SUGGESTIONS AND INSTRUCTIONS
FOR COUNTY APIARY INSPECTORS
OF COLORADO

OFFICE OF THE STATE ENTOMOLOGIST
COLORADO AGRICULTURAL COLLEGE
FORT COLLINS, COLORADO

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SUGGESTIONS AND INSTRUCTIONS FOR COUNTY APIARY INSPECTORS OF COLORADO

By R. G. RICHMOND

From time to time, in apiary inspection, we are confronted with situations of which we had hitherto not thought and which are difficult to solve. The experiences of one inspector are of necessity, limited, whereas, the accumulated experiences of many bring up about as many problems as can arise under the Apiary Inspection Act.

It is out of these experiences of others that the following suggestions are gathered. They are set down herein for the information of all county apiary inspectors. The application of these suggestions will save you friends, time, worry and money.

These suggestions are designed:

First.—To interpret intricate sections of the Apiary Inspection Act.

Second.—To systematize and explain methods of inspection.

Third.—To advise on "procedure" under different circumstances.

Fourth.—To protect inspectors against unfavorable court action.

Fifth.—To advise on records and reports.

The Apiary Inspection Act

Become thoroughly acquainted with the Act and its amendments. It has limitations, implications, weaknesses and a great deal of strength.

Appointments.—Do not attempt any inspection work unless you have a written appointment from the Office of the State Entomologist and also from the County Commissioners of the county in which you work.

Carry your identification card with you on all inspection trips. It must be signed by the Deputy State Entomologist in Charge of Apiculture and by an officer of the Board of County Commissioners.
Methods of Inspection

Haphazard, unorganized inspection is a waste of the time of the inspector and of the funds appropriated by the county. A well-organized plan of work for the year should be worked out by the inspector and made to fit the seasons as they come. In Colorado, it has been possible to organize inspection into three separate and distinct activities, as follows: (a) Spring scouting, (b) rapid summer inspection of commercial apiaries and (c) inspection of small lots.

Spring Scouting.—This work consists of the examination of dead colonies in the spring, to see why they died. If they have died of A. F. B. or contain the disease, they should be burned by the inspector or left in intelligent hands.

The work is done in February, March and April, depending on the severity of the season. Mild weather, following a prolonged or extremely cold spell, is ideal for spring scouting.

The inspector’s budget, the severity of the season, the prevalence of A. F. B. and the intelligence of the beekeepers are the factors limiting spring scouting. Twenty-five percent of the budget for apiary inspection may well be applied to spring scouting.

Spring scouting should be limited to apiaries known to have been infested with A. F. B. during the previous season, or, to apiaries not inspected the previous year, or to apiaries recently moved into the inspector’s territory and to apiaries of beekeepers who do not do their own spring scouting. It seems a waste of time to scout the apiaries of intelligent, careful commercial beekeepers.

Scouting need not be limited to one visit; in fact, several visits are preferable. One visit during each of the above mentioned months is very desirable and under some circumstances, January scouting is well worth while.

Mild, cloudy days, with the thermometer well above zero, are ideal for scouting. Bees should not be in flight during the operation, as there is danger of confusing robbing for normal flight. It is preferable to depend on the ears, rather than the eyes, to distinguish if a colony be alive. During the scouting, each colony is slightly disturbed and for this reason mild days, rather than extremely cold days, are chosen. On cloudy days, bees are less liable to be in flight.

The scout proceeds to the apiary, armed with nothing but warm clothing, a hive tool and burning equipment. The owner
should be present during the operations. Proceeding from colony to colony, with an ear inclined to the entrance, the scout raps sharply but gently on the side of the hive. The rap should be just sufficient to "jar" the hive. If there be a responding "buzz," the scout proceeds to the next colony and repeats the process. Occasionally the response of the bees will not be heard and a second jar may be necessary. Response by the bees, to the second rap, will be less audible and less satisfactory. Growing experience, on the part of the scout, will correct the necessity of the second rap. No live colony should be opened by the scout except at an intelligent owner's request. Nothing but criticism is gained by opening live colonies.

