

# THE CANADIAN BEE JOURNAL

Vol. 20, No. 9.

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## CONTENTS

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Page		
259	The National Fair at Toronto.....	<i>J. J. Hurley</i>
262	The First Queen Rearer.....	<i>C. Weygandt</i>
262	Heavy Losses a Fact.....	<i>S. Simmins</i>
264	Temper of Bees and Racial Immunity from Disease.....	
264	The Season's Weather.....	
265	Lime Does Dry a Cellar.....	
266	Bees Visiting Only One Kind of Flower .....	
268	Improvement in Bees.....	
273	Foundation Drawn Below the Brood Nest.....	<i>R. Beuhne</i>
274	Weather Reports from the Provinces.....	
275	A Few Practical Pointers.....	<i>O. B. Metcalfe</i>
277	Winter Cases.....	<i>F. F. France</i>
278	British Bee Disease Bill.....	
279	Notes and Comments.....	
280	Mr. Sladen's Farewell Lecture.....	
280	Crop Bulletin.....	
281	The Open Mind.....	

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**The Canadian Bee Journal**

BRANTFORD, CANADA

**The  
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Devoted to the Interests of Bee-keepers

JAS. J. HURLEY, Editor

Published monthly by  
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Brantford, Ont.

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Vol. 20, No. 9.

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Only One Entry

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# The Canadian Bee Journal

PUBLISHED MONTHLY

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

Vol. 20, No. 9.

SEPTEMBER, 1912

Whole No. 571

## THE NATIONAL FAIR AT TORONTO

### Only One Entry in the Honey Classes

BY J. J. HURLEY

Once more the great fair has come and gone, and despite the wet and very unfavorable conditions of the weather, it has broken all records. Many improvements over last year were to be seen, chief among which was the new Government building, erected by the Ontario and Dominion governments.

On Friday August 30th the "Fourth Estate" was the guest of the Directors and was accorded all the courtesies considered due to the "Press." The press was well represented by a large gathering of rural editors, great and small, at the Director's luncheon. President Kent extended a hearty welcome and thanked the press for its hearty assistance.

Mr. John R. Bone, President of the Canadian Press Association, responded in fitting terms.

The "Garden of Canada" made a magnificent showing of its agricultural wealth. Those responsible for the preparation of the Ontario exhibit are to be congratulated. It surpassed anything we have seen in the past. From the prize winning entries in the Ontario Standing Field Crops Competition conducted by the Agricultural Society of Ontario, was a display located directly under the central dome of the new government building that could scarcely be surpassed. A monster pyramid thirty-feet in height and thirty-two feet in diameter, covered with threshed grain and sheaves from the prize winning crops. Vegetables artistically arranged by the

Vegetable Growers Association adorned the base. Scattered among the grains and vegetables were beautiful globes containing fruit and flowers from the largest orchards and gardens in the province. Two smaller pyramids flank the main exhibit covered with grotesque specimens of freak squash and pumpkin growths. Mirrors artistically arranged added to the beautiful effects. One of the most interesting features of the exhibit was the educational display conducted by the Ontario Agricultural College. Methods of fertilization, irrigation and crop rotation were explained to all inquirers interested in the recently developed scientific side of agriculture. The application of this scientific branch to practical farming operation was well illustrated by a graphic illustration of the material gain in crop yield to be gained by proper underdraining, the advantage of which has so long lacked the full appreciation of the majority of farmers. In a series of bowls, of varying size, were placed quantities of grain proportionate to the average yield of different crops on good undrained land; and another series of bowls showing results on the same land when improved by underdraining, and the net gain in the output of the field which is accomplished by this improvement.

The province of British Columbia had a magnificent display of fruits and other products, together with very fine displays from the western provinces.

### Meagre Honey Exhibit

The management of the Fair is however, open to very severe criticism in its handling of the apicultural and

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poultry exhibits. In the honey department there was but one exhibitor, Mr. George Laing of Milton. There has been bad bungling somewhere. On this point we cannot do better than quote the *Globe* of Sept. 4.

Altogether there were eighteen classes of apiary products for which prizes to the amount of \$341 are offered. As there are ten thousand persons actively engaged in bee-keeping from Pelee Island to Cobalt, it would seem reasonable to expect fairly keen competition. On the contrary there was only one entry in all the apiary classes. The exhibitor is Mr. George Laing of Milton, and as he entered in the entire eighteen he has been awarded eighteen red tickets amounting to \$141. Mr. Laing has a very creditable exhibit, but his display is the only one in the honey corner of the Horticultural Building, and looks most unusual, being practically covered with red tickets and no blues or yellows to be seen.

Talking with Mr. Laing, who has been a faithful exhibitor for twenty-four years, I learned that there are generally but one or two exhibitors entered in the apiary department, although four or five prizes are offered in nearly every class. On only one occasion were there more exhibitors than could be sure of a prize each, and that was a few years ago, when six bee-keepers competed. This year two others entered, Mr. Arthur Laing of Lynn Valley and Mr. D. Anguish of Lambeth, but when the management sent out letters informing them that no honey was to be sold in the Horticultural Building they backed out of the contest. It happened that Mr. George Laing had shipped his stuff before word reached him, so, in view of this fact, the Exhibition has allowed him the right to sell, as in former years. It has meant a good thing for Mr. Laing, for, besides getting all the first prize money he has no competition in disposing of his honey. He has had to procure a number to help him serve out the busy bees' product, so prosperous has business become.

The prizes in the honey classes seem reasonable enough to invite competition. The money for a 300-pounds of comb honey is \$20, \$15, \$10 and \$6; for the same amount in an exhibit of extracted honey, \$18, \$12, \$8, and \$5 are offered; for the most attractive display the prizes are \$15, \$10 and \$5. The money offered

in the other classes is not as much, first prizes ranging from \$4 to \$1.

#### What is the Trouble?

Now what is the trouble? Why did the management withdraw the privilege of selling honey—a practice that has prevailed heretofore? Why was this notice sent out at the eleventh hour? Who or what inspired the management to send out this notice? Nothing was said about the privilege of selling in the prize list, which was published as usual. There is a growing suspicion that a small clique of interested bee-keepers in and around Toronto is responsible. The facts should be brought out and these suspicions removed or confirmed. Or, is it the growing influence of the Toronto dealers, who wish to be "protected" against the slaughter of "cheap" honey in their "home market!" Whatever was the influence, it proved effective in destroying the honey exhibit. Mr. Laing informed us that he had his exhibit all prepared when he received the notice prohibiting selling. This was also the case with Mr. D. Anguish, of Lambeth. But Mr. Laing strenuously fought the issue and won. He is to be congratulated. Here is work for the Ontario Beekeepers' Association and its committee having the matter in charge. Let us have an investigation and place responsibility for this bungle.

#### The Coming Fruit, Flower and Honey Show

Judging from what we can learn the honey exhibit at the coming Horticultural Show in November next will also prove a fiasco. It is proposed that a grant of fifty dollars be given to county exhibits with no prizes offered. Three hundred dollars is set apart for this purpose—covering six counties only.

A grant of five hundred dollars has been made for this purpose. The question is being asked what is to be done with the other two hundred? How is fifty dollars to be divided between the

beekeepers of a exhibit for which offered? Is it got busy and ga the public before other opportunit

The Fair mana have made a n Department this entrance fee of charged, and so w prize list this ye was sent out that be 50 cents per bi a strong protest the exhibitors w startled the mana was rescinded, bu the result that th one thousand bird hibits.

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beekeepers of a county who prepare an exhibit for which no prizes are to be offered? Is it not time our committee got busy and gave some information to the public before it is too late and another opportunity passes.

The Fair management also appears to have made a muddle of the poultry Department this year. Formerly an entrance fee of 25 cents per bird was charged, and so was it announced in the prize list this year. However, a notice was sent out that the entrance fee would be 50 cents per bird. This brought forth a strong protest with the threat that the exhibitors would stay away. This startled the management and the order was rescinded, but alas, too late, with the result that the poultry exhibit was one thousand birds short of former exhibits.

The National Exhibition was originally built up as an agricultural show. That agriculture is taking a second place to manufactures is a fact that is slowly revealing itself. Apart from the exhibits of the provincial governments—which are all that can be desired—individual exhibits of farm produce are declining. This is much to be regretted. This is what the *Globe* says in the same article from which we have already quoted.

It may be surprising to many to learn that the Canadian National Exhibition now in progress in Toronto, which was primarily an agricultural event, is gradually slipping from the farmers of this country, yet an investigation of the facts in connection with the 1912 exhibits of farm stock and products would seem to prove as much. There is such a falling off in the number of entries and the quality of a good deal that is exhibited is far below "Exhibition" standard, that the careful observer is given some food for thought. When a prominent citizen of Toronto was told of this disappointing aspect of the present Exhibition, he at once remarked: "Something's wrong." And he is about right.

If the first exhibition in one of the first agricultural countries of the world is to become largely an industrial exposi-

tion, there is indeed something radically wrong, and it is high time that our farmers realized the fact. On minor points the management of the Exhibition may be at fault, but in the main, it is the farmers who are to blame for the poor showing this year, and the general lack of appreciation that seems evident in the rural communities. It is certainly not the Exhibition's fault that hundreds of dollars in prizes are not awarded this year, for there have been no entries to take the money. This occurs every year at the Toronto Fair, but on no previous occasion has there been so much to go back into the Exhibition treasury. The excuse is made that crops are backward in Ontario and that this is responsible for the few exhibits. According to the last Government bulletin, issued less than two weeks before the opening of the Exhibition, the condition of the crops on the whole is well up to the average of other years.

#### Fewer Exhibits in Nearly Every Class

It was after several hours spent viewing the various exhibits in the agricultural classes that I became convinced that something was wrong. I commented upon it to Mr. Percy Rogers, Treasurer of the Canadian National Exhibition Association, and he pointed to the state of the crops. He was kind enough, however, to allow me access to the Exhibition's entry books. Not aware that it was the custom to have prize money unchallenged, I was surprised and shocked at the number of uncoveted prizes enumerated in the books. The exhibits in nearly every class of live stock are fewer than last year, and the same is true of the various classes of farm products. In very few cases have the judges had any difficulty in making awards, and in a large number the prizes have gone by default. The case of the honey exhibits is perhaps the most astounding.

In the garden and field roots departments the same paucity of exhibits impresses one. For seed onions, tomatoes and celery, for instance, seven prizes ranging from \$10 to \$1 are offered, and in the onion class but three entries appear, in the tomato class the same number and the whole \$34 offered in the celery goes back to the Exhibition. In sugar beets, carrots and mangel wurzels four prizes—\$3, \$2, \$1.50 and \$1—were placed in the judge's keeping. There are altogether ten classes included. Of these there are five where each exhibitor

gets a prize, two where there were more than four entries (4 and 5) and three classes in which some of the money remains in the treasury. Almost the same thing occurs in the potato classes, the prizes given for half-bushel exhibits being as much as \$8, yet the Exhibition keeps a good deal of it. I made notes of the entries in most of the classes, and if space would permit of my producing them here it would be seen that nearly every exhibitor got a prize, and still left some for the Fair.

