THE CANADIAN BEE JOURNAL

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The Canadian Bee Journal

Devoted to the Interests of Bee-Keepers

JAS. J. HURLEY, Editor

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The Canadian Bee Journal

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Vol. 20, No. 2.

APICULTURE SHOR
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By F. Eric

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The Canadian Bee Journal

PUBLISHED MONTHLY

JAS. J. HURLEY, EDITOR, BRANTFORD, ONTARIO, CANADA
W. WHITE, ASSISTANT EDITOR.

Vol. 20, No. 2. FEBRUARY, 1912 Whole No. 564

APICULTURE SHORT COURSE AT O. A. C.

By F. Eric Millen

This course was held at Guelph from January 9th to the 20th.

Although only commenced last year, the apiculture short course has come to stay. From every standpoint the course just concluded was highly satisfactory, and well attended. There were over fifty students present, from all parts of Ontario, and even Manitoba was represented.

A glance at the programme was enough to make any member of the class feel sure that there were to be some good things in store. Throughout the course this proved to be the case, many valuable lessons being learned.

Among our own brethren we had the Provincial Apiarist, Mr. Morley Pettit, with his helpful and instructive addresses, with Messrs. Sibbald and Craig, also Mr. Byer, who, although he was taking one of the other short courses, could not refrain from visiting the Apiculture course.

We also had several addresses from some of the regular college staff, on various subjects relative to bee-culture. One day was also spent in visiting the plant of the Ham & Nott Co., Limited, of Brantford. The firm kindly met the class, and after the inner man was satisfied, the factory was visited and a good idea of the manufacturing end of the business was obtained.

Then we had reciprocity with our neighbors, and Mr. Clarke, of Messrs. Doolittle and Clarke, gave us a series of demonstrations on queen rearing. Mr. Clarke mentioned that he was not an orator, but his witty remarks always drove home the point he was making, and if some of the students ruin his fi.. by raising so many queens next summer, he will know it was all his own doing.

One of the greatest treats we had was a series of lectures, some illustrated, from Mr. E. R. Root of the famous firm of A. I. Root & Co. Mr. Root is certainly one among many, and his addresses were brimful of sound advice. He showed a knowledge of the bee-keeping industry that few men possess. He is an eloquent speaker, and makes his audience as enthusiastic as he gets himself. His handling of a colony of bees taught us some of the points to look for in judging the temper of the bees and knowing how to circumvent them.

The course concluded with a conference on the foul brood question, in which several points were raised that should help to control the spread of the disease.

The students are now scattered once more, and it remains for them to put into practice some of the good things they learned while here, and to show their neighbors that a course of this description is always beneficial in raising the standard of not only those present but those who live in their district.

Ontario Agricultural College.

WHAT THE NATIONAL BEE-KEEPERS' ASSOCIATION WILL DO THIS YEAR

As most bee-keepers know, the meeting of the Board of Directors held in Detroit, Feb. 23rd, 1911 was probably the most important of any Board meeting held in the history of the Association. Plans of re-organization had to be considered as well as just what the Association would and should do for its members.

One of the most important needs of the bee-keepers, as it appeared to the Directors, was an accurate knowledge of crop conditions. To get this it was decided to send out crop reports early in the season to every member, and from the information so obtained, advise the members, either direct or through the bee journals ,as to the conditions.

The Board also found that the question of honey packages was an important one. At the present time, there is not near the uniformity there should be. No special weight of tin or size of can has been adopted in the past and many shippers were using a tin entirely too light. Samples of honey cans were inspected by the Board with the decision that the Secretary be instructed to make the best possible arrangements for furnishing the members with the tin honey packages the coming season. The orders will be handled directly through the Association office and will not be sent by the member to the can manufacturers as in the past.

In discussing the question of packages for comb honey, and realizing that there are a number of different kinds and shapes in the market, it was thought best that in order to promote uniformity of a comb honey package, the Association should take steps to secure for its members, at the lowest possible prices, the double tier, 24-lb, shipping case, which was adopted by the Association at its last convention.

These cases could be furnished according to specifications so that every member buying through the National would be using exactly the same case as every other member. In order to induce a more general adoption, it was thought advisable to furnish them at a low price. The secretary was also instructed to investigate paper shipping-cases, as well as glass packages. This action was not taken with an idea of getting into the supply business, but to promote the using of uniform packages by the members, which then will simplify the question of marketing and eventually raise the price the bee-keepers can obtain.

The question of marketing honey was thoroughly considered and many plans were presented. The one finally decided upon was that for the coming season, the National Association should act in the capacity of a broker for its members where desired. It is not expected or desired that all members will ship their honey through the Association, but realizing that many are not in touch with the best markets, it was thought that no better move could be made than to assist those members in obtaining the proper return for their honey crop. To do this selling agencies will be established in several of the larger cities, and the sales will be directed through the Association. A member having honey to sell could first get instructions from the Secretary, who is expected to keep in close touch with market conditions, take into consideration the freight rates, and then give the member full instructions as to shipment. The Association does not intend to buy and sell honey, but simply to assist the producers in finding the best possible market.

The promotion of local branches will be encouraged and wherever a local branch desired to get out a booklet, such as has been used by the Michigan

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Your
E. B. TYR
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HURON COUNTY B ASSOCIATI

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Association, assistance will be given by the National Association. This feature will be encouraged. The advertising of this booklet will be cared for by the National but will probably be confined to the four Bee Journals, on the start.

Yours truly,
E. B. TYRRELL, Sec.,
230 Woodland Ave.
Detroit, Mich.

HURON COUNTY BEE-KEEPERS' ASSOCIATION

The Huron County Bee-keepers Association held their first annual meeting in the Council Chamber at Clinton on Dec. 14th. The attendance was fair, but no doubt the rough roads just at that time kept quite a few away. The time at our disposal was rather limited on account of the train service, and lasted from 11 a.m. to 4 p.m.—too short a time for bee-keepers. The election of officers and the discussion of the question "How can bee-keepers be better brought together" took up considerable time. The election of seven directors to represent the different locations of the county and to try to get bee-keepers in their neighborhood more interested, resulted as follows: Alex. McPherson, Exeter; L. Beatty, Varna; Alfred B. Carr, Blyth; George Cattle, Whitechurch; Noble N. Forbes, Leadbury; J. Brethauer, Wroxeter; H. B. Brown, Port Albert. The other officers elected are: President James Green, Hensall; vice-president, Isaac Dodd, Clinton; secretary, J. Haberer, Zurich.

Mr. Morley Pettit addressed the meeting in the afternoon and spoke principally on "the production of extracted honey" showing at the same time the modern 10-frame hive with all the necessary appliances and tools. The honey-board with fruit-jar feeders was also shown, and its use fully explained. This feeder seems to gain in favor amongst many bee-keepers. Preparation for wintering on summer stands in cases to contain four hives was recommended. Some discussion on the matter of thickness of packing ensued and it appeared to be the general experience that the outside packing does not need to be very thick, but that a good depth of top packing—at least 10 inches is necessary. The German practice of using a cardboard on the bottom-board with the entrances so arranged that the cardboard (rubberoid would serve the same purpose,) could be taken out any time through the winter for examination, and its appearance would serve as a means of diagnosing the condition of the bees, thus rendering a top examination in most instances unnecessary. This practice would be well worth trying. After describing the details of spring work and the handling of the bees and honey during the main honey flow, Mr. Pettit referred to a method of taking off honey in the fall or at any other time when robbing may occur. He first smokes the bees down from the super, and after lowering the frames, takes off the super and closes the hive as quickly as possible. He then shakes the remainder of the bees from the combs. The robbers will not get a chance to enter from above.

After going over the work of extracting and straining the honey, Mr. Pettit recommended that the honey should be drawn off into cans as soon as possible. If, however, suitable tanks are at hand, the honey may be allowed to stand for two or three days. A cloth or any other cover will prevent loss of flavor and will protect the honey from dust, etc. It seems to the writer that this quick drawing off is overdone. Saving time is alright, but sometimes too much weight is laid on time saving! I think every bee-keeper should know how often complaints are heard as to impure honey, and though it

may be only a little bad-looking on top it will often disgust a customer.

A few bee demonstrations will be held again during the coming season, the time to be arranged by the officers. The secretary was authorized to secure a number of text books to introduce amongst bee-keepers, as a great many are without them yet.

JACOB HABERER,
Secretary.

PROGRAM OF LONDON (ONT.) DISTRICT BEE-KEEPERS CONVENTION

To be Held in the County Council Chambers, London, February 29 and March 1st, 1912

February 29—1.30 p.m.—President's address of welcome; paper by Mr. J. W. Clark, Cainsville, Ont., "For the beginner in Bee-keeping"; "Fruit, Bees, and Poultry" discussion led by F. W. Krouse, Guelph, Ont.; paper by Mr. Hershiser, Buffalo, N.Y., "Building Bees up for the Honey Flow"; Discussion by Mr. McEwen, Clandeboye, Ont.

