

The Canadian Bee Journal

Devoted to the Interests of Bee-Keepers

Vol. 18, No. 7.^b

June 1910

\$1.00 Per Annum

LET us now, in order to form a clearer conception of the bees' intellectual power, consider their methods of intercommunication. There can be no doubting that they understand each other; and indeed it were surely impossible for a republic so considerable, wherein the labours are so varied and so marvellously combined, to subsist amid the silence and spiritual isolation of so many thousand creatures. They must be able, therefore, to give expression to thoughts and feelings by means either of a phonetic vocabulary, or more probably, of some kind of tactile language or magnetic intuition, corresponding perhaps to senses and properties of matter that are wholly unknown to us. And such intuition well might lodge in the mysterious antennæ—containing in the case of the workers, according to Cheshire's calculation, twelve thousand tactile hairs and five thousand "smell-hollows"—wherewith they probe and fathom the darkness. For the mutual understanding of the bees is not confined to their habitual labours; the extraordinary also has a name and place in their language, as is proved by the manner in which news good or bad, normal or supernatural, will at once spread in the hive—the loss or return of the mother, for instance, the entrance of an enemy, the intrusion of a strange queen, the approach of a band of marauders, the discovery of treasure, &c. And so characteristic is their attitude, so essentially different their murmur at each of these special events, that the experienced apiarist can without difficulty tell what is troubling the crowd that moves distractedly to and fro in the shadow.—The Life of the Bee, Maeterlinck.

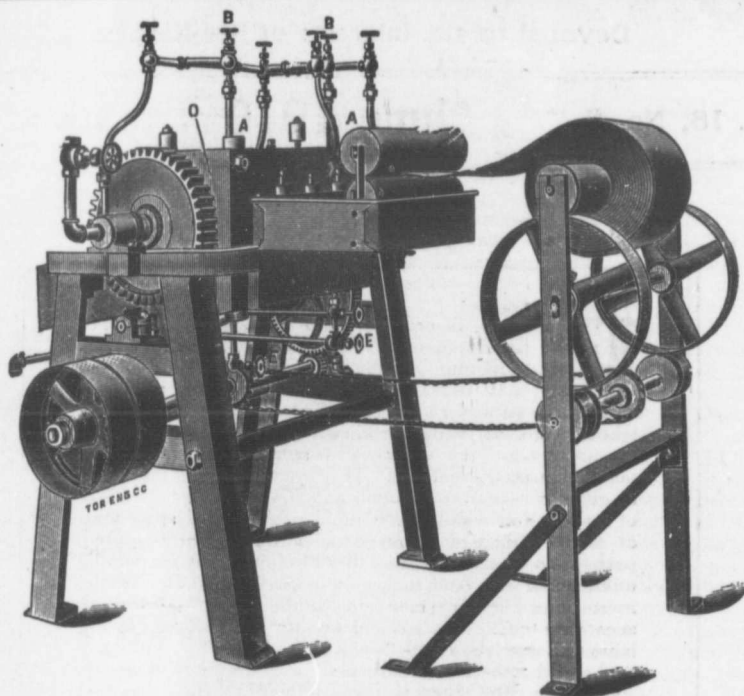
PUBLISHED BY

The HURLEY PRINTING CO.

BRANFORD, CANADA

Comb Foundation

Made by the "Weed Patent Process"



The Weed Foundation Sheeter

FOUNDATION made by this process excels all other in strength of texture. This combined in nice, straight uniform sheets, with good cell walls and thin base, gives it its world-wide reputation for general excellence of quality. So much better than the ordinary, and costs no more—Try it.

Customers Wax made up by "Weed Patent Process"

Beeswax taken in payment of making at trade prices if desired.

The HAM & NOTT CO. Limited
BRANTFORD, ONTARIO

Successors to the Gould, Shapley & Muir Co., Limited

June, 1910

Canadian

Devoted to the

JAS.

Publ

The HUR

I

\$1 per annum
able in advance
Canada, United States
other countries
postage.

Discontinuation
subscription
paper discontinued
by post, other
its continuance
be paid for. If
at the expiration
should be so
order.

Receipts for
Journal will
receipt of money
receipt of ren
acknowledged

How to Send
money at our
cheque or draft
means are available
stamps by registered
any other way
no exchange on
Make all expressions
payable to The
Brantford, Ont.

A
We are in receipt
losses that may
advertisers, yet
to admit only
columns.

Time	Rate
1 Mth ..	1 in. \$2.00
2 Mths ..	3.00
3 Mths ..	4.00
6 Mths ..	6.00
12 Mths ..	10.00

Printing

HC

LE

B

Write us w

The HUR

B

The Canadian Bee Journal

Devoted to the Interests of Bee-Keepers

JAS. J. HURLEY, Editor

Published monthly by
The HURLEY PRINTING CO.,
Brantford, Ont.

TERMS

\$1 per annum; two years, \$1.50, payable in advance. These terms apply to Canada, United States and Mexico; to all other countries, 12 cents per annum for postage.

Discontinuances—Any subscriber whose subscription has expired, wishing the paper discontinued, will please notify us by post, otherwise we will assume that its continuance is desired, and that it will be paid for. If the paper is to be stopped at the expiration of the time paid for, it should be so stated when giving the order.

Receipts for Money—The receipt of the Journal will be an acknowledgment of receipt of money to new subscribers. The receipt of renewed subscriptions will be acknowledged by postcard.

How to Send Money—You can send money at our risk by P. O. Order or bank cheque or draft, and where none of these means are available, bills and postage stamps by registered letter. Money sent any other way is at your risk. We pay no exchange or express charges on money. Make all express orders, cheques or drafts payable to The Canadian Bee Journal, Brantford, Ont.

ADVERTISING

We are in no way responsible for any losses that may occur in dealing with our advertisers, yet we take every precaution to admit only reliable men in these columns.

Time	Rates of Advertising				
	1 in.	2 in.	3 in.	4 in.	1 col. page
1 Mth ..	\$2.00	\$3.00	\$3.50	\$4.50	\$6.50
2 Mths	3.00	4.50	5.50	6.50	11.00
3 Mths	4.00	6.50	7.00	9.00	25.00
6 Mths	6.00	9.00	12.00	15.00	40.00
12 Mths	10.00	16.00	20.00	25.00	75.00

Printing for Bee-Keepers

HONEY LABELS
LETTER HEADS
BILL HEADS

Write us when requiring Printing of any kind.

The HURLEY PRINTING CO.,
Brantford, Ont.

Ontario Bee-Keepers Association

Organized 1880

Incorporated March, 1886

President—Wm. Couse, Streetsville.
Vice-President—W. J. Craig, Brantford.
2nd Vice-President—W. A. Chrysler, Chatham.

Secretary-Treasurer — P. W. Hodgetts,
Department of Agriculture, Parliament Bldg., Toronto.

DIRECTORS

- Div. 1—A. Dickson, Lancaster.
- Div. 2—A. McLaughlin, Cumberland.
- Div. 3—H. E. Eyrle, Chantry.
- Div. 4—C. F. Chisholm, Wallbridge.
- Div. 5—Jas. Storer, Lindsay.
- Div. 6—Wm. Couse, Streetsville.
- Div. 7—J. F. Switzer, Orangeville.
- Div. 8—U. H. Bowen, Niagara Falls.
- Div. 9—W. J. Craig, Brantford.
- Div. 10—D. Chalmers, Poole.
- Div. 11—Wm. Chrysler, Chatham.
- Div. 12—Hy. Johnson, Craighurst.

O.A.C.—Morley Pettit.
Executive Committee—President Couse;
1st and 2nd Vice-Presidents and Secretary.
Honey Show Committee—President Couse,
Grainger, Sibbald and Secretary.
Revising Com.—H. G. Sibbald, Claude.
Honey Crop Committee—P. W. Hodgetts,
Toronto; Wm. Couse, Streetsville; H. G.
Sibbald, Claude; W. J. Craig, Brantford.
Transportation Committee—Wm. Couse,
Streetsville; J. D. Evans, Islington; P. W.
Hodgetts, Toronto.

Representatives—
Toronto Exhibition: J. D. Evans, Islington.
Ottawa Exhibition: W. J. Brown, L'Orignal.
London Exhibition: F. J. Miller, London.

FOUL BROOD INSPECTORS

1. J. S. Schrank, Port Elgin—Bruce and Huron
2. D. Chalmers, Poole—Waterloo and Perth.
3. William Idle, Clarksburg—Wellington and Grey.
4. W. A. Chrysler, Chatham—Lambton, Kent, and Essex.
5. John Newton, Thamesford—Middlesex and Elgin.
6. James Armstrong, Cheapside—Haldimand, Norfolk, and Welland.
7. W. Bayless, Grand View—Oxford and Brant.
8. Alexander Robertson, Waterdown—Wentworth and Lincoln.
9. Arthur Adamson, Erindale—Halton, Peel and Dufferin.
10. Hy. Johnson, Craighurst—Simcoe, and Muskoka.
11. J. L. Byer, Mt. Joy—Ontario, York, Victoria and Durham.
12. W. Scott, Wooler—Northumberland, Peterboro, Hastings and Prince Edward.
13. J. B. Checkley, Linden Banks—Lennox and Addington, Frontenac and Leeds.
14. A. A. Ferrier, Renfrew—Renfrew, Lanark and Carleton.
15. Alexander Dickson, Lancaster—Russell, Prescott, and Glengarry.
16. Homer Burke, Tayside—Grenville, Dundas and Stormont.

Bee-keepers desiring the services of the inspector of apiaries should address their requests to Hon. James S. Duff, Minister of Agriculture, Toronto, giving nearest railway station and distance of apiary from station.

Place of Meeting: Toronto. Hall and dates to be selected by Executive.

Clubbing List for 1910

To Old and New Subscribers: Our Clubbing List for 1910 includes the following Remarkable Offers

WE WILL SEND

The CANADIAN BEE JOURNAL

WITH

The British Bee Journal, \$1.50 ..	For \$2 25
Gleanings in Bee Culture, \$1	For 1 95
The American Bee Journal, \$1 ..	For 1 75
Bee-Keepers' Review, \$1	For 1 75
Irish Bee Journal, 36c.	For 1 25
The Herald (Montreal)	For 1 50
Montreal Weekly Witness, \$1	For 1 75
Montreal Daily Witness	For 3 00
Northern Messenger	For 1 35
World Wide, \$1.50	For 1 85
Family Herald and Weekly Star \$1	For 1 85
Canadian Poultry Review, 50c....	For 1 40
The Breeders' Advocate, 50c.	For 1 40
Farmers' Advocate, 1.50.....	For 2 25
Weekly Sun, \$1	For 1 75
News (Daily) Toronto	For 2 20
The Horseman (Chicago)	For 3 50

Mail and Empire for \$1.50

The Canadian Bee Journal

Brantford

::

Canada

The

Vol. 18, No

From rep
partment a
that the clc
All that is
If this is o
will be secu

The Exec
Bee-Keepers
the next me
next at Alb

We trust
our caution
ands of hiv
have been
weeks. Tho
to the matt
rewarded w
writing the
proved. Wi
warm weath
crop of hor
places is sh
coming into
to the mat
there is not
from swarmi

Our reader
considerable
appearing in
Mr. W. Whi
question dis
thorough stu
entire agree
ities, who ha
the matter o

This has
queen raiser,
an early sta
weather. It
new queens

The Canadian Bee Journal

PUBLISHED MONTHLY

JAS. J. HURLEY, EDITOR, BRANTFORD, ONTARIO, CANADA

Vol. 18, No. 6.

JUNE, 1910

Whole No. 544

From reports of the Agricultural Department and other sources, we gather that the clover crop is in good condition. All that is wanted is favorable weather. If this is obtained a good crop of honey will be secured.

* * *

The Executive Board of the National Bee-Keepers' Association has decided that the next meeting will be held in October next at Albany, N. Y. Dates later.

