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BRANTFORD, ONT., OCTOBER, 1901.

WHOLE No.
440

THANKS.

Thank Thee, Father, for the summer
time,

The golden days of glory and delight—
The days when the glad year is in its
prime,

Warmed by Thy love, and by Thy
smile made bright.

And for the peaceful armies of the
flowers,

That hang their banners out above
the sod,

Wafting with sweet scent the passing
hours,

And blessing me, I thank Thee, O my
God!

Thank Thee, for the rush of mountain
streams,

And for the beauty of the quiet lake;
For the generous warmth of danc-
ing beams,

And for the world grown happy for
thy sake.

Thank Thee for the long, sweet days
of light,

For the gloaming with its hues
of twilight:

Thank Thee for past seasons of delight,
Come to me with the glad sum-
mer time.

MARIANN FARNINGHAM.

POMOLOGIST AND THE BEE-KEEPER.

W. Collingwood, New York, N. Y.

Address before the joint meeting of
the American Pomological Society
and the National Bee-Keepers' Associa-
tion, Buffalo Convention.

Not a bee-keeper, although I
love my neighbors' bees! I

don't pretend to be a pomologist.
I'm a plain fruit grower, far enough
along in the business to realize
that, with all his proud dominion
over the lower forces of nature, man
cannot produce the finest and most
perfect fruits without the help of his
friend the bee. That I believe will
be the conclusion of every fruit grow-
er who will really study the question.

The relation between the fruit
grower and the bee itself are physical,
mental and moral. Interfere with a
bee's notion of duty and right, and he
at once administers a stinging rebuke
to those faint-hearted humans who
permit others to interfere with their
homes and privileges. Perhaps some
of you have heard of the young man
who said he called his sweetheart
"Honey" and in 24 hours she broke
out in an attack of hives.

The mental relations appear when
a thoughtful man studies the wonder-
ful life and habits of the bee, and the
social order that prevails inside the
hive. That man must admit that
even the civilization that has been in-
spired by human wisdom falls short
of this in some essentials of justice
and equity. The moral aspect
appears when, in the latter part of
summer the bees swarm to your fruits
and you try to follow out the prin-
ciples of the Golden Rule in your
relations with the bee-keeper. You
learn how much easier it is to be a
bear than it is to forbear. One must

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learn to use the memory of services rendered as oil for the rusty machinery of patience.

There are two worthy citizens who upset the theories of the scientific men—Jack Frost and Mr. Honey Bee. Ice and honey are two crops which remove no fertility from the soil. A man might cut ice on his neighbor's pond for years, and make a fortune by doing so, yet all his work would cut no ice in the great American game of robbing the soil. The pond will not be injured in the least. In like manner my neighbor's bees may take a ton of honey from my fruit and it may sell at a good price, yet my farm has not lost five cents worth of plant food, nor would I have been a cent better off if the bees had not taken an ounce of the nectar, but had simply acted as dry nurses to my baby fruits without pay or reward. Both frost and bee bring unnumbered blessings to man, yet most of us will spend more time growling at some little injury which they do as they pass on, than we will in praise and thankfulness for all the benefits they heap upon us. I have known fruit growers and pomologists who, when they find the bee sucking some cracked and worthless old fruit, to forget that the bee did more than they in the making of these fruits. If they were in the bee's place, they would probably demand 75 per cent of the finest fruit in the orchard as payment for their labor. Such folks make me think of the housekeeper who found fault with the minister. The good man came into the house of sickness with a message of divine hope and love and faith. He cheered the hearts of all, and yet, when he went away, the housekeeper found fault with him because he forgot to wipe his feet on the door mat, and tracked some mud upon her kitchen floor. What a world this would be

if we could learn to judge others not by their little weaknesses, but by their great acts of loving service.

If one would look for the ideal relations between the fruit grower and the bee-keeper, he will find them inside the modern cucumber house. The cucumber is "cool" way down to the courtship of its flowers. Matrimonial agents are required, and formerly these were men who went about with soft brushes dusting the pollen upon these bashful flowers. It has been found that bees will do this better than the men, and most cucumber houses now have their swarms of bees. Inside the glass house the grower has no desire to throw stones at the bee-keeper, because they both wear the same clothes, and the man who cannot get on harmoniously with himself has no business out of jail. They say that well knowing that some of the darkest life tragedies in the world's history have been caused by the evil side of a man's nature obtaining mastery for the moment over the good. In the orchard or fruit farm the conditions are very different. Here a man may feed the bees which belong to somebody else, and he does not, like the cucumber grower, forget that the bees actually save him the wages of a workman, which would be nearly as necessary without the bees. Most men do not, I think, fully understand who the bee is and what he really does. Let us state his case fairly. I understand, of course, the common facts about the bee must be an old story to those who are here. The greatest value of such a meeting is the fact that one may talk on your heads or through you to thousands who will never join either society, and yet who will profit by your work.

THE BEE AS A CITIZEN.

Man has never tamed the bee as

has the horse or dog or ox. These animals have surrendered their freedom and tamely submit to man's dictation, changing even their shape and vital functions at his will. Turn them loose, and after a few hours of clumsy freedom they will come back and beg to be taken under shelter—into slavery. Even man himself loses the savage independence and love of liberty he knew when free as the hills, and at the behest of civilization puts his neck under the heel of those who are morally his inferior. Not so the bee. He has never surrendered the freedom that goes with wild things and wild life. Man tames and partly directs him, but he is still untamed and still retains the courage and fearlessness which civilization takes from the heart of most animals, including man. Left to himself the swarm of bees will not come begging shelter from man, but gladly and fearlessly fly off into the wilderness, to live as its ancestors lived.

The bee starts with the scope and purpose of its life work clear. It does not need to go to school. From the first gleam of consciousness the bee knows that it is born to toil, without reward, without hope of posterity. Instinct, heredity, spirit, all it what you will, drives the bee to labor without ceasing, without holidays or hours of lazy ease,—and what? Simply for the future, that dim, mysterious time for which he is ever prompted to provide. I would that the mental side of this question will present itself to any thoughtful man. Truly the lesson of the hive goes deep into the human heart and soul.

THE BEE AS A WORKER.

