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MOON'S BEE WORLD,

—A GUIDE TO—

BEE-KEEPERS.

VOLUME 2.

JUNE, 1875.

NUMBER 7

CORRESPONDENCE.

MICHIGAN BEE-KEEPERS CONVENTION.

KALAMAZOO, May 6th, 1875.

The second semi-annual session of the Michigan Bee-Keepers Association convened in Corporation Hall at 2 o'clock p. m., President Bidwell in the chair.

The secretary read a report of the previous meeting, which was read and approved.

After the transaction of business relative to the affairs of the Association, the programme of the session was taken up. The first topic, "Wintering Bees," was introduced by a paper from Frank Benton, of Knoxville, Tenn., read by the secretary. The advantages accruing to the "Sunny South," as a winter resort for the apiculturist was considered at length, with the conclusion that the migratory system of bee-keeping might thus be made both pleasant and profitable. The paper elicited considerable inquiry relative to the cost of transpor-

tation and other necessary expenses when the topic was discussed at length.

T. F. Bingham—I put 150 stocks into winter quarters in January. When put in, the combs were frosty and soon thawed out, creating a bad smell, reminding one of the old dysentery times. They commenced to dwindle down, and when carried out in March, I had 113 in good condition. Have a distant hope of saving two stocks, my present number.

A. C. Balch—Did your bees commence rearing brood in winter quarters?

T. F. Bingham—They did, largely, as I have always found them to do when they die of disease. I winter in a house above ground, ventilated above and below; temperature from seven to 45 degrees above zero; bees did not die in the hive. When they die out of doors, I find them in a cluster in the hive. Had abundance of honey in close proximity to the bees.

C. I. Balch—Did your honey granulate?

T. F. Bingham—It did not.

A. E. Bidwell—What kind of honey did you winter on?

T. F. Bingham—Boneset, mostly. The quality was very good; at least, people in Chicago like to buy it in glass boxes.

L. H. Albright—Winter in an out door cellar, in eight-inch frames. They have all come out in good condition. Put them in December 1st; give hives no upward ventilation; leave entrance open below; do not disturb the bees after putting them in; temperature above freezing.

A. C. Balch—Did your bees have brood when set out?

L. H. Albright—They did, especially the stronger colonies.

H. E. Bidwell—Are your bees black or Italian?

L. H. Albright—All black bees.

A. C. Balch—Do you extract honey?

L. H. Albright—Never. Raise all box honey; sources of supply are white clover, basswood and boneset principally.

A. W. Davis—Do you get any raspberry honey?

L. H. Albright—Not of any account.

H. E. Bidwell—Bees use raspberry honey in rearing brood, seldom storing it in the combs.

Julius Tomlinson—Will the President give his experience in wintering in the cold-frame.

H. E. Bidwell—I wintered 80 stocks in cold-frames, and am only sorry that I did not winter them all in the same manner; left the balance on summer stands; they wintered well but didn't spring well, as they "got sick."

Julius Tomlinson—How often do you allow them to fly in winter?

H. E. Bidwell—Once in two weeks; keep the temperature above freezing point; have discovered but one case of dysentery in the cold-frame.

Julius Tomlinson—Had 26 good colonies last fall in five-inch hives, two sets of combs; wintered out-of-doors and they have dwindled down to 15; much of the time they were well banked with snow.

H. E. Bidwell—Did they occupy the upper set of combs?

Julius Tomlinson—Some did, others did not; bees mostly black and hybrids; had plenty of empty combs for bees to cluster in.

Ezra Rood—I have wintered in a great variety of ways; used to succeed admirably in nearly all ways; now they usually die; had a good cellar, dry and well ventilated; mercury stood at from 42 degrees to 45 degrees; the atmosphere was pure and good; lost three fourths of my bees in the cellar; used to think that I could "run bees" to my satisfaction, but now—run them into the ground; its a dysentery—that kills our bees; don't think that cold weather raises the mischief, as bees are wintered in Russia and other cold climates without material loss.

H. E. Bidwell—Did you give upward ventilation?

Ezra Rood—Some hives I did, others not; saw no difference in results.

E. J. Oatman—How was your cellar ventilated.

Ezra Rood—By tubes running above in each corner; also have the bottom ventilated.

E. J. Oatman—Did you keep a record of the temperature?

Ezra Rood—Yes, and am very careful not to let it go below 40 degrees or above 45 degrees; but suppose it should freeze in the cellar? If the mercury did not go below 20 degrees even, we should not regard cellars of much value.

E. J. Oatman—Extracted stores in August and fed 25 pounds of sugar syrup; put quilts on top and at end of frames; when cold weather comes, put them in the cellar and keep them quiet. Do not put them out in spring until warm settled weather. If cold comes again, hustle them in again; leave off cap of hive but give no upward ventilation; mercury ranged from 32 degrees to 46 degrees; lost eight out of 110 stocks; prefer sugar syrup to honey, and old to new combs for wintering.

T. F. Bingham—Your stocks had young bees in the fall?

E. J. Oatman—They did; especially those that built new combs late, and died the worst.

T. F. Bingham—That hurts the "old age" theory. How have your bees "springed"?

E. J. Oatman—Well, for the most part. Have had to double up some of the weaker ones.

T. F. Bingham—I have doubled up over a hundred.

E. J. Oatman—We did not double up in that style. Was obliged to reduce six hives to one, however—bees that were put in the cold-frame and bumped their against the glass. Stock that were perfectly healthy when put into the cold-frame hadn't a single bee left in less than two weeks.

Julius Tomlinson—How would it have worked to put bees in the "frame" in March and allowed to fly?

H. E. Bidwell—I tried about 80 at that time and injured them. Do not think it advisable. They should be put in in the fall.

Julius Tomlinson—Would not a single tier in a narrow frame be better?

H. E. Bidwell—I think it would be as well, perhaps better.

James Heddon—I have tried the cold-frame. A tree shaded one corner, and the bees tried to get out and cluster upon it. I think there should be nothing above the frame, except blue sky.

E. J. Oatman—Would the glass placed in a horizontal position give enough heat?

H. E. Bidwell—It would not.

James Heddon—Have had much trouble in having bees cluster in the glass in the cold-frame.

E. J. Oatman—By putting mosquito netting on the under side of the glass, I prevented clustering on the glass, and all attempts to commit suicide by bumping their brains out against it.

James Heddon—Have wintered fifty-one swarms in good condition and am at as much of a loss to know why, as I was when I lost so heavily, here tofore. I set them out in March, and they had a good two days' fly. Think partial fly only an aggravation. Credit my success in a measure to the Italian bee. Do not think rearing early is desirable. It expends the vitality of the bees without a proper recompense. Do not use any quilts whatever. Prefer a good, plain board. They are less cumbersome, and I think just as good. There is something more important than quilts that is at the bottom of our success. The same is true of ventilation. I have stocks in hives that are badly cracked, so that it snows and rains in them, yet they are strong and healthy. They are so tough you cannot kill them.