* * *

We trust our readers gave attention to our caution last month re feeding. Thousands of hives throughout the country have been in a starving condition for weeks. Those who have given attention to the matter, will, we hope, be amply rewarded with a good crop. At this writing the weather conditions have improved. With a week or ten days of good warm weather, there may yet be a good crop of honey. White clover in waste places is showing up good, and is now coming into bloom, with a little attention to the matter of room for the queen, there is not likely to be much annoyance from swarming this season.

* * *

Our readers will no doubt peruse with considerable interest the very able article appearing in this issue from the pen of Mr. W. White. He is an authority on the question discussed, having made a very thorough study of the subject. He is in entire agreement with all college authorities, who have thus far pronounced upon the matter of aphis and honey-dew.

* * *

This has been a hard season on the queen raiser, who was tempted to make an early start, because of the early fine weather. It will now be July 1st before new queens are on the market.

Is "Nosema Apis" our old enemy "Dysentery"? So thinks our good brother York of the American Bee Journal. Mr. York says: "The disease with which Dr. Zander has evidently worked is our old friend and enemy Dysentery. He does not claim that this is a new disease, but rather that he has found the cause of the old one. We should be glad that the cause of a well-known disease is being investigated, rather than alarmed because a new name has appeared on the bee-keeping horizon:—

"Dysentery is a well-known and readily prevented disease, which causes no great inconvenience to progressive bee-keepers. It is brought on by poor winter stores and long confinement in the hive. Honey-dew is a very common source of this trouble, and during the past winter when it was so abundantly used for winter stores, dysentery caused heavy losses. The progressive bee-keeper, however, got the honey-dew away from the bees before cold weather set in, wintered on sugar syrup or good honey, and no dysentery appeared. A disease which we can predict, prevent and produce if we should so wish, is not likely to frighten progressive bee-keepers very much."

"In the meantime, let us patiently wait until full knowledge of the new organism is obtained. We need not worry about the introduction of dysentery into America, for it is already here. Now that Dr. Zander has found Nosema Apis in the intestines of diseased bees, dysentery does not thereby lose or gain any undesirable characters."

* * *

June 15—as we go to press—clover honey is coming in in abundance.

Questions and Answers

BY THE EDITOR

1. I have lately been using some Hoffman frames. I find they have some good qualities and many unsatisfactory ones. Could you tell me of a good frame; something of the same size as the Hoffman; a good, strong top-bar and a staple spacing, as I cannot uphold the self-spacing. I want to get a good, strong staple-spaced frame.

2. When is the best time to make nuclei for increase and dispense with swarming?

3. What is your opinion as regards buckwheat honey for wintering bees.

4. What size of a hive do you advocate for best wintering.

E. T.

1. Dealers in Bee-Keepers supplies will furnish you with a stapled frame as good and as strong as that of the Hoffman, possessing all of its good points and eliminating its weak ones.

2. Make nuclei just after the honey flow has opened up well.

3. Buckwheat honey is good for winter food.

4. This is a very much disputed question. We would say, however, that you will be safe with the eight, nine or ten frame. Some few favor a twelve frame hive. They may be right, but with our present light upon the subject we could not conscientiously recommend it.—Ed.

* * *

Foul Brood.

William McEvoy:

Sir,—As your name appears in the Canadian Bee Journal as an authority on American Foul Brood, and as I have it in my apiary, I would like to ask a few questions.

1. Will dry extracted combs that have been on foul brood colonies, and which have been exposed to the severity of the

weather in an out shed all winter be safe to use again in the brood chamber?

2. Will queens from foul brood colonies be safe to transfer to healthy colonies.

3. Will wax made from foul brood combs be safe to use as foundation in brood chambers?

4. Will wax made from burr combs and cappings from honey supers on foul brood colonies be safe to use as foundation in brood chambers.

K. O.

Answers.

1. If your extracting combs never had any foul brood cells in them they will be perfectly safe to use in any brood chamber after the bees in foul brood colonies have cleaned the honey out of these. When foul brood matter is drying down it glues itself fast to the bottom and lower side wall of the cells, and there it will remain as long as the comb lasts, and no exposure to cold will ever make combs with such cells fit to use again, because as soon as the bees store honey in cells that contain the crust of foul brood the honey in such cells becomes diseased and as soon as the honey is taken out of these corrupt cells and fed to the brood it will give it the disease and this is how foul brood is spread.

I have always saved all the combs in every diseased apiary except the combs that contained foul brood cells. By turning my back to the sun and holding the comb on a slant so that the sun could shine right down into the cells I could at a glance tell the crust left from foul brood if there was any there and if none was seen all such combs were saved.

2. Yes; queens themselves from foul brood colonies are perfectly safe to transfer to any healthy colony, but you must introduce her all alone in a cage by herself. I have taken very many queen out of foul brood colonies all over the province and brought them home and introduced them into my own colonies. These

were fine colonies like others.

3. Yes; such comb

4. Yes; material in every purp

Woodbu

[Mr. M above for the name pondence the question that we a readers.—I

THIS

I put 1 all wintere and have my trouble bees. Had since. I r up in supe wet night every 7 or syrup all more. See ago. I had nest and killing the thirty year such an ex weather is Let me kn with yours

Jordan, J

[Your e many other part of the fine. Brod heavily, ar hausted al during fruit able to do

were fine Italian queens taken out of weak colonies that were to be united with others.

3. Yes; perfectly safe; foundation from such combs has never given the dis-

4. Yes; and the foundation from this material makes the best foundation for every purpose.

William McEvoy.

Woodburn, June 13, 1910.

[Mr. McEvoy has kindly sent us the above for publication, asking us to reserve the name of the writer, as the correspondence was private. The replies to the questions are of such general interest that we are glad to give them to our readers.—Ed.]

* * *

THIS SPRING'S EXPERIENCE

I put 141 in the cellar last fall, and all wintered but one, which was queenless, and have lost four queens since. Now, my trouble is no honey and all kinds of bees. Had first swarm May 16 and a few since. I run for section honey. Bees are up in supers and clustering out these cool wet nights. They work a little about every 7 or 8 days. I have been feeding syrup all spring, and have got to feed more. Sealed honey all gone two weeks ago. I had a lot of sealed honey in brood nest and it is all gone. They are killing the drones. I have had bees for thirty years off and on and never had such an experience before. I suppose the weather is just the same at Brantford. Let me know how you are making out with yours.

ARIEL WILLS.

Jordan, June 6.

[Your experience is similar to a great many others this spring. In the early part of the spring the weather was very fine. Brood rearing was taking place heavily, and went on until the bees exhausted all stores. Bad weather set in during fruit bloom and the bees were unable to do what they should have done at

this time. The cold, wet weather continued with the result that the bees began to throw out larvae—the drones first. You did the right thing to feed. Thousands of colonies all over the country have been starving during the last month. Those who have not fed will have few bees for the harvest. The harvest may yet be a good one. Clover is abundant. Good warm weather will now bring it along quickly. Those who have fed and kept their brood chambers in normal condition will reap the good results later. We hope this will be your experience.—Ed.]

The Twelve Frame Hive

Indexed

Ila Michener.

In an editorial you ask to hear from some of your readers in regard to a twelve-frame Langstroth hive.

You say "the twelve frame is too large to winter in." Why? Our twelve frame hives have a close-fitting division board, and I move it up to accommodate any swarm. You say "it is too large for spring." That same division board makes the space all right for spring for any sized swarm, and in the fall, as soon as the upper stories are removed and sufficient sealed honey placed below, we place in the division board to suit the swarm. I have wintered swarms in those twelve-frame hives by placing a division board on each side of the bees, and filling the space on each side with chaff; then tack a piece of burlap on the bottom of the upper story, place it on and fill it with chaff; put on the cover, then cover the whole with tar paper, except the entrance and the bees will winter well.

Then in a time like this, when there is abundance of bloom every where and no honey for the bees to gather on account of cool weather, how nice to move back the division board and place in a comb of honey, or a comb filled with sugar syrup.

Our eight-frame hives have brood in every comb, so we cannot remove a comb to place another in, so we have to place the feet on top.

Some of my ten-frame hives need help too, but I can generally remove a comb from them to place another in, but give me the twelve-frame hive. I have had them now eight years. Many of them are full of bees and brood, and ready for the upper stories, and with two upper stories they will never swarm, while with our eight-frame hives we always have trouble on account of swarming, and some times with the ten-frame, and more than that—I get more honey with the twelve-frame.

Low Banks.

* * *

John McEwen.

I notice in the May number some comments on the Holtermann hive. Later, in Gleanings, Mr. Holtermann has an article on the superior qualities of the twelve-frame hive.

Now, while I can agree with Mr. Holtermann in the abundance of brood room up to a certain time, I cannot agree with him that brood room is in the best possible form in the hape of a twelve-frame hive. We must give a reason why we object to so large a hive. I believe it too large for outdoor wintering, too large for spring, too large a brood chamber to get best results in producing honey. Mr. Holtermann says he does not raise any brood to the super. If Mr. Holtermann confines his queens to twelve-frames, the tendency to swarm will be very great some seasons. Can we not get twelve frames of brood in the eight, nine or ten frame hives, by giving a super of worker comb, which gives the queens unlimited room. In a week or so the clover season will be starting. We let the queen have full possession of the brood chamber and one super until the super is filled with brood and clover honey. A colony of bees that comes to

this time without contracting the swarm fever rarely does so that season, if plenty of super room and ventilation is given. We will now say we have a colony boiling over with bees and the first super full of brood and honey. What are we to do now? Put on a queen excluder and allow the queen all the the brood room the balance of the season? By no means. To get best results we must now cut off any further expansion of the brood nest as every egg is now laid that is going to be of any value in gathering our crop of clover and baswood. To allow our queens 12 to 14 cards of brood all through the honey season is using up our queen raising a lot of bees that are of no use for gathering our honey crop, neither are they of any use for wintering, but simply raised at the expense of choicest honey. When the first super is full of brood and clover honey, lift off the super, put on the excluder, then put on a super of empty comb being sure the queen is below. Put the super that is full of brood and honey on top. Mr. Holtermann can cut his brood down to eight or nine frames by using dummies, a system that I do not like. I do not wish anyone to understand me in saying that all are wrong who do not do as I do. From 28 years experience I am just giving the plan that has given me best results.

Claudeboye, June 7, 1910.

OUR QUEENS ARE GOOD.

A. New Zealand correspondent writes as follows: "I intend importing a dozen or more queens from different parts. It has been a job to land them alive during the last few years, but I am getting the vendors to take more care in packing, and hope to land some alive at least. I am sending to Mr. Adams, Brantford, Ont., for two. I believe the quality of queens raised by Canada and United States is superior to most of the stock we have here."

Both in A
ion appears
is largely,
from the
England esp
cently been
ject and sev
have declare
that view.
of the Old
ure last year
tities of hon
and some ap
consolation
sirable subst
origin. Ear
an origin bo
we have me
positively re
glistening d
clouds. Tho
at the idea
ian excretion
the assuranc
worst a mer
cow's milk.
to find that
ledge like M
M. Macdonal
almost as we
as in Great
of honey-dew
table produc
fully what h
said recently
they have ta
statement th
duced without
contrary to t
servers, and
but D. M. M
is really the
plants is real
know only to

HONEYDEW

Not An Exudation from the Leaves of Trees.

W. White.

Both in America and Europe the opinion appears to be growing that honey-dew is largely, if not chiefly, an exudation from the leaves of various trees. In England especially, a good deal has recently been said and written on the subject and several prominent bee-men there have declared emphatically in favor of that view. The honey crop in many parts of the Old Country was a complete failure last year owing to the excessive quantities of honey-dew collected by the bees, and some apiarists appear to have found consolation in the belief that the undesirable substance was largely of vegetable origin. Early notions ascribed to honey an origin both exalted and poetical, and we have met with ancient skeptists who positively rejoiced at the sight of the glistening drops descending from the clouds. Those gentle minds that shudder at the idea of honey-dew being an aphidian **excretion** appear to be comforted by the assurance of its being at the very worst a mere **secretion**, comparable with cow's milk. We are surprised, however to find that men of great skill and knowledge like Mr. T. W. Cowan and Mr. D. M. Macdonald, whose writings are known almost as well on this side of the Atlantic as in Great Britain, should argue in favor of honey-dew being chiefly a purely vegetable produce. We have read most carefully what both these two writers have said recently on the subject and feel that they have taken the wrong side. Their statement that honey-dew is chiefly produced without the agency of insects is contrary to the experience of careful observers, and is not difficult to disprove; but D. M. M.'s contention that honey-dew is really the cause of aphids visiting the plants is really grotesque. Fruit growers know only too well that aphids are not

surface feeders. Yet D. M. M. with all the emphasis he can express in italics in a recent issue of the British Bee Journal declares "Aphids do suck up the already exuded juice"!