7 p.m.—Paper by Mr. McEwen, Clandeboye, Ont., "Honey from Nectar to the Consumer"; Discussion led by Mr. Edmonson, Brantford, Ont.; Social and Musical Entertainment by President and Secretary, Middlesex B.K.A.; Demonstration on improved hives and implements by Mr. Morley Pettit, Guelph.

March 1st—9.00 a.m.—Paper by Mr. Elliott, Adelaide Village, Ont., "Queen Rearing in Practical Way at Present"; paper by Mr. W. White, Brantford, Ont., "Some problems for the queen-breeder." Discussion.

1.30 p.m.—Paper by Mr. Tyrrell, Detroit, Mich., on Marketing Honey, Wholesale and Retail; Discussion led by Mr. Hershiser, Buffalo, N.Y.; Paper by Mr. Pettit, Guelph, Ont., on the benefits to be derived from local associations; Discussion by Mr. Shaver, Cainsville, Ont.

ASSOCIATION OF APIARY INSPECTORS OF THE UNITED STATES AND CANADA

On December 30th, 1911, in Washington, D. C., there was formed a temporary organization of the above name with a view to increasing the efficiency of apiary inspection and bringing about a greater uniformity in the laws and more active co-operation between the various inspectors

A committee on permanent organization was formed to report at a meeting to be held in Cleveland, Ohio, in December, 1912, in connection with the meeting of the Association of Economic Entomologists. Prof. Wilmon Newell, College Station, Texas, is Chairman of this Committee.

A standing committee was also appointed on legislation for the purpose of drawing up a law incorporating the necessary and desirable features. Dr. Burton N. Gates, Amherst, Mass., was appointed Chairman of this committee, and Dr. E F. Phillips, Bureau of Entomology, Washington, D. C., the secretary.

All apiary inspectors and official entomologists of the United States and Canada who are interested in the advancement of apiculture are invited and urged to join in this movement for an increased efficiency in the fight against the brood diseases. For the present it was decided to levy an assessment of $1.00 per year on each member, to pay necessary expenses. It is hoped that arrangements may later be perfected for affiliation with the Association of Economic Entomologists. Requests for membership and the assessment may be sent either to Dr. Gates or to Dr. Phillips.

Many a man with the hum of bees over his head finds happiness deeper and sweeter than ever comes to the merchant prince with his cares and his thousands.—W. Z. Hutchinson.

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WOMAN'S DEPARTMENT

CONDUCTED BY

Miss Ethel Robson, Ilderton, Ont.

Last month the copy for this department was in too late for publication, and this month there practically isn't any; next month I hope to have something really interesting to tell you, as I'm going down to speak on "Bee-keeping for Women" to the Apiculture Club at Macdonald College, P.Q. Just now I am on an Institute trip through the counties of Lanark and Renfrew, but up to the present I haven't fallen in with many people who are interested in bee-keeping, although the natural conditions in many parts are very favorable. Clover basswood and buckwheat are in abundance—all that is needed are the bees and the bee-keepers. Mr. Harkness, my colleague, the Farmers Institute delegate, is also an enthusiastic bee-keeper, and together we ought to make some impression. He is one of those rare men who have combined farming and apiculture, and has made a success of both; but then he is an exceptional man in many ways. He is also a firm believer in the value of the plot of land devoted to the farm garden, and you and I know how seldom that is true of the Ontario farmer. His garden is usually the most neglected looking spot on the farm.

In our county we have no buckwheat, but Mr. Harkness comes from a buckwheat county and he tells me that he rarely has to feed his bees for winter. Now, last fall I used nearly a ton of sugar. It makes me somewhat envious. He grows a good deal of buckwheat himself, and with the neighboring farmers, finds it useful as a cleaning crop and likewise very profitable. A good many run their land for pasture or an early hay crop. They then plough it under and sow buckwheat, thus securing two crops in the one season off the same land. I'll have to talk it up to the farmers at home. It certainly looks like a good investment all round.

My colleague is also one of those who took part in the closing discussion at the O.B.K. convention re an exhibit of honey at the next horticultural show. He is anxious to have his county make an exhibit, but as Dundas has no association he wanted the matter left with the district representatives. Now Middlesex has an association but no representative, and it would surely be in keeping with the spirit of the motion for the district representatives to take the matter in hand where there is no association. The main thing is to get the counties to put up a creditable exhibit. By the way, why does not every county have a district representative? Surely it ought to be of inestimable value to have the advice of a trained man, and the cost is very trifling when divided amongst all. It's worth thinking about even if we are only bee-keepers.

Now, of course you are laying your plans to come to the district convention in London. Mr. Anguish has been indefatigable in his efforts to secure a good programme and the indications are that he has succeeded. It will surely pay you to be there.

ETHEL ROBSON.

No other man's experience is as good for you as your own. Some one else can only point the way. You must travel it yourself to really know.—W. Z. Hutchinson in "Advanced Bee Culture."

THE MAN, THE METHOD OR THE HIVE

A Reply to Samuel Simmins—The Best Hive for Bee-Keeping on This Continent

By J. E. Hand.

In an article in the January number of the C.B.J., Mr. Samuel Simmins of Sussex, England, asks the question, "What is wrong with American and Canadian Bee-keeping?" and then deliberately proceeds to answer the question to his entire satisfaction, as well as to the discomfiture of American bee-keepers. When I say "Americans" I mean Canadians also, for our cousins across the border are just as much Americans as though they were residents of the United States. Mr. Simmins begins with a fusillade of random shots at long range, aimed at American methods, and appliances; later on, he asks for more light upon the subject, and finally winds up a rather desultory argument, with an exhortation in favor of colossal hives as a remedy for existing evils in American methods.

A noticeable feature of the article in question, is its glaring inconsistencies, as well as its lack of sound logic. For instance, he says: "the Langstroth frame is too shallow for wintering in all cold climates, either indoors, or out. It is too shallow for best results in tropical and semi-tropical regions, hence the natural conclusion is, it is too small for the honey season in any locality." Later on, he makes a statement to the effect that the Langstroth frame is nowhere, compared with the 16 by 10 inch frame that he has recommended for more than 30 years. If the above deductions are correct, a vote of thanks is certainly due to Mr. Simmins for pointing out existing errors in American methods and appliances. But, to investigate. The dimensions of the Langstroth frame are 9⅛" by 17⅝", and it contains 157.70 square inches of surface; while the Simmins frame is 16 by 10 inches, and contains 160 square inches of surface, making a difference of 2.30 square inches in favor of the Simmins frame. Now I am not a little surprised that Mr. Simmins should think even for a moment that a mere matter of 2.30 inches per frame can make all the difference between success and failure in honey production; surely this is straining at a gnat with a vengeance that is new to American bee-keepers.

It is my candid opinion that Mr. Simsins will find it up hill business to awaken anything like a lively discussion upon the hive question with American bee-keepers, for the very good reason that we have come to recognize the fact that it is the "location, the man, and the method," in the order named, and not the hive, that makes for success in honey production. I would not take the time to reply to the article in question were it not for the knowledge that it will have a tendency to mislead beginners into believing that the hive is the whole thing, and that successful bee-keeping is dependent upon the use of a certain form of hive and frame.

No one can make a greater mistake than to suppose that the kind of hive can have any bearing upon successful honey production, except in so far as economy of manipulation and uniformity are concerned. The idea that a certain form of hive or frame will give vastly superior results in wintering, or in honey production, is no longer given credence by progressive bee-keepers in America; this is another indication of progress, and reform. Bees are no respectors of hives; they have the faculty of adapting themselves to their surroundings to a degree that is truly remarkable, and other things being equal, will store as much honey in one hive as they will in another.

From this point of view, it is evident that aside from the points of economy, and utility, above mentioned, one hive is practically as good as another, so long as the queen is given sufficient room to develop her fertility to the highest capacity during the breeding season. Whether room is given at the rate of one frame at a time, or all at one time, or whether it is given by the addition of shallow divisions, is merely a matter of convenience, and economy of manipulation, and will have but little influence upon the honey crop. If Mr. Simmins is looking for tangible evidence of improvement in American and Canadian bee-keeping methods, he will not need a magnifying glass to find them. American bee-keeping is in the midst of an era of advancement and reform, unparalleled in the history of the art; the improvement in bees by selection in breeding is claiming the attention of American and Canadian bee-keepers as never before. This is evident from the fact that notwithstanding there are scores of queen breeders scattered over the country, many of whom rear thousands of queens annually, but few, if any, are able to supply the demand for queens.