The Ontario fruit crop report tells of good general crops in apples and most of the small fruits, but in spite of this not a single exhibitor in any of the classes for baskets or boxes of apples, pears, peaches or plums will go home without a ticket of some color, and the Exhibition retains nearly one hundred dollars of the money it intended growers would receive.

The number of cattle shown is considerably below that of last year, for the reason, it is said, that the accommodation provided last year was not the best nor inducive to a second visit. The Exhibition last year was confronted with the problem of housing more cattle than ever before, and tents were resorted to. The \$500 championship prize which drew the entries last year was for that reason withdrawn this time, and as a result the entries fell even lower than the management would have wished.

### THE FIRST QUEEN REARER

BY C. WEYGANDT

Unquestionably Dr. Dzierzon was the first to start rearing a particular race of bees which he thought for his circumstances to be the most advantageous, and which in the course of time, he was able to improve.

For the purpose he kept some of his bees in Karlsmarkt and others in the surrounding neighborhood. But before he commenced to Italianize he acquired a piece of land for the purpose of a mating station, 4 kilometres from Karlsmarkt, where he built a house and established some bees.

This place received the name of "Unter dem Walde."

The old master knew very well that

the immediate vicinity of a secluded wood assisted greatly in keeping the selected race comparatively pure.

In Karlsmarkt, Dzierzon later reared only Italians, while in the neighboring stocks he had German (blacks) and hybrids. He did not keep his Italians pure in Lowkowitz but introduced the German (black) strain.

Personally, I am convinced that with some bees the workers show good Italian color. In the end the great master had developed races which possessed black characters and yet carried only the dress of the Italian.

Neither Kanitz nor I ever objected to the Italian color, but only to the southern character which the freshly imported queens brought into the rough and cold north.

I often received for experiment from Dzierzon, little Italian nuclei which, through further years of selection, really showed improvement and essentially the virtues of the good German race, and in quality of color, some colonies beat the queens just arrived from Italy.—From the *Prak. Weg. fur Bztg.*

### HEAVY LOSSES A FACT

#### To What Extent is the Shallow L. Frame Responsible?

BY SAMUEL SIMMINS

There is no reasoning so false as that which attempts to show that two brood frames of nearly equal dimensions, but of quite different shape, may be of equal value for general purposes.

Some few months back I asked Editor E. R. Root whether he had realized that the Langstroth frame was out of date, and that at least one-fourth of the winter losses among bees on the North American continent, occurred because of the fact that the L. frame was too shallow!

This stirred our friend up, just as my recent articles have done many other friends. Well, let us remain stirred up

until this vital factor is settled. We should occur to us if we are doing it done.

In *Gleanings* Root says "while proved a severe shape of the frame do with it." A how far from the gestion really is.

Ed. Root had losses were not all reports published serious losses in non-protection, prepared to say many have been avoided. constructed frame be

On the shallow with its close spacing the colony does not above the cluster, colonies in partition before the official state of his protected stocks thicker combs stand chance of safety

Neither friend Root the 30 to 55 per cent reported in *Gleanings*

The spring losses following must always be Root's modest 5 per be reckoned as 15 late 30 to 75 per cent run up to 50 to 90 losses could have been deeper, wider-spaced extra cost being a with the loss of profit the wiping out process

Attempts have been the L. frame measured in square inches as therefore must be quit before me one of my



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until this vital question has been satisfactorily settled. It is well for us that we should occasionally get out of the ruts of general routine, and ask ourselves if we are doing the best work that can be done.

In *Gleanings* of May 15th last, Ed. Root says "while this winter may have proved a severe one on bees, *the size or shape of the frame will have nothing to do with it.*" We shall see presently how far from the truth this strange suggestion really is.

Ed. Root had assured me the U. S. losses were not above 5 per cent; but the reports published in *Gleanings* show very serious losses indeed. Notwithstanding non-protection, poor food, etc., I am prepared to say many of these losses would have been avoided had a properly constructed frame been adopted.

On the shallow Langstroth, especially with its close spacing and too thin combs, the colony does not carry enough store above the cluster, so that non-protected colonies in particular die from starvation before the owner realizes the critical state of his bees. The same non-protected stocks on deeper, shorter, thicker combs stand 100 per cent better chance of safety.

Neither friend Root's 5 per cent., nor the 30 to 55 per cent. losses actually reported in *Gleanings* will stop at that. The spring losses following bad wintering must always be counted in; Ed. Root's modest 5 per cent average must be reckoned as 15 per cent, while the late 30 to 75 per cent may possibly have run up to 50 to 90 per cent. These big losses could have been greatly reduced by deeper, wider-spaced frames, the initial extra cost being a mere trifle compared with the loss of profit, without counting the wiping out process.

Attempts have been made to show that the L. frame measures about the same in square inches as my 16x10 frame, and therefore must be quite as good. I have before me one of my 16"x10" frames,

and the L. of Root—Hoffman type so largely used. For comb space we must take the inside measurements, and thickness as regards spacing.

The L—H frame measuring 17"x8" inside gives 136 square inches. The other being 15¼"x9" gives 137¼ square inches, but to this latter, being spaced at least ¼" wider (in my apiary ¼" wider when feeding up for winter) we must add some 8 cubic inches of store all above the cluster, and by the wider spacing (as I advise) double that amount of extra storage. Consequently the deeper frame with heavier stores above the cluster has the better chance of safe wintering. But there is no reason why a new Standard frame should stop at 10" in depth, if it is to meet the requirements of a cold climate in wintering; or the needs of a prolific queen in the early summer; or on the other hand where the peculiar conditions of the tropics, or semi-tropical climates prove that the L. frame is of little practical value.

I have been too busy to continue this subject; but the many losses reported in *Gleanings* of April 1st, since my earlier articles on this subject, go very far to show the necessity of adopting a more suitable frame for general use. Many of those who have had such heavy failures will probably begin to rub the scales from their eyes, and look straight ahead towards the daylight let in through a deeper frame.

Heathfield, Sussex, Eng., Sept, 5, 1912.

Assistant Editor: "Here's a farmer writes to us asking how to treat sick bees."

Editor: "Tell him he'd better treat them with respect."

A genius is usually successful in making almost anything but a living.

It is always safest to keep to yourself the uncomplimentary things you think of other people.



### TEMPER OF BEES AND RACIAL IMMUNITY FROM DISEASE

The very important subject of immunity acquired and inherited is being discussed in the British Bee Journal. A. D. Betts writes as follow:—

Is it not possible that the amiability of town bees noticed by Mr. Smallwood is due to the elimination of the unfit? Anyone keeping a vicious stock in a suburban garden will be liable to complaints—and possibly lawyers' letters—from his neighbours. He will, therefore, probably get rid of the bad-tempered bees or improve their temper by requeening. Consequently, the drones flying in a thickly populated district will for the most part come from docile stocks; so that the tendency in such a neighborhood will be towards the maintenance of a good tempered race of bees. In the country, on the other hand, a bee-keeper who chooses to keep vicious stocks has only himself to consider, as his neighbours are not, as a rule, near enough to suffer.

This process of "natural selection" comes in also in the case of a stock situated near a frequented path. If the bees are of the kind that allow no one to pass unchallenged, they are sooner or later banished in disgrace, as were Mr. Freeman's, B. B. J. page 335, to a remote corner of the garden; only those stocks which are good tempered being allowed to remain in such situations. Moreover, if a stock is close to the house it is liable to be examined more often than those in more distant parts of the garden. Now it will, I think, be admitted that the temper of a stock depends on the proportion of bad-tempered bees in it. If the hive is opened frequently, on each occasion perhaps three or four short-tempered individuals sting the operator or his clothes, and are there eliminated. The one or two stings pass more or less unnoticed, and the stock gets a good name as regards temper. On the

other hand, when a stock is not examined for some time, irascible bees accumulate; on the hive being opened, out they come in a body, and trouble ensues! The individual bee lives for so short a time that one can hardly believe that the quietness of a much-handled stock, or one near a path is due to "habit," particularly as bees seem to be creatures of inherited instinct rather than possessed of surroundings.

While on this subject, is not "natural selection," taken together with chance variations in the directions of resistance to disease, an adequate explanation of racial immunity? To take Mr. Anderson's illustration (page 333), surely the European immunity from measles arises not from the transmission of acquired characters (which, at best, is "not proven"), but from the simple fact that only those strains which vary in the direction of immunity can survive; all others tend to die out, owing to heavy infant mortality.

Thanks are due to Mr. Anderson for raising the question of the destruction of partially immune bees under the Bee Diseases Act. I am a whole-hearted supporter of legislation, but hope that discretion will be exercised in this matter, as the breeding of an immune race of bees seems our only hope, if the conclusions reached by Dr. Graham-Smith and his colleagues in their report are correct.

### THE SEASON'S WEATHER

The following table gives the monthly temperature and rainfall for the five months, March-July, as compared with the corresponding months of 1911, and the average of the thirty years, 1882-1911. The table is made up from information supplied by the Dominion Meteorological Service, carried on at Southampton, Birnam, Woodstock, London, Stoney Creek, Toronto, Lindsay,

September, 1912

Gravenhurst, (formerly Rocke

Month.

March .....
April .....
May .....
June .....
July .....
March to July..
May to July...

March .....
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May to July...

The mean ten months, March to the average for was 5.8° below a June 3.3° below, above. July was

The rainfall for 14.85 inches, or 1 age for the thirty. May was a very inches above the n ble its usual amou with 1.16 inches of

HAY—Adverse co ther in April gave growth of timothy but the fields soon the province over t crop of hay of go standing the wid Timothy is said to better than clover.

from June 22nd t. Some correspondents ing was delayed ow labor. New seeding is said to be very has also done well t crop.

FRUIT.—Fruit trees of some peaches, see serious injury from Several corresponden more attention is n spraying and other r orcharding, and wi

Gravenhurst, Ottawa and Stonecliffe formerly Rockcliffe:)

Month.	Temperature.		
	1912 Deg.	1911 Deg.	1882-1911 Deg.
March .....	21.0	26.2	26.8
April .....	40.5	40.5	41.5
May .....	54.9	59.9	53.7
June .....	60.4	64.1	63.7
July .....	68.5	70.0	67.9
March to July....	49.1	52.1	50.7
May to July.....	61.3	64.7	61.8

Month.	Precipitation.		
	Inch	Inch	Inch
March .....	1.92	2.77	2.29
April .....	2.85	1.93	2.11
May .....	5.54	2.17	2.98
June .....	1.57	2.50	2.73
July .....	2.97	2.19	2.97
March to July....	14.85	11.36	13.08
May to July.....	10.08	6.66	8.68

The mean temperature for the five months, March to July, was 1.6° below the average for thirty years. March was 5.8° below average, April 1.0° and June 3.3° below, while May was 1.2° above. July was only 0.6° above.

The rainfall for the five months was 14.85 inches, or 1.77 inches above average for the thirty-year period 1882-1912. May was a very wet month, being 2.56 inches above the normal, or nearly double its usual amount, but June was low, with 1.16 inches of a deficiency.

