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VOL. IV, NO. 25

1888

SEPTEMBER 12

PUBLISHED EXCLUSIVELY IN THE INTERESTS OF THE HONEY PRODUCER

THE CANADIAN



JOURNAL

THE FIRST \$ WEEKLY IN THE WORLD

ONE DOLLAR PER YEAR

THE GREATEST POSSIBLE GOOD TO THE GREATEST POSSIBLE NUMBER

PUBLISHED BY
THE D.A. JONES CO. LTD.
BEETON ONT.

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We have prepared a series of pamphlets on special subjects relating to bee-culture, containing the best thoughts of our most practical bee-keepers, which we offer at very low rates, as follows:

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 5. FOUL BROOD, its cause and cure..... 10
- Or the whole five books, post paid, for..... .50

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- QUINBY'S NEW BEEKEEPING, by L. C. Root, Price in cloth, \$1.50.
- BEE-KEEPERS' HANDY BOOK, by Henry Alley. Price in cloth, \$1.50.
- PRODUCTION OF COMB HONEY, by W Z Hutchinson. Paper, price, 25c.
- THE HIVE AND HONEY BEE, by Rev. L. L. Langstroth. Price, in cloth, \$2.00.
- A BIRD'S-EYE VIEW OF BEE-KEEPING, by Rev. W.F. Clarke. Price 25c
- SUCCESS IN BEE CULTURE as practised and advised by James Heddon—price in paper cover, 50 cents.
- BEEKEEPERS' GUIDE OR MANUAL OF THE APIARY, by Prof. A. J. Cook. Price, in cloth, \$1.25.
- FOUL BROOD, ITS MANAGEMENT AND CURE by D. A. Jones. Price, 11c. by mail; 10c. otherwise.
- A. B. C. IN CARP CULTURE, by A. I. Root, in paper 50c.
- HONEY, some reasons why it should be eaten, by Allen Pringle. This is in the shape of a leaflet (4 pages) for free distribution amongst prospective customers. Price, with name and address, per 1000, 3.25; per 500, \$2.00; per 250, \$1.25; per 100, 80c. With place for name and address left blank, per 1000, \$2.75; per 500, \$1.70; per 250, \$1.00; per 100, 50c.

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See advertisement on another page. We have just arranged for the sale of these machines, and we can quote a price F.O.B. cars at Toronto (duty and freight paid thereto). On application we will forward catalogue and pricelist free.

THE D. A. JONES Co., LTD.
Beeton, Ont.

PUBLISHERS' NOTES.

We will always be glad to forward sample copies to those desiring such.

Send us the names of three subscribers with \$3 in cash and receive as a premium one C. B. J. Binder.

Send postal card for sample of leaflet, "Honey, some reasons why it should be eaten."

The CANADIAN BEE JOURNAL will be continued to each address until otherwise ordered, and all arrears paid.

Subscriptions are always acknowledged on the wrapper label as soon as possible after receipt.

American Currency, stamps, Post Office orders, and New York and Chicago (par) drafts accepted at par in payment of subscription and advertising accounts.

ERRORS. — We make them: so does everyone, and we will cheerfully correct them if you write us. Try to write us good naturedly, but if you cannot, then write to us anyway. Do not complain to any one else or let it pass. We want an early opportunity to make right any injustice we may do.

We can supply Binders for the JOURNAL 55 cents each, post paid, with name printed on the back in Gold letters.

Subscription Price, \$1.00 per Annum Postage free for Canada and the United States; to England, Germany, etc. 10 cents per year extra; and to all countries not in the postal Union, \$1.00.

The number on each wrapper or address-label will show the expiring number of your subscription, and by comparing this with the Whole No. on the JOURNAL you can ascertain your exact standing.

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All advertisements will be inserted at the following rates

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10 cents per line for the first insertion, and 5 cents per line for each subsequent insertion.

Space measured by a scale of solid nonpareil of which there are twelve lines to the inch, and about nine words to each line.

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	3 MOS.	6 MOS.	12 MOS.
6 lines and under.....	2.50	4.00	6.00
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THE CANADIAN BEE JOURNAL

AND "Gleanings," semi-monthly.....	\$1.75
" " "American Bee Journal," weekly.....	1.75
" " "American Apiculturist," monthly.....	1.75
" " "Bee-Keepers' Magazine," monthly.....	1.40
" " "Bee-Keeper's Guide," monthly.....	1.40
" " "Rays of Light".....	1.20
" " "The Bee-hive".....	1.25
" " "Beekeepers' Review".....	1.40
" " "Beekeepers' Advance".....	1.30

TO CONTRIBUTORS

Communications on any subject of interest to the Bee-keeping fraternity are always welcome, and are solicited.

Beginners will find our Query Department of much value. All questions will be answered by thorough practical men. Questions solicited.

When sending in anything intended for the JOURNAL do not mix it up with a business communication. Use different sheets of paper. Both may, however be enclosed in the same envelope.

Reports from subscribers are always welcome. They assist greatly in making the JOURNAL interesting. If any particular system of management has contributed to your success, and you are willing that your neighbors should know it, tell them through the medium of the JOURNAL.

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TIME, LABOR AND MONEY

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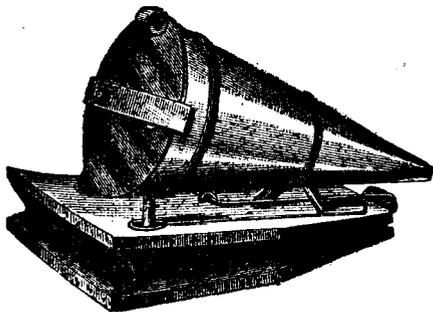
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Or
The D. A. JONES CO. Ltd.,

BEEFON.

CLARK'S COLD BLAST SMOKERS.



We are making these, with late improvements, and can forward them by mail or with other goods by return post. The prices are as follows:

Each With goods. By mail.
6 at one time, each 50c. 70c.
45c.

THE D. A. JONES CO. Ltd., Beeton, Ont

'Practical Hints to Bee Keepers'

Sent free. Address

American Apiculturist.
Wenham, Mass, U.S.

SEND US \$2.50

And we will send you a good serviceable man or boy

Nickle Keyless Watch,

And FOREST AND FARM for one year.

The liveliest and Best Weekly Paper published in the Dominion. Send your address for sample copy and full particulars. Special terms to bona fide canvassers.

FOREST AND FARM,

CHAS. STARK, Publisher, 50 Church St., Toronto.

"FEEDING BACK."

There was probably never before gathered together so much reliable information upon the above subject as is to be found in the

THE BEE-KEEPERS'

REVIEW.

For July. If you have, or expect to have, unfinished sections, read this number. If you have failed to make a success of "feeding-back," its perusal may show you where you made your mistake. The August issue will be a "Fair No."

Price of the REVIEW is 50 cents a year. Sample free. Back numbers can be furnished.

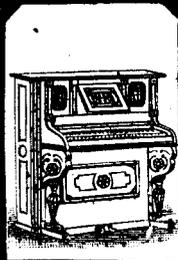
THE PRODUCTION OF COMB HONEY.

A neat little book of 45 pages, price 25 cents. The REVIEW and this book for 65 cents. Stamps taken either U.S. or Canadian. Address

W. Z. HUTCHINSON

618 Wood Street, Flint, Mich.

"BELL"




PIANOS & THE ORGANS
LEADING INSTRUMENTS

FOR PURITY OF TONE & DURABILITY

CATALOGUES FREE

W. BELL & CO. GUELPH, ONT.

BEE-KEEPERS' **PRINTING.**

We make a speciality of Apiarian Printing, and have unequalled facilities for Illustrated

Catalogue and Label Work.