C. I. Balch related instances of how bees have wintered well in one season and nearly all died in others, under the same apparent circumstances. How can we account for it, unless it be a disease?

The next topic, "Building up Colonies in the Spring," was then taken up.

T. F. Bingham was called upon to give his experience. He said that in consequence of having met with a serious calamity; his usual buoyancy of spirits had departed, and he did not feel like talking. It's no use to build up colonies, except to have them die.

E. J. Oatman—Has any one used quilts stuffed with bran on hives?

Julius Tomlinson—I have, and find they accumulate considerable moisture, especially at times in spring.

T. F. Bingham—I would advise you to send that item to Gleanings. A. I. Root has been trying to invent a wintering-trough for his, and this, no doubt, will fill the bill. It can be used in connection with those beautiful tin corners. Tis just the thing.

A. C. Balch related his experience in rearing queens. Preferred to remove a queen from a full colony, and

when the cells were nearly mature, insert them in other colonies. Queens should be started from larvæ not over two days old, less would be better. Exchanging combs is better than cutting out queen cells. Early in the season is a much better time than later.

C. I. Balch stated that he had eggs removed from inserted combs to other combs developed into queens. Some were very good, were prolific for nearly five years, while others were valueless. Have raised queens in October that proved hardy and prolific. There is a vast difference in different strains of stock. The only way to winter successfully is to make good woolen shirts and drawers for the "pets."

E. J. Oatman gave his experience in detail in getting worker combs built in the fall. Remove all brood combs except two or three containing capped brood, and fill up with empty frames. Fed 500 pounds of C sugar, and obtained worker combs, 11x12 inches, at a cost of 20 cents each.

C. I. Balch—It has been stated as requiring 25 pounds of honey to make a pound of comb; Does it require as much syrup?

E. J. Oatman—I cannot state; only two or three hives built any drone comb.

A. C. Balch—Did the bees have any drone comb when they commenced building comb?

E. J. Oatman—They contained none.

T. F. Bingham—Were the bees gathering honey at the time?

E. J. Oatman—Enough for breeding purposes, but not to store any.

Julius Tomlinson—What is your experience in getting comb from honey as gathered by the bees?

E. J. Oatman—Anything besides satisfactory; have always got a too large proportion of drone comb. They do not build as rapidly as they do when fed on syrup.

Julius Tomlinson—By taking away all full combs of honey I got worker combs built at one side of an upper story.

T. F. Bingham exhibited specimens of artificial comb, made of paper and coated with wax. Bees store honey in it readily.

C. I. Balch—Will they breed in it?

T. F. Bingham—I didn't ask so much of them.

Jas. Heddon—I want to get an artificial comb that the queen won't look at, even. Such a comb would be valuable.

T. F. Bingham—To get honey, use a box to hold three combs, keep black bees, be careful to commence on the right day of the week, observe the changes in the moon, and if it rains honey and the bees don't get their backs up, we are all right; but if they do, ours are down.

A committee of three, consisting of James Heddon, T. F. Bingham and H. A. Knapp, were appointed to draft resolutions, when the convention adjourned until evening.

EVENING SESSION.

The association was called to order promptly at 7½ o'clock. President Bidwell in the chair. The first topic, "Extracted Honey," was introduced by a paper from James Heddon, of Dowagiac, who took the ground that we ought to discourage the production of every single pound of honey which cost 30 cents to produce it that will be a drag on the market at 15 cents. He also urged that we should pay more attention to developing a good, reliable market for our products. The relation of the producer to the "exclusive" honey dealers in cities, was considered at length, with the conclusion that if we are to make money in the apiary, we must get our surplus in small glass boxes, instead of waxed barrels.

T. F. Bingham—Dadant says that if honey candies, it's pure, but we can't always wait; glucose is made

from starch, treated in a retort, with sulphuric acid: this can only be removed with lime: the addition of water will lessen the acidity; substances containing tannin added to it will turn it black, but not good syrups.

A. C. Balch—According to good authority our "golden drip" syrups are largely adulterated.

James Heddon—All honey contains acid—formic acid—as is fully demonstrated by analysis.

Julius Tomlinson—Extracted honey is finding favor in my home market, though for profit, box honey is the thing.

A. C. Balch—Even if we are compelled to use liquid honey in making vinegar, it will pay; even for the good of the bees, especially in times of great honey secretion.

James Heddon—Extracting honey to give room in the brood chamber, is giving room for more honey, rather than more brood. While Italian bees are inclined to store honey in the brood chamber, we can coax them to store honey above and out of the way. Black bees are much better, however, if we can only induce them to survive our awful winters.

E. J. Oatman—What would your black bees do in a "tough" honey season?

James Heddon—About as well as Italians, better early in the season.

E. J. Oatman—In times of scarcity I have had Italians rear abundance of brood and store a little honey when the blacks were loosing ground.

Julius Tomlinson—I think Mr. Balch is right about the value of the extractor in keeping the brood-chamber clear of honey.

James Heddon—And keep your surplus out of the honey boxes at the same time.

A. C. Balch—Though bees don't know much, they are not fools altogether. Honey in the hive is detrimental to brood rearing in summer, and too much of it, to success in wintering. They will store it in the brood

combs in excess of what is best for their welfare.

H. E. Bidwell—If your combs get full, raise them up and let them store in empty frames below.

A. C. Balch—And always get drone comb.

James Heddon—If I am to get box honey, and they are bent on storing in the hive, then it follows that I must wait till the hive is full below before they will store above, when I haven't the bees to do it? Such logic hurts my theories of obtaining box honey.

T. F. Bingham—We are told that the extractor will save our bees; but practically speaking, our bees have all gone to—well, a warm climate. Years ago, before there were any such thing, bees wintered well. Oh, that beautiful "honey-slinger."

James Heddon—Will Mr. Burch state if he is able to keep his combs full of brood and get honey stored in boxes without the aid of any extractor.

H. A. Burch—Even Italians, properly managed, will keep the brood below, and honey above, in boxes, and too, without any aid from an extractor.

A. C. Balch—If for no other reason than obviating troubles with the moth, I should prefer the Italian bee.

T. F. Bingham—I hope the President will rule out this Italian bee question. I have been maligned, abused and churned for daring to say a word derogatory of their merits. If Dadant hears of it he'll give us poor fellows "hail Columbia." Let us avoid this mellow subject altogether.

James Heddon—Mr. Bingham should remember that he is at perfect liberty to express the opinions of the majority—not the minority.