HAY—Adverse conditions of the weather in April gave a poor start to the growth of timothy and clover this year, but the fields soon rallied, and taking the province over there has been a fair crop of hay of good quality, notwithstanding the wide range of yield. Timothy is said to have been relatively better than clover. The cutting ranged from June 22nd to the end of July. Some correspondents aver that harvesting was delayed owing to lack of farm labor. New seeding in this year's grain is said to be very promising. Alfalfa has also done well this season as a hay crop.

FRUIT.—Fruit trees, with the exception of some peaches, seem to have escaped serious injury from the severe winter. Several correspondents point out that more attention is now being given to spraying and other modern features of orcharding, and with good results.

There will be a fairly full yield of fall apples, but the better class of winter varieties will be rather scarce. San Jose scale and caterpillars are still complained of, but very little mention is made of scab. Pears will range from poor to fair in yield, and the same may be said of peaches, one correspondent suggestively saying of the latter, "Good where cared for." Plums will be a fair crop, and the yield of cherries upon the whole has been a good one. Grapes, as usual, give promise of a large yield, although considered a little late in growth this season. Small fruits, with the exception of strawberries, which suffered from drouth, have done well.

PASTURES AND LIVE STOCK.—Pastures were very dry in July, but August rains have greatly revived them, and at present they are green and inviting. Live stock are in a good healthy condition, although, perhaps, on the lean side. Cattle are at present in brisk demand, and at good prices. Fodder supplies will not be abundant, but careful feeders will have sufficient in most localities. Much will depend upon how the corn crop turns out, as the silo is more and more getting to be regarded as the key to the feeding situation. Straw is on the short side, although more plentiful than last year. The supply of dairy produce is about normal.

#### LIME DOES DRY A CELLAR

Commenting on an article in *Gleanings*, James M. Munro, of Slate River, Ont., writes in that paper as follows:

In reviewing *Gleanings*, Feb. 15, 1911, p. 110, I take decided objection to the heading of an article by F. L. Huggins, "Lime in the Cellar will not Dry the Air." and what makes it the more misleading is that he uses terms in chemistry to substantiate his position. I have worked in a lime trade for the past 40 years, and I know of no better agent than stone lime (CaO) to absorb moisture unless it be fire.

For those of us who have to winter our bees in a clay cellar in a severely

#### WEATHER

views the monthly bill for the five compared with those of 1911, and in many years, 1882-1911, the Dominion carried on at Woodstock, London, Lindsay,

cold climate I consider lime a most useful article, as it dries the air and does not give off any poisonous gases as some methods of temporary cellar heating do.

#### Other Uses of Lime.

How many know that air slacked lime, dusted into places where it is not convenient to whitewash, is death to mold? How many farmers know that, if they are caught in a shower with a load of hay, a light sprinkle of air-slacked lime will prevent it from turning musty, and that it is a benefit rather than an injury to the stock? How many know that a dusting of air-slacked lime applied to potato tops on a damp morning in the summer will prevent potato blight?

I begin the prevention by dusting with lime as soon as the potatoes are cut. This not only lessens the chance of the seed rotting, but is a cheap fertilizer, and a preventive against grubs. Then when I harvest my potatoes I sprinkle an occasional handful as I empty them directly into the cellar. I haul them directly from the field and have no more handling them, only as required for sale, use, or planting. Before I adopted this plan I used to have to sort the rotten ones out at intervals during the winter. I put the lime treatment to the test in a small way before adopting it wholesale to hundreds of bushels as I do now. Upward of 20 years ago I had some Beauty of Hebron potatoes, and many of us know how susceptible they were to rot. They began to rot, and I put one lot in a box with lime sprinkled in. The others I put in a box without any lime. The unlimed ones rotted so badly that they became a mass of corruption. The lime-treated ones came out dry; and wherever a spot of disease had begun it had dried up.

I consider no farmer's home to be well equipped without a barrel of lime stored in a dry place.

#### A Good Record in a Small Cellar.

A year ago I was so beset with work that I failed to weigh any of the hives. Many of them felt too light. Four were nuclei. So, naturally, I risked it. I piled them in the cellar like so many rows of stovewood. The size of the cellar is 9x11 feet, 6 feet high, raised 16 inches from the floor, so I think you will smile at the crowded aspect 84 colonies would present. The winter, of

course, was very severe, and there was very little snow here. The temperature frequently fell to 40 and even 60 degrees below zero. I began taking cellar notes Jan. 2, which are as follows:

1912.			
Jan.	2,	'12,	Tem. 26° above zero in cellar
"	11,	"	" 28° " " "
"	16,	"	" 33° " " "
"	30,	"	" 36° " " "
Feb.	12,	"	" 34° " " "
"	17,	"	" 44° " " "
"	28,	"	" 37° " " "
March	4,	"	" 36° " " "
"	20,	"	" 39° " " "
"	21,	"	" 41° " " "
"	25,	"	" 42° " " "
April	4,	"	" 44° " " "
"	10,	"	" 48° " " "

On April 12 I set the bees out on their summer stands. The night temperature outside was 21 above zero. The bees gathered the first pollen on April 23 from black-alder bushes.

Now with all this abuse you will wonder how many came out alive. Out of the 84 colonies put in the cellar, 78 came through in good order; and what I am surprised at is the small quantity of stores they consumed. I use the ten-frame Langstroth hive exclusively.

#### BEE VISITING ONLY ONE KIND OF FLOWER

The question has been much discussed amongst bee-keepers at various times as to whether the honey-bee visits more than one kind of bloom on her journeys. The well-known naturalist, J. H. Lovell, in *Popular Science Monthly*, states that all bees, including the honey-bee, show a strong tendency, in collecting both nectar and pollen, to be constant to one species of flower.' This agrees with the experience of most bee-keepers, and is manifestly for the advantage of both insects and flowers. The bee's office, from the point of view of the flower, is as bearer of pollen from individuals of the same species of plants. The general tendency then is for a bee at any particular period to visit but one kind of flower. Mr. Lovell writes in a very entertaining manner of the various instances of monotropism, as this habit is termed, that have come before his notice. For instance, he re-

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lates how, at the oncoming of a storm, he found on almost every one of the violet-blue spikes of the pickerel-weed (*Pontederia cordata*), a species of water hyacinth, which in countless numbers fringed the winding stream on both sides, one to several small bees. They had crept within the bilabiate flowers as far as possible, and were evidently intending to await there the passing of the storm. They were so inactive that no net was required to capture them with, and Mr. Lovell was able to knock them off into his collecting jar. On examination the insect proved to be the pickerel-weed bee, which, every season, when the pickerel-weed is in bloom, is found on its flowers. Mr. Lovell has carefully observed the visitors to many other plants in the locality, but has never found this particular bee anywhere else than on the pickerel-weed. Another instance of monotropism is found in the relationship between a small bee—the water-lily bee—and the yellow water-lily. The flower is securely anchored to the bottom of the stream by a long stem. At first the opening in the bud is no larger than a bee's body and the chamber within offers a dry and snug shelter amid the waves. It may truly be called a "haven of refuge." Directly below the entrance is a broad, many-rayed, crown-shaped stigma, as in the poppy. The petals are thick, wedge-shaped bodies, which are orange-yellow on the outer side, near the top, where they freely secrete nectar. Under a microscope both large and minute drops can readily be seen. The stamens are indefinite in number; and revelling in the pollen, their bodies completely covered, there is a large and lively company of small insects, among which is found the water-lily bee. This bee in Mr. Lovell's neighborhood is never found on any other flower, although elsewhere it is met with on other species of the water-lily family.

Kerner, the eminent botanist believed

the bees gave the preference to certain flowers because they found their odors so highly attractive. But, as Mr. Lovell remarks, "it is incredible that so many bees should be dominated in their flight to such an extent by various floral odors, and, besides, they not infrequently visit several flowers which differ in scent. No doubt, though, bees have their preferences in odors and nectars, and probably they prefer pollen that has a roughened or spined surface to that which is smooth."

A more probable explanation claims that female oligotropic bees have adopted this method of visiting flowers to avoid competition in gathering pollen for brood-rearing. This theory is only partially satisfactory, and certainly is not always applicable, even assuming that such a partition is beneficial or required. The four species of *Andrena*, which in Mr Lovell's locality visit exclusively the willows, do not thus avoid competition, nor do they thus benefit other bees. The willow aments have pollen enough for all comers. In this particular case the habit seems to have arisen because it was advantageous to these bees to restrict their visits to flowers so abundantly supplied with pollen and nectar, combined with their early and short time of flight, which lasts only about a month, and perhaps also to their nesting near these shrubs. Where bees fly only during the latter part of the season it seems very natural for them to restrict their visits to the *Compositae*. These flowers, as in the case of the golden-rods and thistles, are very common, contain ample food supplies and are easy to visit. They are actuated not by the need or desire of avoiding competition, but by the same motives which lead honey-bees to visit the white clover exclusively while it is in bloom.

Two most important influences are the season of the year and the length of time the bee is on the wing. It is clear that bees which fly only in spring

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or autumn for about a month have not a great choice of flowers; and of course we never look for autumnal bees on spring flowers. Usually the length of time an oligotropic bee flies and the flower it visits is in bloom are about the same. The honey-bee is practically a monotropic bee in certain seasons of the year. While the basswood and white clover are in bloom the honey-bee visits these flowers almost exclusively. Again, in the fall, in Maine, it confines its attention solely to the golden-rods. In California, at times, it collects nectar exclusively from the sages; in Michigan from the willow-herb, and in other regions from other plants. If from any one of these plants it also obtained its supply of pollen and was on the wing only while it was in bloom, it would be regarded as a monotropic bee in the strict sense of the word. That it exhibits a strong tendency, when collecting pollen, to be constant to one plant species is well known; and the little packets of pollen it brings into the hive seldom consist of two kinds of pollen. But when a bee flies from spring till fall and requires a large amount of stores, it is evident that it can never become oligotropic. This aspect of the relationship between flowers and bees reminds us of the marvellous and beautiful manner in which living things are created and carry on activities. From the simplest forms to the most complex, from the earliest eras to the present, everything plasticity of life endows the innumerable forms it assumes with endless impossibilities. Dead-set crystallization is not found anywhere in organic nature. Our honey-bee, of which we bee-keepers imagine we know a great deal, is but one of a great family, which exhibits amongst its members, wide and marvellous differences of forms and habits. From the lowest type of solitary bee upwards in the scale are found wonderful instances of the way in which Na-

ture creates. These form the incidents in the true history of life. Such variations in the habits of the bee, as Mr. Lovell points out in his admirable article, are not the results of mere chance. The relationship between the bee and the pickerel-weed represents, in a more lowly way, perhaps, the alliance entered into by races of mankind, in that behind them is a long space of history. The bee-keeper who would learn more about the habits of the honey-bee would do well to seek out some of the secrets locked up in the lives of the humbler relatives of the honey-bee. To such, the writings of naturalists like Mr. Lovell appeal with great force. They lead him into a new world of thought, where he will gain a higher conception of things as they really are.