Note these figures, which include printing.

	500	1000
Note Heads, good quality.....	\$1 15	\$1 90
" linen.....	1 25	2 00
Letter Heads, Superfine.....	1 75	2 50
" Linen.....	2 00	3 25
Envelopes, business size, No. 7,		
white.....	1 15	2 00
Extra quality.....	1 35	2 25
Business Cards.....	1 50	2 50
Shipping Tags, 40c., 45c. and 50c. per 100.		

Our new book of labels contains nearly 100 specimens of elegant honey labels. Write for prices for any printing required.

THE CANADIAN BEE JOURNAL,
7 BEETON.

EXCHANGE AND ART.

Advertisements for this Department will be inserted at the uniform rate of 25 CENTS each insertion--not to exceed five lines--and 5 cents each additional line each insertion. If you desire your advt. in this column, be particular to mention the fact, else they will be inserted in our regular advertising columns. This column is specially intended for those who have bees or other goods for exchange for something else, and for the purpose of advertising bees, honey, etc. for sale. Cash must accompany advt.

HONEY.—We can take all that offers in exchange for supplies, at prices found in another advertisement in this issue. THE D. A. JONES CO., Beeton, Ont.

\$1 00 Will secure you by mail, post paid, 250 Noteheads and 250 Envelopes with your name, business and address printed on the corner of each. Send in your order now. THE D. A. JONES CO., Beeton, Ont.

QUEENS, GRAND LAYERS.—Untested Italians \$1; a few mismatched, in 2nd season, clipped, 50c.; Virgins 50c. Foul brood never in this locality. R. KNECHTEL, Brussels, Ont.

BEES FOR SALE.—40 good Colonies of Italian Bees for sale at \$6 per colony; for quantity write for discounts. Also a few young Queens at \$1 each. E. HEAL, St. Thomas.

FLOWERS—Will exchange Seeds or plants for anything not already in my collection. Exchange lists first. MRS. J. DAVIDSON, Lake Charles, Ont.

SECTIONS! SECTIONS!

At low prices, and sample free. Send card for sample. Received first prize for

COMB FOUNDATION!

Toronto Exhibition, 1887. Brood and Section Foundation by return express. All kinds of Bee-keepers' supplies,

S. P. HOBBSON & CO.,
Shelburne, P.O., Ont.

A RARE CHANCE!

The Authorized Capital by Government Charter of the D. A. Jones Co is \$40,000, the subscribed and fully paid-up Capital is \$19,000. We yet require

TWO PRACTICAL MEN

To assist in the management of our large supply business, who could invest \$2,000 to \$3,000, each of which will be fully secured, and good salaries will be paid. We want those who would remain permanently with the company. Good chance for suitable men. Arrangements can be made to take farm lands in lieu of cash. Principals only dealt with.

D. A. JONES,
BEETON, ONT.

WANTED.

Comb Honey in Sections. State price.
R. B. GRAY Pembroke' Ont.

LANGSTROTH FUND.

A GOOD full length photograph of Rev. L. L. Langstroth, mounted on cabinet card, will be sent to any address for 50 cents, one-half to go to the Langstroth fund. Address,

THOS. B. REYNOLDS,
Dayton, Ohio.

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DADANT'S FOUNDATION

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 - F. L. DOUGHERTY, Indianapolis, Ind.
 - CHAS. H. GREEN, Berlin, Wis.
 - CHAS. HERTEL, Jr., Freeburg, Ill.
 - E. L. ARMSTRONG, Jerseyville, Ill.
 - E. KRETCHMER, Coburg, Iowa.
 - M. J. DICKASON, Hiawatha, Kans.
 - ED. R. NEWCOMB, Pleasant Valley, N.Y.
 - J. W. GORTER, Charlottesville, Va.
 - J. B. MASON & SONS, Mechanic Falls, Me.
 - Dr. G. I. TINKER, New Philadelphia, O.
 - D. A. FULLER, Cherry Valley, Ills.
 - IOS. NYSEWANDEK, Des Moines, Iowa.
 - G. B. LEWIS & CO., Watertown, Wis.
 - PAUL L. VIALLO, Bayou Goula, La.
 - E. J. MILLER & CO., Nappanee, Ind.
 - J. MATTOON and W. J. STRATTON, Atwater, Goodell and Woodworth Mfg. Co., Rock Falls, Ills.
 - J. A. ROBERTS, Edgar, Neb.
 - OLIVER FORSTER, Mt. Vernon, Iowa.
 - GEORGE E. HILTON, Fremont, Mich.
 - L. M. CLARK & CO., 1409 15th St., Denver, Col.
 - E. L. GOOLD & Co., Brantford, Ont.
- and numbers of other dealers. Write for SAMPLES FREE and Price List of Bee Supplies. We guarantee every inch of our Foundation equal to sample in every respect. Everyone who buys it is pleased with it.

CHAS. DADANT & SON,
HAMILTON, Hancock Co., N.Y.

BEE-KEEPERS!

SAVE money by printing your name and address on your labels, cards, etc., yourself. Your name on Rubber Stamp, 15c. Name and address, 25c. Any number of lines at 15c for first, and 10c for each extra line. If ink and pads are wanted with stamp, add 15c to these prices. Club amounting to \$1.25 sent for \$1. If you send sample of any name printed, to give an idea of the size and shape you want we can suit you.

Gem Rubber Stamp Co.,
MALAKOFF, ONT.



"THE GREATEST POSSIBLE GOOD TO THE GREATEST POSSIBLE NUMBER."

VOL. IV. No. 25 BEETON, ONT., SEPT. 12, 1888. WHOLE No. 181

EDITORIAL.

THE Toronto Industrial opened on Monday. For various reasons the D. A. Jones Company decide not to make an exhibit this year. Representatives of this journal can be found in the Honey department or in the Press building at any time.

OUR OWN APIARY.

OUR BUCKWHEAT HONEY HARVEST.

THE seventy-five colonies which we moved contiguous to the buckwheat would, we felt sure, fill up and be in grand shape for winter by the time the blossoms died. A ten acre field was very near the apiary and another only half a mile distant. The flowers were just opening when the bees were placed near them, with promise of continuing. Each colony had from five to ten pounds of honey when put there. The foreman of the yards visited them once or twice a week for several weeks to see what progress was being made. As no honey came in we began to think the buckwheat was not going to yield. But the plants were young, just commencing to bloom, and the copious rains had caused such rapid growth that we did not expect a flow until nearer maturity. The owner told us that buckwheat had three series of blooms and we waited in hopes that the

second would be the honey one. From early morn to mid-day the flowers fairly swarmed with bees and their odor was distinct some distance away, but matters did not improve. The colonies did not gain one pound but lost steadily. We wanted to see what the third bloom, as the farmer called it, would do, but for fear that it would resemble its predecessors we decided to remove a portion of the bees to the swamps where others were rapidly storing. Forty were taken away, the rest remained to test the buckwheat to a finish. After four or five weeks' waiting in disgust all are now in the swamp and in many of the last hives removed sufficient honey could not be found to last a colony a single day. This buckwheat was sown on very high land on light sandy soil mixed with gravel. It grew vigorously, was one perfect sheet of bloom, and from its appearance and the manner in which the bees worked on it, one could not help thinking that large quantities of honey were being gathered. Had those colonies been placed on the low ground, where they now are, at the start we feel confident that at least fifty pounds per colony would have been stored. What was the trouble with the buckwheat? The soil was very poor and probably would not have grown any other crop, but it is on such land that our farmers usually grow it. We know that the plant has yielded well from the quantities of honey offered us this fall and we have it near some of

our apiaries. In other years the bees have stored it in considerable quantities yet not sufficient to warrant us in extracting any. Authorities on agriculture, we just see on reference, state that buckwheat requires hot dry weather to come to perfection and if so we wish the pancake cereal had bloomed earlier in the season when the weather was just what it wanted. Will some friend in a buckwheat district give us his experience with this plant.

