

could do their own scouting. I think it would help if we knew where this broom corn was distributed.

MR. C. L. MARLATT: Mr. Harrison E. Smith, in Mr. Walton's service, has had charge of the investigation of the distribution of this broom corn. Two shipments were traced as far west as Iowa. We do not know where the great bulk of the shipments went except that they were variously distributed in the Mississippi Valley. We knew of some points where this broom corn was used. It is a matter of considerable time to find these records buried in various business houses. In the case of the pink bollworm, we have been two or three years tracing the distribution of the Mexican cotton that entered in 1916. It takes time to do such work.

MR. J. G. NEEDHAM: Mr. President, it seems to me that our want of agreement over the policy of the Bureau of Entomology with respect to the European corn borer grows not so much out of any difficulty of understanding that policy (for it is clear enough), as it does out of the fact that that policy seems not to cover one point about which a good many of us are a bit apprehensive. It seems to omit all thought of checking the invasion at its front. Scouting and all the rest are well enough—none of us wish to curtail these activities, but should we be content with scouting and study while the invader is extending its range?

The corn borer may ultimately prove to be a blessing in disguise, like the San José scale and the boll weevil and the other imported pests with which it has been compared here today. But it may, like these also, for a time seem more like a devastating fire, able to sweep an important industry before it over a considerable area of our country. Shall we let the fire alone, taking chances in its doing little harm? That is the question. If not, it would seem that the place to fight it is where it is advancing farthest and threatening most harm for the future.

Owing to the sudden discontinuance of the electric current, the session adjourned in the dark.

Report of the Section on Apiculture

Wednesday Evening, December 31, 1919, 8.20 p. m.

The meeting was called to order by Chairman W. E. Britton, who presented an address entitled, "Some Phases of Beekeeping in Connecticut."

SOME PHASES OF BEEKEEPING IN CONNECTICUT

By W. E. BRITTON, *State Entomologist, New Haven, Conn.*

The state which I represent, Connecticut, is a small state, having an area of 5,004 square miles, and a population in 1910 of 1,114,756.

It has approximately 100 miles of sea coast and its highest altitude is Bear Mountain in the northwest corner, 2,355 feet. In this small area there are twenty cities, and twenty other towns have each a population of over five thousand.

Within the state there is great diversity of soil and climate. The waters of Long Island Sound exert an equalizing influence upon temperatures, so that along the coast, there are no such extreme high and low temperatures as are recorded inland. Though there are seldom tornadoes or blizzards, such as occur in the middle western states, there are constant and often abrupt changes in temperature. Mark Twain once remarked that there is no weather in New England—nothing but samples. Though the average rainfall is about 47 inches, there has been an excess of fully six inches the past season, interfering considerably with honey production.

Native vegetation and cultivated crops are as diversified as the climate. There are small forest areas and a large proportion of cut-over woodland, covered with brush. Farms are thickly scattered all over the state, and apple orchards are well distributed. In certain sections, peach growing, tobacco growing, truck crops, seed growing, floriculture, predominate—in fact, all lines of agriculture and horticulture suitable to the climate are carried on in Connecticut. There is also considerable so-called waste land with growth of wild plants, like sumac, which furnishes pasturage for bees.

Streams, lakes and reservoirs are sufficiently numerous and well distributed so that seemingly bees would never lack for water. Connecticut is, therefore, a fairly favorable place to make honey and markets are right at home.

Very little was known about the beekeeping industry in Connecticut prior to 1910, when the first inspections for bee diseases were made under the law enacted by the preceding legislature, though a state beekeepers' association had then been in existence for several years.

There are on file in my office the names of 2,571 beekeepers who own some 20,000 colonies of bees, but we have reason to believe that there are many more of which the inspectors never heard. I am sure that there are more than 3,000 beekeepers. One of the chief difficulties encountered by the inspectors is to learn who are keeping bees and where the apiaries are located. The Connecticut Beekeepers' Association originated a bill which was introduced into the last session of the legislature providing for the registration of beekeepers with the town clerk in each town where the bees are kept. This measure became a law in the following form:

SECTION 1. Every person owning one or more hives of bees shall, annually, on or before the first day of October, make application to the town clerk of the town in

which such bees are kept, for the registration of such bees, and such town clerk shall issue to such applicant a certificate of registration upon the payment of a recording fee of twenty-five cents, which certificate shall be in the form prescribed and upon blanks furnished by the commissioner of domestic animals and shall be recorded in the office of such town clerk.

SEC. 2. A record of such registration with the name and place of residence of the registrant and the definite location in the town where bees are kept by him shall be recorded in a separate book in the office of the town clerk, which records shall be accessible to the public.

SEC. 3. Any owner of bees who shall fail to register as required by the provisions of this act shall be fined not more than five dollars.

The winter of 1917-18 was very severe in Connecticut and many bees died. Some beekeepers lost all their colonies, others only a part. Not only were honey bees killed, but the native bees of *Andrena*, *Halictus* and allied genera are believed to have winter-killed as they were extremely scarce the first part of the summer of 1918. In addition to the scarcity of bees in orchard blooming time, the temperature was so low that the few bees surviving the winter could not work the flowers. Consequently, except in a few localities, there was a poor set of fruit, especially apples. The peach buds were nearly all killed anyway.

As the effect of the winter was so severe on bees, all beekeepers were urged to protect the hives during the following winter, 1918-19, which as you know, was very mild and bees would have wintered nicely without protection. Nevertheless, after the protective covers have once been made it costs very little to put them on and they should be applied every season as an insurance. It is always advisable to safeguard the welfare of each colony.