Perhaps it would be well for us to present as fully as we are able the various arguments put forward by the "non-aphidian" men. When Buckton wrote his magnificent monograph on Aphides the case appeared to stand entirely in favor of those who attributed honey-dew to the agency of insects. Since then various pamphlets and articles have appeared. Of these the two most important are those by Professor Büsgen and M. Gaston Bonnier. Büsgen after profound study and long investigation of the subject of honey-dew takes the orthodox view as to its production, whilst on the other hand M. Bonnier makes out a strong case for its secretion under certain circumstances independently of the agency of aphids. The French writer described with a certain degree of minuteness how he conducted a series of experiments, taking branches of trees and placing them in the artificially saturated atmosphere of a bell glass, in which manner he claimed to have induced a sweating of honey-dew from the leaves. We have not this pamphlet by us as we write, but we believe Bonnier omitted to state whether the sweating occurred on the upper or the lower surfaces of the leaves. As is well known, the stomata of leaves are found almost entirely on the under sides, and we should naturally expect that any exudation would take place through these pores, but who has ever witnessed honey-dew anywhere else than on the upper sides? Mr. Cowan appears to have referred to Bonnier's experiments when he stated at the recent conversazione of B.B.K.A. that anyone could prove the production of honey-dew by leaves. "If you take a branch of a tree and put it in an atmosphere saturated with moisture, after carefully examining the leaves to see that

the swarm
n, if plenty
n is given.
ony boiling
per full of
we to do
and allow
m the bal-
means. To
ut off any
d nest as
going to be
ir crop of
our queens
rough the
queen rais-
no use for
either are
but simply
est honey.
brood and
put on the
of empty
elow. Put
and honey
cut his
frames by
I do not
understand
g who do
urs experi-
that has

GOOD.

ent writes
g a dozen
rts. It has
during the
g t' - ven-
-king, and
st. I am
ord, Ont.,
of que-ns
States is
we have

they are free from insects, you will find in time the drops of honey-dew form on these leaves." Apparently quite an easy matter, but we would respectfully ask Mr. Cowan whether he had himself ever tested the experiment? He is more explicit than M. Bonnier for he adds that the exudation forms in small drops on the **under side** of the leaves, and drops from one leaf to another." so that **both** sides according to the chairman of the British Bee-Keepers' Association carry the honey-dew. Some years previously Mr. Cowan had written as follows: "To remove a false impression in regard to honey dew, let us say it is not the excreta of the Aphis, but on the contrary is a saccharine substance which exudes from the surface of the leaves of trees and plants." We should much like to hear why, if the honey-dew exudes through the pores of the leaves, none of it is found on the under sides.

The whole of the trouble appears to be caused by the absence of insects from the affected trees. At the time of writing there are a number of fruit trees within ten yards of us that a couple of weeks ago were covered with honey-dew. We made a careful search for aphids without success. Minute examination failed to reveal a single particle of honey-dew on the lower surfaces, but instead we readily found the punctures of the insects. We shall refer later to the rapidity with which the aphid forsakes one plant host for another, but here let us assert that the presumed absence of aphids from a tree or plant is no proof of the non-aphidian origin of the honey-dew found thereon.

One writer in the B.B.J. calls honey-dew "extra floral nectar." He says that "in the case of trees, under certain weather conditions, the accumulated nectar forces itself through openings called stomata (sic) or where these are wanting through the cuticle of the plant, thus producing honey-dew." This statement

scarcely needs comment. Neither "nectar" nor the secretions of the extra-floral nectaries are honey-dew.

Last year we received the following communication from Professor F. V. Theobald, the well-known authority on insect pests, bearing on the subject:

"After working at aphides for 10 years, I am quite convinced honey-dew is only produced by them and some coccids. You never find honey-dew where there are no aphides **near**. You never find honey-dew except on the upper surfaces of leaves—on the leaves above you get the aphid on the lower sides. Honey-dew often drops from the sky. You see no aphids—they are high up migrating. I have followed this twice, watching clouds of hop aphid coming down. Several people have sent me leaves covered with honey-dew and smut fungus on it, and said there were no aphid on the plants. Examination showed swarms of aphid on the leaves of **trees above the plants**. This (1909) has been one of the worst years for aphid in Britain I have known. Personally I feel quite certain honey-dew is formed by them and a few coccids alone and has nothing to do with any exudate from the leaves.

Yours truly
F. V. THEOBALD."

The Director of the Royal Gardens at Kew wrote us as follows:

"Nothing is known of the exudation of nectar through stomata or leaf cuticles, and such a process is highly unlikely—in fact it can be stated that it does not occur."

Perhaps a short account of the life history of the insects which are generally recognized as the sole cause and producers of honey-dew may be of interest to our readers. The aphids (plant lice) coccids (scale insects) and psyllids (jumping plant lice), belong to the Hemiptera or Bugs. All are sucking insects and spend their whole lives in imbibing the juices of plants. Their mouths are character-

istic and
beaks, w
length for
plant. In
arrangeme
salivary g
ture mad
irritation
ing the s
the wound
posed to
tion of th
continuou
natural c
discharge
of this la
be regard
sect, vari
cases it i
honey-dew
psyllids, v
leaf-mann
tain coccid
which sur
the "grou
The mann
the honey
other sub
might be
tions of v
order Hem
ever, wh
the great
certain se
to all wh
garden or
jury that
damage d
ages. It
is an imp
bacterial d
(See Bull
ment of A

The rapi
their destr
Their pres
until the
have been
or perhaps

istic and may be roughly described as beaks, which, however, are of sufficient length for penetrating the tissues of the plant. In the head there is a force pump arrangement, where the secretions of the salivary glands is propelled into the puncture made by the beak, giving rise to irritation or congestion and thus increasing the supply of fluid in the vicinity of the wounds. Capillary attraction is supposed to be the chief agent in the ingestion of the plant sap. There is thus a continuous imbibition of fluid and the natural consequence of this is a copious discharge of effete matter. The nature of this latter, which, however, is not to be regarded as the excrement of the insect, varies very considerably. In some cases it is a solid; in others it is the honey-dew. In Australasia are found psyllids, which produce a substance called leaf-manna or lerp, and used as food. Certain coccids secrete a hard shining matter which surrounds the whole body and form the "ground pearls" of many countries. The manna of Exodus is believed to be the honey-dew of another coccid. Many other substances of economic importance might be mentioned as being the secretions of various insects belonging to the order Hemiptera. It is the aphid, however, which is mainly responsible for the great supply of honey-dew during certain seasons. This insect is well known to all whose occupations take them into garden or orchard. Beside the direct injury that it does by sucking up sap, worse damage due to fungi often follow its ravages. It has also proved that the aphid is an important factor in the spreading of bacterial diseases of fruit and other trees. (See Bulletin No. 176 Ontario Department of Agriculture).

The rapidity with which aphids perform their destructive work is truly marvellous. Their presence will often pass unnoticed until the plant or tree upon which they have been living has been badly injured or perhaps completely destroyed, by which

time they will have deserted their host for another. Nothing in the whole realm of nature is more wonderful or surprising than the life habits of these insects. Their rapid rate of multiplication is well-known, but few are aware of the exceptional facts relating to their methods of reproduction. Speaking in a general way the process is as follows. From a fertilized egg deposited in the autumn is hatched in the spring a wingless female which develops, and **without the agency of a male** brings forth **living** young. These grow rapidly and also in their turn, in the course of ten or twenty days, also, produce living young. This viviparous reproduction continues, generation after generation appearing, forming immense colonies. When the growth of their plant host is checked, and food becomes scarce winged females are produced, capable of migrating to new pastures, and these again depositing living young. Towards the end of the season there appear truly sexual forms, both male and female, whose union results in eggs which are to rejuvenate the race and commence fresh cycles of life in the succeeding spring. This summarized account does not, however, give an exact idea of what happens in any one species of aphids.

A great amount of discussion has taken place regarding the peculiar organs called the siphons, nectaries or honey-tubes. These are two wart-like tubercles or tubes situated towards the end of the body. They were formerly regarded as the means of secreting the honey-dew, a view now generally considered to be erroneous. Büsgen claims as the result of chemical analysis, that the substance issuing from these tubes is not honey-dew, but is more like wax. Some entomologists state that honey-dew is emitted entirely from the anal aperture. Buckton says: "Any observer may prove the forcible ejection of a liquid from this last passage by gently stimulating with a brush the abdomen of the full fed individuals of a colony of

lachmus saligna, a large black aphid which sometimes infest the willow tree in such quantities that occasionally it kills it. Many of these insects will by this treatment erect the terminal rings of their bodies upon the apex of which a clear drop of fluid will, for a moment appear. If this is not quickly withdrawn by an attendant ant, usually in quest of the sweet morsel, it is projected by a peculiar jerk to a considerable distance, and it is caught on the upper surface of leaves below."

INDEXED EXTRACTING WITH GASOLINE ENGINE.

A subscriber has asked us to give him information regarding the use of a gasoline engine for extracting. As we cannot give any information from our own experience, we take the liberty of printing below a paper read by D. Nolan, Newton Robinson, at the last Ontario Convention. This is the particular time of the year when such information may be of service to those who contemplate using power for this purpose. We can say, however that a gasoline engine is a most useful implement to those who may require power for various purposes. The following is what Mr. Nolan has to say on the subject:

The subject on the programme is "The Use of the Gasoline Engine around the Apiary." Perhaps that would look better if we would say "to the bee-keeper." He need not be using it around the apiary all the time. There is a great deal of prejudice against the use of gasoline engines. I attribute that mainly to the make up of the engines in early days. I think it is a mistake to confound the engine of to-day with the one of some years ago. They have them perfected and improved so that the trouble is almost a thing of the past. I cannot see any reason why any person should hesitate for a moment. The use of the engine of course to the bee-keeper is simply a means of saving labor. I often compare bee-keeping with other pur-

suits, and it strikes me we have not as many means for saving labor as they have in other lines. I think the farmer is a little ahead of the bee-keeper in this. I think the farmer does at least twice as much or more work to-day than in the past, with the same amount of labor. The use of the gasoline engine or any kind of a chemical engine in the country, is of very great importance because they are always ready and handy, and you can have a light one or a heavy one, which ever your occasion demands. You do not need half a day for getting up steam before you are ready to use it. They are ready to use in half a minute's time. The main use of the engine to the bee-keeper is, of course, for extracting purposes, to drive the extractor. That is mainly why I got mine. At the present time I can say it is past the experimental stage with me, and it has come to stay. The engine I use is an air-cooled, one-horsepower engine, and weighs about 196 pounds; there is no cumbersome water tank, and I can put it on a wheelbarrow or take it into a light run-about wagon to the out-yard and put it into the honey house and have it running in a very short time. The extractors I use are the ones I had before I got the engine, and in trying it I simply tried it on those extractors. I had three four-frame extractors. I got one first, and I liked it so well that I got one for each of my yards. They are cumbersome to move so I arranged my engine to work on those extractors. They are four frame reversible extractors made by the Brantford people, all of the same style. The only difficulty I see in those extractors and others is that the motion has to be reversed, and you must have a connection between the engine and the extractor that will reverse the engine to turn the extractor the one way and stop it and reverse it the other way. It worked very nicely last season, and this summer I thought to make a little improvement, and the result was I broke

a casting of time I was to make out the piece I for about a to turn the self, and I so much as it would not got it starte more than I will do the man for abo day, and fro it is certain have extrac pounds with think with t I have done not owe me

I did not h the different size. Aroun will find an and makes o lost more th get it to go, engine's fau batteries. If your gasolin why you sho your engine

In regard other purpos it is only a may think i but nearly e or cow, and if you are gc I take the en the feed. An foot and ha country we work like th boxes. I buy re-sawed, an small price. ter time, an up your spa

a casting on the engine, just about the time I was busiest, and not being able to make out the number of the engine or the piece I was unable to use the engine for about a week. I had to employ a man to turn the extractor or else turn it myself, and I never appreciated the engine so much as I did those warm days when it would not go. After I got the piece and got it started I appreciated it very much more than I ever did before. The engine will do the same amount of work as a man for about fifteen or twenty cents a day, and from a financial point of view it is certainly a paying investment. I have extracted something over 30,000 pounds with mine since I got it, and I think with the extracting and other work I have done with it the engine really does not owe me anything.