As dead colonies are found, invert the covers and proceed with the scouting until the apiary is finished. It is then time to examine the dead and determine if they are diseased. The dead, diseased colonies should be treated as above mentioned. It is a matter of courtesy to advise the owner as to the disposal of dead, healthy colonies, if advice is indicated.

Spring scouting is rapid work, in that a large number of colonies may be "covered" per day. In an apiary of 100 colonies, the dead may be discovered in 10 to 15 minutes, by one man.

One of the most extensive commercial producers of Colorado voiced the opinion that spring scouting is a much more valuable method of preventing the spread of A. F. B. than is standard summer inspection. It is much more desirable to eliminate one dead, diseased, honey-laden colony in March, than to care for the 10 or 20 that it has infected by June.

Theoretically, this scouting should be done by the owner; practically, it is not. Experience has taught us a bitter lesson in this respect and it has been less bitter since the inauguration of spring scouting in Colorado. In many cases it is better that the inspector find these dead, diseased colonies than that the owner find and tuck them away in the attic, only to be brought forth at a future date to start the vicious cycle over again.

**Rapid Inspection of Commercial Apiaries.**—It has been the consensus of opinion that the time of the inspector is best spent in looking to the health of bees in the hands of the small owner. However, with the adoption by some states, of regulations governing the interstate movement of honey, the position of the commercial producer without inspection, became precarious. Extreme reduction of inspection funds further aggravated the predicament.

To meet these two situations, a plan of rapid inspection of
commercial apiaries was devised. Its success depends on the or­ganization ability of the inspector and the cooperation of the beekeepers in furnishing help to the inspector. The owner is asked to furnish four men to assist the inspecting officer, making a crew of five.

For better understanding of the plan of operation, let us number the members of the inspection crew 1, 2, 3, 4 and 5. Each man has his specific duties to perform and does not, in any way, interfere with the work of the others.

No. 1 removes the cover from the hive and if supers be present, removes them, down to the brood nest. He smokes the bees gently until they are under perfect control. He then proceeds to the next hive to do likewise. At times he may be two or three colonies ahead of the next man, in which case, the bees in previously opened colonies are given enough smoke to keep them below the top bars and well under control. Usually No. 1 is the only man needing a smoker. He will need a good one with plenty of fuel and able to produce great volumes of smoke.

No. 2 removes the first brood frame from the hive and hands it to the inspector, who is No. 4. While the inspector is examining this frame, No. 2 removes the next brood frame from the hive after having shaken the bees from it and exchanges it with the inspector. This preparation of frames, their exchange and inspection goes on rapidly until all of the brood has been inspected. The inspector then turns to No. 3.

No. 3 has the same duties as No. 2, but on alternate hives. While No. 2's colony is being inspected, No. 3 is preparing the next, that is, getting the first brood frame and shaking the bees from it. Nos. 2 and 3 leave their colonies just as they found them.

No. 4, the inspector, receives the shaken frames from either No. 2 or 3, inspects the brood and returns the frame to the same person. A one-legged stool is a great convenience to the inspector.

No. 5 does the reverse of No. 1, in that he re-establishes the colony as it was found by No. 1. Sometimes he may need a smoker.

By this means, in reasonable weather and at the beginning of the main honey flow, such a crew can inspect 500 or more colonies per day without haste or extraordinary effort.

This type of inspection can best be done just at the begin-
ning of the main honey flow, before supers are added. Brood rearing has advanced far enough for thorough inspection and there is little equipment to handle.

The personnel of the crew should consist of experienced beekeepers. No. 1 must thoroughly understand the use of a smoker. Too much or too little smoke will fill the air with bees and make work intolerable. There is no need to have more bees in the air than if one man were working alone. If the bees are gently forced down and kept under the top bars, there is little danger of difficulty. There will be from five to six colonies open at all times, but no colony need be open for more than 5 minutes. At this rate, a normal yard will be inspected in less than 1 hour, whereas, one man working alone would take more than half a day.