To the American honey producer, it is not so much a question of how to secure a good crop of honey, as how to turn it into cash to the best advantage. Co-operation, wherever practised, is acknowledged to be the correct solution of the market problem, and therefore is being rapidly developed in this country. Another indication of progressiveness on the part of American and Canadian bee-keepers is the fact that they have come to realize that uniformity in hives and appliances, is of vastly more importance than minor items, choosing rather to abandon pet hobbies, that can have but little bearing upon successful honey production, for the sake of the greatest good to the greatest numbers, by establishing a uniform standard for hives and appliances.

The Langstroth frame is fast superseding all others in America. It has stood the test of time, and endured the storms of opposition, until it has become the standard for American bee-keepers; and he who would have the temerity to attempt to supplant it would meet with scanty support from progressive American bee-keepers. While the 10 frame Langstroth hive is pretty generally recognised as the standard for a general purpose hive, some who produce extracted honey exclusively will doubtless prefer the 12-frame size. The tendency of the times in this country is toward larger hives than formerly, and many of the former advocates of the 8-frame hive are now using two bodies for a brood chamber, instead of one, and I believe there are few bee-keepers in this country who would limit the queen to a single 8-frame body during the breeding season. Mr. Simmins' reference to expanding the brood nest by using two bodies up to the time of supering, and then contracting by removing one body, and forcing the bees and brood into the remaining body, shows that he is not conversant with American methods; such a proceeding would result in disaster by causing the bees to swarm.

If Mr. Simmins is looking for reports of mammoth yields of surplus honey from individual colonies as proof of the correctness of American methods, he is doomed to disappointment, for the very good reason that the problem that confronts the American honey producer is no longer how to secure the largest yield per colony, but rather how to exhaust the honey resources in a given locality. Bee-keepers in this locality have been compelled to meet changed conditions; the basswood timber has been well nigh exterminated, and waste places that formerly afforded pasturage for bees, has been brought under the plow. Likewise

farmers have discovered that alfalfa makes better and more hay, if cut as soon as it is in full bloom, all of which has a tendency to shorten the honey-flow and render the crop more uncertain than formerly. While from the nature of the case, the yield per colony is materially lessened, progressive bee-keepers have, in a great measure, bridged the difficulty by extending their apiaries over a wide range of territory, and hence it is safe to assume that honey production in America is on the increase, and, as new territory is continually being opened up by irrigating projects in the arid regions of the far west, it is likely to be on the increase for many years to come.

Concerning the mammoth yields from individual colonies, reported by Dr. Gandy, several years ago, such reports as these should not be taken seriously, especially since neighbors, who used the same kind of hives have never heard of any such yields. Let no one delude himself with the idea that all that is necessary in order to secure a crop of 300 or 400 lbs. of honey, is to adopt colossal hives. Location is by far the more important factor in successful honey production; next comes the man and the method; next in order comes the bees, and last of all, the hive.

Birmingham, Ohio.

MR. S. SIMMINS AND THE LANGSTROTH HIVE

By. Wm. L. Couper

I have read Mr. Simmins' article on the deficiencies of the Langstroth hive with considerable interest. I am not concerned to defend the small hive, but I should like to know the source of his information concerning Dr. Gandy's remarkable success. I clearly recollect that gentleman's rather meteoric career in apiarian literature, and unless my memory is very bad the facts do not at all justify Mr. Simmins' contentions.. I regret that I have not the copies of "Gleanings" in which Dr. Gandy's articles appeared.

The first article was not primarily in praise of the large hive (I think he used the Langstroth tiered four or five high), but was intended to prove the practicability of raising huge honey crops by sowing sweet clover and catnip seed. The figures he gave were quite astonishing and E. R. Root, in a foot-note, suggested that perhaps bee-keepers had condemned artificial bee forage too harshly. The next number of Gleanings contained quite a lot of discussion of the Gandy method and amongst other letters one from one of his neighbors, who seemed slightly incredulous that such an enormous amount of honey should have been raised and sold in his district without his knowledge. This was followed by a short letter from Dr. Gandy in which he stated that the large results he had given were from his home yard only. I cannot remember now the exact figures, but my impression is that the total was nothing like so high as 300 lbs per colony for the 500 colonies. Otherwise it seems incredible that the apiarian press would have let the matter drop. I recollect also that Dr. Gandy, in his plea for more room for bees, made the statement that, after one of his colonies had actually started swarming, the addition of an empty super had caused them to stop and return to their hive contentedly. As both Dr. Miller and E. R. Root remarked 'not in this locality." The returning swarm is a fairly familiar sight to bee-keepers and it seems curious that Dr. Gandy with 500 colonies had not seen it before.

As I mentioned before, I am writing this from memory and the incident is not very fresh, so I will offer apologies beforehand to both Mr. Simmins and Dr. Gandy if my impressions of the matter are incorrect.

Hatzic, B.C.

A SIMPLE METHO REARI

By Leon C.

I hesitate somewhat t of rearing queens, as thod, but many metho as circumstances seem my methods are most crude, as I don't make that branch of the bus try to raise what queer own use. However, designed for that clas who are producing quee own use it will probabl pose.

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A SIMPLE METHOD OF QUEEN REARING

By Leon C. Wheeler

I hesitate somewhat to give my method of rearing queens, as it is not one method, but many methods, which I vary as circumstances seem to warrant. Also my methods are most of them rather crude, as I don't make any specialty of that branch of the business, but simply try to raise what queens I want for my own use. However, as this article is designed for that class of bee-keepers who are producing queens only for their own use it will probably serve the purpose.

The methods as used by men who make a specialty of the rearing of queens seem to me to require a specialist to use them. At least I have usually made a botch of them when I have tried them, and I believe the average bee-keeper will, unless he puts in more time than he can afford in learning to do it. I find, for instance, that grafting larvae from one cell to another requires more skill than I could acquire without considerable practice to keep from killing them in the operation. One can raise a lot of queens in the course of the season from a choice breeder by using the following method.

When she has her hive well filled with brood, hunt out the queen and cage her. Shake the bees all off the brood which was in the hive, and take this brood to the stand occupied by some colony whose queen you do not wish to keep. Set this hive, bees and all, to one side, and put the beeless brood in its place. Then hunt out your undesirable queen and cage or destroy her, shaking the bees at the entrance of their old stand. They will of course at once occupy the hive with the brood from your choice queen, and as they have no queen of their own now, they will soon begin operations to raise one. Ever prodigal in all their work. they do not stop at one or two cells, but when you examine them a few days later, nearly every frame will be found to contain from one to six or eight cells. As soon as these cells are capped over, or in about ten days, they are ready for use, or to be distributed as nuclei if you are not ready to use them yet.

But to go back to the stand occupied by the breeding queen, where we left the queen caged and without brood. We have shaken all the bees from the brood of the undesirable queen and now we carry this brood back to the hive where our choice queen is and turn her and the bees loose on it. We will call this hive No. 1 and the other No. 2. By the time the cells are capped over and ready to distribute in hive No. 2, all young larvae in hive No. 1 are from our choice queen and we can take this brood all away again and put it in the place of the brood frames containing cells that have been removed from hive No. 2. Cell-building again goes on apace. There will be plenty of colonies in the yard by this time which can spare one or two frames of brood apiece to replace that taken from hive No. 1, and so the rounds can be repeated as often as desired to secure what queens you want. You can save every good cell if you so desire as you take them from hive 2, by cutting out all but one cell and fitting them into other frames and giving them wherever needed. All these operations should be done in the heat of the day as the young larvae are very easily chilled and that would render all your work useless.

I make my increase in much the same way, except that I set aside about five hives for that purpose alone, and use the extra colonies to draw brood from. When running for increase in this way, I see to it that each nucleus as it is built from hive 2 has at least three frames of brood, either dividing the brood from that hive into about three divisions, or

making more divisions and filling out with brood from other hives.

These three frame nuclei will soon build up to strong colonies, and you can often, toward the latter end of the season, draw from these to help strengthen the later ones. I do not wish to take the credit for this method as I copied it largely from Dr. Miller's method of making increase as given in "Forty Years Among the Bees." I have used it for several years, however, and have had very good success.

These methods are unsafe to use where foul brood exists in the apiary, as there is too much danger of spreading the disease, with so much changing of the combs. The fact of the case is that you will have to be pretty careful with any method you have a mind to use when you are afflicted with this scourge.

Barryton, Mich.

THE PLEASURES OF BEE KEEPING

Miss Ethel Robson.

[Address delivered at the O.B.K.A. Convention, Toronto.]