SNAPDRAGON AS A HONEY PLANT.

Snapdragon (*Antirrhinum*) is a honey plant scarcely appreciated even in localities where it most abounds. This year it has been no small factor in our fall yield. It grows in protusion and thrives best in moist, shady places from which fire has burnt the leaves and top soil. Here it grows for several years until compelled to give way to the aster and golden rod. Some colonies have stored over five pounds a day from this source. Some may ask, "Are you sure of this and how can you tell?" Every loaded bee returning to the hive had the well-known snapdragon mark. One peculiarity of the flower is in having the pollen on the upper lip of its mouth and the bee, in seeking the nectar at the bottom of the deep corolla rubs against the pollen, the light colored grains of which are readily seen on its thorax. We watched them working on these flowers to determine, if possible, how many a worker had to visit to secure its load. Each bloom contains a large drop of shining nectar, and from three to five flowers which had not been recently visited supplied a bee with all it could carry.

On the night of the 5th inst. a heavy frost cut down much of this plant. Whilst it has the advantage of being shaded by the trees and shrubs and thus protected in a great measure from early frost, it is a tender plant and full of sap, which falls at the first touch of the frost King's hand. Our yield from this source is thus cut off, only a few plants in exceptionally favored spots remaining.

Snapdragon honey is unusually thin when gathered, for fall honey it is fairly light in color and has a soft but not specially distinct flavor. It resembles most closely that from aster.

THE ASTER

Seemed to step in just at the moment it was needed to take the place of the frost-killed snap dragon. The aster is a hardy fall flowering plant, of many varieties. It likes a rich, wet soil, and we have never known it to thrive on high, dry ground.

Our foreman found another location where fire had run through a large swamp and where a hundred acres of asters were in sight. We arranged with a farmer living only a few rods from the edge of this forage and here we placed some of the starving colonies from the buckwheat. The first day they brought in several pounds, besides each bee having, we presume, a square meal, something they had evidently not received from the buckwheat. They are nicely filling up and had we located them there in the first place they would have given us a surplus. From one of the apiaries where the main dependence was snapdragon we are removing the colonies to the asters, feeling satisfied from present appearances that they will repay us for the trouble.

FEED! FEED! FEED!

Some readers become disgusted at seeing so much in the JOURNAL each fall about the importance of feeding. "A constant dripping will wear a stone" is an old adage, but the spring reports of colonies starved make us wonder when this particular stone will commence to wear. Constant losses and persistent preaching from this text will yet, we trust, have a wholesome effect. An unfed colony is dead and valueless in spring; one on which you may have had to spend \$2 for feed in the fall will sell for \$6 or \$8 in May. If you are too lazy to prepare the food, unable or too miserly to expend the necessary funds, see if your neighbor will not accept them as a present and go to the small amount of trouble to save them.

NON-CONTAGIOUS FOUL BROOD.

IN the issue of August 22nd, present volume, we reported progress in our treatment of that "bee disease." Our conclusion is that it is a mild type of non-contagious foul brood. To give in detail all the experiments we have tried since the affected colonies

were brought under our care in May last would require several issues of this journal. Every imaginable plan has been tried and much time and labor expended—too much to suit our foreman, who got discouraged and charged us with devoting more time to them than we could afford. However, we think a certain cure has been effected, and, though we have not traced the disease to its source, we feel repaid in finding a remedy.

One colony, in which we left both queen and combs, simply treating it to a thorough spraying with pure carbolic acid (phenol absolute), one part to 500 of rain water, does not yet seem radically cured. It has improved and is not so sickly as at first. Another season's treatment may eradicate it, or the disease may not make its appearance next spring should the colony survive until then.

No signs of disease are visible in those colonies placed in clean hives on foundation with the queen and sprayed. We think they are unquestionably cured, as large quantities of brood have been hatched bearing no trace of infection. The hives in which we received them had some frames with quite or nearly one quarter of the brood dead.

Others treated in the same way, except that the old queen was replaced by a young one, are also free. The old queen was placed in a clean colony which has not been infected by her presence.

From some we simply removed the queen, leaving them their own combs filled with honey and brood. Kept them queenless for fifteen or twenty days, spraying every second or third day. When the brood was nearly all hatched a young queen was given them which became fertile and laid soon after the old brood had incubated. The spraying was continued as the brood increased and up to the present time. All the colonies so treated appear to be thoroughly cured.

In future should we meet with similar cases, unless something causes us to change our opinion, we shall simply remove the queen, keep them queenless until the larvæ issue, and give them a queen to become fertile as the last imago emerges. In the meantime spray every day with phenol. It is not necessary to

even remove the combs to spray them thoroughly all over. Use a watering can of a gallon capacity with a fine rose, lift up one edge or end of the quilt and sprinkle the solution on the tops of the frames taking care to keep all the liquid inside the hive. It does no good outside. Give each eight framed colony about half a pint. All the combs are drenched at the top and many bees, the solution trickles down to the bottom-board, dampening the bees and finding its way into cells of uncapped honey, and some into the brood, which it does not appear to injure. The evening is the best time to do this. In this easy and inexpensive way one person can treat forty or fifty colonies in one hour, and we could now attend to a hundred with less labor than we have devoted to the dozen and their increase, for we divided them up more or less to test the various methods of treatment.

A HOME MARKET MADE.

BY A NOVEL PLAN.

ONE of the most novel plans for disposing of a honey crop which has come under our notice, is told us in a private letter. The writer does not wish his name mentioned, but gives us liberty to publish how he did it. He writes:

Two years ago I had an enormous yield from my one hundred and thirty colonies, and I was in a dilemma how to dispose of it. I supplied each grocery store in the village with nicely labelled sections and attractive glass bottles of extracted. The editor of the local paper was made the recipient of a couple of sections, for which I received a very flattering notice. Still the sales were slow, too slow to suit me, but I had done everything I could think of. Peddling it around the village was not to be thought of, and send it for sacrifice by a commission man I would not. But I wanted to sell. The teachers of the Sabbath-school were about to hold a magic lantern entertainment with addresses by ministers and others. On such occasions I am generally called upon for a few remarks, and I promised a ten minutes speech on the bee. I carried a crate of sections to the hall that evening, each section cut into a

number of small pieces. I gave a short talk on the industry, etc., of the patient little workers, and drew appropriate lessons therefrom. Then I created a furore amongst the juveniles by presenting as many as possible with a portion of section honey. This action of mine almost destroyed the harmony of the gathering, for the children got the honey on their clothing, clamored for more, and the unfortunate ones who did not secure any made loud appeals to the benevolence of those who did. A small boy whom I had previously employed rose in his seat and enquired if I had any honey at home for sale. "Yes," I replied, "any amount." "At what price?" he wanted to know, and I told him. Well, sir, next day I sold over two hundred pounds and had a steady demand until my crop was exhausted. I consider that the cost of the honey given away and the quarter I paid the boy to put the questions was more than recouped."