As a boy I was brought up on the "lazy bee" theory. The old man considered himself responsible for my industrial training gave me to

understand that the bee is a tireless worker, who toils for the love of it and never quits. He wasn't trying to get me interested in the study of natural history—he was trying to get me to realize that someone loved to work—and he knew that he didn't. I am sorry to break down this ideal of childhood, for I have searched hard to find something that has no blood of the shirk in its veins. I can't tell my children the old, old story, for they will soon know that most bees in New Jersey appear to start work at 7.30 to 8 a. m., and knock off at 4 p. m. On wet days they usually quit entirely. This is much like the average hired man, who will take advantage of a light sprinkle to come in and sweep up the barn floor. The bee works on Sunday while the hired man rides his bicycle. When the bee does start, he keeps at his work, while the hired man stops to look at the clock.

When you tear down the childish ideal of the busy bee, and find that it has some of the bad habits of mortals you do not destroy the whole picture. That would be true with some men, but with the bee it only brings to view a higher ideal than ever. The bee does a fair day's work and then goes home and puts in a part of the night. A man after doing his work in the field will hardly help his wife wash the dishes after supper, but the bee works like a slave through the dark at the wonderful task of manufacturing honey. The short day of hard and consistent work furnishes enough for the hive workers. If all all men worked as the bee does with as fair and just a division of labor, what a world we would have! The short, hopeful day's work would be sufficient if the idle and the rich would cease to live on the earnings of the overworked poor. The society in the hive permits but few drones,

and kills them off as the winter comes on, while human society increases the number. Thus as we grow older we find that the bee is not the poor, aimless drudge we thought him, but rather one who lets his wits save his wings.

THE BEE'S GOOD WORK.

We can easily forgive the bee his short working day, when we consider the good he does. People talk about the wind and other insects in fertilizing our flowers, but I am confident that any man who will really take the time and pains to investigate for himself will see that the bee is nearly the whole story. I have seen the certain results of his good work in a neighbor's orchard. Those bees "broke the trees" down just as truly as though they had climbed on the limbs by the million and pulled at them. The appearance of those trees after a few years of bee-keeping would have convinced any fair-minded man that our little buzzing friends are true partners of the fruit grower.

It has been said that the bee does not do this work because he wants to. He is pictured as a greedy, selfish fellow, born into the world with a single idea, who dusts his jacket with pollen and does his work as dry nurse simply as an incident. Nature puts the brushes on his legs and stomach, and he cannot help using them. Here again he is not unlike men. Most of us fight and slave and toil for our own selfish ends. We try to shake the good intentions out of our jacket, and a large proportion of the good we do in this world is done as a side incident, as we press on to accomplish something for ourselves. To my mind this is only another illustration of the wise and beautiful provision of Nature to lead the bee on from flower to flower with some motive of personal gain, and in this way

compel him to do his work for pomology. I would that humans who toil even past the allotted years of man's life, after wealth and power, might as surely leave behind them perfect fruits for the toil of others. The stout legs of the bee as he crawls from flower to flower, kick life into the baby fruits. Surely with this in mind the pomologist can have nothing to "kick" about.

But ambition and the gratification of personal desires lead both bees and men to scatter evil as well as good. All wings, except those of angels, attract and will carry the germs of evil if they rub up against it. It is quite likely that bees will carry the germs of pear blight from one tree to another—perhaps in quantities sufficient to spread the disease. Let us admit that, and yet no pear grower who knows his business would have the bees stay entirely away from his trees. The bee also injures fruit to a certain extent. There may be times when he leads in this bad work. When he does, he is starved to it. If he were fed at home, as every other farm animal would be at such a time, he would seldom do the mischief. In ordinary seasons I find little fault with the bee for sucking this cracked and broken fruit. We really ought to thank him this year for delivering us from the temptation to pack the worthless culls in the middle of the barrel. Our bee-keeping friends tell us that there is always some local that goes ahead with a punch and breaks the skin before the bee can suck the juice. The yellow jacket is said to be the culprit, and he is a safe one, for nobody cares to argue the point with him. I don't like him hiding behind a yellow jacket. He is too much like the way some of the Christian nations have acted in China. Li Hung Chang and other yellow jackets before him have robbed

Chinese people for centuries, but that is no excuse for the looting and stealing on the part of white men. Should not the bee-keeper feed his bees when their natural food is scarce and they really injure fruit? When I neglect to feed my dog at home, and he runs to the neighbor's back yard for food which might feed the pig, have I a right to complain if the neighbor lives up to his legal privilege? My neighbor ought to remember that it was my dog's bark that frightened the hide of the tramp that frightened his children, but some neighbors are not built that way. They are like some pomologists who object when the bee tries to take pay for his services in a few rotten fruit. I am not sure that home feeding would keep bees entirely away from the fruit. There are human beings who will run out of the best of homes. In fact the more you feed them the more they run. Bees are much like humans in many respects. It is quite likely that a systematic method of feeding during honey dearths in summer would eventually pay the bee-keeper, just as many dairymen have become convinced against their wills that it pays to feed gain to cows at good pasture.

THE BEE AS A LAWYER.

Before the law the bee appears to have clearer rights than any other domestic animal. Recent legal decisions have made the bee's position very clear. In one noted case the bees flew into the orchard and unquestionably worked upon or damaged broken fruit. The jury finally decided, and I think justly, that the bees committed no real damage, yet a cow or a hog broken into that orchard and eaten that same fruit the owners would certainly have been liable for damages. After reading the literature of the

subject with great care, I think I am justified in saying that the bee has fuller and more complete legal protection than any other domestic animal. Why should not this be so, since even in its wild state, untrained or directed by men, the bee is led by its very instinct to labor for the benefit of humanity? Certainly no wild animal works for men as the bee does, and no domestic animal accomplishes so much without direct harness or guidance.

Invoking the law against bees is running up against a hard proposition. Laws have been passed against spraying fruit trees while in bloom. They are intended to give the bee legal protection. These laws have actually led some tough old fellows to spray at just that time, so as to kill the bees. The law was a suggestion of slaughter to them. Some men are so perverted that they see a wrong and coddle it as a "personal right." These laws have helped the fruit grower more than they have the bee-keeper, because they have led the scientific men to investigate and tell us why it is a mistake to spray too early.