I did not have an opportunity of testing the different makes of engines of that size. Around through the country you will find amongst the farmers all sizes and makes of engines. I will say I never lost more than two hours' time trying to get it to go, and that was not really the engine's fault, it was the fault of the batteries. If your batteries are good and your gasoline is good there is no reason why you should have any delay in making your engine go satisfactorily.

In regard to the use of the engine for other purposes besides extracting, while it is only a one-horsepower engine you may think it is not of very much use, but nearly every bee-keeper has a horse or cow, and you know what a task it is if you are going to feed a little cut feed. I take the engine out to the barn and cut the feed. Another use: We had a Barnes foot and hand-power saw; out in the country we have a certain amount of work like that to do, and I make my own boxes. I buy the lumber there and get it re-sawed, and get my boxes at a very small price. This can be done in the winter time, and in that way you can use up your spare time to advantage. You

put one of those one-horsepower engines on one of those saws, and you have a perfect machine. Lots of people say, who made those boxes for you. I am not a mechanic, but I have made hives and sold them, and have ripped out supers and done the work myself. While I have had that done at the planing factories at home, I feel safe in saying the way I did it was done to my satisfaction. You generally have to get them from the supply dealer. Another use I put it to is to cut cordwood by putting the engine on to a circular saw.

PICKLED BROOD TREATMENT.

Keep all colonies strong with plenty of unsealed honey near the brood, and if hives are properly sheltered so as to be warm on cold days and nights there will be little or no Pickled Brood. If the queen is old, shows a weakness by putting several eggs in one brood cell, and nursing several others, so that the brood is patchy, I would kill such a queen, feed the bees a little, and when queen cells were started remove them all and give them a queen and bees.

There is a time in spring between dandelion and white clover bloom when there is no honey coming in from flowers and often cold days and nights so that the live bees consume the unsealed honey first, and cluster in a compact body to keep warm, the result often is the larvæ bee just changed from the egg to a tender little grub is either starved, half fed or chilled so that it grows slowly and often dies, and we first notice this about the time white clover honey begins to come in.

Whenever I fed daily some honey or even sugar syrup, and kept the hive warm, all dead brood disappeared, while in some apiaries other colonies affected and not so treated, continued bad for some time, but got rid of it as soon as treated.—N. E. France.

PROFITABLE TWENTY-FIVE ACRE FARMING

Indexed

Poultry Fruit and Honey.

J. W. Clark, Cainsville.

The following very interesting address was delivered by Mr. J. W. Clark, Cainsville, Ont., to the students of the Ontario Agricultural College, Guelph, Ontario, recently. Mr. Clark has consented to our publishing it for the first time. It is not, strictly speaking a bee-keepers's topic, but our readers cannot fail to be very much interested in what Mr. Clark has to say, while it may be of much direct benefit to many. It may point the way for many persons who are not now getting their entire living from bees. There are few bee-keepers who cannot profit by what Mr. Clark has to say. His own pronounced success is an evidence of the truth of what he says:

When Professor Graham asked me some little time ago to talk to you on the profit of a twenty-five acre farm, I was not sure whether I could figure out the amount of money that I made because I did not keep books in connection with all the items of my farm. I am a pretty busy man as you will know after I tell you the amount of work I am endeavoring to do; sometimes I think I have too many irons in the fire.

Professor Graham has told you that I ran a two-hundred acre farm prior to moving on the twenty-five acre farm, and it may be interesting to some of you to know what led up to my going on the twenty-five acres.

I claimed to be a successful farmer. I made money on the two hundred acre farm, but all of you know that it means a great amount of labor and the hiring of considerable help. I found difficulty in getting help in the house and it made too much work for my wife. I got

dabbling in the poultry business, probably through the influence of Professor Robertson. He advocated the crate feeding of chickens for the English market, and I became possessed of the idea from raising a number of birds myself. At that time on the two hundred acre farm I was raising five or six hundred and marketing them in our local market. The prices were not then as good as they are to-day, and after figuring it up I found that I was not making very much money, and the reason I was not making very much money was because I was not putting my poultry on the market in the best shape.

After hearing of Professor Robertson's methods I got a lot of feeding coops made, and undertook the crate feeding. I did not succeed with the first lot I put in, because I forced them too much on the start, and I stalled them and they did not eat well; but I soon learned the proper method of feeding. I was feeding between two and three hundred, and then I went into it a little stronger, and at one time I had nearly five hundred birds in crates, and Professor Robertson sent me a crammer. I used it on three hundred at one time, but that entailed too much labor and I soon dropped it. I found that I could get three or four cents more a pound for crate fattened birds, but it took considerable labor, so I decided to go into poultry for exhibition and stock purposes.

At that time I was breeding some pure bred hogs and sheep and I thought I could do the same thing with poultry. I started in at first with Orpingtons, and I imported some from the Old Country. Professor Grisdale and Mr. Hodson went to the Old Country and I got them to bring me over seven. I thus started breeding Orpingtons, and was fairly successful. I afterwards imported a pair of birds from the Old Country that cost me \$20.00 and I soon found that they were not worth more than four or five dollars apiece. Then I got some well bred stock at our Winter Fair and by watching them closely

June, 1910

and breeding able to put years ago at money.

I found the prospects for I saw that t who were c handling, and be a great d chickens or purposes.

I found th big farm was to the chicke had utility bi particular at keeping the I made up my great deal mo could out of and with a g self and my v up my mind a little farm. hunting up I would be ar have heard s ing a cheap t sidered was t wanted was many small p land that su have the sha

I figured o and fruit on double crop I had been l and I though poultry and the same gro complete fert this combinat better results and have bee with less lab hundred acre

In selectin sandy loam.

and breeding for exhibition points, I was able to put them in the Winter Fair some years ago and got a share of the prize money.

I found there was good money and great prospects for the poultry business, and I saw that there was only a few people who were dealing in the breed I was handling, and concluded that there would be a great deal more in it than feeding chickens or raising them for commercial purposes.

I found that the great difficulty on a big farm was to devote enough attention to the chickens. It was all right when I had utility birds and did not have to pay particular attention to the mating and keeping the birds separate in the pens. I made up my mind that I could make a great deal more out of the poultry than I could out of a two hundred acre farm and with a great deal less labor for myself and my wife in the house, and I made up my mind that I would sell out and buy a little farm. I took considerable time in hunting up a farm, which I considered would be an ideal one for poultry. I have heard some people talk about buying a cheap farm. The first thing I considered was the land and another thing I wanted was shade. I examined a good many small places, some of them had the land that suited me, but they did not have the shade suitable for poultry.

I figured out that I could run poultry and fruit on the same ground, and get a double crop and it could easily be done. I had been keeping bees for some time and I thought I could add bees with the poultry and fruit and get three crops off the same ground. The bees assisting in complete fertilization of the fruit. With this combination I have been able to get better results from the twenty-five acres and have been able to make more money with less labor than I could from a two hundred acre farm.

In selecting the land I looked for a sandy loam. You can get lots of clay

land, but I do not think that it is as good for poultry as sand loam, because the sandy loam gives you far better results in growth. If you are to be successful with poultry you must supply them with green food during the summer months. I consider this one of the most important things in poultry feeding if you want to raise exhibition stock and want color, because I know that green food not only adds to the growth but you get better colored plumage.

I selected a farm that had been run down by neglect but yet it had a lot of fruit on it, five acres of apples and other small fruit such as pears and plums. It had a nice brick house and a nice hedge in front. The man who was working the farm did not know much about handling fruit and neglected the orchard and it was practically producing nothing. The fruit was very inferior and he was getting little or no returns from it; in fact he was not making enough from the farm to give him a bare living. I bought this twenty-five acres for three thousand dollars. I do not think the man could have got any more for it. I put some poultry houses on the farm, not very expensive, because I do not think it pays to put up an expensive house. If you do put up expensive buildings the hen has got to pay interest on this and sinking fund. The houses I put up cost about two dollars a running foot. I used cheap lumber and shingles for siding and lathed and plastered them. I figured it out that I could plaster these houses inside cheaper than I could line them with lumber, using one coat of plaster on the walls.

I know that fresh air is important in poultry houses, but still when we get the thermometer dropping below zero, if our buildings are not arranged properly we cannot prevent the combs from freezing. After I got this fixed up, my next object was to put the orchard in condition. This required some labor in pruning the trees and putting on fertilizer. I got

a lot of wood ashes and put on it, and it took a couple of years before the orchard was producing well. I have now been on the place a little over four years, and from this orchard last year I had 350 barrels of apples, and this year I had 500 barrels of apples and sold these apples at \$1.25 a barrel on the trees, which would figure out \$625.00. This required some labor, I was not doing all the work myself. I employed a man. I have a good Englis' man, who has taken a great interest in the work; it was not wages he wanted so much as to learn the business. Last year I asked him what he wanted a year, and he said I did not need to set any price, but to give him what I thought was right. He takes as much interest in the work as I do myself, and he looks after the chickens almost as well as I do. He is not as handy as some of our Canadian boys, but he is trusty. It may pay me to hire considerable more labor, but the way I am situated it makes more work in the house. My wife is not a poultry woman and does not do anything with regard to poultry.

I have been raising poultry for exhibition purposes and breeding, and by careful breeding I have been able to make great sales. Last year I sold \$595.00 worth of eggs. I have a record of all sales I made of my poultry and the figures I am giving are correct. Of course I am getting \$10.00 a setting for some of the eggs. If you have the right kind of stock it does not matter what you ask for them. There seems to be a bigger demand for the high priced eggs than for the others and when we can get \$5.00 or \$10.00 a setting for eggs we do not have to produce a great many before it runs into a lot of money. I did not win prizes on the start but I stuck to it. It is necessary to buy some times in order to keep up your reputation. I believe many of our exhibitors buy more or less. Of course you will not make as much money by doing that, because the man who can breed ex-

hibition stock himself and sell it to others to win with, is the man who will make the most money.

In market poultry, that is culls and old hens, I sold \$125 worth and we use a lot of eggs and poultry ourselves. I do not believe in starving myself in order to make money, and when eggs are forty cents a dozen, we eat just as many as when they were twenty-five cents. We have them on the table regularly, as well as chicken. My wife is very fond of chicken and says I do not kill enough.

Q.—How many fowl do you keep.

A.—From 150 to 200 layers and I raise about 500.

Q.—What breed of fowl have you?

A.—The Buff Orpington. I am not going to say the Orpington is better than any other fowl, but I believe what a man fancies he should keep. I sold in breeding stock last year \$875 worth and nearly all my breeding stock goes to the other side. I find our American friends have more money to spend in poultry than the Canadians have.

Q.—Have you noticed any difference as to the part of the country they go to?

A.—I ship all over, the bulk of them seem to be going to the West. Last year a man came from Cleveland and paid \$25 and \$50 for birds. He was not a first-class judge but he had confidence in me that I would give him good value and he left me to pick out the stock for him. I told him when I was picking them out that I picked up a bird worth \$25, and if he had any objections to say so, and there was only one bird out of the bunch that he got that he was not satisfied to take.

There is a great deal in dealing honestly with the public. I made up my mind on the start, when I was in the business to deal honestly. You cannot deal with the public for any length of time unless you make them satisfied; and if a man is buying eggs from you give him what you ad-

vertise. If others tell him if he cannot money. He some other keep the stay in the unless you

I won't sellars. If a mto put in a will let him wants one to to \$25, and will be able great many judge said ingtons he h and color; is to my mi advertising i carrying any present time, sell.