H. A. Knapp preferred a hive that would admit of removing frames in the rear; thought it preferable to lifting out of the top; frames are a foot square.

James Heddon—I once saw a hive on the "lake shore," while visiting H. A. Burch, that the frame came out at the rear; 'twas a nice rattle-trap; it

wants 26 yoke of oxen to remove frames when bees stick them; have had "hive" on the brain; tested other people's hives, and experimented on my own delusion; to-day I want a hive with a tight bottom, eight inches deep fourteen wide, and twenty long, and leave the frame out; if the bees die, let them go.

A. C. Balch—How would you swarm "artificially?"

James Heddon—Just as I do now with frames; drum out the swarm, and put it on the old stand, removing the old hive. Use a shallow drum box with slats on the open side, and be sparing of smoke.

A. C. Balch—Ofentimes the queens don't want to go.

James Heddon—But we make them go; can get them in this way much easier and more speedily than by hunting for them. To be of value a process or implement must possess more advantages than disadvantages.

The subject of making a display of our products at the Centennial Exhibition was considered at some length. Various opinions were expressed, when the subject was finally committed to the charge of the President to act in the best interest of the Association.

T. F. Bingham read a paper on the requisities of the successful apiarian. The subject was considered from a facetious standpoint, causing considerable merriment.

A. J. Pope gave a description of Seth Hoagland's device for hiving bees. He also related instances of making bees cluster wherever desired by whistling for them.

Ezra Rood—I also tried the whistle—a regular pig-tail quirl—but failed to strike the key-note.

A member—A cluster of mullen heads attracts them quite successfully.

James Heddon—I wish to call attention to these honey jars from Charles Muth, of Cincinnati. They give the honey a nice appearance, and Mr. Muth is a perfectly honorable dealer, and liberal withal. Those in want of jars should patronize him.

H. A. Burch exhibited a sample of very neat glass honey-box, made by C. R. Isham, Peoria, N. Y., which attracted much attention. It was universally admitted to be the neatest thing of the kind yet devised.

Considerable discussion followed, mostly of a desultory character, on various topics, which we omit, the main points being embodied in the report of our last annual meeting.

Mr. Bingham, as chairman of the committee on resolutions, reported, tendering in very appropriate terms our heart-felt thanks to the good people of Kalamazoo for the many favors which we, as a society, were indebted to them for which, was unanimously adopted, after which the Association adjourned to meet in Kalamazoo the first Wednesday in December, 1875.

HERBERT A. BURCH, Sec.

ON THE DISEASE OF THE LARVÆ.

[Translated for the BEE WORLD, from *L'Apicoltore* for April, a Bee Journal published in Milan, Italy.]

[PART FIRST.]

A LITTLE BY WAY OF THEORY.

Perhaps some readers may, like myself, hold the opinion that the cause of the disease of the larvæ ever eludes our most close and diligent search. Preuss maintains that the disease is of parasitic origin, but this theory is more plausible than just.

The exact science of microscopy does not pique itself upon exactitude, says a French author, and our case is fitted to elucidate this statement. In 1868, Preuss, with his microscope, examined studiously a small quantity of the infected fluid. Thinking that he had made a great and important discovery, he proclaimed that the disease is caused by the fungus *criptococ-*

cus alvearis (so named by Preuss). But in 1869 he retracts. Upon more minute examination, he found in the putrid mass a colony of the micrococcus [a microscopic fungus so named.], and he exclaimed anew: "This is the cause! The fungus micrococcus occasions the disease!" And Schonfeld adds his testimony. With a bit of cotton left near a pestilent scab he infected a healthy brood of larvæ, and from the fact that in this cotton the micrococcus abounded, and in the infected brood of larvæ also, he draws a new argument in favor of the theory that the disease is caused by the micrococcus. Here have we a new experiment, to which the test of practice has been applied; to wit:—a drop of honey, a filament from the post of the bee-stand, or a sprig of grass three steps distant from the bee-stand, may propagate the disease! The exposure of a whole year, apparently, does not appear to disinfect a hive already infected."

In 1869, Lambrecht, the chemist, wrote thus: "You microscopists will find that the micrococcus is an optical illusion; and to-morrow you will demolish the edifice that you have constructed to-day."

In 1874, after having furnished myself with the greatest number of facts possible, I re-examined the question and opposed the hypotheses of Preuss with arguments that I deemed valid; and almost contemporaneously the *Bienenzeitung* [German Bee-Journal] published an article on the disease, read by Schonfeld in the last German [Bee] Convention.

It is an article full of novelty; and almost a verification of Lambrecht's uncomplimentary prophesy, and also a confirmation of my own observations.

It is no longer the micrococcus that causes the disease, but, as it appears now, the malady depends upon a certain noxious vegeta-animal growth, that according to Cohn are batteri, genus bacillus.

What follows? asks the reader. Schonfeld, this year, went to examine his infected combs of larvæ at Breslau, under the guidance of the illustrious Cohn. As usual, in the contents of every cell the micrococcus abounded; but in the mass of these parasites prospered a population never before met with by any observer; a myriad of threads, some moving, some at rest, short or long, pale in color, simple, or complex, that is to say, jointed: these were batteri, genus bacillus. These batteri are not microscopically distinguishable from the *Bacteridium anthracis* that causes the carbuncle, or morbid swelling of ruminants, and the malignant tumor in man. Upon these facts, Schonfeld pours forth a mass of assertions, that merit, perhaps, a more patient examination, as the author himself seems to think. "The disease [he says] is characterized by the presence of batteri; therefore batteri are the efficient cause of the disease, and, indeed, these batteri are not found in simple putrefaction of the larvæ. And because the batteri are often mistaken for fungi, the assertion of Preuss that the disease is due to the fungi retains its integrity."

But the micrococcus? The micrococcus has served its time. Dubarry, and many others, writes Schonfeld, has clearly proved that the micrococcus is not the fermenting fungus that Haller imagined it to be. The micrococcus is either a *bacterius globosus*, or perhaps, (which is the more probable hypothesis), it is a germ of the

bacterius bacillus. This is the hypothesis of Cohn, who in many cases beheld it fraternize with both bacteri and micrococcus in a single microscopic preparation. Now, in our own opinion and experience, the hypothesis of Cohn is strengthened by the fact, that in the dry scab of the disease in question, bacteri were wanting; but yet, when with this same scab a healthy brood of larvæ was infected, innumerable bacteri and micrococcus appeared therein; while in dissecting newly dead larvæ, bacteri were not found, but micrococcus were found. Now, it appears that however common the micrococcus may be in this disease, they have a secondary importance: our formidable enemies are the bacteri. These are the proofs. In an infusion of water and various mineral salts, the bacteri characteristic of this disease do not reproduce themselves; infected water, if well filtered, or even water decanted with care from a vessel in which is a deposit of sediment, does not propagate the disease; and these data accord with analogous experiments made upon the micrococcus septicus, and vaccinæ.