It appears to have been settled that, before the law, bees are to be considered domestic animals—not naturally inclined to be offensive. A fair synopsis of the bee's legal status is about as follows:

1. Bees kept by regular bee-keeper have become absolute property as domestic animals, and therefore enjoy legal rights.
2. The bee is not naturally savage. It is no more likely to commit serious damage or mischief than dogs, cats, cows or horses.
3. The law looks with most favor upon those animals which are most useful to man. No animal is of more actual service to man in proportion

to his size and the mischief it commits than the bee.

4. After bees have been kept in a certain situation for a reasonable time without serious injury, it cannot be said that it is dangerous to keep them there.

5. The bee keeper becomes liable for injuries done by his bees only on the ground of actual or presumed negligence.

This seems to give the bee a clear field to go ahead about his business in his own way. It must be said that this strong legal position of the bee is largely due to the fact that bee-keepers have picked up some of the traits of the bees. When one of their number is attacked they do not sew up their pockets and run off with their share of the honey—and as much more as they can get! They fly at once to the defence of their comrade, and make, not an individual, but a society matter of it.

The fruit grower will obtain little satisfaction in a lawsuit against the bee-keeper. The bee is too good a friend of the judge. The relations between these two classes should be settled not by the scales but by the Golden Rule. Every man who receives a benefit should remember where the benefit comes from. The bee keeper might say with truth: "It is true that my bees feed upon my neighbor's trees, but they have not injured his farm because they took no fertility away! He has no reason to kick because they kicked life into his fruit buds."

This is all true enough but it is only one side. The fruit grower may say:

"These bees have increased my crop of fruit, but have they not been well paid for their work. I fed them and the money in their owner's pocket comes from my farm!"

Two classes of men with interests

which lap and nick in this way should never fight, for when one of them hits the other in the nose he is sure to blacken his own eye. They should recognize their mutual dependence and treat each other fairly. The bee-keeper may say that the law gives him a right to put his hives close to another's dwelling. Still if that location is offensive to his neighbor, the law which is higher than the decision of any human judge should lead him to put them elsewhere. I have heard of an old farmer who insisted on keeping a brindled calf tied on his lawn. The calf was in every way offensive to his neighbors, and he had ample space for it behind the barn, but he thrust that calf under the very noses of his neighbors because the law said he had a right to do as he pleased with his own. That man, like many others, figured that such magnifying of his legal rights gave increased dignity to his personal rights—and what a foolish mistake he made. The man who will use his legal privileges as an offensive weapon against others, where it should be drawn only in defence of true principles, is not a true possessor of a logist or bee-keeper.

I regard the raising of fine fruits as the training and rearing of bees. It is the highest types of soil culture, and hence of human industry. He who can direct and watch the slow development of the perfect fruit, and lovingly guard it from plant diseases and injurious insects through the long road to perfect maturity; and who can patiently and skillfully guide and train the honey bee through its long summer's work—such a man can enoble and dignify labor,

Their work may be hard and constant. Their hands may be hard and rough, but the callous of the palm is not the badge of servitude, but an honorable scar from labor's hand.

field. drudg on the ing w proble with t partne as suc should justice Can th On wasp's combs disease stics consid and in rappin brown of the ther i some t neat ere d ase w ave b ell wal down. to exist bees in wasps' reperi: rhaps: on, th al a get tha and eve me ren of by th ers' s' i v , tc

field. Such men are not mere drudges, with body and spirit broken on the hard wheel of labor; but, dealing with the fine and most delicate problems of nature, they keep step with the Creator—they are in direct partnership with God himself; and, as such partners, they, of all men, should be guided by the wisdom and justice of the Golden Rule.

FOUL BROOD.

Can the disease exist among Wasps?

On August 3, while destroying a wasp's nest, I found in some of the combs unmistakable evidence of a disease possessing all the characteristics of foul brood. There was a considerable quantity of sealed brood and in many cases the snow white capping had been stained a dark brown colour, and the viscid contents of the cells possessed the smell and other indications of foul brood. Many of the unsealed larvae were dead; some had dropped out upon the comb beneath, and, on the whole, they were drier than would have been the case with bees. This may, however, have been due to the porosity of the cell-walls which were stained dark brown. Foul brood has been known to exist for about three years among bees in the locality in which the wasps' nest was taken. While beekeepers may view with equanimity, perhaps not unmixed with satisfaction, the destruction of wasps by so foul a disease, yet, in view of the fact that wasps so frequently approach and even enter hives, they may be means of spreading foul brood and render futile all our efforts to get rid of it. It is from this point of view that I would ask those of your readers who may be destroying wasps' nests, especially in neighborhoods where foul brood is known to exist, to examine the brood for signs

of disease before burning it. The simplest way to destroy a wasp's nest or rather all life in it, is to pour about 2 oz. of carbon bisulphide into the entrance, which should then be carefully closed. The vapour soon kills all the wasps, and the combs can then be dug out and burnt. The carbon bisulphide should not be ignited; its vapour is much more poisonous than its products of combustion.—Walter T. Reid in British Bee Journal.

Splendid Honey Exhibit.

We note with pleasure the following item in the Ottawa Valley Journal:—The largest honey exhibit ever made in the dairy building at the Central Canada Fair is that of Alex. McLaughlin, of Cumberland, Ont. Mr. McLaughlin has been showing in Ottawa for three years, but this year he has over two tons of honey, which makes a lovely display. The judge stated it was the largest exhibit he ever saw, and many say the comb honey far surpasses any seen at the Pan-American. The exhibit deservedly carried off seven first prizes and the diploma, and the whole has been sold to local dealers, so citizens may watch for the label and know they are buying and eating the finest honey in Canada. The honey is all light in color and is remarkably thick being equal, if not better, than the best ever before shown at any Canadian exhibition. The exhibit is tastily arranged, and Mr. McLaughlin has a constant stream of admiring customers.

We congratulate our friend McLaughlin.—Ed.

Have you hives and surplus cases all alike; it saves time.

Questions and Answers

[Questions to be answered in these columns should be sent to us not later than the 15th of each month in order to insure their answer appearing in the following issue. We wish to make this department as useful to our readers as possible and a reliable source of information. For the present at least the replies will be procured from various sources.]