If I get a he has had sold him and or two chicks Sometimes a had a poor s nearly every that kind o best to dupli By doing the tation for yo man.

In the latt in Tennessee ed a pen of Georgia, and ing pens from United States at the show from that br wife, and, of and I sent h no trouble in sent me bac pen. I just g

vertise. If you are rushed with your orders tell him you cannot fill the order, and if he cannot wait you will return the money. Hundreds of breeders put in some other kind to fill out the order and keep the money. You are not going to stay in the business any length of time unless you deal honestly.

I won't sell a bird for less than five dollars. If a man writes me he wants a bird to put in a pen for utility purposes, I will let him have one for less, but if he wants one to show, I charge him from \$5 to \$25, and I will sell him a bird that will be able to compete. I have had a great many people write me that a certain judge said I had the best line of Orpingtons he had ever seen; the best type and color; that goes a long way, and is to my mind a great deal better than advertising in poultry papers. I am not carrying any advertisement at all at the present time, because I have no poultry to sell.

If I get a letter from a man saying that he has had bad luck with eggs that I sold him and did not get more than one or two chicks, then I duplicate that order. Sometimes a man will write you that he had a poor setting, when he hatched out nearly every chick. You have to watch that kind of a fellow, but I think it is best to duplicate orders where possible. By doing that you will build up a reputation for yourself, as being an honest man.

In the latter part of December a lady in Tennessee wrote me and said she wanted a pen of birds to exhibit in Atlanta, Georgia, and she also said she was buying pens from the leading breeders in the United States, and which ever birds won at the show she was going to buy more from that breeder. She was a banker's wife, and, of course, had lots of money, and I sent her a good pen and she had no trouble in winning with them, so she sent me back another \$100 for another pen. I just got the money last Saturday,

and got a wire the same evening for another pen at one hundred dollars—making three hundred dollars from this lady, because she was so well satisfied. And that is the way to build up your business—give value for what you receive. If I had sent that woman some culls she would not have come back to me.

I sold about seventy-five dollars worth of poultry on the market. I have a few culls that I have to market, and I claim that the proper time to get the most out of the culls is to sell them early and not keep them too long occupying too much space. The sooner you market them the more profit you make. I endeavor to get rid of my culls when they are about broiling size. I do not let them weigh over four or five pounds if possible.

Q.—Do you keep your best birds in a place where they can be readily seen?

A.—Yes, sir.

Q.—Do you let the buyers take your best birds?

A.—No, I would not sell my best breeders at any price. Of course when you have birds for which you think you can get a good price, it is best to sell them.

Q.—You lose your stock if you sell your best birds?

A.—Yes, certainly. Sometimes we have birds that are not high-class exhibition birds, but the very best breeders. We have some men advertising their winnings at shows, who probably never bred a winning bird in their lives, and this is very misleading. The man who purchases birds and stock from such persons as a rule does not get what he expects to get and he is, therefore, disappointed, and won't go back to that man again.

I believe our Winter Fair can be improved a great deal by putting up breeding pens, and the man who has got a breeding pen is the one that has the stock to back up his reputation, because it is not difficult to buy individual birds and bring them to a show like this. I believe

that breeding pens should count far more in our big shows.

Q.—Cannot a man buy a breeding pen?

A.—Yes. But he is not likely to owing to the great cost.

In order to grow fruit it is necessary to spray thoroughly and that takes about ten days in the Spring. The buyers come along and buy the apples and pick them, and it is like finding money, because you can raise a crop of apples and chickens on the same ground, and I claim that there is no place like an orchard for raising chickens, and by cultivating the orchard you can supply the poultry with green food. I find young grass coming up in my orchard all the time and the chickens pick it up. If I had an orchard in sod the grass would get wirey and hard and would be of little use to the chickens. Shade is also important for chickens in the summer time. This would be a drawback to any person buying a small place if there was no orchard and it would be sometime before they could get trees large enough to furnish shade. On very hot days my chickens will lounge around in the shade of the trees, but they do not have to huddle together as they would in the shade of a building. Of course you can grow artichokes and sunflowers for shade, but you cannot cultivate them as you can an orchard.

I use a colony house for raising my chickens. I claim this is the proper way, and I am sure it is the only way to most successfully raise chickens. I have a dozen colony houses. You can make one very cheaply out of two piano boxes. I am able to buy piano boxes for two dollars a piece, and I can make a house that won't cost over five dollars. I have some built out of matched lumber which cost twelve dollars, and I would just as soon have the piano box colony house. You can make one of these houses in half a day and it does not require a mechanic to put it up. I take out the back of the piano boxes and take off the top, I then

take two 2 x 4 scantlings about eight feet long, (I buy a sixteen foot scantling and cut it in two), and I place them under the boxes. You will find in all piano boxes cleats about a foot from the end; nail on your scantlings and then take the remainder of the lumber that you have taken from the back and put on the top and fill your bottom. Nail a piece on the roof to carry the water away from the sides. I use roofing paper of medium grade and nail over the top, and then I have my colony house built except the door. For the door I take 1 x 2" strips and make a frame, and then nail on muslin or cheap factory cotton and this gives lots of light inside. If you are troubled with skunks or anything of that kind it is better to board or wire the lower half of the door up. But I have never been troubled with anything like that.

Q.—How wide is the door?

A.—About twenty-eight inches. I have wintered the hens in these colony houses and they are apparently as comfortable with that curtain front as they are in the other houses, and they are doing well and lay eggs right along.

Q.—How many birds do you keep in a house like that?

A.—About a dozen. After the birds get large, if you want more air let down the the curtain from the top of the door. These houses are about six by seven or seven and a half inside.

Q.—Do you cover the sides with roofing paper or just merely the roof?

A.—Just the roof. The sides are all matched lumber.

Q.—Do you paint the house?

A.—Yes, I use very cheap paint. I have used it for three years. It is made out of Clinton Red, glue and milk; it makes good cheap paint. You can get Clinton Red for two cents a pound; in fact you can get it for less than that.

Q. What about the glue; how much do you put in?

A.—I c
it. Melt
put in th
water—I
well. Th
to make
ness of cr
it, I did
and it di
paint tha
You can
plaster it
houses fo
ently as g
purpose p

Q.—Do
boxes-cra
to cover
tight in th

A.—I w
of poor
send out
good at a
lumber. I
both boxe
I have
you are in
grapes, th
not requir
raise poul
just at th
ripe.

Q.—Wo
for grape

A.—Yes
than sand
fifty dolla
acre of st
hundred a
berries off
they requ
but when
have worl
an acre of
nearly on
I grew on
which I re
dollars. I
well as in

A.—I cannot tell you, I did not measure it. Melt your glue and while it is warm put in the milk, or if you like you can use water—I believe water would do just as well. Then put in enough Clinton Red to make it fairly thick—about the thickness of cream. When I first started using it, I did not have enough of the red in, and it did not cover as well. It makes paint that will stay on for a long time. You can take a white wash brush and plaster it on. It has been on some of my houses for three years, and it is apparently as good as when I put it on, and I purpose painting my barn with it.

Q.—Do you find any trouble with piano boxes cracking or drawing apart. We had to cover ours with paper to make them tight in the winter.

A.—I would not buy piano boxes made of poor material. Some manufacturers send out boxes that are practically no good at all, made of the cheapest cull lumber. You should be careful to get both boxes nearly the same size.

I have about an acre of grapes and if you are in a section where you can grow grapes, they are very profitable. They do not require very much labor and you can raise poultry on the same ground, except just at the time when grapes are getting ripe.

Q.—Would a side hill be a good place for grapes?

A.—Yes, clay soil is better for grapes than sandy soil. Last year I sold about fifty dollars worth of grapes. I have an acre of strawberries, and I sold about one hundred and fifty dollars worth of strawberries off that acre last year. Of course they require some labor in cultivating; but when I have a man I might as well have work for him to do. I have about an acre of raspberries and they netted me nearly one hundred dollars last year, and I grew one half acre of tomatoes, from which I received a little over one hundred dollars. I am specializing in tomatoes as well as in chickens. If you get a first-

class article there is no trouble in selling it. I got five cents more a basket for my tomatoes than my neighbors could get on account of their superior quality, and I got these good tomatoes by seed selection. I grow the Earlyanna.

I feed my chickens by the hopper plan and I give them all they want and they do not touch the tomatoes or the fruit.

I am not troubled with rats or mice. I have a little fox terrier dog and he looks after the rats and the cats look after the mice. Sparrows are more or less trouble, and I taught my little dog to kill them. They get into the poultry house and he will jump up and catch them. In the small colony house where I had a brooder I let the dog inside and he soon put the sparrows out of business. In our section we have farmers' clubs and last year they got up a contest for shooting sparrows and killed a great many thousands, and there are now practically no sparrows in the district. But if you have a number of sparrows I think the labor you save will off-set the food the sparrows will eat.

There are days that I do not go near the chickens any more than to go round in the evening and casually glance over them.

Q.—You never find that they over feed?

A.—No, I do not think they eat any more than they would if you fed by hand. Where you have a weak chicken it gets just as good a show as a stronger chicken, they are not crowded. If you throw the grain down by hand there is always a rush and the large ones jump right in on top of the smaller ones.

Q.—You give your chickens a good range?

A.—Yes.

Q.—How do you hatch your chickens—by hens or incubators?

A.—Both.

Q.—You do not set many out of the first prize New York Cockerel in the incubator?

A.—No, I like the hens the best. I get ten hens that are brooding and I leave the eggs under them 12 days and take them out and put them in the incubator, and then re-set these hens. This can be done two or three times. The hen is all right up to the first twelve days.

Q.—Do you do that all season?

A.—No.

Q.—How many do you start in the incubator?

A.—I have seven machines but I did not run them all last year. The first hatch I put in was one hundred and fifty eggs and then the next was two hundred eggs in a safety machine and I did not have good results from them, probably it was my own fault. I thought there was not enough ventilation and I bored a lot of holes in the bottom and I got too much air. Last year I ran three machines.

Q.—What proportion of a hatch do you get from the machine?

A.—From forty up to sixty per cent.

Q.—What percentage of these chickens will live?

A.—I did not have much trouble last year except with one lot, and that was in a lot I hatched in the incubator, where I gave too much ventilation. I had two hundred and twenty eggs in the machine and about one hundred hatched out and they practically all died; in fact when they took the white diarrhoea I did not pay much attention to them and I did not try to care for them, because I was certain they would all go.

Q.—Which system of hatching gives you the best chick?

A. The hen. Give me the hen every time and you can have all the machines. You can use the combination of the hen and the incubator and get better results than you can by using the incubator or hen alone, because the hen seems to do the trick up to the twelfth day and after that time it does not matter where you have them they will hatch all right.

Q.—Put them under the hen first?

A.—Yes, if you can get enough hens, and put the eggs in the incubator to finish and reset your hens, you can run these hens for thirty-six days. You must be very careful if you have hens that are troubled with lice because if you put lice into the machine it is very hard to get rid of them. They will soon take possession of the incubator, because they will go on breeding. To prevent lice getting in the incubator I dip the eggs in warm water.

I got fifty dollars from plums, pears and currants. Last year I planted out a lot of apple trees and I used plums and pears as fillers in between them.

Now, I will talk about the bees. There is as much money in the bees as anything else because we do not have to find the food. Bees and fruit work well together, and bees, fruit and poultry work well together. The bees do not require looking after in the morning or evening; it is in the middle of the day that you have to look after them; and you have to look after the chickens in the morning and the evening, and you can devote your time to the bees in the middle of the day. I believe bee-keeping along with poultry is one of the most profitable industries, providing you know how to handle the bees. It requires a lot of experience but it is profitable especially in years when you get a fairly good yield. There are hundreds of people who go into bee-keeping and make a failure of it. But you can make a failure of anything you go into. The bees require attention in swarming time.

Q.—How many hives do you have on your farm?