I want you all to understand that this address of mine is not a serious part of the programme; it is just a little ornamental frill introduced to give variety. I feel that it is something of a presumption for me to be talking to men who have had so much more practical experience than I have. When Mr. Anguish met my sister at the convention he exclaimed to me: "Ah, now I've found you out; this is the girl who does the work, you are only the one who does the talking!" Well it is not quite so bad as that, but indeed in this case, it is you who do the work, I am only doing the talking.

It was suggested that I should tell you something of my methods of work. Being a woman, I really haven't any method, which is both an advantage and a disadvantage. Of course there are certain well-known principles which I endeavor to follow, such as keeping only young, vigorous queens at the heads of the colonies, putting away for winter only colonies strong in young bees, wintering on sugar syrup, keeping the brood nest warm in Spring, etc.; but these are common property, and a part of all methods. With a little more system I should doubtless accomplish vastly more with the same amount of labor; on the other hand, it leaves me with a mind open to suggestion. Now you know every man who has ever done anything with bees has a system of management, and as I go about and meet the various bee-keepers I find they are always very ready to demonstrate to me the advantages of their particular method. I, having an unbiased mind, can listen sympathetically and am hopeful that eventually, out of all those multifarious systems so generously shown me, I shall evolve a perfect system. When I have done so I shall be only too glad to talk to you about "My methods of managing bees." For the present I have to be content to tell you about the pleasures of bee-keeping, which after all, may have a wider appeal, as it will arouse no antagonism, the pleasures not being confined to any particular system, but being inherent in the work.

One day last winter I took a walk out in the bee-yard; the snow was piled high over the hives; there was no sign of life anywhere, nothing in sight to stir the enthusiasm for bee-keeping. From the bee-yard I crossed over to the hen-house The biddies were scratching away contentedly; the air was full of their contented cackle, and if there is any sound in all the world which is almost as good to listen to as the hum of the bees, especially when there are no bees to hear, it is the cackle of the hens in winter; in the nests were some warm, new-laid eggs and as I watched I was in love with poultry-keeping. Here was something of

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interest for every day of the year. From the poultry house I passed to the stable. The air was warm and moist with the breath of feeding cattle; yonder were the young cattle munching away contentedly; here the homely cows with their copious udders; in the horse stable the man was putting on a few last touches with the brush preparatory to taking his team out—how proud he was of their strength and their intelligence! And as the spirit of it all entered into me it seemed that here indeed was something big enough to absorb the whole of a man's interest, and bee-keeping seemed a very poor business in comparison. But in a few days the weather changed. The sun shone out warmly and melted the snow from the entrances of the hives. Again the air was filled with the hum of bees. Soon it was warm enough to open up the hives and peep in to see if there were sufficient stores, and as the living brown mass boiled up warmly over the frames I knew that the bees have a subtle, compelling charm of their own which to those who have worked with them through the seasons, nothing else can equal; they might hold with a gossamer thread, but it had the strength of a grip of steel.

Perhaps one of the main charms of the bees is their remoteness from us; though we work with them and handle them, they remain practically indifferent to us, returning no affection for the care bestowed upon them, and under their swarming instinct, going back without regret to their primitive condition in the woods. Their world is a different world from ours, ruled over by different laws; as different as the fairyland of our childhood—and quite as enchanting. When we think of them elaborating the wax for their comb in their own bodies; their consummate skill in building it into lines of symmetrical beauty; the mathematical exactness of their angles, which we have tried to explain in a hundred different ways, without in the least detracting from the wonder; the absolute subservience of every individual to the good of the whole; the wonderful and specialized economy of the hive; the tremendous sacrifice they make of garnered stores in swarming; the problem of sex worked out in queens and drones and workers. All so exact, so clearly defined, so obedient to law in comparison to our haphazard methods, that we are compelled to do reverence to them, even while bending them to the selfish purpose of getting a living.

And working with the bees has its influence on bee-keepers, tending, I think, to keep them pure and simple in heart, interested in many things, perhaps just a little crotchety but always enthusiastic, always delightful to meet. I think, being a woman, I have missed some of the whole-souled interest because I have not been able to rid myself entirely of my feminine house-keeping instincts. Hence, many a time the bees have been sacrificed to the house, of course to the loss of my pocket. The influence of the bees has made too of all bee-keepers a great brotherhood; it has given them a true freemasonry of spirit, and when bee-keeper meets bee-keeper it is as the meeting of old friends, and they always talk bees. We have at home one of our most successful bee-keepers, the first real bee-keeper I ever met; other men may keep more bees, make more money, but he will always remain to me my ideal bee-keeper, because nowhere will you find one whose heart is more wrapped up in the bees, or who, through the years has made more of a real success with them. I have gone out with him with a lantern to see how he did certain things, and Mr. Chalmers has told me that while staying there over night while on inspection work that Mr. McEwen was tapping at his door at five o'clock in the morning, telling him that he was now ready for a chat—of course

it was bees! As for Mr. Chalmers, I stayed at his home when speaking at the W I. at Milverton, and though it was nearly eight o'clock when I arrived he had me in his workshop that evening, showing me a packing case he was making. It quite won my admiration, but was a little too complicated for an ordinary person like me to use. However, if you only ask him he'll be ready to tell you all about it. Then we have our G O. M. of Canadian bee-keeping, Bro. McEvoy who is always ready to tell you about foul brood and how to cure it. And so I might go on through all the list of bee-keepers and tell of their special interest, for everyone has it, and as R. L. Stevenson says of an aspiration, so it can truly be said of these special interests in the bees "that they are a joy forever, a possession as solid as a landed estate, from which we derive every year a revenue of pleasurable activity."

But so far I have only spoken of the pleasures of bee-keeping in general terms. With all of us there are certain moments which stand out pre-eminently as times of intense pleasure and which, as each season repeats them become only more dear to us. There is the first flight of the bees in the spring when you are able to form some estimate of how the bees have wintered, and you know that wintering is one of the points in which bee-keepers take great pride; then the first peep into the hives, when, if the bees have wintered well, the sight sets the pulses throbbing with visions of a bounteous harvest; the bees waking from their long winter rest are active and alert, boiling up over the frames, and eager for the busy life so soon to begin, and which they will share for such a little time; there is the sight of fields yellow with dandelion and orchards white with bloom There are flashes of sunshine after rain when the air is so full of the hum of bees as to be intoxicating; the joy of sitting quietly on a Sunday afternoon while the bees come tumbling in from the fields; but best of all, there is the long succession of days spent in the open air with the sun and the wind and the bees for companions, when you are drawn close to the heart of nature and made to partake of all her bountiful life—this is the great joy of bee-keeping.

A PICTORAL BIOGRAPHY OF THE HONEY BEE

[In a previous issue we referred to Mr. Mason's Cinematograph representations of bee life, and in compliance with our request to be furnished with some particulars of his productions, we have been favored with the following.—Ed.]

"The Life of the Bee"

I am sending you a few pieces of film cut from "The Life of the Honey Bee" which may interest you. I am sorry they are so small, but the work was done entirely with the Cinematograph camera. If enlarged to about 2¼ in. by 2¼ in. you may get fairly good results, but enlargements from film are not always very satisfactory. The few notes given below may interest your readers.

My first picture produced April, 1909 called "The Bees Eviction" was shown at the London Coliseum and principal towns throughout the United Kingdom, Europe, and the Colonies.

My second, called "The Bee Hunter" was first shown at the Palace Theatre, Shaftesbury Avenue, London, England, in November, 1910, and films sent to all parts of the world except America.

This year I decided to bring out a scientific picture and produced "The Life of the Honey Bee" also "The Production of Honey." To secure a good photo of the "birth of the queen" I watched patiently for six weeks and reared over twenty queens in the observatory hive I had constructed specially for the purpose. This picture has also been a great

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success and very favorably noticed in the London press. Several films have been sent to Germany where scientific subjects are in great demand.

Unfortunately few English films are sent to Canada or the States. The buyers there say there is no demand for them, but will order special subjects if asked for.

If Canadian bee-keepers would like to see my latest pictures and would so advise any of the film renters in Canada, they would no doubt arrange for them to be shown at the various electric theatres in the country.

I did not complete "The Life of the Honey Bee" (which took altogether seven months, until the first week in Sept., and I have already heard from a friend who saw it in Sydney, Australia, so they are quite up to date there.

I intend to produce some more scientific pictures of "bee life" next summer and will be pleased to supply you with cuttings of films if of any use to you.

Yours sincerely,

J. C. BEE MASON.

The following synopsis furnishes a good idea of the scope of Mr. Mason's productions, which our friends who have witnessed them describe as marvellous.