A STATE SOCIETY FOR MAINE,

AND ITS MOST COMPREHENSIVE PLAT-
FORM.

MAINE Apicultural Society meets in Lewiston to-day to discuss the advisability of consolidating in one all the various bee-keepers' societies throughout the State, in the same manner as our Ontario association.

The *Lewiston Journal* puts forward the following advantages for the amalgamation, and the objects sought to be attained certainly cover a wide field:—

The one general society, by its great membership, would, without increasing individual expense, secure quite a fund with which to prosecute much needed investigation of subjects of interest to the profession.

The State society could elect an agent to inspect and thoroughly test the various inventions and improvements which are placed before the public with fine names and great praise, and who should, when such novelties are found to be of practical value, give them the recommendation of the State society. Then, every bee-keeper in Maine will know the worth of the article. This is something which cannot be done by individuals.

The same idea could be carried out with regard to the different races of bees, and the

methods of management. Results of investigations could be forwarded to the county departments for the benefit of members, and in this way a more intelligent and systematic method of apiculture would be secured which could not fail to secure good results. A little time expended in arranging details will secure a smooth-working society. "In union is strength."

DO BEES EAT PEACHES.

IN the last issue of *Gleanings* friend Root, writes pretty conclusively on this matter. We have no peaches in our own immediate neighborhood, but many of our readers south have yards, or are in close proximity to yards, so that their bees might be a trouble, and perhaps not having watched developments themselves, if approached by a peach grower with complaints against their bees, would not be in a position to answer him as well as they will be after reading the article which we reproduce in full:

The matter has come up a great many times in regard to bees and peaches, and perhaps more this present season than heretofore. A few days ago a neighbor told me that our bees had taken complete possession of his peach orchard. They were "cleaning the fruit right off the trees and would not let anyone go near the trees." I told him they were eating the decayed peaches and no others. He would not believe me until I took him down to our fruit house and showed him several baskets of sweet clingstone peaches. These sweet clingstones are the first that ripen, and this year they began rotting, a great part of them, before they got mellow enough to eat. I have taken considerable time and pains to look into the whole matter, and I understand it. I bought of a neighbor about two bushels of these peaches, and I immediately sorted out all the decayed and mellow ones. Before I got through the bees were busy on the decayed ones; then they commenced on the mellow ones; and where the skin was bruised they rapidly enlarged the opening, and soon finished the peach. For two or three hours not a bee was to be found on those that had been sorted out as perfect. By noon, however, knots of bees were gathered in different parts of almost every basket. I sorted them again and found little white spots, indicating that rot had commenced since I went over them in the morning, and whenever the bees found these indications that decay had commenced on a small spot, they pushed their tongues into it, and rapidly made the opening larger.

I then placed a part of the peaches indoors where the bees could not get at them. In about three hours time, as before, quite a number of the peaches showed decayed spots. Some had commenced to get mellow, but the greater part of them commenced to rot before getting mellow at all. Well, wherever they were left out of doors the bees found out what was going on, and kept going over the peaches, waiting for a soft spot to appear. Before these soft spots appeared a whitish down always indicated where rot was going to commence. The appearance was something like mildew. Good peaches, however, that became mellow before this rotting commenced, were never attacked or injured by the bees at all. If, after the peaches get mellow, they are tumbled around in the baskets so as to bruise the skin, they will be attacked by the bees. They will also, within 24 hours as a rule, commence to decay if the bees do not get at them.

Now, friends, I think you have the truth of the whole matter. The bees do not injure sound peaches. They will, however, get through the skin at once when this process of decay commences, and it will start out through the basket of peaches in just a few hours—that is, if you sort out every decayed peach, and every one that shows any symptoms of decay, at nine o'clock in the morning, during hot, rainy weather, by noon you will find a good many that have commenced to rot—enough so that the bees will get at them. In a few hours more the peach will sometimes be too rotten for sale or for use. Now, I do not know whether this kind of rot always occurs with these sweet clingstones or not. I have noticed it several seasons, but I never saw it so bad as this season. It commences when the peach is nearly ripe, and it may attack fruit before it is mellow, or after it is mellow or not at all. It is not the same kind of rot that spoils fruit when it rots from over-ripeness. If you get a remedy for the rot, you will also have a remedy for the bees, and this kind of rot is certainly a very serious matter to fruit-growers.

Now, then, there is one other trouble: When your fruit gets bruised so as to break the skin, the bees will rapidly take out the inside. This makes them a nuisance. People who handle fruit however, greatly magnify the effects, and my neighbor was greatly surprised to see me pick out peaches and push the bees away with my finger, in order to show him the white mold which is the fore runner, or harbinger, of the rot on every peach where the bees had found an opening. He could hardly believe me when I

told him they did not chase his people out of the orchard.

Now, I wish this whole matter might be fully understood, and I wish our agricultural papers would copy the facts I have here given. There is some trouble with bees and fruit, I am well aware, but the trouble is not so great as fruit-men often imagine, and I am sure it will be very much less expense to arrange the damages in an amicable way, rather than to attempt to right the matter by going to law. Let the bee-keeper and the fruit raiser both look into the matter and talk it over in a friendly way. I proposed gathering the fruit or paying the damages, but my neighbor finally declared there were not sound peaches enough there in the first place to be worth talking about. He knew many of them were rotting even before they were ripe, but he did not know the bees were at work on the trees, *only* on those that had begun to rot.

Another thing: The bees would pay no attention to these peaches, even the sweet ones, were it a season honey could be found in the fields. With us, however, the bees seldom find honey enough to keep them busy at the time when peaches begin to ripen.

From Canadian Live Stock Journal.

September in the Apiary.

THE WEATHER, ETC.

FORTUNATELY the drouth appears to be broken. Just after my last letter was sent to this *Journal* in July we had a heavy shower of rain (18th), which was quite general throughout the dry district in Central Ontario. There was not, however, enough to go to the roots of potatoes and other vegetables, yet it did much good to late grain and the root crop generally. Then, within the following 18 or 20 days, there were two more showers, each less in amount. But now, at last, we have had what may be fairly called a rain. On the 13th of August, the long looked for and welcome descent came in sufficient quantity to reach the roots of everything. And withal it came so gradually that it ran in instead of off the land—in to the roots of the potatoes instead of down off the hill, and between the rows, as it does when it comes down rapidly. As a consequence everything now is looking up, and the bees with the rest.

TO WORK AGAIN.

After a long enforced idleness, that is, so far as the ingathering of surplus was concerned, the bees are again at work, with a good prospect of laying in, not only winter stores, but probably

some surplus for the expectant apiarist. The rains have helped the buckwheat up and along, and it now promises well, the earlier sown lots in favorable situations having come into bloom the first week in August. Should the frost keep off and the weather prove favorable, the bloom will be continuous and protracted, as the buckwheat is now (August 15th) in all stages, from just above ground to blooming. The casual fall flowers are also coming out, and altogether there will probably be a good fall for the bees to partially offset the very bad summer.

LESSONS FROM DROUTHS.