A.—I have 85 now.

Q.—Do you winter them out on the stands or in the cellar?

A.—This year most of them wintered outside, I have a few in my bank barn.

Q.—Do you extract the honey or sell it in the comb?

A.—Mostly tract about supers and year I had and about 70 only extract

Q.—Do you imity to the

A.—The last two or ing my chic keep the be is a cedar l the bees fac

PIANO
28"

Directi
terial requi
gables; 60/
floor and c
lings, nail
piece at sic
frame 1" x

first?
ough hens,
ator to fin-
n run the e
u must le
s that are
ou put Lee
ard to get
ake posses-
they will
getting in
in warm

ums, peas
nted out a
plums and
m.
ees. There
s anything
o find the
l together,
ck well to-
re looking
g; it is in
u have to
e to look
ring and
vote your
of the day.
th poultry
industries,
andle the
cience but
ears when
There are
bee-keep-
t you can
go into.
swarming

have on
t on the
wintered
unk barn.
or sell it

A.—Mostly all extracted. I only extract about three times. I put on enough supers and the bees fill them up. Last year I had 4,000 pounds of clover honey and about 700 pounds of mixed honey. I only extract from the supers.

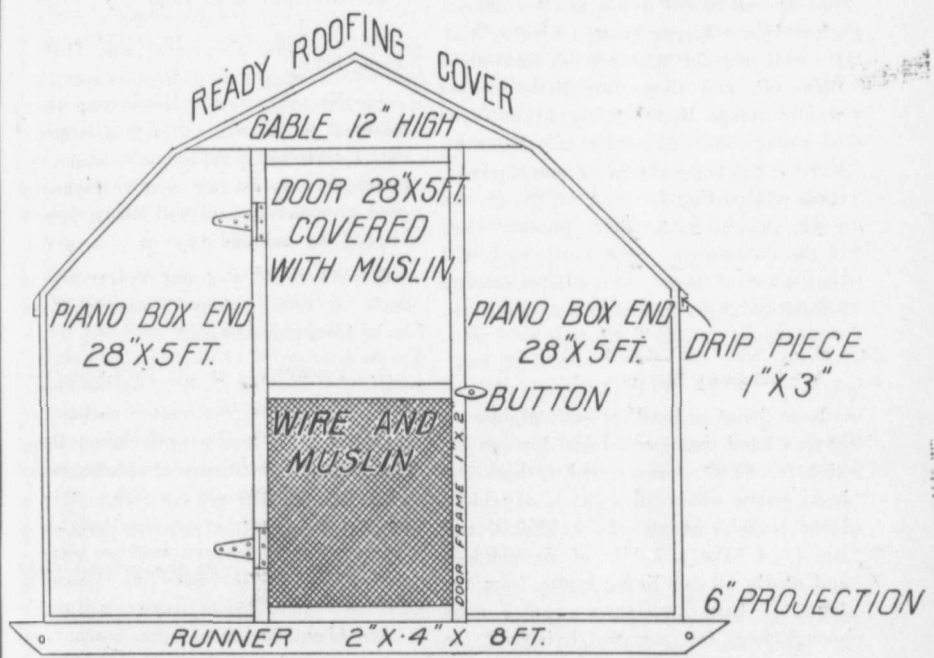
Q.—Do you keep the bees in close proximity to the fowl?

A.—The fowls run among them, the last two or three years I have been raising my chickens early in the spring. I keep the bees in a sheltered spot. There is a cedar hedge on the West side and the bees face the south and that is the

best place for the early chickens, because they are out of the wind, and they run in there among the bees, and they do not hurt them at all. Occasionally a chick gets stung but it does not hurt them. The bees do not occupy very much space.

Q.—Do you have shade for the bees?

A.—I do not consider it important. I have Italian bees. Last year I received \$380 for the 4000 pounds of clover honey. I sold it at 9½c. a pound wholesale. I had 700 pounds of mixed Lucerne and Buckwheat honey. The bees worked on the Lucerne and did not gather any buck-



End View Piano Box Colony House. Size 6 ft. x 7 ft. Floor.

Directions—Two boxes same size, remove backs, and upper part of top. Material required two 2" x 4" x 8' scantling for runners; one piece 1" x 12" x 8' for gables; 60' ready roofing. Place scantling under boxes about 1' from ends; lay floor and crowd boxes up—this will save ripping; spike down bottoms to scantlings, nail gables on; board up back and cover; nail roofing paper on down over drip piece at sides—this will prevent water running down sides of box. Door—Make frame 1" x 2" material, cover with muslin and wire.

wheat honey until the Lucerne was gone and I had to sell the honey for 8c. a pound, which brought me \$56.00, making \$425 from the bees, which practically cost me nothing, I just fed them a little in the fall.

Q.—How much capital have you invested?

A.—The 25 acres cost me \$3,000, and last year I was offered \$6,000 for the same place. I have had it a little over four years and I have not spent a great deal of money in improving it, except putting up poultry houses. When I got the place I was told that the Spy trees might just as well be cut down, as they did not grow apples bigger than a hickory nut. He took me out to the trees and shook them off, and they were little bits of scabby things that you would not feed to a hog, and no earthly use whatever, but by trimming the trees and spraying them and putting fertilizer on the ground I was able to make them produce some of the finest spies I ever saw; in fact I sent some of them to the Horticultural Exhibition and won first prize with them.

Q.—What do you spray with?

A.—Bordeaux mixture.

I am going to try lime and sulphur. I have a hand pump and I can hire an Indian for \$1.00 a day, and I think the hand pump works all right. My hired labor would cost me about \$250.00 and board. I have a family of six children and nearly all our living comes from the farm. I have two cows and I raise enough hogs for our own living off the farm, and then I have my poultry feed. Last year I had over 100 bushels of corn and I raised enough grain and hay to feed my stock and I pastured them as well. I raise alfalfa hay mostly. I sowed the orchard with buckwheat and when it ripened the chickens gathered it and tramped it down and when apple picking time came, you could not see anything but the stocks.

Q.—Do you keep four horses because you need them all?

A.—I have a pony for the children to drive to school and the other two are colts that I am raising; I am not working the colts. This year I had only one horse to do most of the work with. I consider the colts are worth \$300.00. I have not figured in the amount of poultry and things we use ourselves. I also sold quite a few potatoes, t'at I could have figured in but I have not done so.

Q.—Of course the 25 acres are almost all tillable land; no waste land.

A.—No waste land at all.

Q.—Do you believe in in-breeding for laying hens?

A.—No. I do not think you should follow it too closely. If I was trap-nesting, I certainly would not want to keep males that I did not know were from good producers. You will likely ruin the vitality by inbreeding.

Q.—Where do you put the roosts and nests in those colony houses that you make from piano boxes?

A.—Perches are at the back; nests are near the front.

I start with a Universal hover and I put these in one corner of the house and when the chickens get large enough to do without heat, I just put the perches up.

Q.—How high from the ground would these perches be?

A.—About 20 inches.

Q.—Any dropping boards under them?

A.—No.

Q.—Where do you put the nests?

A.—I have the nests in the front side.

The Chairman—I think the response shows our appreciation of Mr. Clark and I am very pleased indeed to thank you for your kindness in helping us.

It is the v
paper to br
importance o
queen rearing
duction of ho
populous col
queens be vig
ipulations no
comply the
have a very
upon the qu
artificial conc

New and
bees are con
the hand of r
ulating their
we undertak
against the fo
sure that our
disastrously i

Artificial s
isions for in
lating are no
the subject
which should
is handled ra
hands of spec
of this subje
others. If
swarming, wh
queens to con
colonies? Of
isions if we ca
erly raised ce
stimulative fo
queens in the
to respond to

It is very i
trace the de
now largely c
obtain increa
the same tim
natural swarr
be instructive

QUEEN REARING AND HONEY INDEXED PRODUCTION.

F. P. Adames, Brantford.

It is the writer's wish in the present paper to bring before bee-keepers the importance of the practice of artificial queen rearing in connection with the production of honey. In order to have strong, populous colonies it is essential that the queens be vigorous, but many of the manipulations now practised, while they accomplish the objects sought, yet they have a very certain and harmful effect upon the queen stock raised under the artificial conditions imposed.

New and better methods of handling bees are constantly being developed and the hand of man is now employed in regulating their natural instincts, but when we undertake to pit our understanding against the forces of nature we must make sure that our interference will not result disastrously in ways that we least expect.

Artificial swarm control, artificial divisions for increase and artificial stimulating are now successfully practised, but the subject of artificial queen rearing, which should go hand in hand with these, is handled rather gingerly or left in the hands of specialists, and yet a knowledge of this subject is a basis of success with others. If we prevent our bees from swarming, where are the young, vigorous queens to come from to head next year's colonies? Of what use are artificial divisions if we cannot supply them with properly raised cells, or of what advantage is stimulative feeding, if we do not have queens in the hives with vitality enough to respond to the stimulating?

It is very interesting and instructive to trace the development of the methods now largely employed by bee-keepers to obtain increased yields of honey and at the same time to keep under control the natural swarming impulse. It may also be instructive to note how these manipu-

lations affect the welfare of the colony in the generations to come.

Probably the simplest manipulation is giving the swarm on the old stand, thus throwing all the field bees in with the new swarm to give an added impetus to honey gathering. This manipulation certainly accomplishes the object sought. It concentrates a tremendous force of field bees for gathering in the crop, and as there is no brood to look after for a few days the honey piles up very rapidly in the supers. But what about the partially developed queen cells in the old colony that has been drawn on so heavily for bees? Does it seem reasonable that they will receive the warmth and attention so necessary to their growth into good, vigorous stock?

Another manipulation generally practised is the control of troublesome after-swarms by breaking down the cells left in the hive after the departure of the prime swarm, leaving only one cell to hatch out. This also accomplishes the object sought. No after-swarm will issue if there is only one queen cell present in the hive, but the same objection applies here as in the former case. The few bees in the large chamber will not give any more attention to one cell than they would to six. If the nights are cool, they will cluster in the centre of the hive, perhaps away from the queen cell, leaving it unprotected, and the young queen will thus be injured.

Next in order is the practice of universal shaking. By this method colonies are examined every few days and any found making the first preparations for swarming are shaken on to new combs on the old stand and the brood disposed of in various ways. From the standpoint of improvement in the stock this method is the most rational of any since there is no endeavor made to raise queens under unfavorable conditions, and the bee-keeper is forced to work out some other method of propagating his stock. We must all

face this problem sooner or later, and although there are many difficulties awaiting the bee-keeper who proposes to raise his queens artificially, yet after he has mastered the subject I believe that he will consider the time well and profitably spent. The system of shook swarming lends itself admirably to production of the finest queens, and it is the writer's wish to sketch briefly such a method, one that can be readily adopted by any careful bee-keeper.

Wait until colonies are being shaken and there is plenty of brood in upper storeys.

There is nothing in the system which we use but what any bee-keeper can adopt. It is a well known system; it has been developed from several different queen breeders. We use the Doolittle plan for grafting cells, and the other apparatus is simply development along lines which will help in the making up of increase and making of nuclei. I think the first requisite in any operation for making up artificial queens is in getting the colonies in proper shape to raise them. A great mistake made is the starting to raise cells before the colonies are in condition, and starting to make increase before the brood is in condition for making up that increase. I believe it would pay any man to wait until his colonies are in shape before he starts any manipulation with the object of raising queens. We usually wait until the colonies are strong, and until possibly there are a few starting to prepare sealed cups. These colonies are shaken off on the new combs. The brood from these colonies is distributed around the yard to other stocks—possibly two or three combs given to one, and two or three to another, and it is not always given to the weak stocks either. It is given to the medium stocks usually, and these medium stocks are built up until they have brood above, until it is necessary to put on queen excluders; and when they are in this con-

dition I believe the yard is in good condition to start queen rearing.