In the face of so many assertions, I am confounded, and perhaps the reader is also; but passing over the point in dispute, the following remarks are obvious:

1st, In the cloudy days of January last, I gathered from various hives, many dead bees, and upon microscopic examination, I constantly discovered the bacteri. Shall I say, therefore, that these bees died of the disease? But how explain the presence of the bacteri? In digestion, the substance called glucose—which is the sugar obtained from fruits, and so forth—and honey is rich in glucose), undergoes

the lactic fermentation. Now this lactic fermentation is characterized by the presence of bacteri-bacillus, in every respect resembling those in dispute. (See Zorn's "Animal Parasites and Vegetable Parasites.") Hence we draw the conclusion that bacteri indicate, not the disease, but lactic fermentation, which perhaps is constantly going on among the bee-larvæ, because they eat and digest. Among the diseased larvæ various kinds of fermentation are doubtless going on, the lactic among others, and the bacteri will, therefore, not be found wanting. Therefore, rather than the bacteri indicating the cause of the disease, they do but indicate a single accident of the complex phenomena.

2d, Experiments with filtered or decanted water can decide no more than the famous reasoning of Don Ferrante, whereby he demonstrated that contagion is a chimera because it is neither substance nor an accident. Perhaps to some other experimenter an opposite issue may result: perhaps the pestiferous matter may be entirely abstracted from the water (and pure water is not infectious); or perhaps the water has deprived the pestiferous matter of all virulent power. In my opinion, therefore, the presence of the bacteri indicates a fermentation that may take place in a pestilential or in a non-pestilential brood of larvæ, as the micrococcus indicates a putrid fermentation; and hence, the presence of bacteri does not necessarily indicate the disease under discussion, because bacteri are found wherever lactic acid is generated; that is, for example, in the process of digestion, in cheese, and so forth.

The bee-pest is a malady that belongs to the class of contagious mala-

dies, obscure diseases, for which but one certain cause is recognized. As in typhus, scarlet fever, diphtheria, and so forth, the propagation of this disease is very great: there is a certain interval (about six weeks) from the absorption of the virus to the breaking out of the disease; it develops in a period of life (the larvæ resembling the chrysalis state) more exposed than in almost any other disease. Individuals most exposed to infections sometimes escape, while others that seem to be guarded against it, succumb. For we see that in the infected hives some bees are always born. Further, the propagation of the disease is extended through the air, and the food, especially that of liquid form. If, then, finally, the disease is a contagion, it must obviously be attributed to a kindred cause with that of other contagions: thus Preuss derives his opinions from such an idea. Now, for some years the knowledge of the fact that a very small quantity of the virus is infectious, in the same way that a very small quantity of larvæ is fermentative, has led to the conclusion that infectious diseases are zymotic, that is, fermentative. But while this still remains to be proved, there remains certain grave impediments to complete protection against contagion:—

1st, It is difficult to exclude by every precaution, the animalculæ from the air that everywhere surrounds us.

2d, It is impossible to settle the question, Whether these animalculæ are cause and effect. If the instance of bees locating in the dead body of a heifer, led the ancients to the belief that bees might be born of dead cattle, it is not less true that the presence of maggots in putrefying flesh might lead to the belief that maggots are the

cause of infection; and we know less of the nature of microscopic creatures than the ancients knew of bees and maggots.

[PART SECOND.]

A LITTLE BY WAY OF PRACTICE.

It is no new observation that contagion must depend upon the condition of the atmosphere. Even Renzo, a poor mountaineer knew that a good temperature suffices to eradicate the bee-pest. Our agriculturists know that the rust in grain, the blight of vines, and the epidemic that destroys the silk-worms, all rage during wet years; and it is universally known that contagious diseases, as a general rule, develop during summer. This admitted, the idea is to oppose the propagation of the disease with a curative system that shall change the condition of the atmosphere; that is, the temperature, the degree of damp, the proportion of ozone, &c., &c. No cure on such a plan can, indeed, be generally applicable, since the atmosphere surrounding any given animal varies quickly and greatly, and he is continually changing his place; yet, fortunately, it is, perhaps, applicable in the case of the larvæ of bees. The larvæ, as all know, are exceptionately situated; they occupy a small chamber with a single window, in a hive whence, as larvæ, they never issue. If, in order to overcome damp, we place some potash in the hives, the carbonic acid gas and the aqueous vapor, both will be diminished, for both will unite with the potash. The chloride of lime diminishes somewhat the aqueous vapor; essential oils and odors increase the ozone; a little alcohol introduces a new element in the atmosphere, &c., &c.

This seems to me to be the true aim of our researches; and I commend the above hints and experiments to those persons whose hives may be troubled by this terrible scourge.—B. GRASSI, in L'Aicoltore for April.

NOTES FROM GOLDSBORO, N. C.

BY T. B. PARKER.

FRIEND MOON:—As the material for making hives is being somewhat spoken of in your journal, you will allow me to ask if any of your subscribers, or yourself, have ever used cypress for hives? It is a very soft, light, porous wood, and bees often build in the trees while they are in the swamps. I am of the opinion that it would be one of the best of the different kinds of lumber for making hives; the only fear that I have is that it might warp. If any one of your contributors have ever tried it I would like to hear with what results.

Allow me to give you a portion of a private letter which I received from a gentleman who lives in the western part of our state (which is North Carolina, instead of S. C., as you made my letter read in May number of the *WORLD*). In speaking of the honey resources, he says: Our honey sources are honey dew, poplar and basswood. The latter by far the most important and makes a delicious honey, preferable to the white clover. Our woods are literally full of it, and it blooms in July—a valuable time. We have white clover here, but it seems to count for little, as but few bees are at work on it, although in full bloom. One bee man moved here last spring with ten colonies, and increased to forty, besides getting a handsome surplus of

honey. Another with two, made ten, and all filled their hives on sourwood.

The above speaks well for the western part of our state as a honey country. I would like to know if sourwood does as well in other localities as it does in that? Also what is the market value of the honey?

It is very dry with us, and bees are not doing much, although they seem to be very busy. They are not working on white clover as well as I have seen them. But the black gum is yielding tolerably well, I think. Poplar is not doing much. They are working some on blackberry. So far bees have not done well at all.

Goldsboro, N. C., May 24.

—The Cherokee apiary has a large number hives made of cypress lumber, and we find them to be very durable. From nearly a year's experience with them, we are lead to think very favorably of that wood for hives. As to honey made from sourwood possessing superior qualities or not, we are not able to speak advisedly. The tree is not plentiful enough here to make the honey in quantities to make it discernible from other kinds. Will some of our readers answer the questions more fully?