These drouths, which of late years recur so frequently, ought to teach the apiarist, as well as the farmer, useful lessons. The chief one of these is to give more attention to the propagation and cultivation of the flowers, plants and crops which best stand the drouth. The farmer ought to scatter his chances, as it were; that is, he ought to diversify his husbandry more, and the agricultural apiarist ought to keep his weather eye in the same direction. Corn, for instance, is a crop that stands a great deal of drouth, for if the rain refuses to descend upon it from the clouds we can keep cultivating it and stirring the earth around it persistently, thus getting at night by absorption the moisture which the clouds deny us. Over and above the corn which this very useful crop yields, there are the stalks which make excellent feed for cows; besides, corn planting, with proper cultivation, is death on all weeds. Then it yields both pollen and honey for the bees. All things considered, corn is one of the most profitable crops the farmer can raise, especially in a dry season like the present, and I am at a loss to explain the neglect of this crop among farmers except on the grounds of laziness to give it the extra attention it requires. Corn for fodder should also be more extensively raised, and the southern white seems to be much ahead of the western corn for this purpose. And in order to raise a good crop of this in a drouth, instead of sowing it broadcast, harrowing it in, and allowing it to shift for itself, it ought to be put in hills or drills and thoroughly cultivated, the same as field corn. This also yields pollen and honey. Sorghum is also excellent for all purposes mentioned, and may be likewise made to afford a supply of syrup.

Rye could also be grown to advantage against the contingencies of drouth. In most cases it will grow on the poorest land on the farm, and the drouth seldom commences early enough in the spring to materially injure it. Rye yields an abundance of straw, which makes very good

fodder, especially when cut up, and comes in good with a light hay crop.

SWEET CLOVER AND THE CHAPMAN HONEY PLANT.

These two plants (*melilotus alba* and *echinops sphaerocephalus*), though good for little else than honey, ought to get more attention from the bee-keeper as resources against the drouths. The sweet clover will stand up alone and bloom bravely when almost everything else is dried up. And it blooms from June till fall, yielding an excellent quality of honey. I shall not say that it would be profitable to occupy good field land with sweet clover just for bees, take one season with another, but I mean to say that it certainly would pay to scatter it freely along fences, on roadsides and in waste places within reach of the bees; and in time of drouth, when almost every other source fails, this may yield enough, at least to keep up brooding.

The other plant, the "Chapman," so called because the gentleman of that name at Versailles, N.Y., first cultivated it in this country, and brought it to the notice of bee-keepers, is a native of France, is perennial, and from the experience already had with it in Canada, promises exceedingly well. Some three years ago the North American Bee-keepers' Association appointed a committee to investigate the merits of the plant. Others have also tested it within the last year or two in Canada, as well as the States, and on the whole the reports are very favorable. It is reported as hardy, withstanding the drouth, yielding nectar abundantly for from one to four weeks, and growing upon almost all kinds of soil.

WINTER STORES.

At last writing it was thought, owing to the severe drouth, that feeding to supply winter stores would have to be extensively resorted to. Happily the prospect is now changed, and the probability is that the bees will be able to procure natural stores, and that but little feeding will be necessary. This, however, is the month (September) when the matter of food for winter must be attended to and any deficiencies supplied. As to the amount per colony of food required from September till June, that depends upon various circumstances, but it is best to be on the safe side and give plenty. An average of 30 to 40 lbs. per colony is little enough. Of course those wintered outside require more than those in more comfortable quarters, for in the bee, as in other animals, the animal heat is kept up by the food. In a good repository, with other conditions right, a colony of bees will pass the winter from November till April on from 2 to 10 lbs. of honey. But this presupposes a repository and temperature which will secure quiescence

—a sort of semi-hibernation, into which the bees pass periodically between the first of December and the commencement of spring brooding, about the first of March. When wintered in a low temperature where the requisite heat inside the hive must be kept up by the bees themselves, there is but little of this hibernation and as a result a much larger consumption of food. Therefore, other conditions being equal, the lower the temperature the more food required.

As to the best food for winter stores, the bee-doctors differ in opinion. Mine is that the natural stores are the best—that is, good honey capped over. Some advocate excluding all pollen from the hive and wintering exclusively on syrup made from number one granulated sugar. It is said the pollen is the prime cause of bee-diarrhœa. For myself I do not fear the presence of pollen in the hives in wintering. Indeed, as it is an essential part of the food in brood-rearing I prefer its presence, so that when it is required by the bees for that purpose in winter and early spring, it will be there. With plenty of honey in the hive there is not much danger of inordinate pollen consumption by the bees before they are compelled to use it for the young. The honey gathered early in the season, thoroughly ripened, may be the best for winter stores. I think it is; but my experience is that buckwheat honey, well ripened and capped over, answers all right for winter. And as it is worth less in the market, and stored the last of the season at the most convenient time for the apiarist, there is no good reason why it should not be used for winter stores wherever it can be obtained. But the hives ought to be kept warm and dry while is being stored, and all remaining in the combs uncapped in October ought to be extracted. This being done, all colonies found deficient by actual weight (weighing is the only safe method of determining) must be liberally supplied.

Let it not be inferred from this that the work of supplying winter stores may be safely put off till October; but it sometimes happens that when we think we have supplied all with enough in September, we find some of them short later on, especially after extracting the thin, uncapped honey. And they may still be supplied should the weather be at all favorable, always remembering when feeding for winter late in the fall to keep the colony warm, so that the food may be properly capped over. The instructions given in the August number how to feed for stimulating purposes will apply to fall feeding, and need not be repeated here. There is this difference, however, that the feed for winter should be given much more rapidly—as fast as the bees can take it up and dispose of it.

ALLEN PRINGLE.

Read the grand array of premiums offered on page 495 of this issue.

From the Bee-Keepers' Review.

Winter Stores.—If Sugar is Used It Must be Fed Early.

IN the last *Review* Professor Cook says: "We know that sugar syrup is safe" for wintering. I arise to remark that last winter my bees were supplied almost entirely with that article, having been fed 2,800 pounds of granulated sugar, and they made the poorest stagger at wintering that they have in a number of years. I am not calling in question Professor Cook's veracity, I am merely stating a fact, and I do it, not to pick a quarrel with the professor, but to show how careful we need to be to avoid misunderstandings, and how difficult it is to draw conclusions that will always hold good, when the bees are allowed to have any hand in the matter. It is probable that Professor Cook is correct that sugar fed at the right time and in the right way is always a safe food. If I had from experience learned that the source from which my bees obtained my winter stores was such that I could with some degree of assurance consider such stores unwholesome, I should extract and feed sugar syrup. Or if, for any reason, my bees were short of stores, obliging me to feed for winter, I think I should, as I have done in the past, feed sugar syrup. And before going farther I will say that the mortality among my bees last winter, I think, would have been equally as great if the best honey had been fed in place of the sugar. I say I think, for I cannot be entirely positive about anything connected with bees, as I have already hinted. I did not feed till very late, hoping that a flow of honey from fall flowers might help to fill up, and I very much doubt if a colony entirely destitute of stores and then fed as late as October, will ever winter perfectly in this climate.

After a good deal of experience in the matter, I would advise any one who thinks his winter stores unwholesome, to try extracting and filling up with sugar syrup, but I would strongly advise that the feeding be done early. Just how early, must vary with the latitude. In this latitude—42°—I should like to have the feeding all done in August. Later than this, I am afraid the bees do not have time to properly ripen it.