"The Life of the Honey Bee" (Tyler film)—Queen and attendants, workers, drones, from egg to bee; birth of the bee, nurse bees, bee gathering nectar, bee gathering pollen, building queen cells, swarm, hiving swarm, comb building, birth of queen, second queen thrown out, death of drones.

"The Production of Honey" (Tyler film)—Bee farm, subduing bees, a peep behind the scenes, making Weed foundation, folding sections, placing racks on hive, queen excluder, extracting honey, bottling, etc., removing sections (showing bee-escape), finished sections, "stolen fruits are sweetest."

THE BEE HUNT

A'e bonnie, warm, sinny day
As Jock an' Tam an' Sandy Hay
Were hyowin' neeps on Frostybrae
Wi' shouthers sair,
A swarm o' bees did past them gae,
Up in the air.

Said Sandy tae the youngest sin,
"Lat's see, noo, lad, foo fast ye'll rin
An' in a jiffy tak' them in;
They'll seen come doon
Gin ye tak' up the drinkin' can
An' mak' a soun'."

Efter the bees Tam quickly ran
Thro' neeps an' corn on Druchty's lan',
An' wi' a big steen in his han'
He made a soun'
B' thumpin' on the drinkin' can,
An' brocht them doon.

Fin Sandy saw the swarm come doon
An' on a laigh bus' cluster roun'
He sent awa' the ither loon
Hame for a skep,
That a' the bees wid verra soon
Into it get.

At nicht afore he closed his een,
Altho' he wis fell sair an' deen,
Sandy in the lang simmer e'en,
Still mild and warm,
Gid steppin' ower the hull him leen
Tae fetch the swarm.

As he, wi' sweat fa'in' ower his snoot,
Cam' steppin' briskly in aboot,
Betty, his wife, cam' runnin' oot,
Sae trig an' braw.
"Oh!" says he, "there's is nae doot,
I hiv them a'."

Fin Sandy in the gairden fair
Set doon the skep aside some mair,
Almost on eyn did stan' his hair,
Wild stared his een;
The bees hid flown awa' elsewhere—
He'd only ane.

It wis a bizzin' canker't thing,
An' looked as if 'twid use its sting
On Tam, wha said its life he'd bring
Soon to a close;
Bit up it flew an' hid a fling
At Sandy's nose.

—John Stephen.
(Aberdeen Free Press.)

A FINE DISPLAY OF BEE APPLIANCES, PRODUCTS, ETC., AT THE RECENT AGRICULTURAL FAIR, VICTORIA, B.C.

A COMPREHENS
BEE APPLI
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By E. F.

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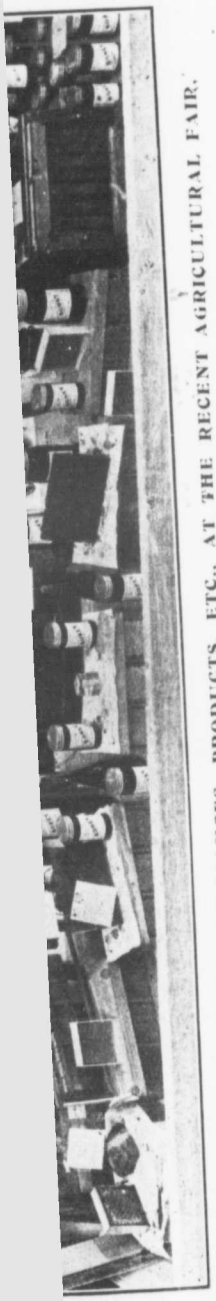

A FINE DISPLAY OF BEE APPLIANCES, PRODUCTS, ETC., AT THE RECENT AGRICULTURAL FAIR, VICTORIA, B.C.

A COMPREHENSIVE DISPLAY OF BEE APPLIANCES AND PRODUCTS

By E. F. Robinson.

The photo needs a little explanation perhaps. The two large charts showing the life history of the bee and its relation to the floral kingdom are by the late Mr. Frank Cheshire of the London Microscopical Society. At the top centre is a case of nectar yielding plants, and below this is a brood frame eaten up with the lesser wax moth, specimens of the moth and larvae being shown on card to left. Beneath these is a case illustrating the mathematics of comb-construction with queen, worker and drone cells; also microscopic slides of the sting, tongue, etc. Below is a one-frame observatory hive, and again under this is a rhomboid dodecahedron to illustrate further comb construction. On left and right you will notice six full size combs of honey in glass cases. These weigh eleven pounds each and are beautifully capped. They formed a portion of the yield of an exceptionally fine colony. This particular colony is headed by a queen which has proved a wonder. Her mother headed my best colony last year, and I have six other daughters of this queen raised in 1911 for further testing. Both 1910 and 1911 colony showed not the slightest desire to swarm, could be handled like flies, did not display any apparent great industrious activity, but just piled up the honey, and did not require any feeding for winter. They are of the dark, leather colored Italian and I have named them Victoria Nos. 1 and 2. Further observation will be interesting.

On the right hand corner shelf is a full size observatory hive, containing a frame with cell protectors and queen cups ("cradles in which queens have reposed") together with a shallow extracting comb above. From right to left on lower shelf are charts illustrating the anatomy of the queen and drone. Cakes of wax and some honey vinegar also find a place here, and likewise a nursery frame of Titoff queen cages. At the back of this is a glass case of mailing cages with queens and attendants enclosed. Then come feeders, queen excluder, bee escape boards, hives for comb and extracted honey production, etc. On a plate will be noticed a section of honey and a piece of bread--but the milk is absent, the supply having run out! This was to illustrate friend W. Z. Hutchinson's beautiful example of a perfectly balanced food. On the extreme right (not shown in the cut) I had a collection of hives, extractors, feeders, etc.

The honey was put up in 5-lb. and 2½-lb. tins, 3-lb., 1-lb., and 12-oz. jars, and to each purchaser was presented one of my lectures on the bee. The crowds that thronged about the exhibit testified to the interest that is generally taken in our fascinating little friend the bee.

Victoria, B.C.

BEE-KEEPING IN B. C.

Mr. E. F. Robinson has returned to Victoria after a month spent in the Okanagan, Kootenay and Arrow Lake districts, lecturing under the auspices of the department of agriculture on bee-keeping, which he treated of both from the honey production standpoint and also from that of the effect on fruit bloom by cross-fertilization by the bees. He reports that the ranchers showed intense interest in the subject of his lectures, staying till all hours of the night to obtain information from him at the close of his lectures. Mr. Robinson considers that fruit culture and bee-keeping should go hand in hand since the blossoms furnish the honey and the bees improve the fruit bloom by their cross-fertilization.

He found that on the Okanagan lake there are hundreds of acres of sage brush which in California forms the chief source of honey supply. This is also found at Peachland, while on Arrow Lake white clover, willow herb, and wild berries grow in abundance, and also in the Kootenay district with the addition of alfalfa. All these plants furnish the finest of honey.

It takes two or three years to establish a colony of hives, but yields of 75 pounds per hive are already recorded from Lytton, and 90 pounds per hive from Westbank. Honey is retailing at 35 cents a pound at Vernon and Nelson and when it is considered that large quantities of honey from California, New Zealand, Ontario, and England, are to be seen in the stores of British Columbia, it needs little argument to set forward the profit and advantage of producing it locally.—Victoria Papers.

YELLOW SWEET CLOVER

By Jacob Haberer.

Four years ago when in Toronto I got a pound of sweet clover. Next spring I sprinkled a little of the seed along the roadsides, and most of it in a swamp with very peaty soil. Very little of it came to anything, but some that I sowed on cultivated clay soil germinated fairly well. This sweet clover turned out to be nearly all of the yellow variety with only a little white amongst it. I gathered some seed from it and sowed it amongst other clover. This came on fine and I was only sorry that we did not have it alone for the purpose of gathering the seed. Still, we saved half a bushel, of which we will make good use next spring. Now as to what we think of it. It blooms earlier than the other clovers, its bloom will last longer, it will stand dry weather better, and bees work extra well on it. The stalks are not so coarse, and it furnishes excellent hay or green feed. All our stock, horses, cattle, sheep and swine like it well. I only wish we had ten acres of it, for the sake of the cattle, as then we should not have been short of feed as we are now. It would have yielded a greater crop than our other hay. This clover should be cultivated—there is no weed about it. Good for the farm and good for the bees! Try it!

Zurich, Ont.

EGGS VS. LARVAE FOR REARING QUEENS

By J. E. Hand.