LONG ONE STORY HIVES.

BY J. P. H. BROWN.

If the honey extractor is used, I much prefer the long hive to the two story, and can confidently recommend it where the necessary care and attention are given to its management. Last year my largest yields of honey came from hives of this description.

I have mine made long enough to hold from 20 to 30 Langstroth frames

— $17\frac{3}{8} \times 8\frac{1}{2}$, outside measure—with entrance only at one end. This brings the entrance, of course, opposite the broadside of the combs.

As the queen has a tendency to bring her brood nest towards the front, I find it best to keep this portion of the hive supplied with frames of clean worker comb, in order to give the "mother" every chance to display her prolificness. The frames are covered with a honey-quilt, and the whole covered with a shallow cap. When I want to take out frames to extract from, I go to the back part of the hive, turn back the quilt, (sometimes use a little smoke,) and remove the frames wanted, and it is seldom the bees in front know what is going on, until the operation is over. By having a set of comb frames to put in place of those removed much time will be saved. The brood nest is to be pushed towards the rear, and the empty frames of comb are to be placed in front. When honey is coming in rapidly, the bees will fill the frames next the entrance, but the back ones are usually selected first.

The past winter in my latitude has been unusually cold, wet and cloudy, yet the bees have wintered just as well in these hives as in any others; but they were prepared thus: as a colony of bees does not require 20 frames to winter on, I take out 10 of the frames and place the remainder, containing the brood nest and stores, in front next the entrance, and use a division board for the back. Use a quilt to cover the frames, with a small round stick lying beneath to give a passage way for the bees.

The spring management is very important. I keep the brood nest in front, and as the weather gets warm

and the bees commence to carry in pollen rapidly, I commence to spread the brood nest by inserting a frame of clean worker comb. If the weather continues warm, I add a frame every week, but if cold, I do not disturb them. When the hive gets strong in bees and shows symptoms of swarming, I take out the division board and shove the frames to the rear of the hive, and fill up the front with empty frames; or, better, with frames of empty comb. When thus managed, and the extractor is judiciously used, these hives come about as near "non-swarmer" as you can well get. Comb honey can also be obtained in very nice condition for market by fitting small frames in the large ones. In one large frame I fit four small ones. This makes a very good sized frame for the table.

Augusta, Ga.

HONEY PROSPECTS IN GER- RARD CO., KENTUCKY.

BY R. M. ARGO.

In my last article, dated April 17th, I said the weather was still cold and ice $\frac{1}{2}$ of an inch thick. Well, from that date to the 19th of this month we had use for fire and overcoats almost daily. I now hope the winter has let go at last, and will not return until first of November. Since the great freeze about the middle of April, bees have done nothing, hardly, here, except what they could gather from the dandelion and sugar maple. But they are now for the last two or three days, pretty brisk at work on white clover, the first bloom of which I noticed on the 13th. It is now getting thick, while the blackberry, black locust and raspberry is not yet in bloom.

I had the first swarm of pure Italians yesterday: a very large one. I would here say I have not got a single stand of black, or hybrid, bees in my apiary, having shipped them all North this spring, keeping only pure ones. Hence a splendid time for pure queens, and the dollar queen business, but I will not go into it yet, if ever.

By the 14th of April bees were gathering honey so fast from fruit bloom that I was compelled to begin to extract, to get some of the old honey out of the way, and give the queen room to lay. Every stand was, at that time, too full of honey. Now you could open every stand, except the New Idea, and not find a particle of honey left, but what was gathered in the last three days. I did not extract from more than half-a-dozen hives before the change of weather warned me to cease. I am glad I did stop, for I have had to feed a few stands until the last few days. I can say I never saw such a good honey season in April before, nor did I ever see a better prospect for fruit, if I ever saw as good a one. Neither did I ever see such a cold spring in my life.

Friend Davis says Argo seems to have had good luck in wintering his bees. O yes, I only lost the weakest one, (in bees) and that was by a fall in a dark, windy night, in the last of March, when the weather had changed suddenly, and I went out with a light to bring the swarm into a room. The wind blew out my light, and I fell with the bees, dashing the combs to pieces, and scattering the bees on the ground, which of course immediately chilled, and so were all lost.

The white clover is now getting very thick, but it is also getting very dry. The general prediction here is

that this will be a bad honey season. But my prediction is that if the summer will keep backward in accordance with the backward spring, and we have seasonable rains, and the black locust blooms yet, it will be as good a season as last year, or any we have had yet. The danger is that the summer may be forward, after such a long and backward spring.

Lowell, Ky., May 21.

ECHOES FROM TEXAS.

BY A. H. R. BRYANT.

The BEE WORLD came to hand all right, and contents devoured. It is quite a treat to read the varied articles from your able contributors.

Our bees have not stored much honey as yet, on account of the backwardness of the spring, but are now doing a good business, working on the silk, or milk, weed, which yields a bountiful supply of nice honey (we sampled some of it yesterday). But the poor bee pays dearly for visiting so treacherous a flower, for notwithstanding she gets a goodly lot of rich honey, she gets her toes loaded with small particles of the flower, which she never gets clear of, and which annoy her very much.

We are also having a good supply of honey dew for a few days past. Bees are now storing in upper stories and boxes, and are swarming freely. We have had two swarms from the same colony. Bees are rather scarce here just now, as about half the colonies of this neighborhood died last year. Mine came through safe. I am experimenting with an Adair-Gallup "Long" Idea Hive; it is prospering finely.

Our locality for bees is only second rate, and there are but few progressive bee keepers in our vicinity.

Kauffman, Texas, May 26.

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NOTES FROM SHELBYVILLE,
ILLINOIS.

BY J. W. JOHNSON.

DEAR BRO. MOON:—A very long and cold winter is just past—at least I hope it is. I hasten to report my success in wintering: You know I am such an old foggy as to think bees do better on their summer stands in winter, than when housed. Well, my bees have come through this remarkably cold and long winter in most excellent condition. I think I never had them so strong. No upward ventilation was allowed, and the rains, snows, sun and storms of all kinds played upon them without any shelter.

Dr. Jewell Davis of Charleston, Ill., does not understand me, as I did not mean to tell "how to succeed in every case." I only intended to give my experience. And yet I do not know now what I did say, as I did not keep a copy of my article, and after reading the *WORLD* I sent it to a friend, hoping he might be induced to subscribe for it. I first read, and then send every copy to some person, requesting them, if, after reading, they should like it, to become a subscriber at once.

This is Easter, and it is a gloomy day, too cold for bees to be out. I have been around and fed mine with a honey, reduced by adding water. Yesterday they were busy carrying in rye flour. No sign of any vegetation putting forth yet, which is very uncommon in this latitude.