Replying further to the question asked by H. F. H. (Quebec) in last issue, which do you consider the best introducing cage? We give a cut of the "Miller" cage (favor A. I. Root Co.,) and copy the following from the A B C of Bee Culture:—

"MILLER'S INTRODUCING CAGE."

"It is very convenient to have in the apiary small cages for introducing, as well as for caging and holding queens that come out with swarms until they can be introduced or dis-



posed of. The one above illustrated is the best of any. It is especially handy for introducing young virgins. The cage is so flat it can be slid in at the entrance, without even removing the cover of the hives, and the bees will release the queen by the candy method. But when introducing fertile or valuable queens I would recommend inserting it between two combs. Draw them together until they hold the cage. The queen thus acquires the scent of the combs, brood, and of the cluster, and hence when released be more likely to be accepted. I copy its manner of construction from Dr. Miller's own words:

"Take a block 3 inches long, 1 1/4 wide, and 3-8 thick: two blocks 1 inch by 7-16 x 3-8: two pieces of tin about

an inch square; a piece of wire cloth 4 1/2 x 3 1/2; two pieces of fine wire about 9 inches long, and 4 small wire nails 1/2 or 5/8 long. That's the bill of material. Lay down the two small blocks parallel, 3/8 of an inch apart, one piece of tin under, and one over them. Nail together and clinch. These two blocks, being 3-8 inch apart, make the hole fill with Good candy, through which the queen is liberated."

For an introducing-cage this is ahead of anything else I know. In our apiaries we use it exclusively. Another feature of importance to beginners is as a queen-catcher. It can be set down over the queen after the wooden slide is removed, and when she crawls upward the plug is replaced."

Feeding Back Unfinished Sections

Fred H. Fargo

Having for several years practiced the following described method to secure the completion of unfinished sections at the close of the honey gathering season, it may be of benefit or interest to some who might like to experiment by trying the plan as every apiarist has generally a good many sections that if completed would bring better prices to the producer and sell better in the market.

The honey to be fed back; which may consist of unfinished sections of any combs of suitable honey, from three to four pounds in quantity, should be daily placed in a hive (the entrance to which must be contracted to admit only one or two bees at a time) and rods from the apiary, and not a great distance from the colony upon which are placed the unfinished sections to be completed. A section of honey should be bruised so that the honey is ready to run, and covered with bees is taken from the colony upon which

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are placed the unfinished sections, and placed in the hive containing the honey to be fed. Or we can place a section or piece of comb honey on the alighting board and leave it there until sufficient bees from this colony are taking from the honey, then place in the hive as above stated.

These bees, thus carried from their home and placed in a hive containing honey, will work back and forth between this hive and their home, carrying the honey to the latter, and the strange part of it is that they will defend both homes from robbers.

In selecting the colony to do this work, choose one containing good workers that will protect their own home against the intruding robber bees. The fact that the work of carrying away the honey is commenced by bees that are all from one colony accounts from their combining in a defence of the spoil.

When a super is nearly completed, raise it up and place another of unfinished sections underneath.

I have had a single colony complete 125 to 150 sections in the above manner.

Several hives may be arranged in this way, each colony working back and forth between the respective hives.—Bee-Keepers' Review.

Australian Honey.

The following report on Australian honey was made by John Higgins, Esq., Pylee, Somerset, England, to the Victorian Convention:—

Comparing with English honey, I think the Australian has the greater sweetening force.

There was no indication of crystals candying in the samples. In fact, that may be called the texture seemed to have the fibrous or glycerine-like quality in its perfect smooth-

ness. It was rather more glistening or tenacious than British, Swiss, or American honey usually is.

This might arise from its condensed sweetness, owing to the honey having been gathered in a hot climate and so to have lost some of its watery constituents, by the action of the dry hot Australian atmosphere.

We find in our cooler and moister land, that the honey gathered in a cold season is thinner and lighter than that obtained in a hot summer.

Comparing these honeys with some English samples I found the smell of them very distinctive. The Australian had a heavy acid odour, the English a sharp pungent smell. I have tested several lots of English honey for this quality—or defect—and each yields this malice or acetic acid effect, mixed with a slight scent of flowers.

All the three samples of Australian honey have also their distinctive odour, which to me appeared like a heavy pyroligneous or wood acid smell, not so pungent as in the English honey, but unmistakable.

Probably those accustomed to the one sort, would acquire a preference for that on which their tastes had been formed, Australians preferred their own richer honey to other lighter sorts which we on this side of the equator have and like best.

I have found that the strong heavy honey gathered in the height of the season keeps better than the clear, early, light spring honey, though the latter is the nicest to eat. I am inclined to think that Australian honey would also be nicest when taken early in the season.—Australian Bee Bulletin.

The best thing to do in connection with bee business is to keep more bees.

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Editor, W. J. Craig.

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EDITORIAL NOTES.

The Dead President.

We would voice the sentiments of our people in expressing our indignation at the foul treachery and crime that has robbed our sister nation of her noble son and wise and good ruler. Our sympathy is with them in this their hour of mourning, and with the gentle and delicate lady who is left widowed and alone.

The National Bee-Keepers' Convention

held at Buffalo on Sept. 10, 11, 12, was an unqualified success. As was previously announced, the exercises consisted principally of questions and answers. We were afraid at first that this kind of program would become monotonous and tiresome, but the interest continued right through, and very much valuable information was imparted. Mr. E. R. Root proved himself an ideal chairman, and perfect order and great good humor prevailed during the sessions. Dr. A. B. Mason

the genial secretary, has a happy faculty of making people feel at home. We Canadians were treated with the greatest possible courtesy and consideration; pleased to say we had a good representation. Among those present we noted: Mr. John Newton, president of the Ontario Association; Mr. J. D. Evans, vice-president; Mr. James Armstrong, second vice; Mr. Wm. Couse, secretary; Mr. Wm. McEvoy, Inspector of Apiaries for Ontario; Mrs. McEvoy, Mr. W. J. McEvoy, Mr. F. A. Gemmell, Assistant Inspector; Miss Gemmell, Mr. John Fixter, Dom. Exper. Farm, Ottawa; Mrs. Stuart, Mr. A. Laing, Mr. D. W. Heise, Mr. George A. Deadman, Master R. Deadman, Mr. Jacob Alpaugh, Mr. F. J. Miller, Mr. Joseph Beaudry, Mr. R. F. Whiteside, Mr. R. H. Smith, Mr. Edw. E. Dickinson, Mr. and Mrs. Bowling, Mr. and Mrs. Howard, Mr. Sam'l Wood and grandson, Master Walter Scott.