It is well known that worker bees are undeveloped females, and while it is generally conceded that any larva of a proper age, that will produce a worker bee, will, if given the proper care and food, likewise produce a full fledged queen, there are some who claim that the practice of rearing queens from worker larvae 24 to 36 hours old will result in inferior queens. The term "royal jelly," as applied to the larval food of embryo queens, is somewhat misleading, since it has a tendency to convey the idea that the food of a larval queen is of a different constituency from that given by the nurse bees to larvae that are intended for workers. This theory has led many to believe that the best queens can only be produced from larvae that have received the attention that is due to the royal occupants of queen cells from the moment the larvae are hatched from the egg.

A more minute observation, however, will reveal the fact that during the first 24 hours of its existence, a worker larva is supplied with larval food far in excess of present needs, and therefore, could not consume more if it were provided. Thus matters continue for the first 24 hours, after which the larva

that is intended for a queen will be seen floating in a quantity of larval food that often nearly half fills the cell, while the larvae that are intended for worker bees are provided with no more than enough for present needs. Since carefully conducted microscopical experiments have failed to distinguish between the food of a larva that is intended for a worker, and that intended for a queen, we are forced to the conclusion that the so-called royal jelly, is identical with the food given to ordinary worker larvae, and that it is the quantity, and not the quality that develops the ovaries, and changes the worker larva to a queen.

If the above deductions are correct, a worker larva, 24 to 36 hours old, other things being equal, should produce as good a queen as though it had been hatched in a queen cell and floated in royal jelly from its birth, and after many carefully conducted experiments covering an experience of several years, during which we have reared thousands of queens, by both methods, we have been forced, rather against our will, to accept this view of the matter, and all our queens are reared from worker larvae, 24 hours old.

Birmingham, Ohio.

"FOR THE GENERAL GOOD"

Let every bee-keeper then send the thought that is in him to the editor, and that cheerfully, knowing that if kept to himself it will be useless, but if garnered for the general good, he too, will profit in the years to come. Let him learn from his bees that in work for the general good the worker never tires; that sharing in the larger life of the community

.....“Our hearts beat high
With festivals of youth, when youth
itself goes by.”

Miss Ritchie in the “S. A. Bee-Keeper's Journal,”

A WRINKLE WORTH KNOWING

is that ten pound honey pails of the Penny Lever Pattern have any other feeder on the market to-day beaten a mile for simplicity.

Take your tin and punch holes through the cover about the size of a pin, (plentifully if you want the tin emptied in 24 hours, sparingly if you want a slow feeder) fill it up with thick warm syrup, step up to the hive, roll back the quilt, invert your tin gently over the cluster and—there you are. The bees will do the rest.

When to Work It

On a frosty morning, for comfort personally, but any time will do because there is absolutely no syrup exposed to attract robbers, the cluster have easy access to the entire surface of the lid on account of the formation of the lever cover and they do not have to even leave the frames and it is a pleasant sight to see them cluster around this big, warm body resting in their midst, and lavishing food upon them. Use an empty super over all. Good morning.

H. S.

ALL TOGETHER

Mr David Chalmers has kindly sent us the following lines which contain a lesson for all thoughtful bee-keepers. They are taken from “East and West” of January 6th.

“All Together”

“The man that uses hook and line pulls
in his single fish,
But who join hands and pull a seine get
all that heart can wish,
And each man's share is greater far, in
size as well as weight;
The secret of success is this—Co-operate.”

REVIEWS AND COMMENTS

An Index to the Best in Periodical Apicultural Literature

"BRITISH BEE JOURNAL"

The Ancestors of the Bee

In the B.B.J. Mr. D. Wilson computes the number of ancestors of an animal at the tenth step backwards to amount to 1024, or 512 male and 512 female. He says regarding the ancestry of the bee:

A different state of things altogether presents itself when the pedigree of a bee is traced back. Assuming the theory that a drone has no male parent, the following will show the ancestry of a worker or queen-bee to ten generations.

It is most surprising the way the number of missing ancestors mounts up. Until I worked out this little table I had not the least idea that it would amount to so many at the tenth generation back.

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Queen	1	2	3	5	8	13	21	34	55	89
Drone	1	1	2	3	5	8	13	21	34	55
Missing	0	1	3	8	19	43	94	201	423	880
Total ancestors for ordinary animal	2	4	8	16	32	64	128	256	512	1024

For my own amusement, I have worked this out to twenty steps, and find that whereas the ordinary animal has 1,052,672 ancestors, half male and half female, the worker or queen-bee has but 17,711, of which 10,946 are female and 6,765 are male, while there is the enormous number of 1,034,961 ancestors missing.

The numbers in the pedigree of a drone are slightly different, there being as many ancestors in the tenth generation as in the ninth of a queen or worker and so on.

It will be seen that the reason for this enormous difference in the number of ancestors between the bee and the ordinary animal is that the ancestry of the bee mounts up by addition, whilst that of the animal mounts up by involution of the number two.

AMERICAN BEE JOURNAL

Best Bees to Resist Foul Brood

It is generally believed in America that the Italian Bee exhibits a greater degree of immunity to disease than does the black. It is also generally accepted as being beyond doubt that a strong, active, and vigorous colony will more easily resist an attack of foul brood than a weak one. Strong and widely spread as the idea undoubtedly is, yet there are some Thomases that doubt such statements. An editorial in the A.B.J. containing comment on Mr. McEvoy's recent remarks in our pages anent the Italian bee voices the opinion that is current among the best bee-keepers of this continent. Mr. York writes as follows:

Mr. McEvoy's answer is good. No breed of bees is immune to foul brood, but some will resist better than others; and the colony that is most vigorous in gathering stores will use the same vigor in resisting disease. We can not measure directly the disease-resisting strength of each colony, but we can measure the storing strength and be guided thereby.

The editor of the "American" is thus evidently of the opinion that the "storing strength" of a colony is in a measure proportionate to its ability to resist disease.

He continues:

"But it may be asked, 'Why does Mr. McEvoy put the word 'Italian' at all in his answer? Will not the bees which store the most honey be the best to re-

sist disease, whether they have any yellow bands or not?' Very likely. All Italians are not of equal vigor. All blacks are not of equal vigor. Pit the best colony of blacks that can be found against the poorest colony of Italians that can be found, and the blacks will no doubt store more than the Italians; and equally they will do better at resisting disease. Italians resist disease not because they are yellow, but because they are **vigorous."**

It would be well for the bee-keeping fraternity if this were true. But is it? Most probably not. Immunity is said to be acquired only after a long and severe process of elimination of the strains that are least able to withstand the attacks of noxious microbes. We know that the people of Asia have developed an ability to resist disease to an astounding degree. A recent article in a scientific contemporary tells us that the Chinese can use contaminated water from canals without incurring dysentry, that very little typhoid is found amongst them, and that small-pox is a mild disease, to be likened to the mumps. And so on. For the conditions in China are such that individuals susceptible to these evils inevitably succumb, and as the result of a terrible selective process a specialized type of vitality, distinct from mere physical strength is evolved. It needs no explanation to show that such a characteristic is peculiar to races rather than to individuals, and we should not be surprised if adequate and carefully conducted experiment should prove that the same should likewise be true in the case of the bee.

Out-Door Wintering

What seems a good plan for out-door wintering is given by Isaac F. Tillinghast as follows, who writes:

In our climate we usually have days every month in winter when it is warm and pleasant enough for the bees to take a good flight, and my experience has shown that they keep in better health and suffer less from "spring dwindling" than where confined for four or five months as they frequently are in cellar wintering. So for a number of years past I have practised packing them for winter on the summer stands, an operation which I accomplish about as follows:

The oil-cloth which is kept on top of the frames when the surplus supers and sections are not on, is doubled over to the front, leaving the back half of the frames exposed. Then in the centre of this uncovered space I invert a wooden butter dish (such as your grocer gives you as a part of a pound of butter), extending it crosswise of the hive, to cover as many frames as possible; and then fit an empty super on the hive as tightly as possible so that no water can be driven in.

This makes a clustering place for nearly a quart of bees, where they can retain their bodily heat, and keep warm and snug in the coldest weather, and also be enabled to reach their stores of honey below by passing over the tops of the frames. It also prevents the few bees from becoming detached from the main cluster and getting caught between two combs and perishing, as they otherwise sometimes do in sudden snaps of very severe weather.

Next, over this half of the hive, and over the inverted dish, I place a piece of old coarse carpet, or gunny-sack will answer, tucking it down carefully around the edges, and then fill the super with dry wheat or oats chaff.

Now carefully fit on the cover, and if there is any possibility of its leaking rain or snow water cover it with a piece of roofing, being sure that there is no place for water to work in, either.

Then raise the rear end of the whole hive at least two inches, letting it rest upon a couple of bricks or stones so that rain or melting snow will speedily run away from the entrance, and not work in so as to clog it or keep the bottom board wet.