The first step, of course, after the brood is in shape, is getting the cells started. The cells are grafted by the Doolittle system into prepared cell-cups. They are grafted from the best breeders in the yard, but I do not think it necessary to go into details of this, as it has been described so often. Before the grafting is done the swarm box is used. A swarm box is simply a box made like a hive to hold three combs, and it has a cover with a slot in it to hold this stick of prepared queen cells. The bees are simply taken and shaken into this box—that is, enough bees to fill the box nicely. A frame of honey and a frame of brood is put in, one on each side. The box is left in that condition for five or six hours until the bees realize their queenlessness and are ready to accept cells. Then this grafting is done and the grafted stock of cells is put in the box. Usually the shaking is done in the morning, the grafting is done in the afternoon, and the cells are left with the bees until the next morning. By that time those that have been accepted have been fed quite a bit of jelly, and they are then taken and put into the colony that the queen has been taken from, and the frame of prepared cells is put above the queen excluder with the queen below. The frame that holds the queen cells is simply an ordinary frame fixed up so that it will fit in. It is put in the centre of the upper storey of the cell-building colony. They go ahead and complete those cells, and when they are ripe in about ten days' time the cells are put into nuclei. Now, by having so much brood above queen excluders in the yard, the yard is in good shape to make up the nuclei, because the brood is capped over and there would be none lost by neglect or chilling; and by taking one or two frames of this brood that has been entirely capped over in rearing above, and giving it to the nuclei, we have the nuclei started. Any shaking

June, 1910

after that of frame of this excluder and young colony

I think it duce queens simpler than

WOULD LI

Dear Sir,—close you mo of my subscri another year

In the Ma make mention White (late cently arrived going into th and bee-keep duly worry would much White would few lines late sions as to t for a man wi ticular line h opinion from ditions in Eng valued. If White on my address I sho you.

When I w worrying peop tions in Britis to come to th of information ous quarters) in price for me turned my att viz., Nova Sc bining apple g

I feel it wot letter without ciation of the given to my l ada. I get a

good condi-
 r the brood
 ds started.
 oolittle sys-
 They are
 ers in the
 necessary to
 as been de-
 grafting is
 A swarm
 e a hive to
 cover with
 of prepared
 mply taken
 is, enough
 A frame of
 put in, one
 in that con-
 til the bees
 l are ready
 ting is done
 s is put in
 ; is done in
 done in the
 ft with the
 By that
 cepted have
 nd they are
 colony that
 m, and the
 t above the
 below. The
 ds is simply
 that it will
 of the upper
 lony. They
 cells, and
 t ten days'
 nuclei. Now,
 e queen ex-
 is in good
 because the
 re would be
 ng; and by
 this brood
 ver in rear-
 e nuclei, we
 ny shaking

after that can be done; and an occasional frame of this brood is put above the queen excluder and given to the nuclei and the young colony is built up in that way.

I think it is a very nice way to introduce queens, by giving ripe cells, much simpler than introducing laying queens.

WOULD LIKE TO COME TO CANADA.

Dear Sir,—I have the pleasure to enclose you money order for 4/2 in payment of my subscription to the "C.B.J." for another year.

In the May issue just to hand you make mention of the fact that a Mr. W. White (late of Tiptree, Essex), has recently arrived in Ontario with a view to going into the business of fruit growing and bee-keeping. I do not want to unduly worry you or Mr. White, but I would much like to know whether Mr. White would be agreeable to write me a few lines later on to give me his impressions as to the opportunities in Canada for a man with small capital in the particular line he is himself taking up. An opinion from one who knows current conditions in England would be very greatly valued. If you could approach Mr. White on my behalf or favor me with his address I should feel much indebted to you.

When I wrote you last year I was worrying people for details as to conditions in British Columbia, but I have had to come to the conclusion (from a mass of information I have received from various quarters) that land there is too high in price for me, and I have latterly rather turned my attention to the other extreme, viz., Nova Scotia with thoughts of combining apple growing, bees and dairying.

I feel it would not be just to close this letter without expressing my deep appreciation of the invariably kind reception given to my letters to strangers in Canada. I get addresses of various people

from various sources, and write them if I think they have any knowledge of the specific branches of work I am interested in, and it seems not to matter whether the person I address is a Canadian, or a British emigrant to your country, I **invariably** receive a nice letter in reply, dealing with any points I raise and offering further information if wished. I have been truly touched by the kindness of heart evinced by the people on your side, of both sexes, and their readiness to give any particulars that would be likely to be of use to one who feels much as if he is fumbling in the dark. All I can say is that if the folks in Canada who have written to me, from the extreme East to the extreme West of your Dominion, are a fair sample of your people, then I wish I were one of you.

With best wishes for the success of both you and your interesting journal,

I remain, yours sincerely,

C. BRADFIELD.

31 Northland Drive, Scotstoun,
 Glasgow, Scotland,
 9th June, 1910.

[Very glad to receive your letter. By all means come, but would advise you to come to Ontario. We have no doubt that Mr. White will give you all the information in his power. Having a little capital you cannot make a mistake in coming to Canada. The opportunities here are unbounded. If you come direct to Brantford, we will be only too pleased to assist you in getting located.—Ed.]

ENGLISHMEN IN CANADA.

Our criticism of a letter by "E. A." to the British Bee Journal has brought forth the following letter from Wm. I. Couper, Moose Mountain Apiary, Sask. Mr. Couper sent his letter to the British Bee Journal, and it appears in the issue of May 26. It is a good letter on the subject

and we take the liberty of reproducing it. Level-headed Englishmen will always find a welcome in Canada, and if they are unable to make good, the fault must be in themselves rather than in the country.

[7826.] I was sorry to read the letter (page 105) signed "E. A., Victoria, B.C.," written to your paper and copied by the editor of the Canadian Bee Journal here, as it contains statements that are either untrue, misleading, or exaggerated. I might suggest to "E. A." that abuse of a country in which one is making a living is exactly on a par with abuse of a man whose hospitality you are accepting. As an Englishman resident in Canada for seventeen years, perhaps I may be allowed to comment on parts of the letter. There is a grain of truth in the statement that very few good houses are to be seen on the transcontinental trip. I have made the journey twice each way, and I have often wondered why this should be. Every settlement has good houses to show, but one does not see them from the line, and when your correspondent has travelled about a bit more he will know better. "E. A." also gives a list of different kinds of work he has tried for nine months, and says this shows the uncertainty of labor. It does not; it merely shows that he cannot hold his job. I have just returned from a trip to B. C., and while there made many enquiries as to the labor market. From early spring until late autumn there is more work than there are men to do it, and even in the comparatively short winter work can usually be obtained, though at a lower wage. As a general rule wages are very high there. I do not believe there is any part of Canada where an efficient man cannot draw good wages practically all the year round.

Again, "E. A." draws a harrowing picture of a huge country in the hands of land companies. This is arrant nonsense, British Columbia is a large country, but an immense amount of its acreage is waste land—mountain, rock, etc.,—and a good

deal of valuable land is at present useless because there are no means of transport. This land may be had very cheaply, and a man who does not mind roughing it and waiting until the country can afford to build roads, would make a good thing of it. Agricultural land with good transport facilities is very scarce, and the price is certainly not too low, but the statement that no land in the province is open for homestead is untrue. Before leaving this subject I would like to point out that the ill-feeling between Canadians and Englishmen is largely caused by exactly such letters as "E. A.'s." Canadians are justifiably proud of their country, and when a man on the strength of a few months' acquaintance with it, proceeds to denounce it and its ways, they naturally resent it, and say so. Many Englishmen do not care for the country at first because its ways are strange to them, but after a few years they get to like it.

I have been keeping bees in this part for twelve years, and for the last six have made bee-keeping my main line. I keep about one hundred colonies. On the whole it is a good business here, but I am thinking of moving to British Columbia, to escape the long, cold winters. Perhaps I may be permitted to give my advice to intending emigrants, as it differs materially from "E. A.'s." A man who is physically strong and likes outdoor work cannot do better than come to Canada. If he has no capital, I fancy he is likely to be more successful on the prairie than in British Columbia. If he has a little capital and is anxious to take up bee-keeping and fruit-growing in B.C., he should select a settlement he likes and get work there for a year. By that time he will know all about the land in the neighborhood that is for sale, and will be able to save money by dealing with the owner direct. A man who does this is not likely to write to the English papers about the iniquities of the land system.

The fundamen
ject of public h
ization and ind
cisely expressed
Commission of
aral address 1
Meeting of the
nection Mr. Sif
physical strengt
source from whi
Extreme and s
lives and healt
be taken as the
gree of real civi
which a country
be said that it
tention, though
union, and the
laws and health
effective and u
however, many
general in thei
attention. The
dreds of thousa
ing diseases of
is pleasing to l
thoroughness.
made by Provin
the ravages of
ings, such, e. g

That there is
checking the i
evidenced by th
the last census.
were 9,709 deatl
ada. Or, in o
out of every h
due to tubercu
sis is classed b
as a preventabl

Brant County
will meet at
Brantford, on 8

NATIONAL IMPORTANCE OF PUBLIC HEALTH.

The fundamental importance of the subject of public health to our national civilization and industrial efficiency was concisely expressed by the Chairman of the Commission of Conservation in his inaugural address before the First Annual Meeting of the Commission. In this connection Mr. Sifton said in part: "The physical strength of the people is the resource from which all others derive value. Extreme and scrupulous regard for the lives and health of the population may be taken as the best criterion of the degree of real civilization and refinement to which a country has attained. It cannot be said that it has received too much attention, though the Provinces, the Dominion, and the municipalities have health laws and health administrations all doing effective and useful work. There are, however, many branches of the subject general in their character, which merit attention. The Dominion spends hundreds of thousands of dollars in eradicating diseases of animals, and the work, it is pleasing to know, is being done with thoroughness. But no similar effort is made by Province or Dominion to meet the ravages of diseases among human beings, such, e. g., as tuberculosis."

That there is a great work to be done in checking the inroads of tuberculosis is evidenced by the mortality statistics of the last census. In the census year there were 9,709 deaths from the disease in Canada. Or, in other words, twelve deaths out of every hundred in that year were due to tuberculosis. And yet tuberculosis is classed by modern medical science as a preventable disease.

Brant County Bee-Keepers' Association will meet at the Court House, City of Brantford, on Saturday, June 25.

THE FIELD CROPS OF CANADA.

The Census and Statistics Office has today issued a report on the estimated area and condition of the principal field crops of Canada at the end of May, based on the reports of a large staff of correspondents.

The area under fall wheat is put down at 707,200 acres, which is 45,100 acres more than last year, and its per cent. of a standard condition is given as 87.65, which is 5.50 higher than last year. Spring wheat is given an area of 8,587,600 acres, being 1,499,300 acres more than last year, and its condition as compared with the end of May last year is 91.49 to 92.15. Oats, which has an area of 9,264,100 acres, is 561,500 acres more than last year, and its condition at the end of May was 93.95. A year ago its condition was 92.32. The area of barley is 1,834,000 acres, or 30,500 acres less than last year, and its condition is reported at 92.94, as compared with 91.49 last year. The rye crop continues to decrease, but its condition is about the same as a year ago. Peas with 386,100 acres is less than last year by 7,200 acres, and its condition is 93.01 as compared with 90.59 last year. The area of mixed grains is 575,700 acres, or 6,400 less than last year, and their condition at the end of May was 94.72, compared with 91.71 last year. The area in hay and clover is given as 8,515,400 acres, which is 305,100 acres more than last year, and the condition is 97.64, or 7.28 more than in 1909.

The area of all these field crops is reported at 30,554,200 acres, which is 2,359,300 acres more than last year and 4,951,050 acres more than in 1908. The largest increase has taken place in wheat, which has now reached 9,294,800 acres. In 1909 it was 7,750,400 acres and in 1908 it was 6,610,300 acres, which is a gain in two years of 2,684,500 acres or more than 40 per cent. The provinces of Manitoba, Saskatchewan and Alberta increased their area in wheat from 2,495,466 acres in 1900

to 3,941,369 acres in 1905 and to 8,395,400 acres in 1910. In Saskatchewan alone the increase of this year over last year is 1,163,000 acres. In 1900 the area of the three provinces sown to wheat, oats and barley was 3,491,413 acres, in 1905 it increased to 6,009,389 acres and this year it is 13,809,300 acres.