—
MAY 9th.

Up to this time there has been but

little weather suitable for bees to work in. There is some fruit flowers, but there has been only one day, as yet, for bees to collect honey in. This is something truly remarkable here. My bees are in fine condition to collect honey if suitable weather comes. Cold rains thus far have washed away all the honey flowers have secreted. There will be no honey from fruit flowers this spring. Clover is badly used up by our long, cold winter. On the whole, the prospect is not flattering for the present season. Whatever it may be, I will report my success in due time.

Shelbyville, Ill., March 27.

—We used to have a very good plan for ventilating hives, which consisted in boring a large hole, either in front or at the side of the hive, near the top of the hive. This afforded ample room for dampness to pass off. Are your hives ventilated in this way, friend Johnson? If not, please inform us in what manner you do ventilate.

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NOTES FROM WEST TENNESSEE.

BY J. W. HOWELL.

MR. A. F. MOON:—Friend Fletcher gives us bad news on wintering bees in his section last winter. We are sorry to hear of such bad luck. There was about thirty-five stands owned by parties in our little town, that wintered on their summer stands last winter, without the loss of a single colony; and the largest share of them were in box gums.

We were much discouraged here in April, on account of the cold weather, and thought that poplar blooms were damaged by frost; but they were not hurt, and our bees are coming in laden

with honey from the blooms, and filling their hives rapidly, and swarming abundantly.

I have had, up to date, thirteen swarms, and only half of my eighteen old stands have swarmed yet. Several of my young swarms have filled their hives, and are now filling their boxes. I had two large swarms come out at one time and get together. One was an Italian and the other black. I divided them, and put them into separate hives. Both the swarms were accompanied by old queens, which I captured and put in the hives. There were Italians and blacks in each hive, and the black bees would fight the Italian queen in one hive, and the Italians would fight the black queen in the other. I think that both would have been killed had I not taken them out and put them in cages, and introduced them into the hives the regular way. I let them remain in the cages twenty-four hours, and then liberated them and they were received all right. Now the question is, why did they fight the queens in that way? Was it simply because one was black bees and the other Italians? I have hived two swarms of black bees together and all would be right; one queen would be killed and the other retained, but in this case both queens would have been killed, and the bees left queenless.

Kenton, Tenn., May 27.

NOTES FROM TEXAS.

BY E. M. WISE.

MR. A. F. MOON:—Thinking you would like to have the bee news from this part of the country, I have concluded to write you a few lines in re-

gard to them. The swarming season is about over, and bees are filling their hives very rapidly. I had four hives to commence with this spring, from which I hived four swarms in movable frame hives—the first ever seen in this country.

I have sent for an Italian queen, and expect to send for some more during the season.

You say in the WORLD you would like to know what bees are gathering from in different portions of the country. I live in town, and am rarely in the country, so I cannot give much information on that subject. Our prairies are covered with flowers; and in town I see them working on the bloom of what is known as the paradise tree in this country. It is planted for shade, and grows very rapidly.

The early honey here is nearly transparent, and, when taken from the hive, granulates in a tolerably short time.

I will now ask you a few questions:

1, Why is it that colonies that appear to be of the same size, will sometimes fill their hives, the one sooner than the other? A. The bee family and the human family are a great deal alike: some are better workers than others. But probably the trouble generally lies with the queen's not being able to keep up a supply of brood.

2, What is the best remedy for bee stings? A. There are several remedies for bee stings, among the best of which is applying alkalies, such as ammonia, etc. This is best applied by moistening a cloth with it and fastening on the place stung, repeating the operation as often as necessary. Another way to alleviate the pain is to press the hollow end of a key to

the wound so strongly as to express the poison. We have never tried this remedy, but think it perfectly feasible.

3, Why is it that bees will sometimes swarm two or three times, and go back to the parent hive each time?

A. It is because the queen did not go with the swarm. Sometimes she is so heavily laden with eggs as to cause her to drop to the ground, where she probably lies, and the bees not being able to find her go back to the hive to wait until another queen is hatched. They often get a "false alarm," and a goodly number emerge from the hive, only to discover their mistake after flying about for some time, or even after alighting.

Waxahatchie, Texas, May 22.

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SKETCHES FROM TENNESSEE

BY S. D. MCLEAN.

REPLY TO HOWELL.

In reply to friend Howell's query, as to the time to transfer bees, we will state that the best time is about the first of April, or when bees are storing honey pretty freely from fruit blooms; as there are less brood and honey to contend with at that time than at any other season of the year. It is very necessary for them to be gathering honey at the time of transferring.

As to transferring just before, or just after, swarming, that is, in part, a little difficult to answer, as it is not always known just when they are going to swarm.

After a swarm has issued, our advice is, not to transfer for ten or fifteen days, unless a fertile queen can be given them. For if the operation is performed before the young queen hatches she might be destroyed and the colony left queenless; whereas,

were it postponed a few days, the chances for saving the young queen is better, and also there is but little brood in the way.

FEARS REALIZED.

Our fears as to the effect of the cold snap in April were not groundless, for now, at this writing, when we might have been taking honey by the barrel, we have to console ourselves with the pittance our bees gather and use in brood-rearing, and wait for our share until the linden blooms, which we are pleased to note bids fair to be good.

INTRODUCING QUEENS.

To introduce Italian queens to black colonies, hunt out the black queen and capture her. Cage the Italian queen, and place the cage between two frames of comb containing brood, where many bees cluster. Let the cage remain there undisturbed for thirty-six or forty-eight hours. When you wish to release her, open the hive about sunset, pour a little honey down among the bees, and while they are licking it up, smear the queen well with honey and place her on top of the frames, and she will crawl down among the bees; close up the hive and all is done. We have been practicing the above method for several years with uniform success.

APIARY FOR JUNE.

The management of bees for June is so similar to that of May that it is scarcely necessary to add anything for this month's operations. Toward the close of this month the linden tree opens its myriad of nectaries, inviting the lovers of its dainties to a free participation in the rich feast which is so freely offered.

Nor is there a lack of appreciative admirers. For the hum of busy workers are heard amid its sweets from

early morn till evening, drops her "soot bag," and all is wrapt in the shades of night. During the bloom of the linden bees store more honey in the same length of time than from any other source; and what was said in reference to the use of the extractor for last month, is equally applicable for this. Stocks of bees with a good working force will, while the linden is in bloom, fill their hives with honey in four or five days, which should be taken without delay with the honey-machine, and the empty combs returned for the bees to fill again. For in the free use of the machine is wherein lies the great yields and success of practical bee men. Keep your bees at work if you wish to be profited by them.

Culleoka, Tenn., May 18.

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REVIEW.

BY DR. JEWELL DAVIS.