#### IMPROVEMENT IN BEES

The two following articles, reprinted from the *American Bee Journal* present opposing views on the subject of "Improvement." Dr. Bonney is no slave to orthodoxy, and our readers will notice how in more than one statement he runs counter to the ordinary beliefs held by bee-keepers. For instance he says "We are ignorant as to when the male egg of the bee is fertilized while all knowledge of life tells us it must be." It would be very interesting to read Dr. Bonney's views on this particular question. Dr. Snodgrass himself in one of the last passages of his work on the anatomy of the honey bee expresses doubt as to the accuracy of the Dzierzon theory.

Mr. Sladen appears to have no doubts in the matter of improvement. For some years he has been "improving" his bees by "artificial selection" and he is convinced that he has succeeded in a very large measure. The two articles furnish useful and interesting reading.

BY A. F. BONNEY

Space in a bee journal is too limited to properly discuss so complex a ques-

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#### T IN BEES

articles, reprinted in the *Journal* present subject of "Im- [?]" is no slave [?] readers will notice [?] statement he runs [?] beliefs held by [?] he says "We [?] the male egg of [?] while all knowledge [?] st be." It would [?] read Dr. Bonney's [?] lar question. Dr. [?] me of the last pas- [?] the anatomy of the [?] doubt as to the [?] on theory. [?] to have no doubts [?] cement. For some [?] "proving" his bees [?] and he is con- [?] eceeded in a very [?] wo articles furnish [?] g reading.

BONNEY

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tion as improvement of the honey bee, and I wish to make my position plain; that I do not deny that it is possible, while doubting that it has been, either by lengthening the tongue, altering their shape, decreasing their tendency to attack persons and animals, and what is of vastly more importance, eliminating the swarming instinct and increasing their tendency to store honey. Different persons have at various times claimed these improvements for the bee, just as others have followed the dictum that the cellar is the only place for bees in winter, while at least one prominent bee-keeper in a cold climate has discarded a thousand dollar cellar to winter his bees out of doors. I was laughed at because I never liked a cellar; and now there is a great revival of interest in the chaff or protected hive.

People run after crazes in the bee-world as well as in other callings. In the year, 1096, Peter the Hermit led half a million women and children toward Palestine to wrest the Holy Sepulchre from the infidels; in the two hundred years succeeding a million men perished in the same useless effort. I have only to recall to the mind of the student the Black Tulip craze, the South Sea Bubble engineered by law; the persistent belief in the Divine Right of Kings, and the old belief that slavery was a Divine Institution, to revive memory of an almost endless list of frenzies which have held the minds of people at different times. Now it seems to be "Improvement of Bees," and while, as wife declares, I am prone to try new things, I hesitate to subscribe to this.

Man can argue only from what he knows. He may imagine strange things, but like dreams, all must be founded on knowledge. We know not how the bees and other insects communicate information to their kind, though it seems that they do. Aside from the raw fact, we know nothing

more about parthenogenesis than we did at first. We are ignorant as to when the male egg of the bee is fertilized, while all knowledge of life tells us it must be. It is claimed and denied that the poison of the bee-sting is formic acid, but, in all, about habits, mentality, and a disposition to reason, we must ever go back to what we know about man for argument. Man is the only *intelligently* industrious animal on earth, but there are those who claim that the habit of industry can be developed in the bee.

I believe from present knowledge, that *management* has more to do with surplus honey crops than the breed or color of bees, and a very pertinent illustration of this is a small book issued by Mr. Doolittle a couple of years ago, in which he details how he got 114 pounds of honey to the hive when his neighbours got none. If my memory serves me, there was not a word in the book as to the *kinds of bees used*. It was all *management*. A letter from Mr. Darbishire, author of "Heredity and the Mendelian Discovery," confesses ignorance of the subject, but promises to let me know if he finds out anything.

What have we accomplished toward a *permanent improvement* of this insect in the past 50 years? A few men, and some professional queen-rearers claim much, but I defer vastly to the opinion of the professional bee-keepers; and few, if any of them, seem to be satisfied that anything has been done. They all seem to hope for results by and by.

Mr. Wesley Foster, in a recent letter to me used the term, "Hand-picked drones." I think the term original with him, and it expresses the vast difficulty of trying to breed bees.

While we always have had the bee just as it is now, and especially that branch known as the *Apis* family, we can trace the development of some of

the domesticated animals through the ages, as the horse, for we find the bones of the original *Equus* fossilized in the rocks. The horse has developed from a little 3-toed (?) animal about 18 inches high to what we have now, but the knowledge of man goes not back to the time when the bee was different from what it is now, excepting that we have yellow Italians. Enthusiastic breeders of goldens make great claims for them, but the verdict of the bee-keeping world seems to be against them as honey-gatherers and for hardiness.

Before the Langstroth hive was invented there was but little talk of improving the bee, and I suspect that once more *effect* is being taken for *cause*, and the *management* as a factor in securing a crop is ignored in an effort to prove a claim. I know from persistent observation that a colony which gives a large surplus this season may in subsequent seasons prove to be of little value, and I have letters from old bee-keepers who tell me they have observed the same thing. What does it mean?

When I took up the study of Mendelism I hoped to be able to solve some of the problems pertaining to the bee, notably its improvement by selection and breeding, but the student will be disappointed with me, for the Mendelian law cannot be applied to the parthenogenetic insects. Could we "hand pick" our drones we might do something *if* we could know what the queen was, that we were about to mate; but unfortunately for us, we cannot hand-pick our drones before mating, or know whether the queen is going to be worth a politician's promise. Her mother was a fine queen. Hum! Owners of trotting mares and stallions would give a pretty price if they could know when they bred them that the progeny would trot in swift time.

We seem to be able to keep up family

markings in the bee-family, but as long as bee-men will find colonies of "scrubs," which produce enormous crops of honey, so long will bee-keepers doubt that there is much in "breed."

One of the most prominent bee-keepers in the United States says: "It is *almost impossible* for a queen rearer to duplicate the characteristics of his breeding queen. The fact that Nature has designed that there shall be promiscuous mating among the drones explains how sports, showing 'extra yellow' or 'long tongues,' revert back to normal type in spite of us." In other words, we may, and can, and do perpetuate sports in the *domestic* animals, producing plain, barred and spotted chickens; race, general purpose or draft horses, milch or meat cattle, and so on down a long list of *domestic* animals; but we may not, cannot, and do not perpetuate the rare sports in the family *Apis*, because bees are wild by nature. It does not matter a whit how much we may believe that a non-swarming strain is possible, for belief is not evidence, and some prominent bee-keepers frequently acknowledge unintentionally I suppose, that we have made but little progress in improving the bee.

Dr. Miller says, in reply to an enquiry (see page 117 of the American Bee Journal for April, 1911): "The trouble is, that if you get a queen of that kind you are not at all sure that her royal progeny will be like her."

J. L. Byer says, page 187 of the American Bee Journal for June, 1910: ". . . . and if I were asked what is the 'best bee,' I should certainly say the first cross of Italian queens with Carniolan drones. Unfortunately the next crosses are not nearly so uniform in good points as the first cross."

Why?

I am inclined to the opinion that in the hands of such men as Townsend,

Doolittle, Byer and others, and hives hatched with honey selection. A colony to swarm does a colony lack "ready" for what was the which made me last (1911) of surplus the year before ter season, and old, I got prac from what I have conversations with who keep bees a similar exper

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prominent bee-States says: "It is a queen rearer characteristics of his fact that Nature here shall be promoting the drones showing 'extra bees,' revert back to the site of us." In and can, and do the domestic animal barred and spotted for general purpose or meat cattle, and of domestic animals, cannot, and do bees are wild by matter a whit how we that a non-sensible, for belief some prominent by acknowledge use, that we have less in improving

reply to an editor of the American Bee Journal, 1911): "The queen get a queen of all sure that she be like her." Page 187 of the issue for June, 1910: asked what is the reason, certainly say the in queens with unfortunately the early so uniform first cross."

opinion that in as Townsend.

Doolittle, Byer, Cook, Miller (not Dr.) and others, *management* of the bees and hives has about as much to do with honey results as has breeding or selection. A colony of bees preparing to swarm does not store much honey; a colony lacking ever so little of being "ready" for harvest will not give what was the psychological something which made one of my colonies give me last (1911) season about 100 pounds of surplus comb and extracted, while the year before, which was a vastly better season, and the queen but 2 years old, I got practically nothing. I think from what I have read and from conversations with bee-keepers, that all who keep bees have at some time had a similar experience.

I do not care to be rated an obstructionist. I am a firm believer in evolution, while many who write about selection and breeding, "throw a fit" when Darwinism is mentioned. I think the survival of the fittest (and the *fittest* among bees) an explanation of existing types.

It has been evident to me from the start of this discussion that some do not understand the fact that a "sport," which is our main hope of improving the bee, is not so designated on account of *actions*, but shape and color, the tint of hair or shape of body. The Century Dictionary says: "Sports are chiefly observed among domestic and cultivated plants." The reason is plain. Most of these are the result of centuries of breeding from structural oddities, and are always trying to revert to original forms. Wild animals and plants almost always remain true to ancestral types. The bee is not a domestic animal, and never will be. At best, "domestication" is but a relative term.

We want something more than an occasional colony which will give a large surplus. We want a strain of bees which will breed true to the type

of *industry*. Color is unimportant. We want to be just as sure, when we breed, that we shall get a certain kind of bee as is the owner of the mule-footed hog that he will get pigs with an undivided hoof; the chicken fancier that he will have black, white or striped fowls. Bee-breeders come pretty close to this condition of color, as in the golden, but the verdict of the bee-keeping world is against them, whatever the future has in store for this strain. I insist again that *industry* is not a transmittable attribute and once more assert that a man is the only intelligently industrious animal alive. He is the only animal that knowingly lays up more stores than sufficient for immediate or future need. The bee does not *know* enough to do this. The more specialized an animal is, the less it reasons. The bee is the most highly specialized animal alive today. This I believe, cannot be gainsaid. If a colony of bees gets a hive filled with honey late in the season, it is still apt to swarm or die of starvation.

To those who have been abusing me for some of my rank ideas I refer to Mr. Siebert's remarks in *Gleanings in Bee Culture*, page 402:

"I do not know of any work in all apiculture that pays so well as weeding out poor stock," and, in my own humble opinion, we have there all that has been gained from studying the bee for half a century. The movable-frame hive was a great step—in getting honey—while the few good methods of controlling swarming and *hard work* do the rest. None of these things have changed the honey-bee, however, for "the bee is wild by nature."

To shift the burden from my own shoulders to those of a man of some importance, I will close by quoting what Prof. Cockrill says: "The honey-bee is the last word in all bee-life, and has become so firmly established in her position that little change has taken

place in her characteristics in three or four million years."

Buck Grove, Iowa.

BY F. W. L. SLADEN

Allow me to express dissent from the opinion quoted on page 134 of the *American Bee Journal*, that the honey-bee, being a highly specialized animal, its improvement is doubtful.

Improvement depends upon two conditions, variation and selection. As far as it has been possible to ascertain, variation occurs in every known animal and plant. The fact that one colony of bees produces more honey than another under identical conditions, shows that the variation occurs in the very character we most wish to improve. Where man has been able to breed an animal or plant by selection, he has always succeeded in making some improvement. The reason why so little progress has been made in the improvement of honey-bees is the difficulty of controlling the fathers.