THE FRENCH JOURNALS

By Dr. Burton N. Gates.

According to L'Apiculture, quoting from the British Bee-Keeper, it is advised that the novice in managing an apiary should gain the major part of his experience upon one colony, leaving the remainder undisturbed. In this way he gets practically all the experience he

needs without breaking up the work of the other colonies. It should also be added that a novice will profit by having in his equipment a colony in an observatory hive, which will acquaint him with practically all of the interesting behaviour of bees.

* * *

Sunflower in Hungary. It is rarely cultivated in France although it is a valuable honey plant for the fall. In Hungary, it is cultivated as a crop, as an accessory in bordering fields of corn, potatoes, tobocco, beets, etc., and it furnishes without doubt a good portion of the winter stores to the Hungarian bees. There was gathered in 1907 in Hungary 163,774 quintals, or hundred weights, of oily seeds of which the oil cakes are fed to the cattle and poultry.—L'Apiculture, Vol. 55, 1911, p. 468.

* * *

A unique and highly interesting book consisting entirely of illustrations, has just appeared in France under the title "L'Apiculture par L'Image," by Ed. Alphandery. The work consists of 440 pictures and 76 plates, illustrating all the phases of bee culture and treating of its historical aspects. Copies of Egyptian hieroglyphics in which the bee figures as one character, are shown. The myth of the origin of the bee as presented by old authors, is also reproduced. One caption is devoted to the evolution of the hive, presents a wide range of hive types, antique as well as modern. The reproduced cuts from books published in the 17th and 18th centuries illustrating the hiving of swarms, transferring, etc., are interesting from the modern standpoint. Another caption, not without significance, is the application of the bee motive in art, likewise in politics and advertising. The more modern methods of bee-keeping are illustrated in a series of plates representing such manipulation as wax extraction, the setting of foundations, foundation manufacture, etc. A series of plates, representing graphically the statistics of wax production, the distribution of colonies of bees, the comparison of honey consumption with the production importation and exportation of honey and wax, and the relative European production of honey.

The book is for sale by the author Ed. Alphandery, Chateau de Brignan, Montfavet (Vauchasse), at 2 francs 50 centimes.

* * *

A note in Le Progres Apicole states that bee stings in the treatment of rheumatism and arthritis is becoming more and more general in Europe.

* * *

The Federation Apicole du Hainaut et Extensions (Belgium) has entered a campaign for the repression of adulterated honey, alleged to be upon the market. Samples of about a fourth of a kilogram are requested to be taken by members and sent to the secretary for examination.

Mass. Agricultural College, Amherst, U.S.A.

"BEE-KEEPERS' REVIEW"

Scientists on "Improvement"

Some time ago, if we remember aright, Dr. Bonney denounced any effort to "improve" the present races of bees as being futile, if not downright wicked. We are somewhat surprised, but at the same time very pleased, to know that the Doctor still preserves an open mind regarding this matter. The place of honor in the January issue of the Review is occupied by some correspondence that has taken place on the subject between Dr. Bonney and several "students of biology, experimental evolution, heredity and bees."

In an article contained in a previous issue of the Review, Dr. Phillips had expressed the view that it was possible to change the bee by breeding, and in submitting this article to the several men of science, Dr. Bonney writes as follows:

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Is the bee biological
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To Dr. Bonney's qu
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"I have always been of the opinion that the bee is the most highly specialized animal alive, and that all progress, change or improvement ceased ages ago. If I am wrong in this, I wish to try to develop a strain or breed of bees which will be good honey gatherers, reasonably gentle, and hardy in this climate, but so long as it is not convenient to control male parentage, though in the Dakotas, where I lately spent some time, there are millions of acres which never saw a bee, treeless, flowerless plains where mating can be controled perfectly, I think), and a generation of worker bees is but forty (40) days, of a queen three or four years and a drone two or three months how may we begin? We bee keepers have been importing Italian queens for half a century, and so far as I can see we still have nothing but Italian bees, and so far as I can see cannot point to a single advantage gained, notwithstanding the claims set up by some writers. I am not criticizing belief, which proves nothing, but unsubstantiated claims. I want to know more for the bee-keeping world than myself.

Is any improvement in the bee to be looked for, even if we can control the mating?

Is the bee biologically the dandelion of the insect world, a perfect type?

To Dr. Bonney's questions Professor W. M. Wheeler replied as follows:

Replying to your interesting letter of the 11th inst., I would say that my little experience with the honey bee leads me to believe that there is no inherent reason why it should not be capable of considerable modification through experimental breeding. I believe, however, that much headway cannot be made until it is possible accurately to control the mating of the queens and drones. Of course, if there are great stretches of country in which bees are lacking, it would be possible to obtain satisfactory results in the open. * * * Of course the honey bee is an extremely highly specialized insect, but not more so than many of the solitary bees, and that vast number of species of the latter (probably some 5000 in the United States alone!) often very closely related to one another, shows that the group is still very plastic and probably undergoing active species formation. This is my main reason for believing that the honey bee is not a form which has reached the end of its development, but that it may have a future before it. It is, of course, not impossible that someone may invent a method of artificially impregnating the queens of honey bees. So many very delicate operations have been performed on insects lately that we may look forward to something of this kind. In that event it would undoubtedly be possible to make very considerable modifications in the races of honey bees.

I do not know whether these points are of any interest to you but if I have not made myself perfectly clear I should be glad to write you further.

Yours very sincerely,
W. M. WHEELER.

Professor Newall, of College Station, Texas, to whom a similar letter had been sent gave the following reply:

Dear Sir,—I feel honored by the receipt of your letter of the 5th instant, and the first thing I must do in replying is to express regret that I cannot give you the information you desire.

I have been interested in bees all my life, but as to investigation of inheritance in the honey bee I have done nothing, so far, other than to study the problem and to plan a few experiments.

During this summer I spent two months at the Bussey Institution, Forest Hills, Massachusetts, studying under Prof. Wheeler, and under Dr. W. E. Castle, professor of genetics and experimental evolution. The information that I gained there relative to the methods of breeding led me to believe that it is possible to find out what characters in the honey bee are transmitted according to the Mendelian scheme. I will have to determine, first of all, what characters of the honey bee are really Mendelian and will thereafter have to find out by experiments just how these characters act in inheritance. Genetics, as you are doubtless already aware, is a science which has developed within the last ten years, and it is nothing more or less than the elaboration of the Mendelian law.

So far as I know, there has been practically no application of genetics in the case of the honey bee, but the numerous instances in the case of other animals and insects in which characters are transmitted according to a definite mathematical plan, and the manner in which mutations can be fixed and made permament characters leads me to believe that similar work can be done with the honey

bee. The honey bee, however, presents, perhaps, a more complicated problem than any of those yet studied by the genetic experts, owing to the fact that parthenogenesis is involved.

It will be seen therefore that scientific opinion is decidedly in support of the view that the plastic nature of the bee may be still further modified to meet the ever-increasing demands of the modern bee-keeper.

We have recently heard from some French and English friends who are making careful experiments with bees along Mendelian lines, but we are not yet in a position to communicate anything of a definite character regarding results achieved. In fact, whilst the preliminary experiments will furnish results of an extremely interesting and curious nature, yet some time must necessarily elapse before the bee-keeper will be put in possession of those same means of "improving" his stock that have been afforded to breeders of other kinds of animals. We still have the selective process which undoubtedly is productive of much improvement in the strain, but to obtain improved races of bees, we must await further investigations in the genetics of the honey-bee.

"GLEANINGS"

The Control of Swarming

Our good friend and neighbor R. F. Holtermann states that bees that are the least apt to swarm are not necessarily best for the bee-keeper **who can control swarming,** and he does not appear to be at all interested in the matter of a non-swarming race of bees. "The prevention of the desire for swarming in powerful colonies, without reducing the numerical strength, either at the moment of or during the continuance of the honey flow, is the capstone of successful bee-keeping."

Mr. Holtermann considers that:

"The time for the greatest danger of swarming with strong colonies is during the light honey-flows before the heavy surplus flow sets in, and during idle time between heavier flows.

When the bees are about ready for super room is a most critical time. I put supers on the hives too early rather than too late; and I generally keep the bees packed in their winter cases until the clover begins to yield nectar, I run no danger of chilling brood.

If, during a good honey-flow the bees enter the supers with a rush, I find but little trouble, under right management, until the super room begins to be crowded **for the process of ripening** the stores they gather from day to day. I do not recollect ever having a twelve-frame Langstroth hive with three, four, or five supers on top of it wanting to swarm. We are told that in tropical countries during the heavy flow the bees abandon swarming; and when the light flow follows they get the swarming impulse. I believe it is much the same under proper management in more northerly localities.