Friend Parker shows us his opinion as to why the worker bees in a queenless colony live to greater age than those raising brood. And who knows but that he is right? He answers Tennessee's query about the black and brown bee, by saying affirmatively that there is black and brown bees. Friend Parker seems to think that the battle among his Italians did not arise from robbing, and leaves us to infer that there were no other Italian bees in his vicinity—only his one Italian stock—therefore they were fighting one another. Now we think such a battle as this will only occur when the returning workers, whilst out foraging, have, by some means, acquired a different scent from those at home, and are hence taken for enemies. The

smoke filled a double office: first, scenting the bees all alike, and, second, alarmed them so they filled themselves with honey, making them peaceable instead of warlike.

My brother, Dr. Brown, is certain that the native bee can be improved. Hence we are disposed to listen while he shows how it can be done. May we keep his points in view. He informs us that there are two modes in which to accomplish this work, and decides that the union of the two is the most speedy, giving the greatest results. It consists in the choice of queens and drones, on the one hand, and the most valued varieties on the other. We conclude the doctor is right, and that it requires to be systematically carried out for years to obtain the best results. I hope our writers will notice the doctor's remarks about praising their own wares, and speaking disrespectfully of others'. Perhaps it will be well for all to heed that remark.

If you want to know what friend Argo has to say about raising queens in small boxes, read his reply to Nesbit upon that subject, and decide accordingly.

Friend McLean calls our attention to the cold freezing weather of April 17th, in the Sunny South, and anticipates much damage to the honey crop in his locality. Then he cites the work of the apiary for May. We cannot too strongly urge you to keep in mind his advice. The novice will, of course, find a hint or two to amuse him while perusing friend Argo's description of "The Right Person for an Apiarian."

Next we have friend Quinby's argument for the advantage of clipping the queen's wings. Remember what he says.

Barnum, with his notes from Tennessee, presents the idea that the BEE WORLD each month has something new, being "filled with good information." Well, this is as it should be. His next note is in regard to making money by bee culture. Wants more carefully reported experiments through the bee journals, so that practical conclusions may be reached, and the question of profitableness of both comb and strained honey may be fully settled including its shipment to distant markets. Next we have his notice of shipping bees from one point, or locality, to another, during droughts, and asks, "Will it pay?" We venture to answer that it will, if in so doing we gain a locality favored with a better honey-yielding pasturage; but unless this desideratum is gained it will not pay.

Friend Howell wants the Southern bee-keepers, who write for the BEE WORLD, to give more of their practical experience with bees in their latitude. Upon this matter I think friend Howell should be listened to by our southern writers.

I will say that I am better suited with white pine lumber for hives than any other that I have seen tried or used. We prefer it to poplar, or any other of the soft woods we have used, being less affected by wet and dry weather, and being more easily worked. In regard to summer feeding we refer you to J. S. Harbison's Bee-Keepers Directory for a discussion upon the benefits of summer feeding.

Friend Fletcher shows us that eight and twelve quarts of bees to the colony will not save them from dying if they have bad honey, or from starving if they are deficient in good stores, within their reach. They must have

good food and plenty of it to keep them healthy, and from starving, and to enable them to generate the required amount of heat to keep them from freezing. Long confinement may be especially dangerous to the health and life of the bees, if they have none but bad food to live upon, and are exposed to damp and impure air. If colonies are found in this condition, it calls for the remedy I pointed out on page 234 North American Bee Journal for 1873. In that article I showed you how to save most of your bees if you will take the trouble.

Uncle Harry Goodlander says, Little did you think when you published your description of your flying box in the North American Bee Journal, what a powerful instrument you was placing in my hands. Since that time I may say I began to study wintering more intelligently than before. Turn to that article and see what friend Goodlander found to open his eyes about successful wintering.

Charleston, Ill., May, 1875.

NOTES FROM NORTH MISS.—
MORE LIGHT WANTED.

BY MARY B.—

I have been thinking for some time that I would write a few lines for the BEE WORLD—not with the idea of benefiting any one, but because I want some information for myself. First, I must let you know how I am situated: I have owned a few stands of bees for some two or three years, but have not been able to realize much from them yet. I am satisfied that there is money in rearing bees, and I know of no better way for a lady to make money, (especially if she is a poor farmer's wife,) than to take a few stands and try it.

Now I will endeavor to give you a few of the reasons why I have not made bee-keeping profitable: There is ten of us in the family. I am cook, house girl, fowl rearer, milk maid, (when I am well,) tailor and seamstress. And added to this, I have four children, the eldest but four years of age, and the youngest born 9th of March. Now, when I attend to my domestic affairs, and run after the children every time the old hens fly at them, or when they get in the garden and tramp down the vegetables; or pick the green strawberries; or stop and give them something to eat about every hour, (and every now and then some of them will get out among the bee hives, and scream for mania to run,) I would like to have some one tell me how I am to make bee-keeping profitable. I think that we can help sometimes as much by giving good advice as by laying hold with hands; or at least do a great amount of good.

I love bees, and love to work with them. I had eight old stands April 1st, and they have cast six swarms since the 20th, up to the present time, May 5th, all in movable frame hives, three being in the buckeye. I would be glad to have those three swarm out of the buckeye hive, entirely, for it seems to me that they are more trouble about handling than any other hive I ever saw. I intended transferring those three this spring, but have not felt able.

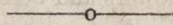
We have had a very cold and backward spring—a part of the time being dry, but it is wet enough now, almost too wet for bees to do well. The poplar, which is one of our best honey producing plants, is in bloom now. Husband and I have forty colonies, only two of which are weak ones. We had

twenty-four when spring opened. We have five or six hives with two swarms apiece, caused by being too near each other, or robbing. I suppose some one will want to know why we let them swarm? We have tried artificial swarming several times, and I think the natural swarms do best. I wish some one would tell me how those will do we have put together. I have never tried it before. I have often heard it said that two women can not live in the same house, and will two queens live in the same hive? is the question. Some of our bees have been in the same hive (two swarms) twelve or fourteen days, and seem to be as well satisfied as any I ever saw. If they will live together in perfect harmony, had it not ought to teach us a lesson?

Bees are doing well here. I have heard of but two or three colonies being lost this winter, and that on account of their not being able to get to their honey;—too cold.

North Mississippi, May 5, 1875.

—Such patience and perseverance as you show, must certainly lead you to success. We could wish that more of the bee-keepers of the sterner sex had some of that patience; but such patience is born of other trials, that man knows naught of. Let us encourage such bee-keepers. A careful examination of your double swarms would show but one queen, for though it may sometimes be possible for two women to live in the same house, it is not so with queen bees, if they are both prolific. We would be pleased to hear from you often.



Honey, to keep from souring, should be placed in a dry room. A room in a chamber is best.