This difficulty, as Dr. Bonney suggests, may be overcome by isolation, *i. e.*, by mating at a spot where there are no other bees within a radius of 6 or 7 miles, but this is not possible in settled districts; moreover, it is in these that we want to test the honey-producing qualities of our breeding-stock.

In a limited way the difficulty has been overcome by a process of color selection and restricted mating in Ripple Court Apiary, near Dover, England, where a new breed, called "British Golden," has been developed, and has now reached its ninth generation. Briefly, the process is as follows:

The native bee of Britain is black. It is true Italians are introduced now and then, but they are soon absorbed by the native bee, and bees showing pronounced yellow stripes are rare. In 1901 to 1903 a cross between America's goldens and English blacks was made, and by breeding from the yellower of

the hybrids that appeared to be particularly good honey-gatherers, a new golden bee was produced. Year after year, the golden bee is bred in its purity, and improvement is effected by allowing only the best colonies (4 to 6 out of 40 or 50) to produce queens and drones. As only black bees are kept by neighbouring bee-keepers, it is easy to distinguish the mated queens by their worker offspring, which are intermediate colored (*i. e.*, resembling 3-banded Italians.)

The work is aided by the fact that no bees are kept within half a mile of Ripple Court Apiary, and also by the following interesting condition: The apiary is situated in a cool and wind-swept spot in the southeast corner of England, only 2 miles from the sea, and the queens are often compelled through stress of weather to mate near home. Careful analyses (fully reported in the *British Bee Journal* of Dec. 9, 1909) were made of the coloration of the workers resulting from almost all the matings that took place during the two seasons 1908 and 1909, and it was found that those that took place in low temperature and wind (62 to 64 degrees in still weather and 64 to 68 degrees with wind) included a much larger proportion of goldens than those that took place under more favorable conditions (about or over 70 degrees). Another important factor in getting pure matings was found to be lateness in the season. The proportion of all goldens from matings in August was large, and in September, still larger. (Of course, drones of selected parentage were bred late in great numbers, and kept alive as long as possible in strong colonies containing unmated queens, and constantly fed.) Mating extra early in the season was of no advantage. On the contrary, it was found that in the early part, as well as in the height of the season, the matings that took place in perfect weather nearly

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BY R. B.

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always produced hybrids. The value of having an abundance of flying drones (and also many flying queens to attract them) was well demonstrated.

British goldens have improved since the breeding was started. They are certainly more industrious and hardy. I believe that the artificial selection has been aided by natural selection. The testing for honey-production, and the mating flights of the queens (queens are sometimes lost) under the vigorous weather conditions of the district seem to have conducted to the development of hardiness.

British goldens differ from American goldens in being more mobile when smoked, and easier shaken off the combs, qualities in which English blacks differ from Italians.

The breed has proved especially valuable for crossing with the English black bee. Colonies headed by British golden queens mated by black drones are more vigorous, build up faster and earlier in the spring, and produce larger yields of honey than ordinary black bees. The workers are considerably larger than pure British goldens and slightly larger than blacks. To some extent these desirable results are attributive to crossing *per se*. I believe that the value of a new breed lies chiefly in the merits it shows when crossed with the local bee, because it is not practicable for the honey-producer to keep any pure variety except the local one, unless he buys all his queens.

#### FOUNDATION DRAWN BELOW THE BROOD-NEST

BY R. BEUHNE

Bees do not store honey below brood as a rule. During this past season I had the exception to the rule. The percentage of swarming was higher than usual, owing to the descendants

of the queens imported from Italy having reached their third year, and the conditions for building up being exceptionally favorable. The swarms were very large and it was necessary to put an empty hive body below the set of frames on which the swarms were hived, to provide sufficient space during the warm weather prevailing at the time. As honey from the red box, eucalypt and pollen from cape weed were coming in very fast, the swarms built and filled one set of combs from starters completely in a week. Now, for many years I have not allowed the bees to build combs from starters, but as the conditions for comb-building were ideal, there was a good chance for an experiment to see what percentage of perfect worker combs would result.

Incidentally I may here mention that I find bees are more contented if allowed to hang in a cluster for a few days after being hived, instead of being divided by the intervening full sheets of foundation. Some swarms which I hived on full sheets or on drawn combs actually built combs for a few days from the bottom bars of the frames down into the empty hive body below before they commenced drawing the foundation or storing in the drawn combs. To return to the swarms on starters; with the favorable conditions present I had allowed for a fortnight for the building of the combs down to the bottom bar, when I intended to put the brood-nest down and a body with frames of full sheets on top. Being away from home a good deal, I did not look at them in the interval, and was surprised when I did examine them to find in several cases the empty body below the frames more than half filled with comb containing mostly honey, but also eggs. After cutting off and removing the comb I filled the lower box with frames of full sheets of foundation, and also followed the same plan



when hiving some more swarms which came off.

I felt somewhat doubtful as to the probable result, but found at the next examination that in every instance the foundation below the brood had been drawn into beautiful straight combs, excepting that they tapered off from top to bottom and were not fastened to the bottom bar. I next put the brood chamber down, the lower body on top, and a super of drawn combs as a third storey, the object being to get the combs from foundation fastened down and the brood-nest established in them, with the view of eliminating any combs containing drone cells by again reversing the position of the lower and centre bodies later on, and inserting a queen-excluder between them.

As to the number of all worker combs obtained from starters, I had on the average eight out of every ten. Where a young queen was introduced at the time of hiving almost no drone comb was built.

Now I do not advocate this as a good plan, but mention it to show what is a good method one season is not necessarily so in another. I have on a previous occasion hived several swarms on starters and found three weeks later no combs had been built, and there was no brood, while others hived on drawn combs at the same time had established a fair brood-nest in them.

For the average season I find the best plan is to hive swarms on clear drawn combs with an empty body underneath, in which they can hang in a cluster. They may build a little comb on the bottom bars of the frames, but this they will soon neglect. In a week or so I put a set of full sheets on top and withdraw the empty box from below. It is natural for bees to hang in a cluster for some days after swarming, and when given this opportunity they are less inclined to turn

out—that is to say, swarm again within a few days, as they do some seasons. Of late years, however, I have had so few swarms that I am not quite sure that it may not be due to a general inclination to less swarming.

The honey flow from red box was very heavy while it lasted at my out-apiary; the average per colony was 40 pounds.—*Australasian Bee-keeper.*

### WEATHER REPORTS FROM THE PROVINCES

Issued by the Minister of Trade and Commerce

**MARITIME PROVINCES**—In Prince Edward Island heavy rains during the latter part of July interfered with the gathering of hay, much of which has been badly spoilt. The crop too was short owing to the effects of last summer's drouth. The condition of the grain crops continues to be very favorable. In Nova Scotia a long drouth in June and July retarded growth. Heavy rains which followed interfered with the hay harvest, but greatly improved other crops. The hay harvest in New Brunswick is abundant but very late, only a small proportion having been cut at the end of July.

**QUEBEC**—In this province the crops have never recovered from the ill effects of the cold and wet spring; they were put in late and a long period of drouth followed the excessive rains of May and June. On the whole, therefore, the crop prospect in the province of Quebec at the end of July was distinctly unfavorable, though in some places much needed rains were, though late, beginning to effect a slight improvement. A correspondent near Quebec city writes: "At the present time one may state that the harvest in general in the district of Quebec will be the poorest for 25 years." Our correspondent at Mont Carmel, Kamouraska, writes, "A quarter of grain did not come up owing to drowning out.

only the Marq for it is in pe recommend t farmers in the Quebec."

**ONTARIO**—Co throughout this it is difficult t isations. One the effects of wet spring con harvesting of later than usu wheat is poor; ceptions. This in southwestern peninsula, where ly report losse through winter generally good, ports of good ha as to quantity ; pondent at Gleng states that noxiou mustard, quackgr ting very numero and he wonders could be taken t careful to preven correspondent, in marks as a pleas pearance of the 1 that some attribu a parasitic insect correspondent at land, states that Maedonald College judges for the int petition for Onta they had recently portion of the two tiacular attention to crops. They estim and corn at about crop, potatoes and and mangolds at a t noted also that t crops varied very calities it was excell

**NORTHWEST PROV**

only the Marquis wheat resisted the wet, for it is in perfect condition. I strongly recommend this variety of wheat to farmers in the east of the province of Quebec."

ONTARIO—Conditions vary so greatly throughout this province this season that it is difficult to make any true generalisations. One may state however that the effects of the abnormally cold and wet spring continue to be felt and that harvesting of the grain crops will be later than usual. As a rule the fall wheat is poor; yet there are notable exceptions. This crop is decidedly worst in southwestern Ontario and the Essex peninsula, where correspondents frequently report losses of 50 p.c. and over through winter killing. Root crops are generally good, and there are many reports of good hay and clover crops both as to quantity and quality. A correspondent at Glengarry, in eastern Ontario states that noxious weeds such as ox-daisy mustard, quackgrass and thistles are getting very numerous in the neighbourhood, and he wonders whether strict means could be taken to make farmers more careful to prevent such weeds. Another correspondent, in North Wentworth, remarks as a pleasing feature the disappearance of the potato bug, and states that some attribute this to the work of a parasitic insect. Mr. E. Terrill, our correspondent at Wooler, Northumberland, states that Prof. Barton of the Macdonald College and himself acted as judges for the interprovincial farm competition for Ontario and Quebec, and they had recently toured over a large portion of the two provinces paying particular attention to the condition of the crops. They estimated the grain, hay and corn at about two-thirds of a full crop, potatoes and turnips at a full crop and mangolds at a two-thirds crop. They noted also that the condition of the crops varied very much, as in some localities it was excellent, in others poor.

NORTHWEST PROVINCES—In Manitoba

crops are late owing to the dry, hot weather of June; but abundance of rain fell in July, and with favourable weather there may yet be full crops. Unless the autumn is rather later than usual wheat and barley may suffer from frost. Hail has done damage in some districts. In Saskatchewan drouth in June caused the crops to be later than usual, but an abundant rainfall in July has improved the condition wonderfully. If the wet weather continues however it is feared that the grain will not ripen before the frost comes. In some places the wild hay in the sloughs is flooded. In many districts gophers have done much damage. In Alberta the drouth of June made crops late. The moist, cool weather in July has improved conditions, though it has delayed breaking and summer fallowing. From all quarters come complaints of gophers.

BRITISH COLUMBIA—Rain damaged hay and alfalfa somewhat, but improved the pastures. Everything promises a full crop. Fruit prospects are favourable.

## A FEW PRACTICAL POINTERS

### The Use of Queen Excluders

O. B. METCALFE

It is advisable to use queen excluders in producing extracted honey in New Mexico or any similar locality. While visiting California State Bee-keepers' Association meeting in Los Angeles, I noted that every up-to-date bee-keeper in the state used the queen excluder in connection with the production of extracted honey. They may even be a disadvantage to a slipshod bee-keeper, but the busy man who is making things move and who has to count on each of his men to jerk off a couple of thousand pounds of honey per hour, is the one who cannot get along without the queen excluder in the production of extracted honey. If you live in a locality where the queen goes on what I call "an egg-

September, 1912

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## NEWS FROM THE WEST

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laying rampage" in the spring, as she does in New Mexico, take off your queen excluders until about the time your comb honey producing neighbour is through with the swarming season, and then put back your excluders and work in comfort the rest of the season. With profit, too, for those excluders will save you many a fine queen before the end of the season, if you are the kind that goes out in the bee yard to take off honey and not to mince around.