As to taking away wholesome honey—and allow me to say that I think unwholesome honey is not so very plentiful—and feeding sugar in its place, that is another matter. It may be profitable if sugar is low and honey high enough, and time not too valuable. Allow me, however, to mention some objections, for I imagine that the favorable side will be fully enough presented. The editor and others will tell you that pollen, as clearly shown by scientific analysis, is at the

bottom of the wintering trouble, therefore take away everything and feed pure sugar syrup, and wintering bees is as safe as wintering horses. But who that has followed this teaching has wintered with un-failing success? I have seen colonies that starved with abundance of pollen in the combs easy of access, with no signs of diarrhoea, and I have never seen any satisfactory explanation of this, if pollen is so disastrous in its effects. I need not tell you of the labor of feeding, although I have tried to reduce it to a minimum, and have no great difficulty in getting a colony to take 20 pounds in 24 hours, still the word "feeding," in my family, is heard with no little unpleasant feeling. Then I have found it difficult to strike the happy medium as to consistency. Sometimes the syrup granulates in the cells, when, so far as I know, there is just the same amount of acid as at other times when it seems to attract enough moisture to run out of the cells. If you feed sugar syrup, there is danger of your yielding to the temptation to wait longer than you should in the hope that the bees may fill up from late flowers. Better feed up early enough, and then if a flood of late honey should come, you can extract again. I do not say how much, but at least some weight should be given to the objection that a pound of sugar fed to bees helps just so much to raise the price of sugar and lower the price of honey. If you are inexperienced you may gain a considerable amount of experience in a short time by starting the bees at robbing when feeding at a time when they are not gathering from the fields.

In spite of the real gain there may be in having all the light honey stored in sections, and having the bees winter on cheaper stores, it is not at all impossible that I may go back to the old plan of allowing eight frames in the hives at all times, and encouraging the bees to keep these heavily provisioned with stores of their own gathering.

C. C. MILLER.

Marengo, Ill., Aug. 27, 1888.

From the American Bee Journal.

FOUL BROOD.

THEORIES OF THE FIRST CAUSE OF THE DISEASE.

AS to what may be the first cause of foul brood I believe no theory has as yet been advanced that will satisfactorily cover all cases.

The theory of Cheshire, that it is caused by bacilli, or minute vegetable organisms, is the one generally held by those who have studied the disease. If we accept this, we must suppose that all cases of foul brood are traceable to infec-

tion from some first case or cases. Bacilli can no more grow without seeds than corn or wheat. It seems somewhat difficult to account for all cases on this supposition, although if Cheshire's theory be true, that the bacilli or spores may be deposited by the bees from infected hives on the blossoms they visit, to cling to and be carried away by other bees that visit the same flowers, we can easily see that the disease may be quickly spread over wide reaches of territory. The intervening links might then be destroyed in some way, leaving cases of foul brood apparently many miles away from any source of contagion. Even without this way of spreading, the disease may be carried far and fast by swarms escaping to the woods, and by robbing.

The credence given to Cheshire's conclusions is no doubt largely because they are in accord with what is known as the "germ theory" of disease. This is very captivating, very plausible and a very convenient pair of shoulders on which to lay the burden of most of the diseases that inflict the inhabitants of this mundane sphere.

It is not my intention to attack this theory. Apparently it rests on too firm a foundation to be overthrown. The whisper, though, is not unheard in scientific circles, that over zealous investigators have sometimes mistaken effect for cause, in concluding that because bacilli accompany a disease they necessarily produce the disease.

There are objections to the bacillus theory in the case of foul brood. One is, that Cheshire declared himself unable to detect either bacilli or spores in honey, and gave it as his opinion that the disease was never, or at least but very seldom, transmitted by means of honey. So far as I know, no microscopist has had any better success in detecting either bacilli or spores in honey. Yet the almost uniform testimony of all who have had practical experience with it is, that it is through the medium of the honey that it is most frequently and surely transmitted. The most practical and successful methods of cure are based on this assumption, while those which ignore it have in practice proven uncertain and unreliable.

STARVATION AS A FOUL BROOD CURE.

Cheshire declares, furthermore, that foul brood is not simply a disease of the brood, but that *bacillus alvei* affects the mature bees, both workers and queen. If so, they are very easily disposed of, for I have repeatedly cured the worst cases of foul brood by simply confining the bees without food for forty-eight hours, then putting them into a clean hive, and still more simply by brushing them from their infected

combs into a clean hive, where they were obliged to build comb before brood could be reared.

The plain inference is, that the contagion, whatever its nature, is contained in the honey, and that it is destroyed when the honey is digested. Possibly the digestion of the last particle of honey does away with the bacilli so numerous in the vitals of bees and queen; but many will be inclined to doubt.

All attempts to get rid of foul brood without boiling, or equivalent treatment for everything except the bees, have proven tedious, uncertain and unsafe. By equivalent treatment, I mean a thorough washing or admixture with carbolic or salicylic acid. To spray the outside of an infected comb is useless. While it is possible that the fumes of sulphur may be a sufficient disinfectant—though I do not believe it—the process must be more thorough than that recommended in a previous number. To put infected hives and frames out of doors in the summer—exposed to the bees—as there recommended, and then depend upon scraping and sulphuring, is simply to invite destruction.

The correspondent in the previous number, has very evidently had little experience with foul brood, or he would not venture so wild an opinion as, that it is caused by the larva getting reversed in the cell, and that the puncture in the cap of the cell is made by its sharp end in the effort to get out.

The fact is that foul brood nearly always attacks the larva before it is old enough to be sealed up. Even when it is attacked after it is sealed, the cap is by no means invariably punctured nor perceptibly sunken.

ROPYNESS THE TEST OF FOUL BROOD.

The best test of foul brood is the ropy, tenacious, slightly elastic condition that the diseased larva assumes. Do not expect, though, that it will "snap back into the cell like a piece of India rubber when you pull it out with a stick," as some have said. I was not in favor of this test once, simply because too much stress was laid on the elasticity of the diseased matter. Remembering that its elasticity is but slight, this feature becomes our best criterion.

JAMES A. GREEN.

Dayton, Ill.

From Gleanings.

Does Odor or Color Attract Bees?

DO BEES PREFER CERTAIN KINDS OF HONEY?

EDITOR *Gleanings*.—I wish to comment upon the answers to the query in July 11th CANADIAN BEE JOURNAL: "Do bees show a preference for certain kinds of honey? If so, why?" Let me say that I prize these queries

and answers. If they seem "hashy," it is a very palatable kind of hash. You will notice that I give the answer that odor and color of the flowers explains the preference. Without doubt I am correct. It is probable that odor is the chief attraction. Several say that it is quantity, and instance the linden. Few flowers secrete so abundantly as our grand lindens, hence the volatile element which gives the fragrance is very abundant, and we readily see why the bees are so eager to get to the bloom when it secretes. Mr. Doolittle's answer is interesting and suggestive. He says the teasel attracts the bees way from the linden, and adds that this is unfortunate, as the teasel furnishes thinner, and so less desirable, nectar. This, again, explains why the linden has less odor. The thicker nectar would volatilize less rapidly, hence the bees would be drawn to the thinner and more fragrant teasel nectar. Has any one ever known the linden to be very fragrant and yet not be visited by bees, unless, forsooth, a more fragrant plant took the precedence? Our lindens are just out; but as yet they are void of fragrance, and unvisited by the bees.

A. J. COOK.

Agricultural College, Michigan, July 15.

SUNDRY SELECTIONS.

NO YIELD FROM THISTLE.