The trouble does not lie solely in the lack of super room. Neither is it lack of ventilation alone, nor in hive conditions alone, as then all the varieties of bees and all colonies would swarm under certain conditions. This much is plain—that, within recent years, there are those who have learned so to manage that the bees will bend their energies in the direction of gathering honey rather than in swarming.

Watch the Queens!

G. C. Chase describes a good method of keeping a record of the achievements of queens without books. It is as follows. Says Mr. Chase:

I use tin tags of three shapes, round, half-round and square. Beginning with the round ones, I tack one on the lower left-hand corner of each hive. If a queen proves good I move the tag over to the centre; if very good higher up in the centre; and if extra good, giving a big surplus, I move the tag to the top of the hive in the centre; and when a queen proves poor I move the tag to the right-hand corner and "discharge" this queen as soon as I can get one to fill her place—the sooner the better.

The second year I take another shape of tag; so you see the shape of the tag tells the queen's age, while the place it occupies on the hive shows her quality.

COUNTY BEE-KE
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By Morley Pettit, Gue

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COUNTY BEE-KEEPERS ASSOCIATIONS AND THEIR WORK

By Morley Pettit, Provincial Apiarist, Guelph

(At the Annual Convention of the Ontario Bee-Keepers Asscciation, Toronto, November 15th, 1911)

(Continued from last month)

The next meeting reported is January 30th, 1891 (A.B.J. Vol. XXVII, 1891, p. 453.).

It is not heard from again.

A Welland County Association is mentioned in 1889, but it appears only the once, and is not affiliated. (C.B.J. Vol. V. 1888, p. 257).

In 1889 a Stratford Association was organized with F. A. Gemmell as president. In 1890 the Perth County Association, presumably the same, was affiliated. It is not heard from again (C. B.J. Vol. V., 1889, p. 496).

The Kent County Bee-keepers' Association only lived during the year 1890.

In reference to the Glengarry Association Alex. Dickson, Lancaster, the present Secretary, writes as follows:

"Our Association was organized in 1893 by W. J. Brown of Chard with a membership of ten and since then the attendance has kept up very well. Only two of the original members, Mr. Toombs and myself are left; two others, Mr. Calder and Mr. Morrison have passed away. The association has met regularly once a year though when first organized they tried meeting twice a year for a few years. Our membership fee has always been fifty cents and we receive a government grant of about $18.00 on an average. Our honey has always been spent on bee-books, monthly papers and sometimes on queens for members. As a member and one who has always taken a lively interest in the Association I consider the money has been well spent.

"Now from a business stand I may say that were it not for the association most of our members would not be where they are to-day, nor would they have made such a financial success of the business, and if it were not for the interest some of us older members took in giving beginners the information which set them on the way to success they might not be so far advanced. As far a the local association is concerned it has not been a great help to me for I had been well started in the business before its origin, but I have the satisfaction of knowing that I have been of some help to others.

"I think a great help to the bee industry would be those local demonstrations such as you conducted here.

"I believe the co-operative system of buying supplies for members would be a good thing. Our association has tried the buying of honey tins this year for the first time and it has proved a good thing so far."

No organizations were formed during the year 1891. In 1892 the present Halton County Association was formed. Geo. E. Saunders was the first and only secretary until this year when J. H. McCauley took up the work.

The York County Association was formed on April 3rd, 1894, Mr. Wm. Couse being present to help organize. Officers for the first year were President W. S. Walton; vice-president, D. W. Heise; secretary L. Maples. Seven directors were also appointed. About 20 members were enrolled the first year, and at the present there are about thirty. Annual meetings are held, and the bulk of the grant from the Ontario Bee-keepers Association goes for periodicals. The present secretary, J. L. Byer, says: "The association has been a benefit to the members from an educational standpoint, and while we have no more bee-keepers arcund us than was the case before, yet we have **better** bee-keepers.

In so far as I know the relation of our local association with the Ontario Association is of the very best—indeed could not well be otherwise considering the way they are treated. Have done nothing in the way of buying queens for members for a number of years now, but the matter has been talked over at late meetings."

Russell county was also organized about this time.

For the years '97 and '98 there were no new societies formed. In '99 Simcoe organized and in '03 Victoria was added to the list. Both of these are doing business to-day.

From 1903 to 1911 no new associations were formed.

In 1911 with the assistance of the Provincial Apiarist the following counties organized:

Hastings: Secretary, A. D. McIntosh, B.S.A., Stirling.

Huron: Secretary Jacob Haberer, Zurich.

Leeds: Secretary H. E. Eyre, Chantry.

Northumberland: Secretary, R. S. Duncan, B.S.A., Port Hope.

Lincoln and Welland: Secretary W V. Bowen, Niagara Falls.

Wellington: Secretary, R. A. Gilchrist, Guelph.

This makes seventeen county bee-keepers' associations in existence at the present time and several other counties are thinking seriously of organizing during coming winter.

Now as to the work of these County associations. The purpose of the first bee-keepers who called conventions was very similar to that of those who call local conventions to-day, simply to get together and talk bees the same as any two bee-keepers do when they get together, the only difference being that the bee talk is conducted in an organized sort of way with one in the chair and a secretary to report proceedings..

In addition to getting together and talking bees the next step was to persuade some man who was supposed to know more about the business than ordinary people to attend the meeting and give an address on some particular part of bee-keeping. After this address there was usually a question drawer when all kinds of questions handed in would be answered by the speaker. We find that in the eighties Mr. D. A. Jones usually occupied this place of honour.

(To be continued.)

A CORRECTION

Dear Sir,—One of our Inspectors has called my attention to a very serious mistake which you have made in publishing my report of the inspection of apiaries in Ontario for 1911. In the table showing the inspection work done, the third column is the "total number of colonies in diseased apiaries," not the "number of diseased colonies" as you have reported. I gave the total number of colonies in diseased apiaries instead of simply giving the number of colonies reported diseased, because I wanted to show the extent of the apiaries represented ,but it is too bad to have reported that there was nearly 8000 colonies of bees having Foul Brood, when the number is really far less.

Another mistake which should be corrected is the statement that the seventeen diseased apiaries in York County were all E.F.B., when as a matter of fact the statement is made in my report that there was **only one colony** in all of these seventeen apiaries having this particular disease.

I hope you will make these corrections as prominently as possible in the February number.

Yours very truly,

MORLEY PETTIT.

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Yours very truly,
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Want and Exchange Column

Advertisements for this column will be received at the rate of 50 cents for 25 words, each additional word one cent. Payments strictly in advance, as the amounts are too small to permit of book-keeping. Write copy of ad. on a separate sheet from any other matter, and on one side of the paper only. Say plainly how many times ad. is to be inserted. Matter must reach us not later than the 23rd of each month.

BEES-WAX WANTED—We pay highest prices for bees-wax, feathers of all kinds, furs, hides, wool, tallow, etc. Prompt returns. Send for price list. The Canada Fur and Feather Co., Dept. 8, 605 Ontario St. East, Montreal.

WANTED—Purchaser for one hundred colonies, mostly Italians in good condition in 8 and 10 frame Langstroth hives, 50 eight frame and 50 ten frame Langstroth hives, 200 lbs. comb foundation, one four-frame non-reversible and one six-frame reversible Langstroth extractor. Write first, some one else may have bought. R. F. Holtermann, Brantford, Ont.

WANTED—To buy quantity of bees, Spring delivery. F. W. Bell, 4 Cherrier St., Montreal, Que.

WANTED—A steady young man wants work in an apiary and poultry farm. He would accept small wages as he wants to gain experience. Address: Peters, Okanagan Landing, B.C.

QUEENS FOR SALE

ITALIAN QUEENS from my Jamaica, B.W.I., yard, mailed any month in the year after May 1st from my Yonkers yard, untested 75c., tested $1.50; breeders, $3.00; Carniolan, Cyprian, Caucassian and Banats, 25c. extra. Honey packages and supplies. W. C. Morris, Yonkers, N.Y., U.S.A.

CARNIOLAN ALPINE QUEENS

Gray Workers. Select Tested Queens, March, April, May $5.00; June, July, August $3.50; **Select Untested,** June, July, August, $2.00.

Shipped to all parts of the world, postage free. Safe arrival guaranteed. International money order with every order. Dead queens replaced if returned in 24 hours after arrival. References respecting financial and commercial responsibility of the undersigned Association can be had at every Imperial and Royal Austro-Hungarian Consulate in the U. S. and Canada. Write for our booklet. Orders for nuclei and hives **cannot** be filled until everything concerning this line of business is properly arranged. Remit money order and write English to **The Imperial-Royal Agricultural Association, Ljubljana, Carniola (Krain), Austria.**