#### How Far Will Bees Fly?

How far bees will fly and store honey to a profit depends on two things. *First*, the plant they are to get it from; *second*, as to whether or not intervening plants have led the bees to the field. I have seen bees working on mesquite where the nearest bushes were a mile and a half and the bulk of the yard seemed to be going about two miles, with the result that scales under an average hive showed nine pounds gain. They will make a good gain off from a good field of alfalfa a mile distant, and I would count on a good deal of surplus from one and one-half miles. Two years ago one of my neighbours had a yard two miles from the only orchard that was sprayed, and the bees carried enough arsenate of lead from the fruit bloom at that distance to kill some of the colonies outright.

#### The Handling of Baits

Unfinished sections can be disposed of best as baits the following year. Never dispose of the unfinished section unless you are sure that you have all the baits you need for the next season. Uncap and extract them and then put them away as carefully as your mother used to store her preserves. They mean even more to you. If you are like me and do not know where to buy a knife to uncap them, take one of the iron or steel straps that come around sheet iron roofing, and nail two pieces of half-inch board "straddle" of it for a distance of about six inches to form a handle; then bend

an offset in about like that in a Birmingham uncaping knife and cut it off so as to leave a blade about the right length to go down to the sections. Sharpen the blade and with two knives of this pattern heated in a small pot of boiling water you can uncap these sections well and quickly. Begin your cut at the middle of the section and cut to one side, then skip back to the middle and uncap the other half. If you do not have baskets to contain these sections in the extractor baskets, take a piece of half-inch board the size that two sections will just stand on and leave it sticking out slightly at each end; through these ends bore small holes and in these holes tie the two ends of a hay wire so that the loop will be just large enough to take eight sections standing on top of each other in pairs. Take the hay wire in one hand and let the half-inch slat or bottom piece into the basket of the extractor; set two sections on it and let down in the basket far enough to take two more sections, and so on until you have eight, or one extractor basket full. When they are extracted, catch hold of the wire and lift them all out at once. By pressing down on the top sections with the thumb you can swing the eight sections around over your head if you like, or you can instantly drop them out of the wire basket. This little contrivance can be made in less time than it takes to tell it, and it is no "dinky" little thing to fool away time with but a thing that a busy man can save time with in extracting thousands of bait sections.

#### Fastening Foundation in Shallow Frames

Fasten foundation in shallow extractor frames where the grooves are filled with wax by scraping the frame first with a knife and then standing the frame on its top bar; take a hardwood stick with an offset in it, which will allow the end of the stick to come to the middle of the top bar, when the offset is slid along the edge of the top bar. Take this stick

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edge just past the middle of the bar.  
Wet the hardwood stick and slide it along  
on top of the foundation, bearing down  
on it hard enough to fasten the founda-  
tion. You will get it done so much fas-  
ter than you did the first time with the  
grooves, and so much better, that you  
will wonder what those same grooves  
were made of. I got the idea from Mr.  
W. H. Laws, of Beeville, Texas.

Mesilla Park, New Mexico.

### WINTER CASES FOR ONE OR FOUR HIVES

#### The France Quadruple Hive for Wintering

BY FRANK F. FRANCE

Here in the North, where we have cold  
piercing winds, lots of snow and atmos-  
pheric changes, we must find some way to  
protect our single-walled hives. Nearly  
every winter we have from five to eight  
weeks of cold weather before the bees  
a chance to have a small flight—some of  
time when it is thirty to forty below  
zero. If a colony in a single-walled hive  
is left exposed to all these changes it  
is almost sure to perish.

Our single cases have two inches of  
space around the sides, and about a foot  
of space above the hive, all of which is  
packed either with leaves or fine straw.  
Over the top of the hive is placed a cap  
having about an inch space underneath,  
so that the bees can secure honey in out-  
side combs with ease. In putting this  
together, notice that the sides are held to-  
gether by pins at each corner. The en-  
trance is provided with an entrance-block  
and storm-door to keep out the driving  
snows and winds. Over all is placed a  
large cover to keep both packing and hive  
perfectly dry. This I find to be a very  
practical and successful winter case for  
single-walled hives.

The larger hives hold four colonies  
each, with an entrance at each corner.  
This hive is used throughout the year, as  
it is double-walled and packed with chaff.  
It is divided into four equal parts, each  
colony by itself, and can have supers and  
standard Langstroth frames according  
to the requirements of the individual  
colonies. Over the honey-boards of all  
the colonies there is room for six to ten  
inches of leaves or fine straw, and a large  
cover-roof is placed on top.

As long as we need our extra-heavy  
clothing or overcoats in the spring the  
hives also need "overcoats." A heavy  
building paper or thick manilla paraffined  
paper of a light color is best to use in  
wrapping the hives that were wintered  
in a cellar. The paper should be folded  
so as to cover the entire hive except the  
entrance, so that no drafts can get in. If  
tied with a string instead of tacking on,  
it can be used over and over every spring.  
Black building paper should not be used,  
as many times on a cold day, even when  
the sun does shine, this paper will absorb  
heat and cause the bees to take a little  
flight, and of course, be chilled to death.

Many times in the spring when the  
temperature is up to forty or more the  
bees come out and have a fine fly, and at  
the same time there may be considerable  
snow on the ground. Here is where I  
notice that many bees perish; for if they  
alight on the snow they become chilled so  
they cannot reach the hive again. I use  
a fine remedy for this; and that is,  
simply to scatter straw in front and  
around the hives on the snow, so that,  
if they should alight on the straw, they  
would not be chilled, but can rest and  
return to the hive.

If colonies have good young queens in  
the fall, and with more honey than  
enough to winter on, and are well pro-  
tected with winter cases, there will be  
earlier brood-rearing and stronger col-  
onies in time for the honey-flow the fol-  
lowing season.

Platteville, Wis.







## NOTES AND COMMENTS

returns and information as the Board requires.

5.—(1.) An inspector of the Board or of the local authority may at any time, accompanied as he thinks fit by an expert advisor, enter any building or place wherein he has reasonable ground for supposing that there are or have recently been bees affected by any pest or disease, or that any order under this Act has not been or is not being complied with, and to examine any bees on such premises and anything thereon used for or in connection with bees.

Provided that the powers of an inspector of a local authority shall not extend outside the district of the local authority.

(2.) If any person without lawful authority or excuse (proof thereof shall lie on him) refuses to any inspector or other officer acting in the execution of this Act or of an order under this Act admission to any building or place which the inspector or officer is entitled to enter and examine, or obstructs or impedes him in so entering or examining, or otherwise in any respect obstructs or impedes an inspector or other officer in the execution of his duty, or assists in any such obstructing or impeding, he shall be guilty of an offence against this Act and shall be liable on summary conviction to a fine not exceeding ten pounds.

6. This Act shall apply to Scotland in like manner as it applies to England and Wales, subject however, to this modification, namely, that the powers conferred on the Board of Agriculture and Fisheries shall in Scotland be exercisable by the Board of Agriculture for Scotland, and that for the purposes of sub-section (2) of section three of this Act the Board of Agriculture for Scotland shall have the like powers as are conferred on the Board of Agriculture and Fisheries by section thirty-four of the Diseases of Animals Act, 1894, with respect to orders under that Act.

7. This Act may be cited as the Bee Disease Act, 1912.

The *Corriere della Sera* writes:—A carrier was bringing a load of bees to market in Canelli d' Asti, between Turin and Alessandria. When he was nearing the village of Cassinasco, one of the boxes fell and broke, letting out a quantity of furious bees which fell upon the horse, badly stinging the poor beast.

The driver covered himself with a sack but as he was so badly stung on the hands and face he resorted to flight.

The horse next ran away and reached the town of Canelli where, to complete the mischief already done, the wagon overturned letting loose the rest of the bees in consequence.

Hordes of furious bees attacked everything and everybody; hasty flight, cries of pain and of "*Api furiose*" (angry bees) spread through the whole place. Not till after dark was there comparative peace and only under great difficulty were the ruins and the rest of their contents collected.

The poor animal in the meantime had been mercifully put an end to but the inhabitants of Canelli, for many days bore the marks of the fray.

\* \* \*

On 15th July a ten-year old boy, Hans Stahl, discovered a swarm on the trunk of a tree near the Caprivi Bridge, Charlottenburg, Berlin. With a crowd of others, armed with sticks, he tried to drive them away, when suddenly all present were attacked by the swarm. The little Stahl suffered most and was nearly overed with bees, and trying to get away from them, and frantic with pain, he dashed into the Spree, where he was drowned.

\* \* \*

We had recently the pleasure of meeting Mr. Wylie, Agricultural Editor of the *Globe* at Mr. John Clark's, Cainsville. Mr. Wylie is travelling the province, visiting the "small farmer" and

collecting all available opinion on the subject of agricultural shows. Mr. Wylie is an ardent advocate of the claims of the small man. In a "Globe" article, portions of which are reprinted elsewhere in this issue, he draws the notice of the public to the manner in which the average agriculturalist has been driven out of the Exhibition arena by methods that are little short of scandalous. If there is one thing more than another of which Ontario has reason to be proud, it is her system of small, well-tilled and prosperous farms. The proprietors of these homesteads are the very backbone of our community, in whose well-being resides that of the remainder of the people. Yet in our "National Exhibition," the claims of those men have been almost completely ignored. Why?

As regards the beekeeping industry, which is essentially one for the small man, we have long felt that our methods in exhibition matters are entirely wrong, and have already expressed our views on the subject in these columns. We trust that those responsible will endeavor to find out for themselves the remedy.

\* \* \*

#### MR. SLADEN'S FAREWELL LECTURE IN LONDON, ENGLAND.

We learn from the *British Bee Journal* that Mr. Sladen is announced to deliver the first of the series of lectures to be given by eminent specialists before the British Bee-keepers' Association in London during the coming fall and winter seasons.

The occasion will prove an interesting one to bee-keepers in the Old Country, as the lecturer is leaving for Canada two days after the date of the lecture, viz., 12th September, to take up his duties as Assistant in Apiculture to the Dominion Entomologist at Ottawa, and no doubt our British brethren will be present in large numbers to hear one of the most talented apiarists the Old Country has ever produced, and to bid

him god-speed. The subject of Mr. Sladen's lecture, viz., "Mendelian Methods Applied to Apiculture," is one that possesses very great interest for the modern, progressive bee-keeper, and is one that he has studied more thoroughly, perhaps, than any other practical bee-keeper, and having applied the much-discussed Mendelian principles in his own successful queen-rearing business for some years, no one is better qualified to deal with it than our new Assistant Apiculturist.

We hope to reproduce in our next issue the subject matter of Mr. Sladen's lecture.