Ontario has shown an increase in fall wheat from 581,100 to 609,200 acres, and in oats from 3,142,200 to 3,272,000 acres. In Quebec the increase in oats is from 1,574,100 to 1,649,600 acres; Manitoba from 1,390,000 to 1,451,000 acres; Saskatchewan from 1,847,000 to 1,973,000 acres and Alberta from 820,000 to 974,000 acres.

The condition of pastures is over 100 in the Maritime Provinces and Quebec. It is 93.60 in Ontario, 89 in British Columbia and around 80 in Manitoba, Saskatchewan and Alberta.

Alfalfa is growing in favor in all the provinces, but especially in Ontario where a large number of correspondents report upon the increased area in this crop.

The effects of late frosts have been felt in many places, and injury has been done to fruits and tender vegetables in some localities, but generally the prevailing low temperatures of April and May have strengthened the field crops and have left them better able to withstand the attacks of night frosts, and re-seeding and replanting, have been less necessary than in former years.

The Commissioner of the Cold Storage Branch reports that the demand for cows is unprecedented this year. As high as \$100 has been paid for well-graded cows. The shipment of cream to the United States continues from southern Quebec, along the St. Lawrence River, and from Western Ontario. Practically all factories within driving distance of the border east of Richilieu river are skimming the milk and selling the cream.

The Seed Commissioner advises farmers who have clean land to take the first cut of early red clover as soon as possible after June 20th, and thus provide the

best conditions for a good second growth for seed crop. The best way to clean clover he says, is to pull the weeds before the crop is harvested. The increased market value of the seed will more than pay the labor entailed.

Ottawa, June 10.

BEE BOOKS

FOR SALE BY

The Canadian Bee Journal

A B C and X Y Z of Bee Culture ..	\$1.60
British Bee Guide	1.50
Irish Bee Guide	1.50
Forty Years Among the Bees (Dr. Miller)	1.50
Cook's Manual of the Apiary	1.50

All Post Paid

The Canadian Bee Journal

Brantford, Canada

National Bee-Keepers' Association

(Organized in 1870.)

Objects.

1. To promote the interests of bee-keepers.
2. To protect and defend its members in their lawful rights as to keeping bees.
3. To enforce laws against the adulteration of honey.

Membership Dues.

One dollar a year.

Officers and Executive Committee.

President—GEORGE W. YORK, Chicago, Ill.
Vice-President—W. D. WRIGHT, Altamont, N. Y.

Secretary—LOUIS H. SCHOLL, New Braunfels, Tex.

Treas. & Gen. Mgr.—N. E. FRANCE, Platteville, Wis.

Twelve Directors.

- G. M. Doolittle, Borodino, N. Y.
Jas. A. Stone, Rt. 4, Springfield, Ill.
R. A. Holekamp, 4268 Va. Ave., St. Louis, Mo.
Wm. McEvoy, Woodburn, Ont., Canada.
M. H. Mendleson, Ventura, Calif.
R. C. Aikin, Loveland, Colo.
R. L. Taylor, Lapeer, Mich.
E. D. Townsend, Remus, Mich.
Udo Toepperwein, San Antonio, Tex.
J. E. Crane, Middlebury, Vt.
E. F. Atwater, Meridian, Idaho.
R. A. Morgan, Vermillion, S. Dak.

Are you a member? If not, why not send the annual dues of \$1.00 at once to Treas. France, or to the office of the American Bee Journal, 146 W. Superior St., Chicago, Ill.? It will be forwarded promptly to the Treasurer, and a receipt mailed to you by him. It is the desire of the officers to increase the membership to 5000 by the end of 1910. Every progressive bee-keeper should be a member of this, the greatest bee-keepers' organization in America.

Want

Advertisements received at words, each Payments amounts ar keeping. W sheet from side of the many times must reach each month

WANTED son's crop c Write at on Roches, On

FOR SA versible exti ings, brake, fitted for b Only slight to Morley I

Any qua will be take pails, same for your ne

FOR SA One six fra with 200 lb 50 eight hives, 2,000 lbs. med. b termann, B

WANTED bees, two l to J. H. S

BEE S FO or their cr about \$5.0 Address Ja Ont.

Osha Galvani S te Shing PEDLAI Montreal, Toront

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.

WANTED—I want offers for the season's crop of No. 1 light extracted honey. Write at once. Angus F. McLellan, Mille Roches, Ont.

FOR SALE—One four-frame Root reversible extractor, 1909 model. Ball bearings, brake, and all modern improvements, fitted for both engine and hand power. Only slightly used. Apply for particulars to Morley Pettit, O. A. College, Guelph.

Any quantity of No. 1 clover honey will be taken in exchange for 5 and 10-lb. pails, same as I use. Will contract now for your next season's crop.

G. A. DEADMAN.

FOR SALE—Cash or honey payment. One six frame reversible honey extractor with 200 lb. capacity under basket; also 50 eight frame Langstroth extracting hives, 2,000 plain 4 1/4 x 4 1/4 sections, 100 lbs. med. brood foundation. R. F. Holtermann, Brantford, Ontario.

WANTED—To sell or exchange for bees, two lots in Calgary, Alta. Apply to J. H. Stoneman, Norgate, Man.

BEEES FOR SALE—50 colonies Italians or their crosses; good colonies; price about \$5.00, more or less ad valorem. Address James Sackville, Sr., Bewdley, Ont.

Oshawa Galvanized Steel Shingles

You can't afford to roof a thing without Oshawa Galvanized Steel Shingles. Good for a hundred years. Send for the free booklet.

PEDLAR People of Oshawa
Montreal, Toronto, Halifax, St. John, Winnipeg, Vancouver

Comb Foundation

Before getting your foundation made up for the season, write us. Get our prices, and give us a trial. We will give you good satisfaction. Wax taken in payment at market prices.

JOHN NEWTON
Thamesford :: Ontario

EUROPEAN AGENCY

INDENTS promptly executed at lowest cash prices all kinds of British and Continental goods, including

- Books and Stationery,
- Boots, Shoes and Leather,
- Chemical and Druggists Sundries.
- China, Earthenware and Glassware,
- Cycles, Motors and Accessories.
- Drapery, Millinery and Piece Goods.
- Fancy Goods and Perfumery,
- Furniture and Upholstery,
- Hardware, Machinery and Metals,
- Imitation Jewellery and Precious Stones,
- Jewellery, Plate and Watches,
- Photographic and Optical Goods,
- Provisions and Oilmen's Stores,
- etc., etc.

Commission 2 1/2% to 5%.
Trade Discounts allowed.
Special quotations on demand.
Sample cases from £10 upwards.
Consignments of Produce Sold on Account.

WILLIAM WILSON & SONS
(Established 1814).

25, Abchurch Lane, London, E.C.
Cable Address: "Annuaire, London."

cond growth
ay to clean
weeds before
ne increased
l more than

BOOKS

Journal

- ture ..\$1.60
- 1.50
- 1.50
- s (Dr. 1.50
- 1.50

Journal

da

Association

bee-keepers
members in
y bees.
adulteration

Committee.

Chicago, Ill.
T. Altamont,

New Braun-
ANCE, Platte-

eld, Ill.
St. Louis, Mo.
mada.
Calif.

oveland, Colo.
Mich.
Antonto, Tex.

daho.
million, S. Dak.

hy not send
ce to Treas.
merican Bee
Chicago, Ill.?
to the Treas-
u by him. It
increase the
of 1910. Every
be a member
rs' organiza-

Bee-Keepers' Supplies of all kinds are our Specialty

Jones' Model Hives are not excelled for the production of either comb or extracted honey. 9 L. frames, metal cover.

Jones' Improved Process Comb Foundation. None better.

Hardy Italian Bees and Queens. A fine lot of full colonies of these bees for sale.

All goods at right prices. Large Illustrated Catalogue free.

Wanted: 20,000 lbs. Pure Beeswax for Foundation making, for which a good price will be paid. Write me, stating amount and quality.

F. W. JONES, Bedford, Que.

Poultry News

HELPS YOU MAKE MONEY

25 Cents Yearly

Write for Sample

PAUL F. WILLIAMS

PUBLISHER

New Brunswick, New Jersey, U.S.A

FREE

A

Diamond Point

FOUNTAIN PEN

Free as a Premium



Nothing is more acceptable as a gift at any season than a good Fountain Pen. The above illustrates a pen that is fully guaranteed to us and that we can therefore warrant to give satisfaction to any one receiving it from us. We are giving it free to all new subscribers to the Canadian Bee Journal who remit us \$1.35 for one year; and to all old subscribers who send us a two year renewal for \$2.00 in advance.

The Canadian Bee Journal

BRANTFORD, CANADA

ITAL

GOOD

MY It
niz
adian br
tablished
apiaries

The O
periment
Harbor v
stock.

Untes
Each.....
Six for.....
Per Dozen..

Breed



A PR

The
chic
inte
the
by s

PRO

For a

ITALIAN QUEENS

Good, Sound, Pure, Italian Stock

MY Italian Queens are recognized as the Standard Canadian bred stock. They are established in most of the large apiaries throughout the Country.

The Ontario Government's Experimental Apiary at Jordan Harbor was originated from this stock.

PRICE LIST

Untested	Each..... \$1.00	Tested	Each.....\$ 1.50
	Six for..... 5.00		Six for..... 8.00
	Per Dozen..... 9.00		Per Dozen..... 15.00

Breeders raised in 1909—\$5.00 each



F. P. ADAMS

BRANTFORD
ONTARIO

A Profit of Profit

There is plenty of money in chickens if your effort is intelligently directed. Learn the right way to do things by subscribing for

PROFITABLE POULTRY

Milton, Wis.

For a limited time only 25 cents per year.



Review of Reviews

Success Magazine

Canadian Bee Journal

ALL FOR

\$3.00

Money in Poultry

If you know how to get it out. We show the way.

On our regular staff are the world's most famous poultry experts. Amongst them Prof. A. G. Gilbert, Dominion Experimental Farm, Ottawa; Prof. W. K. Graham, Ontario Agricultural College, Guelph; Rev. J. N. Williams, B.A., England; H. S. Babcock, Providence, R. I. Dozens of other well known poultry men and women write for us, telling of their experience. 45 to 72 pages monthly, full of interesting and instructive reading matter and high class engravings. All poultry—nothing but poultry. Mailed anywhere in Canada, one full year for 50c. or three years for \$1.00. 30th continuous year of publication. Address

CANADIAN POULTRY REVIEW,

The People's Popular Poultry Paper.

184 Adelaide St. West, Toronto, Ont.

Standards and other books free for a little work.

60 YEARS' EXPERIENCE



TRADE MARKS
DESIGNS
COPYRIGHTS & C.

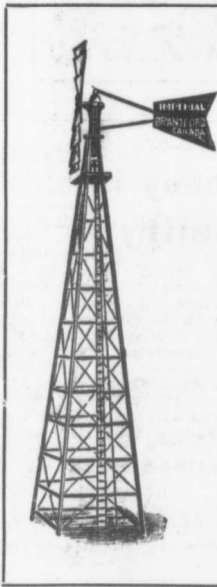
Anyone sending a sketch and description we quickly ascertain our opinion free whether an invention is probably patentable. Communications strictly confidential. HANDBOOK on Patents sent free. Oldest agency for securing patents. Patents taken through Munn & Co. receive special notice, without charge, in the

Scientific American.

A handsomely illustrated weekly, largest circulation of any scientific journal. Terms for Canada, \$3.75 a year, postage prepaid. Sold by all newsdealers.

MUNN & Co 361 Broadway, New York
Branch Office, 625 F St., Washington, D. C.

WINDMILLS



OUR TOWERS are girted every five feet apart, and double-braced. This doubly insures against accidents in storms. All Mills are galvanized after completion. This gives increased strength.

OUR MILLS have proven by test to be the best.

Gas and Gasoline Engines (stationary and mounted), Grain Grinders, Pumps, Tanks, Etc. Automatic Batch Concrete Mixers

WRITE FOR CATALOGUES

Goold, Shapley & Muir Co
 Limited
 Brantford, Canada