E. T. MARTIN.—In pursuing the C. B. J. I find that some complain of the drouth as the cause of no surplus and in other localities the wet weather; but here in the east end of Elgin we have neither to grumble about, but till the buckwheat came the bees scarcely got enough to live on. They have not worked on Canadian thistles here for the last five years. We had a heavy drouth last year, which is the cause of the failure this season. The alsike clover is dead and the white very thin and no honey in it. Hope for better things next year and trust in the all wise Ruler.

Griffin's Corners.

Something must be wrong with your thistles, and why they should fail to secrete for five successive years is a mystery. With us the ubiquitous thistle has yielded more or less every year, some seasons almost in showers. A few years ago when basswood had nearly ceased we had thundershowers and warm rains, and as the honey came in more rapidly than before the students thought the linden had taken a fresh start. But seed pods and fruit secrete no nectar and it did not take long to convince them that the curse of the farmers—the thistle—was a blessing to beekeepers.

A GOOD SHOWING.

C. WURSTER.—My report is very easily made. Came through the winter with 6% loss; spring opened fair, but since it has been a very poor season. One colony I have kept on the scale all through the season, and I find it has been a medium one comparing it with the rest, and I only took away 11 lbs., leaving about 15 lbs.; therefore, according to this one they will not only require the 11 lbs. taken away to be replaced, but from 7 to 10 lbs. added to it to carry them over till spring. From 51 colonies in spring I have taken 500 lbs. of extracted and 400 lbs. in 1 lb. sections, and expect to feed back about 1200 lbs. So with the hope of realizing on the honey taken to pay for something cheaper and having a little for the much looked for surplus.

Many bee-keepers would be glad had they been as fortunate as you. Your honey should bring good prices and one pound will pay for two or three of syrup.

OFF-STANDARD SUGAR.

Will you please tell me if granulated sugar casting up a bluish scum is safe to feed to bees as winter food? I have a sugar which does that. I never had it happen before, but I have heard of such. I would like your opinion and, if possible, the cause of it. The sugar looks very good and is hard and clear, but as soon as it gets to boiling a blue scum appears.

Kleinburg, Sept., 1888.

We would not like to feed such sugar unless compelled. Have known samples of "off standard" to show such a scum, but pure granulated never. The difference in cost of first and second grades is so slight that it should not be entertained at a time when the bees want the best food procurable.

AN ADVENTURE WITH BEES.

On the bank of the Octoraro Creek at White Rock stands a large hollow tree. Ed. Platz, trackman on the Peach Bottom Narrow Gauge railroad, is only 19 years old, but he is seven feet high. He loves to fish, and does whenever he gets the chance. The other day he got into a canoe which was chained to the big hollow tree and was soon absorbed in his favorite sport. He had fished a short time when he heard a low but musical sound behind him. Looking around, he saw a large black ball emerging from the hollow in the tree. The ball moved swiftly forward, and, without ado, settled on the Octoraro giant's head. He knew then that he had been selected by a swarm of bees to hive on, and he slid out of the canoe into the water. The creek was not deep enough for a dive, so the giant had to hold himself beneath the water by the bottom. The bees didn't go down with him, but when he was finally forced to raise his head to the surface to get wind he found a snug bunch of the bees waiting for him, and he had to go down again.

He crawled along the bottom until he had to have more wind, and he stuck his head out

again. The bunch of bees were sauntering by, and, seeing the head, dipped at it again. Down to the bottom went the giant again, and, dragging himself along the bottom until he had to have breath or die, he lifted his head once more. The bunch of bees was gone and the Octoraro giant came out on shore.

After he had breathed enough he went to the hollow tree and found a store of honey there, so large that two patent pails were required to carry it home.—New York Sun.

PREPARED FOR WINTER.

JOHN MURRAY.—I went into winter quarters with eight colonies; two died during the winter, leaving me six this spring. Three of these were strong and three only medium. From five of the strongest of these I have extracted 115 lbs. of honey and took ten pounds of comb honey—all basswood—and increased to nine colonies which have plenty of stores for the winter; they run from 50 lbs. to 75 lbs. each. The clover did not yield any nectar here this season. One of my colonies, when I took them from winter quarters, did not contain over half a cup full of bees and a queen; I thought I would give them a chance and see what they would do. They now have a Jones S.W. hive chuck full of honey and bees which is far better than I thought they would do.

Arnott, Sept. 3.

It is astonishing how a few bees will build up in favorable weather. Do not be surprised if that is your best colony next spring. We recollect having a very choice queen from whose colony we had drawn so many cards of brood in the fall for use in queenless colonies, that scarcely any young bees went into winter quarters. In spring, on examining them after a first flight, the foreman said: "Here is a queen with very few bees; better cage her with another colony." We had no colony queenless so put her on two frames crowded close, closed entrance tight and replaced the hive in bee house. On a warm day soon after we counted them and found just 27 bees. A few young bees from a strong colony were picked off their combs and dropped between the frames, making a total of possibly 50. Next day the queen had laid a few eggs and apparently felt it was time to resume business. The addition of another modicum of youngsters from a card of hatching brood infused increased vigor into the colony, and in a few days they had capped brood. A little hatching brood or a small number of young bees will cause a weak colony to amazingly enthuse, whilst five times as many would scarcely make any perceptible difference in a strong colony.

BUSINESS DEPARTMENT.

Read the grand array of premiums offered on page 495 of this issue.

In return for the names of ten bee-keepers sent us on a postal, we will send the "Bee-Keepers' Dictionary" value 25 cents.

For some time past we have filled all orders for queens by return mail. We have a good supply on hand, especially of Carniolan crosses, which will be sold at 20% discount, where two or more are ordered at one time.

Read the grand array of premiums offered on page 495 of this issue.

A TEMPERATE YOUNG MAN of unquestionable character can invest in a profitable business, yielding good profits. Salary. Address BOX 500, BEETON.

PREMIUM LIST.

The following premiums are now offered to readers of the CANADIAN BEE JOURNAL. We have made special arrangements for the purchase of these articles, and are in a position to make the offer we do. One dollar must be sent with every name that is sent in, though they do not need to be sent all at one time, nor from one post office. The subscribers may be either new or old. If working for any of these premiums, the person so doing must advise us of the fact when they send in the first names. All articles which have to be sent by freight or express, will be sent, charges to be paid by recipient :

TWO NAMES WITH \$2—	
One copy Heddon's Success in bee culture	50
" " Hutchinson's Review, one year	50
THREE NAMES WITH \$3—	
One copy Miller's, Year among the Bees.	75
" Automatic Fountain Pen.....	75
FOUR NAMES WITH \$4—	
One copy Cook's Manual.....	1 25
" " A.B.C.—Root.....	1 25
" " W'kly Globe to 31st Dec. 1889.	1 00
" " " Mail " " " "	1 00
" " " Empire " " " "	1 00
" " " Western Advertiser	1 00
" " " Witless, Montreal.....	1 00
" " Gleanings, one year.....	1 00
" " American Bee Journal, one yr.	1 00
One year's subscription to any \$1 weekly or monthly published in either Canada or the United States.....	1 00
One Smoker, No. 2, plain.....	1 25
" Honey Knife, ebony handle.....	1 15
Two best Canadian Feeders, made up..	1 00
One Mitchell Frame Nailer.....	1 25

SIX NAMES WITH \$6—	
One Force Pump with Sprayer.....	2 00
" pair Rubber Gloves, post paid.....	2 00
" Comb Carrying Bucket.....	1 50