#### CROP BULLETIN

OTTAWA, September 14.—A bulletin issued to-day by the Census and Statistics Office of the Department of Trade and Commerce reports the condition of crops and live stock at the end of August and gives preliminary estimates of the yield of spring wheat, rye, oats barley and flaxseed as compiled from the reports of correspondents upon the appearance of these crops.

The cold, wet weather which prevailed throughout Canada during August delayed ripening and the harvest is everywhere later than usual; but no serious frosts have as yet been reported. All crops show an improvement since the end of July, excepting peas, beans and corn. The average condition of spring wheat is 84.57 p.c. of the standard or full crop, which is represented by 100; rye is 84.14, barley 87.29, oats 88.15, mixed grains 86.57 and flax 87.84. These figures are higher than those of a month ago by about 1 p.c. for wheat, rye and flax, 4 or 5 p.c. for barley, mixed grains and buckwheat and 7 p.c. for oats. On the whole they compare not unfavorably with the figures at the corresponding date of last year, oats, barley, rye, buckwheat and mixed grains being in fact higher, while spring wheat is about two points lower. Peas are 74 against 76

last month a 76.71 against last year. Corn for fodder 76.73.19 last month 86.55 for last year show an increase in figures ranging from beets to 92.10 pasture.

From the reports of the correspondents it is estimated that the areas sown in wheat, 2.3 p.c. more than last year, 3.8 p.c. flax and 3.8 p.c. such as hail, flax and other crops are unproductive, a preliminary estimate based upon the reports of the correspondents. On spring wheat the yield per acre for Canada is 21.08 bushels compared with 21.08 bushels in 1911. The area of 8,977,400 acres yielded a total of 8,977,400 bushels. This is a preliminary estimate of 16,700 bushels per acre compared with the 20.63 bushels per acre in 1911 was 20.63 bushels per acre.

The rye estimate for 1912 is 148,700 acres, yielding 21.09 bushels compared with 142,500 bushels from 1911, a yield per acre of 18.94 bushels.

Barley with a yield of 18.94 bushels, gives a total yield of 1,415,200 bushels, the relative increase being 28.94 bushels per acre. Oats yields 40.90 bushels compared with 37.70 bushels in 1911, giving a total yield of 348,187,600 bushels from 1911.

Flaxseed upon a yield of 1,677,800

last month and '72 last year; beans are 76.71 against 79.27 last month and 80.92 last year. Corn for husking is 69.66 and for fodder 76, compared with 70.37 and 73.19 last month and with 81.46 and 86.55 for last year. Root crops and pasture show an excellent condition, the figures ranging from 86.64 for sugar beets to 92.10 for potatoes and 91.79 for pasture.

From the reports furnished by correspondents it is calculated that of the areas sown in Canada 3 p.c. spring wheat, 2.3 p.c. oats, 2.1 p.c. barley and 3.8 p.c. flax will from various causes such as hail, flood, pests, etc., be entirely unproductive, and the following preliminary estimates of yield are therefore based upon the areas to be harvested. On spring wheat the average yield per acre for Canada is provisionally placed at 21.08 bushels which upon a harvested area of 8,977,400 acres makes the total yield of spring wheat to be 189,256,000 bushels. This quantity added to the estimate of 16,773,300 bushels of fall wheat published last month gives the wheat total as 206,029,300 bushels compared with the final estimate for 1911 of 215,851,000 bushels. The yield per acre in 1911 was 22.19 bushels for fall and 20.63 bushels for spring wheat.

The rye estimate is 3,136,000 bushels for 148,700 acres, a yield per acre of 21.09 bushels compared with 2,694,400 bushels from 142,571 acres last year, a yield per acre of 18.89 bushels.

Barley with a yield per acre of 32.86 bushels, gives a total yield of 46,697,000 bushels from the harvested acreage of 1,415,200, the relative yield last year being 28.94 bushels per acre.

Oats yields 40.90 bushels per acre, as compared with 37.76 bushels last year, giving a total yield of 376,943,000 bushels upon a harvested area of 9,216,900 acres, the final figures of 1911 being 348,187,600 bushels from 9,219,920 acres.

Flaxseed upon a greatly increased acreage of 1,677,800 acres (allowing for

deduction of non-productive areas) is expected to yield 23,145,000 bushels, or at the rate of 13.74 bushels per acre, figures which compare with a total of 7,867,000 bushels from a productive area of only 682,622 acres last year when, it will be recalled, so large a proportion of the area sown in the Northwest provinces was not harvested in consequence of the late and stormy season. For the three Northwest provinces the total yield of spring and fall wheat is estimated at 189,984,000 bushels as compared with 194,083,000 bushels in 1911; of oats the estimated yield is 230,387,000 bushels as compared with 212,819,000 bushels and of barley 29,189,000 bushels compared with 24,043,000 bushels.

The general condition of live stock is very satisfactory, being expressed in percentages of a standard of 100 representing a healthy and thrifty state, as 94.66 p.c. horses, 94.90 p.c. milch cows, 96 p.c. other cattle, 93.72 p.c. sheep and 94.81 p.c. swine.

#### THE OPEN MIND

"Book-knowledge is a poor resource in the problems of life," says J. H. Fabre, the naturalist. "In many cases" he adds, "ignorance is a good thing." Relating an incident to illustrate the remark, he describes how Pasteur, the great man of science who was touring the Avignon region, called upon him unexpectedly one day for the purpose of obtaining some information respecting the silkworm. Pasteur had been commissioned to investigate the plague which was overthrowing the silk industry for which that region of France is universally famous. This was in the early days before the nature of such diseases was known or understood.

A few words were exchanged upon the prevailing blight; and then without further preamble the visitor said: "I should like to see some cocoons. I have

September, 1912

subject of Mr. z., "Mendelian agriculture," is one great interest for a bee-keeper, and studied more thoroughly any other practicing applied the Mendelian principles in bee-rearing business no one is better it than our new

see in our next of Mr. Sladen's

#### LETIN

14.—A bulletin census and Statement of Trade the condition of the end of January estimates of at, rye, oats bar-mpiled from the its upon the ap-

ther which pre-la during August harvest is every; but no serious n reported. All e ment since the peas, beans and dition of spring the standard or esented by 100; 7.29, oats 88.15, flax 87.84. These those of a month : wheat, rye and ley, mixed grains .c. for oats. On not unfavorably ie corresponding barley, rye, buck-as being in fact eat is about two , 74 against 76

never seen any; I know them only by name. Could you get me some?"

The cocoons were obtained and handed to the savant. He took one, turned and turned it between his fingers; he examined it curiously, as one would a strange object from the other end of the world.

"Why, it makes a noise!" he said, quite surprised. "There's something inside!"

"Of course there is."

"What is it?"

"The chrysalis."

"How do you mean, the chrysalis?"

"I mean the sort of mummy into which the caterpillar changes before becoming a moth."

"And has every cocoon one of those things inside of it?"

"Obviously. It is to protect the chrysalis that the caterpillar spins."

"Really!"

Pasteur had come, as Fabre states, to regenerate the silk-worm, while knowing nothing about caterpillars, cocoons, chrysalises or metamorphoses. He was ignorant of what was known to the meanest school-boy of those parts. And he was about to revolutionize the hygiene of the silk-worm nurseries. In the same way he was to revolutionize medicine and general hygiene. Investigators of the present day owe much to Pasteur, and even our foul brood specialists who are apt sometimes to belittle the efforts of their predecessors would probably know but little of our friend *bacillus larvae. b. alvei*, and the rest, were it not that this great Frenchman approached the subject of the silk-worm plague in a candid open-minded manner, with but the habit and power of thought to aid him.

The ignorance of the trained thinker is very different from the ignorance of the vulgar mind, which is so often full of foolish fancies and prejudices—the weeds and brambles which choke the seedlings of more useful types.

The various journals of the day teem

with articles by writers who do not always appreciate the lesson taught by Fabre.

It is sufficient with some if an idea appears merely plausible, and, when clothed with a redundancy of statement is set a rolling—a snowball of error. Fabre himself whose magnificent work the "Life and Love of the Insect" the present writer has just read, is an example of the humble diligent seeker after truth. In some ten or a dozen volumes he has given to the world a series of studies of insect life that are absolutely unique in their manner of vividly and accurately portraying the habits of the humbler creation. His treatment of the bee, the wasp and the beetle, especially compels our deepest admiration.

It was not to Fabre's personality that we wished to draw attention so much as his simple love for the insect and his whole-hearted and sincere desire to ascertain the actualities of the insect life. And we draw the reader's attention to this trait principally in the hope that it will be widely recognized among bee-keepers that a knowledge of bee-life is of great interest for its own sake—that it is possible for even the novice to make discoveries of the most interesting nature. Maeterlinck has cast a false glamour over the life of the bee. The bee-keeper knows this but too well, and it still remains for a faithful and accurate biography of the bee to be written. This is work for the observant bee-keeper. Up and at it then.

"Morn on the mountain, like a summer  
bird,  
Lifts up her purple veil; and in the  
vales  
The gentle wind, a sweet and passionate  
wooer,  
Kisses the blushing leaf, and stirs up  
life  
Within the solemn woods of ash deep  
crimsoned,  
And silver beech, and maple yellow  
leaved,  
Where Autumn, like a faint old man,  
sits down  
By the wayside a-weary."

## INTERNATIONAL

The International Year of Agriculture has just been proclaimed. The national Year of Agriculture statistics, (Annuaire statistique agricole) is a collection of statistics, usually grouped, for each area and product, crops and for the year during the decade in the countries included, which are included almost throughout the world.

The first part of the tables showing the statistics of the various countries.

The second part of the natural distribution of each country, first principal divisions of the productive area, and a division of the form of the uncultivated land; Gardens, crops, woods and uncultivated land, being these divisions, and the most variety of crops, have been sub-divided by the cereal crops and grouped into other crops on arable land.

The third part of the tables is devoted to individual areas, productive area, hectare for cereal crops, barley, oats, maize, sugarbeet and sugar, oliveyards, coffee, hedges and flax, mulberry trees. The latter part of the tables occupied by tables showing live stock in the various countries, the classes consisting of horses, asses, sheep, etc. All figures contained are official, having been



### INTERNATIONAL INSTITUTE OF AGRICULTURE

The International Institute of Agriculture has just published its first International Yearbook of Agricultural statistics, (*Annuaire international de statistique agricole, 1910*), which is a collection of statistical tables systematically grouped, and containing figures of area and production of the principal crops and for the numbers of live stock, during the decennial period 1901—1910, in the countries adhering to the Institute, which are now 50 in number and include almost the whole of the civilized world.

The first part of the Yearbook contains tables showing the area and population of the various countries.

The second part shows the agricultural distribution of the total area of each country, firstly, into the two principal divisions of productive and unproductive area, and secondly, the sub-division of the former into: Arable land; untilled meadow land and pastures; Vineyards; Gardens and Orchards; other crops woods and forests; marsh, heath and uncultivated land. The class "arable land," being the most important of these divisions, and containing the greatest variety of crops, has in its turn also been sub-divided bringing into evidence the cereal crops and the fodder crops, and grouping into a single class all the other crops on arable land.