Not the least interesting part of the Buffalo Convention was the joint meeting with the American Pomological Society. Very excellent papers were presented at that meeting on subjects of vital importance to both industries. Professor James Fletcher of the Dominion Experimental Farm Ottawa addressed the associations on the value of honey bees as fertilizers of blossoms. "Bees and Pear Blight" was dealt with by Professor M. B. Waite, Assistant Chief of the Division of Vegetable Pathology and Pathology, Washington. This matter has been causing considerable

considerable friction between the fruit growers and bee-keepers of Central California ; the bees there are charged with being largely responsible for distributing the germs of the blight, carrying it from infected trees and orchards. Professor Waite's paper shows that bees are certainly very active agents in this, that the infection is brought through the nectar, and that infected nectar has been found in the mouth parts of bees caught on infected blossoms. He said, however that from a biological standpoint the bees are doing their normal natural work in the fertilization of blossoms through the dissemination of pollen ; and to the question whether their beneficial effect counterbalances their injuries, would say that "the fruitgrower cannot dispense with the honey bee." "Spraying of Fruit Trees", was treated upon by Prof. S. A. Beach, Geneva, N. Y., he spoke of the interests of the fruit grower and the bee-keeper as being identical and stated that "bees are good nurses, nurses to baby fruit" and that spraying fruit trees when in bloom hinders or prevents pollen dissemination. The address by Mr. W. Collingwood, Editor of the *National New Yorker*, on the "Pomology and the Bee-Keeper," was the highest number of the session and drew forth rounds of applause. We are indebted to Mr. Collingwood for a copy and have much pleasure in giving it in full in this issue.

Prepare for Winter.

Arthur C. Miller, writing in the *American Bee-Keeper* on "Preparing

bees for winter" says that "given abundant stores and time to fix things to their liking a good colony will winter under all manner of conditions." Perhaps this is putting it a trifle strong, but certainly the abundance of stores—good stores—go a long way in the solution of the wintering problem. An abundance of honey dew or fermented fruit juice will not do, as many of our Canadian bee-keepers found to their loss last winter and spring. A thousand times better to take out the stuff, give them empty combs and feed up with sugar syrup. Honey dew may serve as food when the bees have a chance to fly, but it certainly won't do in confinement.

Keep More Bees.

Editor W. Z. Hutchinson, reviewing his visit among the bee-keepers of southern Ontario, says:

"For years bee-keepers have been asking how to do things, and the matter of manipulation, hiving, supering, extracting, etc., has been brought to a high degree of perfection. Specialists can better afford to turn their efforts in some other direction than that of petty details. Great success must be looked for in some radical change. As I bring before my mind man after man whom I have met on this Canadian trip, I ask myself "which ones have been the most successful?" Invariably the answer is forced upon me, "the ones that have the most bees." It is a simple thing, isn't it? But isn't it just what we ought to expect? I fear some of

my readers don't realize the fever in my veins, the longing that comes over me, as the result of this trip, to go home and establish and manage a series of out-apiaries. Under the circumstances I don't think it advisable, as I should be overburdened with work, and the Review, the bees, and myself would all suffer. I think my mission in life is to encourage and help others to make a success of bee-keeping, and in no way can I do this more effectually than by opening their eyes to the opportunities in the direction of keeping more bees.

The O. B. K. A. Exhibit.

When at the Buffalo Convention we had the pleasure of visiting the great exhibition. We will not attempt a description of its magnificence, will pass it over by merely saying that 'the half has not been told,' and advise those who have not been there not to miss seeing it before it closes. We found the Ontario Honey Exhibit on the gallery of the Agricultural building, a very neat display, of excellent quality, and as far as we could judge it compares favorably both in attractiveness and quality with the American exhibits, yet it is not nearly what we are accustomed to see at the Toronto "Industrial."

The Committee has been somewhat handicapped through insufficient donations of comb honey. There has been an abundance of extracted sent in. Mr. John Newton deserves credit for the neatness and order of the display. Mr. James Armstrong is now in charge. The following is a list of

the contributors and contributions:

J. E. Holt, Newton Robinson, Ont., extracted clover honey.

John Newton, Thamesford, Ont., extracted clover honey, comb honey comb foundation and beeswax.

H. G. Sibbald, Claude, Ont., extracted clover honey, basswood honey and comb honey.

Alex. Goodfellow, Macville, Ont., extracted clover honey.

M. C. Beaupre, Simcoe, Ont., extracted clover honey.

Dennis Nolan, Newton Robinson Ont., extracted clover honey.

W. J. Brown, Chard, Ont., extracted clover honey and beeswax.

Samuel Wood, Nottawa, extracted clover honey, basswood honey and beeswax.

H. E. Gale, Ormstown, Que., extracted clover honey and comb honey.

John Pierie, Drumquin, Ont., extracted clover and basswood honey.

J. F. Switzer, Streetsville, Ont., comb honey.

H. D. McLaughlin, Vankleek Hill, Ont., extracted clover honey.

James Armstrong, Cheapside, Ont., extracted clover and comb honey.

George E. Saunders, Agerton, Ont., extracted clover and basswood honey and comb honey.

Wm. Couse, Streetsville, extracted clover and basswood honey.

George E. Johnston, Bracebridge Ont., extracted clover honey.

Robert H. Smith, St. Thomas, Ont., extracted clover honey, comb honey vinegar, and several articles for bee-keeping supplies.

George Wood, Erasmus, Ont., extracted raspberry honey.

W. A. Chrysler, Chatham, Ont., extracted clover honey, comb honey and beeswax.

J. D. Evans, Islington, Ont., extracted raspberry honey.

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Buckwheat Cakes and Honey.

The merry convention song of the N. B. K. A. was composed for the occasion by its poetical general manager, Hon. Eugene Secor, Forest City, Iowa, and the music by Mr. Geo. W. York, editor of the American Bee Journal. Mr. York, who has excellent musical abilities, favored the audience with a rendering of the piece, and afterwards led them in its singing.