Nos. 2 and 3 should be the owner and his appointed helper. They should be able to shake the bees from the combs, into the hive body, without fuss and without rolling bees and possibly queens. It is best to remove the outside frame, set it to one side of the hive, then by separating the combs, go directly to the first brood frame. Sufficient space, with two brood frames out, is available so that there is no need to injure bees in shaking. Since the owner and his appointed helper are doing this work there is less danger of rough or careless handling and no criticism is likely to reflect on the crew due to roughness.

It is assumed that the inspector, No. 4, understands his work. In this plan he has new obligations. He is responsible for the planning of the day’s work ahead of time, to see that sufficient work is “lined up,” to see that the next day’s work is planned, to see that each crew member understands his duties, to instruct the crew members in their parts in the operations and to see that these duties are carried out in the proper manner. Failure to observe these precautions means failure of the plan.

It is the duty of No. 5 to see that everything is left as it was found. A little carelessness in returning covers and supers to the proper places is aggravating to the owner.

**Inspection of Small Lots.**—This work can best be done by the inspector, perhaps with one helper. The majority of it can be finished before the inspection of commercial apiaries and the remainder done later. If spring scouting has not been done, it is important to get at this inspection as early as it is safe to open colonies. Small apiaries, showing disease in early spring, should be inspected once or twice before going into winter again. These
owners are those who need kindly help and assistance, but the practice of the inspector tending their bees should not be developed.

**Interpretations of Apiary Inspection Act and Procedure Thereunder**

The main purpose of apiary inspection in Colorado is to discover and eradicate American foulbrood. But there are other diseases of which we must take note. European foulbrood, sacbrood and Nosema disease are more destructive than we imagine.

**American Foulbrood.**—If American foulbrood is discovered in an apiary, the inspector must act in one of two ways. The diseased colonies must either be destroyed at once by him or the owner must be given permission to take care of the diseased colonies. There is no alternative in the law. The inspector must make up his mind one way or the other and act. If the inspector feels confident that the owner can and will take care of the diseased colonies, he should be permitted to do so. If not, they should be burned at once by the inspector. Legally, the owner, who is given permission to take care of his diseased colonies, must be given full written or printed instructions on how to care for the diseased colonies and a time limit must be set, by the inspector, for such care. Instructions for the care of diseased colonies are very well stated in U. S. D. A., Farmers' Bulletin 1713, The Treatment of American Foulbrood. A supply of these may be obtained from the Office of Information, U. S. Department of Agriculture, Washington, D. C.

In coming to a decision as to what should be done with diseased colonies, the action should be fair to the industry, impartial and substantial enough to be sustained by the courts and the beekeepers of the county.

**Sacbrood and European Foulbrood.**—Sacbrood has not yet demonstrated the necessity for practical legal action.

European foulbrood has not, in recent years, been epidemic in nature. So long as it retains its present status, advise Italianizing and strengthening of affected colonies. Permit no movement from infected apiaries to non-infected territory.

**Movement of Bees.**—Permit the free movement of apiaries and appliances that are apparently free from American and European foulbrood.
Do not permit the movement of apiaries or parts thereof or appliances diseased with American or European foulbrood within 30 days, except to get them into more capable hands.

The "Health Certificate" properly filled out, is the proper moving certificate. When bees are moved into the county, it is the inspector's right and duty to ask for a health certificate on such bees and equipment.

**Box-Hive Transfer.**—In issuing orders for the transfer of bees from box hives, give the owner a copy of U. S. D. A. Farmers' Bulletin 961, Transferring Bees to Modern Hives. A supply of this bulletin may be had in the same manner as the one previously mentioned.

The transfer order must be on the proper form made up for this purpose.

**Disputes.**—In the enforcement of any law, there are bound to be differences of opinion. These differences of opinion can be settled in two ways only, namely, by intelligent presentation to the owner of the facts and the law or through the courts.