The third part of the Yearbook is allotted to individual crops and gives the area, production, and yield per hectare for cereal crops (wheat, rye, barley, oats, maize and rice, potatoes, sugarbeet and sugarcane, vineyards and oliveyards, coffee, hops, tobacco, cotton and flax, mulberry trees and cocoons.

The latter part of the volume is occupied by tables showing the numbers of live stock in the various adhering countries, the classes considered being cattle, horses, asses, sheep, goats and pigs.

All figures contained in the volume are official, having been either extracted

from official publications, or supplied to the Institute by correspondents authorized by the respective Governments. In order to add to the comparability of the tables, all figures of area have been given in hectares (except those showing the total area of each country, which are expressed in square kilometres,) and all figures of production, in quintals (except for the production of wine, which has been expressed in hectoliters, and the production of cocoons, which is given in kilogrammes.)

In all tables dealing with area, production, and yield per hectare two quinquennial averages (1901—1905 and 1906—1910) and one decennial average (1901—1910) have been calculated, and in order to bring into evidence the variations which have occurred in the area and production of certain crops during the decennial period tables have been added showing the index numbers of area and production, the figures for the first year (1901) having been made equal to 100.

The scope of this Yearbook is twofold; in the first place it shows what progress has been made up to the present time in the organization of agricultural statistics, and, secondly, gives the results obtained from such statistics. The tables, which extend over a period of 10 years, and include a long list of countries, make known the area and production of crops, and the years for which the figures exist. Figures from all countries having been expressed in the same measures, and grouped into tables which are at the same time concise and easily intelligible, and figures having been added showing the yield per hectare, index numbers, average productions, and summaries by continents, etc., the reader may easily form an opinion of the evolution of agriculture either in individual countries or in the whole group of countries adhering to the Institute.

The volume may be purchased from the International Institute of Agriculture (Villa Umberto I—Rome) and from the principal booksellers at 5 francs.

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# Canadian National Exhibition

## SOME FEATURES OF Imperial Year

Imperial Cadet Review  
Cadets from all the Overseas Dominions  
Exhibits by the Provinces  
Dominion Exhibits  
Band of Scots Guards  
From Buckingham Palace  
Paintings of the Year from Europe  
Paintings by best Canadian and  
American Artists  
Imperial Cadet Competitions  
Boy Scouts Review  
Everything in Educational Exhibits  
Siege of Delhi  
Besses O' Th' Barn Band  
Britain's Best Brass Band  
Dragoons' Musical Ride  
Industries in Operation  
Butter Making Competitions  
America's Greatest Live Stock Show  
Canada's Biggest Dog Show  
America's Prettiest Pussies  
Japanese Day Fireworks  
Motor Boat Races  
Hippodrome and Circus  
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Eruption of Mount Vesuvius  
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Ten Band Concerts Daily  
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Imperial Fireworks--60 Numbers

Aug. 24 1912 Sept. 9

# TORONTO

## BEE-KEEPERS, AWAKE!

### BEEES AND SUPPLIES FOR SALE

One of the Finest Outfits in Canada.

DO you realize that it is almost impossible to-day to buy a choice outfit of bees and supplies ready for business in Ontario. Do you realize, further, that you can pay a good price for this property and with proper care clear from 50 to 75 per cent. annually on your investment? This is your opportunity. Seize it now. Don't wait. Write to-day. Outfit consists of 200 colonies of bees, 240 extracting supers, 120 comb honey supers, 200 queen-excluders, 100 four-colony hive stands, 45 four-colony wintering cases, 2 choice honey houses in panels, 2 foundation mills, reversible extractor, wax press, capping melter, etc., etc. Good location: bees do not have to be moved. Wish to sell at once, giving possession August 1st. If not sold, might run on shares for term of years with reliable bee-keeper. Owing to health of my family, wish to return to California in fall. Address A. Laing, Lynn Valley, Ont.

### BEWARE OF FOUL BROOD

#### Brief Instructions for Treatment.

In a honey flow, in the evening, remove the colony from its stand and set in its place a clean disinfected hive containing clean frames with foundation starters. If the weather is very warm, place an empty hive under the one containing the starters for a few days, to give a good clustering place for the swarm. Cover the entrance with queen-excluding metal. Now shake the bees from the combs of the old hive into the new; but if any fresh nectar flies out in shaking it will be necessary to brush the bees. Get these combs immediately under cover, and clean up very carefully any honey that may be around, so robbers from healthy colonies cannot carry home disease.

When the diseased colonies are weak in bees, two or three should be put together into one clean hive so as to get a good-sized colony. In doing this diseased colonies must be united with their next-door neighbor and not carried to another part of the apiary.

All combs from the supers as well as from the brood-chambers of the diseased colonies must be either burned or melted and boiled thoroughly before the wax is fit to use again. The honey that is removed is entirely unfit for bee feed and should be buried deep enough to be out of the reach of any bees.

For fuller particulars in reference to Foul Brood see Bulletin No. 197, issued by the Ontario Dept. of Agriculture, which will be sent you on application to the Director, Fruit Branch, Parliament Buildings, Toronto.

When writing to advertisers, please mention the Canadian Bee Journal.

## SUCCESS

So much depends upon the wintering of bees in the fall, perhaps, may, perhaps, The main point is to provide a wholesome food, as quiet as possible, efficient ventilation and the ill-effect

## Want and I

Advertisements received at the rate of 10 words, each additional word 1 cent. Payments strictly in advance. Amounts are too small to keep. Write on separate sheet from any other correspondence. The side of the paper must be reached many times ad is not each month.

## WA

WANTED—Offers son's crop of L. buyer to furnish transportation charges. Mailer when writing. Shetland, Ont.

HIVES—Wanted, a stroth hives, in good hand. Ham & Nott Crutcher, Bee-keeper.

WANTED TO BUY—any quantity. Bee sale. Root's goods & Bell, 4 Cherrier St.,

WANTED—I would like for your this season either comb or extracting. Write me. G. A. Ont.

WANTED—Your order er-colored Italian Queen for \$7. Select virgins. France & Son, Plattville

WANTED—To buy, Bee-keepers' supplies the A. I. Root Co.'s line. F. W. Bell, 4 Cherrier St.

WANTED—Representative locality to mail direct Grocery Mall Order. Spare time will easily

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**ES FOR SALE**  
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Bee Journal.

**SUCCESSFUL WINTERING**

So much depends upon the successful wintering of bees, some general advice may, perhaps, be usefully given here. The main points to be attended to are —(1) To winter only strong stocks. (2) To provide a sufficient quantity of wholesome food. (3) To keep the bees as quiet as possible. (4) To supply sufficient ventilation. (5) To avoid damp and the ill-effects of storms.

**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**

**WANTED**—Offers wanted for this season's crop of Light Extracted Honey, buyer to furnish tins and bear all transportation charges. Mention size of container when writing. Miss F. Palmer, Shelton, Ont.

**HIVES**—Wanted, a few 10-frame Langstroth hives, in good condition, second-hand, Ham & Nott goods preferred. A. Crutcher, Bee-keeper, Burns, Ont.

**WANTED TO BUY**—Wax and Honey in any quantity. Bee-keepers' supplies for sale. Root's goods a specialty. F. W. Bell, 4 Cherrier St., Montreal.

**WANTED**—I would like to contract now for your this season's light honey, either comb or extracted. I can supply tins. Write me. G. A. Deadman, Brussels, Ont.

**WANTED**—Your order for untested, leather-colored Italian Queens. One 75c; 10 for \$7. Select virgins, 10 for \$4.50. N. E. France & Son, Platterville, Wis., U.S.A.

**WANTED**—To buy, Bees, Honey and Wax. Bee-keepers' supplies for sale, especially the A. I. Root Co.'s line of goods. Address F. W. Bell, 4 Cherrier St., Montreal, Que. tf

**WANTED**—Representative wanted in each locality to mail circulars for Cut-Rate Grocery Mail Order House. Few hours spare time will easily earn \$20 weekly.

Any one can do the work. Outfit furnished free. Dominion Grocery Co., Windsor, Ont. tf

**FOR SALE**

**FOR SALE**—25 colonies of bees and outfit. A good locality here for keeping bees. George Ott, Arkona, Ont.

**FOR SALE**—A limited number of leather colored Italian Queens for sale. Warranted purely mated. \$1.50 each. Geo. B. Howe, Black River, New York.

**FOR SALE**—Queens and half-pound packages. A good strain of 3-banded Italians for honey, now ready. Satisfaction guaranteed. W. D. Achord, Fitzpatrick, Ala., U.S.A.

**BEEES FOR SALE**—Forty-five colonies Italians or their crosses, in 8-frame Langstroth hives. Good colonies and free from disease. Apply to Stephen McNeill, Conn P.O., Ont.

**GOLDEN QUEEN BEES**, ready to mail at \$1.00 each; six for \$5.00. This stock has been favorably reported upon in black brood localities; also for foul brood. J. B. Case, Port Orange, Fla., U.S.A.

**FOR SALE**—Golden Italian Queens; tested \$1.00, select tested \$1.25, untested 70c each, dozen \$8.00. After July 1st: Un-tested 60c each, dozen \$7.00. Send for price list. D. T. Gaster, Rt. 2, Randleman, N.C., U.S.A.

**FOR SALE**—10,000 lbs fancy honey, light and dark amber, barrels and 60-lb cans, same as we use for bottle trade; dark amber, 10c. Exhibition White Wyandottes, \$1.00 per set; baby chicks, 15 to 20c. Queens, \$1.00. Todd Bros., Milltown, N.B.

**ITALIAN QUEENS** after May 1st. Robey, Alexander or Case strains. Untested, 75c; tested, \$1.25 breeders, \$3.00; Carniolan, Cyprian, Caucasian and Banats, untested, \$1.00; tested, \$1.50. Honey packages and supplies. W. C. Morris, Nepperhan Heights, Yonkers, N.Y., U.S.A.

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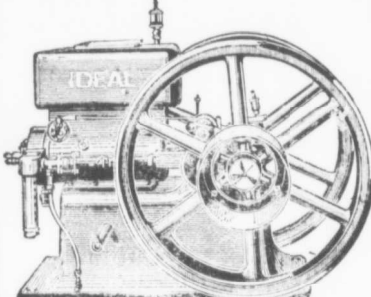
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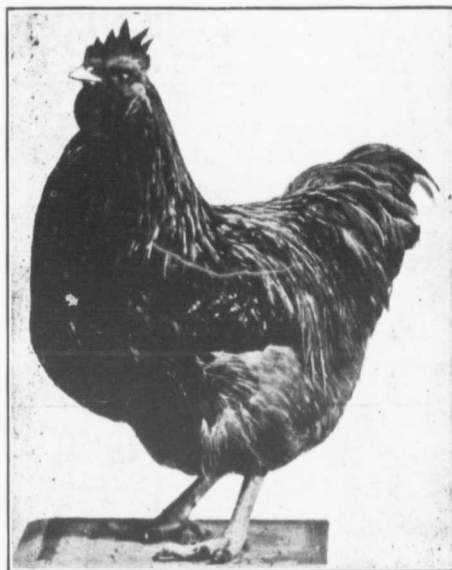
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