EIGHT NAMES WITH \$8—	
One set Anatomical Charts, with key....	2 50
" Queen Nursery (20 cages).....	2 50
" Uncapping Arrangement.....	2 25

TEN NAMES WITH \$10—	
One No. 1 Wax Extractor.....	4 00
" Heddon H. (made up) complete, ptd.	3 25

TWELVE NAMES WITH \$12—	
1000 Sections—one piece—any size.....	4 50
One Copying Press, Simplex.....	4 50
Individual right, Heddon Hive.....	5 00
One Ripening Can.....	4 50
" Bee Tent—netting cover.....	4 00

FIFTEEN NAMES WITH \$15—	
Seven Combination Hives, fitted up for extracted honey, with second story..	6 30
One Extractor—any size frame—old style gearing.....	7 00
One Lawn Mower, best make, 12 in.....	6 50

EIGHTEEN NAMES WITH \$18—	
One Farmers' Union or Family Scale, ½ oz. to 240 lbs.....	8 00
One Extractor—best made—to take any size frame.....	8 00

TWENTY NAMES WITH \$20—	
10 Combination Hives, for comb honey.	9 00
10 S. W. Jones Hives and Frames.....	8 30

TWENTY-FIVE NAMES \$25—	
One Union or Family Scale, 240 lbs. with tin scoop.....	10 45

THIRTY NAMES WITH \$30—	
3000 Sections—one piece—any size.....	13 00

THIRTY FIVE NAMES WITH \$35—	
Two Colonies Bees with good queens....	16 00

FORTY NAMES WITH \$40—	
5000 Sections—one piece—any size.....	10 00
One Portable Platform (19 x 14) Scale, 500 lbs. with wheels.....	18 00

FIFTY NAMES WITH \$50—	
Three Colonies Bees, good queens.....	24 00

SIXTY NAMES WITH \$60—	
One Farmers' Platform Scale, with wheels 1,200 lbs., steel bearings.....	26 00

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50 Combination Hives, for comb honey..	31 50

ONE HUNDRED NAMES WITH \$100—	
50 Langstroth Hives.....	37 50

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One Combined Barnes' Foot Power Machine	60 00

TWO HUNDRED NAMES WITH \$200—	
10 Colonies Bees in Combination Hives, with good laying queens.....	30 00

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Ebony ruler, bevelled for book-keeper.....	1 90	4 50
File, 8 inch, flat, round or 3 corner.....	1 90	
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Tape Lines, "Universal," 3 ft..	2 30	

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250 Envelopes, Ladies', square.		
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4 " legal, in pads of 100 sheets.....	2 75	6 100
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35 CENT ARTICLES.

Bit, best make, inch.....	3 40	8 120
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Square, grad. to 1/16 both sides	3 30	

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Foolscap, 5 quires, good quality	3 75	
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Pens, gross box, 'Bank of Eng.'	3 80	
" " Blacks'one or J.	3 80	
Ruler, 2 foot, boxwood, brass bound.....	3 60	

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Blank books.....		
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Cash " " " " " "	4 25	

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Minute " " " " " "	4 25	
Complete set, Cash, Day and Ledger, \$1.25.....		
200 page Day Book, canvas cover good paper, exceptionally low		
Carpenter's brace, pat. grip, 8 in	4 85	12 00
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Hand saws, 18 and 20 in., best make.....	4 50	
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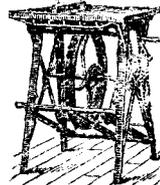
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Copying press, "The Simplex," the most rapid and the easiest handled. Folds like a book and weighs but 10 lbs. With lock, \$5, without....

\$4 50

Hammer, No. 47, steel head, adze eye a most substantial implement.....

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Hand saw, 26 inch, finest quality.....

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Hatchet, steel, with hammer and nail puller.....

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10 inch cut.....	5 75
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We ship these direct from the factory at above figures.

Letter books, with index, bound in canvas, 500 pages.....

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Square, steel, grad. both sides, usual price, \$1.75.....

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Soldering outfit, consisting of soldering iron, scraper, bar of powdered resin.....

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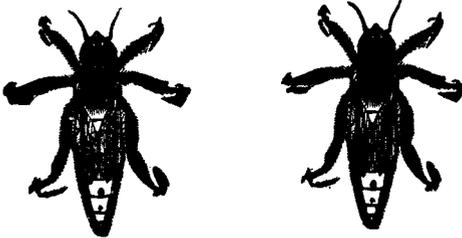
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We pay much attention to the class of drones with which our queens come in contact.

The annexed table shows the prices at different seasons, of different varieties. These are, of course, subject to change depending upon the supply and demand. All changes will be noted in the CANADIAN BEE JOURNAL :

MONTH.	Untested	Tasted	Selected	Virgin
May	1 50	2 50	3 00	
June	1 00	2 00	3 00	0 60
July	1 00	2 00	2 50	50
August	1 00	2 00	2 50	50
September	1 50	2 00	2 75	
October		2 50	3 00	

Three at one time, deduct 10 per cent ; six at one time, deduct 20 per cent.

EXPLANATIONS.

We are not, owing to our high latitude, able to sell queens before May, nor later than October.

Untested queens will be ready for sale as soon as mated, and before they have had a chance to prove themselves.

Tasted queens are those which have been proven as to race and honey-gathering qualities.

Selected queens are chosen because of color, size and honey-gathering qualities.

Queens cannot be shipped unless the weather is warm enough, except at risk of purchaser—otherwise safe delivery is guaranteed.

We replace all queens lost in transit, but not those lost in introducing.

BEEES.

Bees should always go by express, unless they are personally cared for *en route*.

We do not hold ourselves responsible for breakage or delay in transit of colonies of bees they always leave our hands in good shape. We will send out only such colonies as we are sure will give satisfaction. Our bees will be such as the queens we offer will produce.

MONTH.	Italian	Italian Crosses	Carrishan Crosses
May	\$8.00	\$ 8.00	\$ 9.00
June	7.00	7.00	8.00
July	7.00	7.00	8.00
August	6.50	6.50	7.00
September	6.00	6.00	6.50
October	6.50	6.50	7.00

The above prices are for up to four colonies ; five colonies up to nine, take off 3 per cent ; ten colonies up to twenty-four, 5 per cent ; twenty-five colonies and over, 10 per cent—*always cash*. Bees at these prices will always be sent out in the Combination Hive, and each colony will contain a good queen, some honey, and brood according to the season.

BEEES BY THE POUND.

Just as soon as we can raise them in the spring, we will have for sale, bees by the pound at the following prices :—Up to July 1st, \$1.25 per pound ; after that date, 90c. per pound. Orders must be accompanied by the cash, and they will be entered and filled in rotation as received. We are booking orders now. Do not delay in ordering if you want prompt shipment.

NUCLEI.

A two-frame nucleus will consist of one-pound of bees, two frames partly filled with brood and honey, and an extra good queen, price \$4. Two at one time, \$3.75 each—up to July 1st.

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We can send frames that will suit either the Jones or Combination hive. Please specify which you wish. Should you prefer the nucleus in either Jones or Combination hive, add price of the hive, made up, to the cost of nucleus.

Bees by the pound and nuclei must always be sent by express. Orders for nuclei filled in rotation the same as bees by the pound.

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	FOR REMAINDER OF SEASON OF 1888.		
	1 untested queen	75	
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	1 tested " "	1 50	
3 " " "	4 00		

Invariably by return mail, and safe arrival guaranteed.
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At hard pan prices.

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1000	\$ 4 50
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