When e'er I pass a scented field
Of buckwheat, late in summer,
I know the blossoms nectar yield
And watch each laden "hummer."
And dream of what the winter'll bring
When days are not so sunny,
Then bees no more are on the wing,
'Tis buckwheat cakes and honey, Oh

CHORUS.

Hurry up the flap-jacks,
Make the batter "runny"
Cook 'em quick, and bring along
Lots of cream and honey.

Laugh at Boreas when I know
The bees have stored a-plenty
To sweeten all that come and go,
No matter if it's twenty.
Bossie stands knee deep in straw,
I've ev'rything but money—
Sweet-heart wife whose love is law,
And, buckwheat cakes and honey,
Oh,—[Cho.

COMMUNICATIONS.

For C. B. J.:

Dear Sir,—The annual meeting of the Ontario Bee-keepers' Association will be held in the city of Woodstock in December, at a date not to be fixed with the dates of the fat stock market at Guelph. The Programme Committee have decided to invite the following gentlemen to take part on the programme:

Professors Fletcher, and Shutt, of Ottawa, and Professor Harrison, of Guelph; Messrs. Hutchinson, editor Bee-Keepers' Review, and Root, editor of Gleanings.

The above gentlemen are to be invited to give papers or addresses on any subjects they may choose.

President Newton will give his address. H. G. Sibbald, Claude, will give a paper on "The management of our Apiaries and Prevention of Swarming." R. H. Smith, St. Thomas, paper on "Exhibitions of Honey." Wm. McEvoy, paper on "Hits and Misses on Foul Brood." J. F. Fixter, Ottawa, paper on "Experiments." J. H. Shaver, Cainsville, on "The Production of Comb Honey."

It was decided to hold a banquet on the evening of the second day. There will be a question drawer at all sessions. It is hoped to have the programme complete very soon and printed in pamphlet, and copies sent to all members and any others interested.

I am, yours truly,

W. COUSE, Sec.

Streetsville, Sept. 26, 1901.

Feeding Back.

S. E. Miller.

This article will be too late to be seasonable, but as it is more fresh in my memory, I can give the facts more minutely than I can perhaps nine months later.

It is not as pleasant to report failure as it is to publish our success, but as it is sometimes worth as much to know what not to do as what to do, I will give what might be considered a failure, so that the readers may profit by not doing as I did. July 5 I put on one of my best honey gatherers and comb builders, three supers containing eighty sections. On top of these I placed a Miller feeder, and gave them eighteen pounds extract.

ed honey, diluted with five pounds of water. By the evening of the sixth they had cleaned the feeder. After that I gave 16 pounds honey to 4 pounds water, and continued to feed them as often as they emptied the feeder; but after the first feed it took them from three to four days to empty the feeder. By July 20 I had given them one hundred pounds of extra fine extracted honey (chiefly white clover), worth to me 10c per pound. On that day I removed the supers, and the feeders, which contained 7½ pounds of food, or the equivalent of six pounds of extracted honey. They seemed to have almost entirely quit working on the food at this time; hence they had consumed in cramming their brood chamber, putting some in the sections, and having a general feast, ninety-four pounds of my finest extracted honey. Here are the results:

Gross weight of supers and sections, when put on.....22¾ lbs
 Gross weight of supers and sections, when taken off....70 lbs

Net gain from 95 lbs. extracted honey consumed.....47¼ lbs

It will be seen from the weights given that the sections are not as complete as they should be. I have not taken the sections out of the supers to examine them and see how they look, as I am not as much interested in the work as I was at one time. The only way I can see to balance books with this colony is some thing like this. (The number of this colony is E5).

July 5 to 20—To 94 lbs extracted honey at 10c...\$9 40
 July 5 to 20—Time consumed, feeding etc... 40
 July 20—By 47¼ lbs comb honey at 15c..... \$7 09
 July 20—By experience 2 61

\$9 70 \$9 70

The comb honey is not worth 15c per pound, as the sections are not complete, but if I do not allow Mr. E5 that much, my experience will come too high.

I allowed them seven frames in the brood chamber, and should have reduced it to four or five frames. I gave them too many sections to work on. I gave them some sections containing only starters, and should have given unfinished sections only.

I see by an article in Gleanings of August 1 that Editor Doolittle's experience in feeding back has been similar to mine, and he has reached about the same conclusions that I have, viz.: that the thing soon gets old with the bees, and they seem to think that a big feeder full of honey upstairs is about as soft a thing as they want. They apparently conclude to have a sort of a protracted "feastable," as the negroes say, which evidently they think will last always. However, I am not ready to give up and if the bees and I live to see the honey harvest next year, I intend to buy me some more experience, even if it does come high. Is it not possible that I fed in the wrong manner?

I thought that by this heavy feeding this colony would likely take to swarming fever and rear some good drones, which I very much need just at that time, but if they had swarming fever, it must have been a mild case for I only found a very few drone larva scattered around through the hive, when I removed the supers and then placed a frame containing about half drone combs in the center of the brood nest. This might have worked had I not been a lobster and put the feeder back on with the remaining pounds of food. Upon examining about two days later, I found a drone comb nicely filled with—can't guess what? Why, with honey of course.—Progressive Bee-Keep

Queens for Comb Honey.

