was all that was needed.

After that we received calls almost every day, and sometimes two in a day. During the height of the swarming season, we received about four calls in one single day. And we got them all. We've planted the hives all over the Henderson area, some in the valley

Mouse damage to combs has been negligible, perhaps because I put out warfarin mouse poison every fall.

My records show that I have made 38 visits to the apiary since the purchase. Because the carrying capacity of my car is small, 12 of those trips were taken to carry supers of honey and to replace the extracted combs.

Reviving that neglected apiary has

and a lot of them right in Richard's back yard and Everett's too.

After some discussion we have decided to see what happens again this year since some of the merit badge requirements include handling a swarm of bees. So it means more bees, and lots more money and work.

Anyone that really searches through the maze of insects and seeks the interesting, scientifically provoking and just plain fascinating, is sure to come out staring at a busy hive of bees.

THE BEE LOUSE — RECENT OBSERVATIONS

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saltpeper, naphthalene, oil of turpentine and carbolic acid. Supposedly, *Braula* was to succumb to the fumigant and fall to the bottom board before the honeybees did.

As a result of the nominal expansion of the range of this insect in the United States and its doubtful harm to a colony, *Braula coeca* can be considered a minor pest at its worst.

Bibliography

1. Clarke, W. W. (1970) Personal correspondence.
2. Imms, A.D. (1942) On *Braula coeca* Nitsch and its affinities. *Parasitology* 34(1): 88-100.
3. Lindner, J. (1970) Personal correspondence.
4. Oldroyd, H. (1964) The natural history of the flies. The Norton Library. New York. pp. 182-183.
5. Phillips, E. F. (1923) Notes on apiculture. *J. Econ. Ent.* 16(6): 562.
6. Phillips, E. F. (1925) The bee louse, *Braula coeca* in the United State. USDA circ. 334. 12 pp.
7. Stone, A. (1970) Personal correspondence.

New Government Handbook

THE AGRICULTURAL Research Service of the USDA in cooperation with Louisiana State University has published a very complete agriculture handbook on the subject of instrumental insemination of queens. It was written by Dr. Otto Mackensen and Kenneth W. Tucker.

The handbook is intended to introduce instrumental insemination of hon-

given me something to do, has maintained my interest in honeybees and has produced a viable production unit.

References

- 1 Associate Professor, Department Agronomy, Louisiana Agricultural Experiment Station
- 2 Oertel, E. Our changing Agriculture requires changes in Beekeeping. *American Bee Journal*, 104 (11):1968.
- 3 Oertel, Everett. Losses caused by the greater wax moth. *American Bee Journal*, 109 (4):p. 145, 1969.

eybees to beekeepers, scientists and technical workers in apiculture who want to learn the technique. A prior knowledge of bees, bee equipment and management procedures or queen rearing is desirable for the student. However, an untrained person can master instrumental insemination and gain adequate experience in rearing queens and drones in a relatively short time under the guidance of one who is already experienced. The equipment used is illustrated in detail with line drawings and photographs, as well as the insemination procedure.

You can obtain a copy by writing the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, and asking for Agriculture Handbook No. 390. The price is 25 cents.

Pollination Multiplies with Colony Strength

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IT IS, OF COURSE, a well-known fact that strong colonies are far more effective for pollination than weaker ones, for it takes quite a number of bees to keep the colony operating and field workers are not available until the housekeeping chores are taken care of. In 1968 the California Beekeepers' Association defined as minimum colony strength for almond pollination a colony with an actively laying queen and four frames completely covered with bees at the start of the bloom. Recently, some interesting data was gathered by Bob Sheesley and Bernard Poduska in the Fresno, California area. They found, not surprisingly, that colonies with fewer than three frames of bees were of no value for pollination. Colonies with three frames of bees collected only half as much pollen as hives with four frames of bees. Then colonies with six or seven frames gathered about

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