The inspection service was first established in 1910, and has been in effect just ten years. At first the inspections could be made only on complaint or request. Most interested beekeepers were willing to sign the papers to have their own apiary inspected; this defect in the law was remedied by the legislature of 1913, and since then the inspectors have had authority to inspect bees anywhere within the state without requests or complaints. The chief hindrance to the inspection work has been the small appropriation, but the last legislature has increased this to \$2,000 annually.

It is interesting to note that when the first inspections were made in 1910, European foul brood was abundant everywhere, more than 75 per cent of the apiaries, and nearly 50 per cent of the colonies being infested. Though only a portion of the apiaries have been inspected each year, there has been a gradual decrease in European foul brood until 1919, when only 6.6 per cent of the apiaries and 1.2 per cent of the colonies were infested. Though it is possible that the disease has

diminished in virulence, this result, I believe, may be fairly attributed to the inspection service and particularly to the extension work done by the inspectors in showing the owners how to recognize the disease and how to eradicate it. The percentages for each are as follows:

PERCENTAGES OF EUROPEAN FOUL BROOD IN APIARIES INSPECTED

| Year | No. apiaries inspected | No. colonies inspected | Percentage infested, Apiaries | European foul brood Colonies |
|------|------------------------|------------------------|-------------------------------|------------------------------|
| 1910 | 208 | 1,595 | 75.9 | 49.7 |
| 1911 | 162 | 1,571 | 51.8 | 27.4 |
| 1912 | 153 | 1,431 | 47.7 | 23.5 |
| 1913 | 189 | 1,500 | 44.4 | 24.5 |
| 1914 | 463 | 3,882 | 32.6 | 13.9 |
| 1915 | 494 | 4,241 | 26.1 | 10.3 |
| 1916 | 467 | 3,898 | 18.8 | 7.05 |
| 1917 | 473 | 4,506 | 16.7 | 4.86 |
| 1918 | 395 | 3,047 | 9.8 | 3.3 |
| 1919 | 723 | 6,070 | 6.6 | 1.2 |

The occurrence of American foul brood has, of course, been sporadic. It has been mostly in the southern part of the state, and there was more of it in 1919 than in any year since the inspection service was inaugurated. The record of percentages for this disease for the ten-year period is as follows:

PERCENTAGES OF AMERICAN FOUL BROOD IN APIARIES INSPECTED

| Year | No. apiaries inspected | No. colonies inspected | Percentage infested, Apiaries | American foul brood Colonies |
|------|------------------------|------------------------|-------------------------------|------------------------------|
| 1910 | 208 | 1,595 | 00 | 00 |
| 1911 | 162 | 1,571 | 00 | 00 |
| 1912 | 153 | 1,431 | 00 | 00 |
| 1913 | 189 | 1,500 | 00 | 00 |
| 1914 | 463 | 3,882 | 1.07 | .7 |
| 1915 | 494 | 4,241 | .8 | .18 |
| 1916 | 467 | 3,898 | 1.07 | .15 |
| 1917 | 473 | 4,506 | .42 | .17 |
| 1918 | 395 | 3,047 | 1.01 | .32 |
| 1919 | 723 | 6,070 | 3.0 | 1.1 |

We now have an extension worker in apiculture in Connecticut. With the right kind of demonstrations, exhibits, and many personal visits to apiaries, I believe that the future is promising for the business. Possibly it may be necessary to cultivate or encourage sweet clover or some other valuable honey producing plant, but this will come about as a direct result of aroused interest in the subject, and intelligent management of apiaries.

The value of local organizations in stimulating interest should not be overlooked. A county association was organized in Fairfield County in October, 1918, and Professor Watson, who was then the extension worker with bees, told me that he should not be content until he saw a live organization of beekeepers in each county of the state. Professor Watson has since gone into the Bureau of Entomology, and his successor, Prof. L. B. Crandall, is just beginning his work in the state, and though I have not conferred with him on this point, I am certain from the tone of his paper prepared for this meeting that he will leave no stone unturned to promote the interests of beekeeping within the state.

I have mentioned these conditions in connection with my own state, but no doubt they are common to other states. The welfare of the business demands better beekeepers rather than more of them. With most beekeepers in Connecticut, the keeping of bees is not the chief business but is only a side issue. The few colonies in the average apiary are not enough to warrant a large outlay in time or equipment, and in many cases they do not receive proper treatment. It is believed that the registration of beekeepers, more money for inspection, and the right kind of extension work will make for more intelligent management, and prove a great benefit to the business as a whole.

CHAIRMAN W. E. BRITTON: We will now listen to a paper by Mr. Frank C. Pellett.

MR. F. C. PELLETT: It was accident rather than intention that two subjects were assigned to me on the program. I shall present only one. I might say, incidentally, that Boys' and Girls' Bee Clubs was a subject I chose last year, and I expected to give an outline of some of the things I had observed in localities where such clubs existed.

In Kansas, where a demonstration agent introduced this, especially in the localities where there were no commercial beekeepers, he required parents of each boy or girl who became a member to have bees and they were also required to furnish the club member with the proper equipment for transferring them. One thing especially which attracted my attention was the fact that one farmer made a good deal of fun of one of these boys for taking up these newfangled notions. In the fall of the year, the boy had more honey to sell from his two cells than the farmer had from fifty. The boys' work prospered in that locality from that time on.

My paper is entitled "Adapting System to Locality."

ADAPTING SYSTEM TO LOCALITY

By FRANK C. PELLETT

Locality is a badly overworked word in our beekeeping literature.