How long a queen should be kept and bred from has been a subject of much discussion and disagreement. We believe from our experience, and that of many others, that no hard and fast rule can be laid down. Queens vary. One may be prolific and show no signs of failing for four or five seasons—we have seen this to be the case in our own yard—while another will deteriorate in two or three. A beekeeper must observe keenly and use his judgment in the matter. A correspondent writing to J. M. Doolittle along this line says: "I have decided that every colony that is intended to be run for comb honey during 1902 must contain a queen of this year's rearing. I desire good queens, that my stock may not deteriorate. In view of the foregoing, what plan can I follow in order to produce the best results for a series of years? Please tell me through the columns of the American Bee Journal." To which Mr. Doolittle replies as follows:

In answering this, I must say I cannot conceive what line of argument could have been used to bring the questioner to a decision that he should not allow a queen over a year in his apiary, which was to be run for comb honey, and cannot help making that when his experience accumulates, he will find that his decision is not well-founded; for queens which are in their second year do fully as good work as younger ones, where the colony is worked for comb honey, and often are equally good the third and fourth year. Those who have read the Canadian Bee Journal for February, 1901, and turned up what is found there about queens, will have a "feast of things" to revel in for some time to come, along this matter of queen-keeping. There, Mr. J. B. Hall, than

whom the world can not boast of a greater apiarist or more practical comb-honey producer, has things to say about prolific queens which it would be well for all those to heed who have considered that prolificness in queens was the ne plus ultra. Among other things he said was this:

"I want longevity in my bees; I want that first and foremost; that is why I don't want to replace my queens every year, because if I do I must kill them, and I don't know what to kill. If I keep them three or four years and they have done good work for four years, wintered well, given me comb honey and in good shape, that is the kind of queens that I want to rear others from." And in reading that from the foremost practical comb-honey producer of the world, I said right out loud, "Amen." Working along that line means a constant improvement in our bees, while resolving that each colony must have a new queen every year, has not a single element of improvement in the whole "shooting match." Besides the above I find, as a rule, that the bees will supersede their own queens as soon as they begin to fail to any appreciable extent; and when the bees undertake this work it is done much more satisfactorily, all things considered, than it is when the apiarist attempts to say, "This shall be," or "This shall not be."

But if our correspondent thinks he must have his own way, then there probably is no better plan than to follow what is given in "Scientific Queen-Rearing," or that given by W. H. Pridgen, during 1900, in the newspapers. If you think this too much bother, or consider it "fussy," as some claim, then you can rear pretty good queens in th's way:

Kill the old queen and let each colony rear one from her brood. In five days from the time you killed

the old queen, open the hive and look for queen-cells. In doing this it is well to shake the bees off the combs so that the cells can easily be discovered. If they are found capped at this time they should be destroyed, as they will contain larvæ that are too old to make good queens. Bees do not cap over a cell containing a good queen-larva, as a rule, in less than six days from the time the mother queen is removed. The reason for this lies in the fact that bees rarely miss their queen to a sufficient extent to start cells in less than from two to two and one-half days after her removal; and if you find cells sealed over on the fifth day after the removal of the old (or mother) queen, you may know that the larva in said capped cell must have been three to three and a half days old when the bees undertook to change it to a queen. All queen-rearers agree that larvæ two days old and under give the best queens, and that a larva older than three days should never be used under any circumstances, if we would have queens which can to any extent be called good. Of course, the colony is to be well fed, if no honey is coming in from the fields, until the sixth day, or till all cells are capped over.

Bees in Palestine.

A recent report of the United States consul at Jerusalem gives quite an interesting account of bees and honey in Palestine. Mention is made of a family that emigrated from Switzerland in 1849, and settled at Artus, a few miles from Jerusalem, the father being a practical bee-keeper. He had five sons who inherited the father's enthusiasm in apiculture. They kept the bees in the sort of hives then in use in that country, terra cotta jars, and while they produced considerable honey

with such hives, the best results were not obtained until 1880, when an American taught them the modern methods of working an apiary, when in 1884 they obtained 6000 pounds of honey from 50 hives in less than a month. The Turkisk officials discovered the industry and its wealth-making power and proceeded to levy a tax system that increased 1500 hives of bees to 2000, working up a tax of \$500 on a single apiary, which was more than the industry would bear, and the hives were seized by the government and sold at auction at Jerusalem for about one dollar per hive, but the purchasers not being skilled bee-keepers and the bees not being disposed to sanction the action of the Turkisk tax-gatherer, the bees again fell into the hands of the original owners. The products and climatic conditions of the land in Palestine are very similar in many respects to Southern California. The orange and lemon trees give a good quality of honey and the bees are carried from one locality to another. To give sufficient bee pasture the Shiek demands toll on every caravan that passes through his village, and the toll is regulated so that "it is what the tariff will bear," and sometimes amounts to confiscation and total destruction.

It is recorded that the industry is beset by many obstacles and calls for patience, tact and perservance. The owners of the Holy Land bees make quite a business in exporting their bees, some of them being sent as far as California. Some years ago some bee-keepers were purchased and found them to be very prolific, but rather vicious in handling, even at swarming time. They are a handsome race and when leaving the hive go straight away to the field without circling ceremony, and on their return come home to the hive as straight

the ball and enter the hive directly. The robber bee that attacks their hive soon gets tired and quit.

The bees of Palestine are a distinctly marked race and their fighting proclivities are doubtless the result of untold centuries of rather rough handling by the various nations that have come in contact with them in the ages past. The American bee-master can in a few seasons work out much of the fighting proclivities of the Palestine bee, without diminishing its business vim and proclivity multiply.—Rural Californian.

Good Management Makes Good Luck.

By G. M. Doolittle.

Out here in the country there has been music all summer long; music from early morn till night; music which has not been made by the tongue of man or birds. It has been the hum, hum, of the busy, enterprising bee-keeper. The bee-keeper's wife, in the midst of her housecleaning, sewing, getting dinner, has often paused to listen to the melodious strain, and content on the rapidly filling section "it is much as usual when things go wrong in these matters, often wondering, perhaps, whether her husband have any "luck" with the bees this year, as she sees visions of new dresses, new furniture, new carpets, new dresses, etc., as they play "hide and seek" in her thoughts. Well, luck! that is the mystic charm which we hear so much about in connection with bee-keeping by those who have entered into it, and often by the hobby bee-keeper who has been in the business for years. Queer thing! There is not any more "luck" following the bee-keeping industry than there is in the grocery business or the carpenter's trade. It

means simply what ability you have for work in that line, how much energy you put into it, how much time you devote to it, how enthusiastic you are over it, how many of the little kinks you study into, and what knowledge along that line you have or can acquire, and how you apply that knowledge. At least, that is the way I look at it after being in the bee-keeping industry for nearly thirty-three years. Luck depends on systematic, persevering care and attention. If your bees are left to care for themselves, with an occasional oversight when you have no other pressing work or the hammock ceases to be enjoyable to you, then I venture to say that you will have the usual "bad luck" we hear so much about. Again, give them the care they need, and that regularly and in the right time, the same as you would your pig, that pig which you expected to make outweigh your neighbor's which was born in the same litter, and my word for it, and the flowers secreting honey, you'll have luck that will make your neighbors open their eyes. You cannot expect to have it unless you work for it, for hives open at the top during winter and spring, no thoughts or work about securing a multitude of bees in time for the blooming harvest, no preparation for surplus honey before it comes, and no inspiration in your heart which makes the tips of your fingers itch to be doing something all the while to make the bees prosper in your hands, all tend to make the time near at hand when your neighbors will say: "I told you that A. would never have any luck with bees." Undoubtedly this is where many a beginner has made his mistake; he relied too much on that magic word, luck.