**Disputed Disease Diagnosis.**—If dispute arises over the diagnosis of disease, follow the instructions contained in the apiary inspection act. Disputed disease diagnosis does not prevent the immediate destruction of A. F. B. colonies, but proof of diagnosis is the inspector’s responsibility if the owner brings the matter to court.

**Objection to Carrying Out the Provisions of the Act.**—If questioned as to the right of procedure under the act, read, to the party concerned, that part or parts of the act dealing with the immediate situation. If objection still be raised, refer the matter to the district attorney and proceed under his direction. Also, bring the matter immediately to the attention of the deputy state entomologist in charge of apiary inspection.

**Issuing Orders Under the Act.**—In issuing orders to any beekeeper to comply with the law, they should be signed above the title, “County Apiary Inspector” or “Assistant County Apiary Inspector” as the case may be. Orders are worthless unless signed above the proper title.

**Personal Cleanliness.**—The necessity for cleanliness should be impressed upon all Colorado apiary inspectors. Those with whom we work are just as critical of our personal appearance as of our ability. If we remember that we are salesmen selling our
services, we will remember that people notice our unshaven faces, dirty shoes, dirty trousers, dirty hats, dirty smokers and dirty hive-tools.

These remarks are rather personal, but the complaining letters, on file in the office of the state entomologist, justify plain speaking. Cleanliness and neatness are noted by the beekeepers, the boss and more important still, by the public which buys the honey produced by the people whom we serve.

**Apiary Education**

Inspectors are asked a thousand and one questions on general beekeeping problems each year. Can we answer these questions intelligently? Have we been keeping up with the times? Do we read the newer theories and keep up with the newer practices? Are we acquainted with the latest information in the bee journals and scientific magazines? As apiary inspectors, we are members of the Division of Apiary Education and Investigation of the State of Colorado, as provided by law. We cannot educate if we are not educated. We are not educated if we have fallen behind in our reading and study. What we think is a matter of little consequence, but what we know and can tell is what makes for progress.

**Records and Reports**

The keeping of accurate records and the submission of accurate reports are of prime importance in apiary inspection. Without such records and reports, there is no way of knowing if progress is being made or if ground is being lost. Records are of no value unless they are accurate. Names, addresses and initials are frequently used to get in touch with the beekeepers of the state and if incorrect, entail financial loss when there is no need for such loss.

**Record Equipment on Inspection Trips.**—No inspection trip should be started without the following record books and pamphlets:

1. Inspector's Record Book.
2. Certificate of Health and Moving Permit combined.
3. Shipping Certificates.
4. Orders for Transferring Box-hives.
6. Orders for Treatment of A. F. B.
8. Educational pamphlets of your own choice.
10. Suggestions and Instructions for County Apiary Inspectors of Colorado.

Uses of Records and Forms.—The Inspector's Record Book is for his own personal record, to be kept from year to year or to be passed on to his successor. If accurately kept, the record will show as the years go by, what progress each beekeeper has made in the control of bee diseases. The record should be made immediately after each apiary has been inspected. One page should contain the complete record for each apiary for one complete year. There is space for three inspections of each apiary.

A Health Certificate should be made for each apiary immediately following inspection. Give one copy to the owner and keep one in the book.

Shipping Certificates are issued as requested by the beekeeper.

Transfer Orders are issued as the occasion demands and are to be accompanied by Farmers' Bulletin 961.

Disease Treatment Orders are issued as needed and should be accompanied by Farmers' Bulletin 1713.

Annual reports are requested each October. Promptness and accuracy in completing and returning them is appreciated. As soon as all counties are reported, a consolidated report and analysis is returned to each inspector.

Each inspector comes upon situations where beekeepers wish for information on particular subjects. Circular of Information No. 14, Office of the State Entomologist, lists bulletins, pamphlets and publications of all sorts, covering a great variety of subjects which the inspector can secure for the inquirer and thereby perform a good service to the beekeeper.

NOTE.—The suggestions contained herein do not in any way supercede the provisions of the Apiary Inspection Act, but are designed to simplify and clarify some of the provisions thereof.