If you have entered into bee-keeping and find yourself too busy to properly attend to them, turn the bee

business over to some member of the family who will give it the time, study and attention required for success in any line, and your luck will be assured. See the bees often, keep their hives warm, dry and comfortable during winter and spring, know just when the flowers bloom which give the surplus honey in your locality, work to secure the maximum amount of bees just in time for that bloom, put on the surplus arrangement at the very beginning of that bloom, and take off the surplus at the ending of the same, when the honey in the sections is snow-white, so it will captivate every eye which is placed upon it, get it off to market at the right time and in the most marketable shape, and then properly prepare the bees for winter again, and you'll have no further cause to depend on the word "luck."—American Bee-Keeper.

Strong Colonies for Winter.

We read much about strong colonies in spring which are always the profitable ones to have, but to have them it requires strong, healthy colonies in autumn in most cases. We never find a colony coming out in spring stronger in numbers than they were in autumn, but on the other hand, they will always be much weaker. A weak colony in autumn will be weaker in spring, and if we expect to have strong colonies in spring, we must have stronger ones in autumn. It is true we do not expect to have the number of bees to start into winter with, that we have during the honey season, but we want them strong enough to fill up the brood chamber well, and when clustered up during the first cold spell, would occupy most of the combs in the hive.

The conditions must be right for a colony just going into winter quar-

ters. It should be strong of bees, and these bees should be bred during the autumn months, largely in early autumn. It is not best to have too much brood in the combs not hatched out in going into the winter, but a small portion will not hurt. September and October bred bees are just the right age to carry a colony over the winter well, and breeding may be carried on later if the first part of the winter is open. It is not always possible to get colonies in the condition from the fact that if they do not get an autumn flow of honey they will not breed much, and in many cases not breed any. So that by feeding only can we get the desired results, and it is very easily done.

Young queens are much better breeders than old ones, and a young queen of the present season's raising will have a good quantity of brood in her combs during autumn, while old queens will scarcely lay an egg. This is of considerable importance and enough to pay us well for requeening all hives with young queens during the summer.—A. H. Duff, Garden and Farm.

The Exhibitions.

LONDON.

The "Western" presented a very good display of honey this season, the quality was excellent and the competition between the lots extremely close.

For some reason the number of exhibits do not materially increase usually the same exhibitors appear after year. Perhaps it may be that bee-keepers are not sufficiently interested or instructed in this sort of thing but local associations should work it up among their members.

prizes are certainly worth aiming at besides the value of the exhibition as an advertising medium.

The followings were the awards :

Largest and most tastefully arranged exhibit—1st Wm. Coleman, 2nd Geo. Kimball, Bryanston, 3rd J. B. Aches & Son, Poplar Hill, 4th Mrs. S. E. Rudd, London.

Best 200 lbs. comb honey—1st Wm. Coleman, 2nd Geo. Kimball, 3rd J. B. Aches & Son, 4th Mrs. S. E. Rudd.

Best 200 lbs liquid extracted honey—1st Wm. Coleman, 2nd Geo. Kimball, 3rd J. B. Aches & Son, 4th Mrs. Rudd.

Best 20 lbs. comb honey—1st Wm. Coleman, 2nd Geo. Kimball, 3rd J. B. Aches & Son.

Best 40 lbs. liquid extracted clover honey in glass—1st Wm. Coleman, 2nd Geo. Kimball, 3rd J. B. Aches & Son.

Best 40 lbs. liquid extracted honey (not clover) 1st Wm. Coleman, 2nd Geo. Kimball, 3rd J. B. Aches & Son.

Best 20 lbs extracted granulated honey in glass—1st Wm. Coleman, 2nd J. B. Aches & Son.

Best 10 lbs. beeswax—1st Wm. Coleman, 2nd Geo. Kimball, 3rd J. B. Aches & Son.

Best half gallon honey vinegar - Wm. Coleman, 2nd Geo. Kimball, 3rd J. B. Aches & Son.

Largest and best domestic uses for honey—1st J. B. Aches & Son, 2nd Mrs. S. E. Rudd.

Best comb foundation—Wm. Coleman, London.

Best display of queens—J. B. Aches & Son, Poplar Hill. Best Martin Emeigh judged.

OTTAWA.

decoration mania here at present, bred and fed by the presence

of Royalty, has evidently entered the heads and hands of the honey exhibitors. The background of the several displays was very tastefully draped and flagged and the windows curtained, which greatly enhanced the beauty of this section of the exhibition. It is generally conceded that the show this time is much more attractive than any previous display.

The honey yield this summer in the Ottawa Valley has been particularly large and consequently the display here was by tons, one exhibitor having 40,000 lbs.; and what seems remarkable and pleasing to the Apiarist the demand for honey here never was so great and sales so rapid at high figures.

There were five exhibitors—3 on a large scale and 2 very small. Messrs. Brown and McLaughlin showed last year and Mr. Caldwell, of Carp, made his maiden show, largely in the form of a cottage, a modification of M. H. Hunt's at Detroit in 1892.

Mr. J. K. Darling, of Almonte, was again judge, with the following results:—

	1st	2nd	3rd
McLaughlin	- 7	5	0
Brown	- - 5	7	1
Caldwell	- - 1	1	2

Ottawa, Sept. 21, 1901. APIS.

Die Bienenpflege (Wurttenberg) says that honey strained and bottled in the sun, and allowed to remain there for some time, clarifies much quicker and also improves in aroma by the process.

Gibbon says that sugar was first brought from Asia to Europe A. D. 625.

Don't put honey in the cellar; its the worst place possible.