NOTES FROM BARTOW COUNTY, GEORGIA.

BY J. S. DEVITTE.

A. F. MOON:—I will give you a report of my experience in bee-keeping: I commenced in March, one year ago, with three black stands in log gums. The first queen I ever saw was at your apiary in Rome. I subscribed for the *World* in March, 1874, transferred my black bees into Thomas hives the last of the same month, and bought one stand of Italian bees from Dr. Hamlin, which arrived April 3d, and cost me \$23.75. I kept no account of the honey used on my own table in 1874. I extracted 60 lbs. from three hives last week, and will extract from nine more as soon as I get fixed so that robbers will not trouble me so badly. I came through the winter with twelve stands, three in Langstroth, and nine in the Thomas hive. I have now four in the former and nineteen in the latter hive, all in good condition, besides giving one hive away in March, and one sold May 17. I will give you a few notes from my memorandum book: It rained from Christmas nearly every day until March 7. Set out catnip on Feb. 17, and March 4. White maple bloomed Feb. 27. Bees carried in pollen Feb. 25. Plums in bloom on March 7, and in full bloom on the 18th. First peach blooms on March 13, and in full bloom from 24th to 29th. Turnips showed first bloom March 10, and in full bloom March 30. Commenced to raise queens March 15 on R. M. Argo's plan. From March 15 to 29th weather very unfavorable on flowers and bees—cold rain and winds. First pear and cherry blooms March 27, March 27 and 28, rainy, windy and cold. Pears in full

bloom April 3d, and cherries on the 4th. Heavy frost April 2d. First apple blooms on the 4th, and in full bloom on 15th. Sugar maple in bloom April 2d. Whortleberry in bloom April 11 and in full bloom on the 10th. Frost on the 15th, and ice on the 17th April. High, cold wind from 15th to 19th April, very unfavorable for bees. The willow in bloom April 19. Heavy frost April 16, 17 and 18, which killed corn, and the leaves of some trees. Frost on 24th. Sharp sprinkle of hail on 27th. Blackberry commenced to bloom on 29th, and continued until May 15. Bees still at work on the willow May 1. May 1st black gum in bloom. Very dry April 12 to May 1. Cold wind and rain on 25th May. Red and white clover in bloom on May 5. Bees still at work on peach buds. Honey locust in bloom on 15th. Bees at work on poplar May 20.

On April 1st, I put one of my weakest stands on a pair of scales and they weighed 60 lbs.; on the 28th, 57 lbs.; on May 1st, 53½ lbs.; May 4th, 59½ lbs.; May 6th, 61½ lbs.; May 15th, 69½ lbs.; May 22d, 70 lbs.

We have had very dry weather for some time past. My expenses in bee-keeping are as follows:

World and Thomas hive right	\$ 7 00
One Italian colony and express	23 75
One queen nursery	5 00
One extractor and express	20 25
Hives and material	30 00

Total expense \$86 00

Fifteen stands of Italians, at	
\$15.00 each	\$225 00
One stand sold	15 00
One queen sold	6 50
Three queens sold	15 00
Four hybrids at \$5.00 each	20 00

Total receipts \$281 50
Leaving a profit of \$195 50

Taylorville, Bartow Co., Ga., May 23.

NOTES FROM WILKINSON CO., MISSISSIPPI.

BY ANNA SAUNDERS.

MESSRS. EDITORS:—I have had a magnificent yield of honey, and thinking the information might give pleasure to many, I hasten to make it known. On the 17th of April I discovered that the poplar was in bloom. It had been blooming for a week or more, as I afterward learned. I commenced extracting on the 19th, and was kept as "busy as a bee" for four whole weeks; although the overwhelming flow commenced abating in a little over twenty-four days. It is impossible to tell accurately how much honey I have taken: I think at least 120 lbs., or 130 lbs. per hive, counting nuclei and all. I had to extract from my strongest hives every other day. Being poplar honey it was thick when gathered, but the tiny wings seemed busy all night long—evaporating it I suppose.

What is considered the average weight of honey? I tried mine last year often, and it all weighed 13½ lbs. per gallon. I have been too busy this spring to weigh any, but I know it is not so heavy, except the last gathered. You old bee keepers say extract often, and the queens will lay fast enough; but mine all seemed as crazy for honey as the bees, and none except those of this year's raising would lay during the rush. Indeed, I would often fear there was no queen in the hives. I would like to have the opinion of Southern bee keepers in reference to the average length of a queen's life in this climate. I am afraid the bees are trying to supersede my favorite queen, for which, a short time since, I would not have taken \$25.00. She was the

first of my own rearing, and now only in her third year. Her workers are, beyond all comparison, the best honey gatherers I have. Can it be that she is superannuated? One thing struck me as strange about the honey gathered by my bees: sometimes the poplar flavor would disappear from the honey for several days, and then come back as strongly as ever. I suppose at such times the flowers were not blooming very freely, or some atmospheric influence prevented their giving out their odor. There was no interruption in the flow of honey, although the holly and white clover may have been entitled to more credit than I gave them. The poplar is not entirely done blooming yet. The chinquepin, sourwood, linden, elder and a tree the negroes call hen wood, are all in bloom now, but not secreting much honey. I do not know whether it is honey, or pollen, the bees get from the latter tree. The mimosa is now in bloom, and the bees are making quite a fuss over its blossoms, although I thought their little cups too deep for the bees to reach the nectar they contain.

My success has excited much interest, and many people have come to see me, my bees, extractor, and so forth. I have heard of several persons saying that if it was any one but Miss Anna, they would not believe all those wonderful tales; and truly, some of them are wonderful I have no doubt. I heard of a young man's asserting, on my authority, that worker bees only lived three days! My honey is universally pronounced superior to any ever seen here before, and the Italian bees get the credit. In speaking to one gentleman, I tried to claim that it was my careful handling, keeping the different grades separate, and so forth;

but he had heard the flowers of Sunny Side were the sweetest in the world, and it must be the flowers, if not the bees, that made my honey so delicious. I told him so the fact was admitted, I would not care to what cause it was attributed. I tried to preach a little safer common sense to some who were going right into bee-keeping. Advised bee books and journals, and one or two hives to start with, attention, and so forth. What did they care for my talk of prudence when they saw me extracting from fifteen to twenty-five gallons of honey every day from my little apiary!

The pleasant odor of which I spoke a while since, is constant with my bees now, and I am quite sure proceeds from their bodies. Why it is present at some times, and absent at others, I cannot imagine.

Woodville, Miss., June 4th.

—We think this report places Miss Saunders in the front rank as a successful bee-culturist. Such reports cheer us up wonderfully; for if we can not get as good a yield ourself, we like to hear of others doing so well. Please inform us what hive you are using, and if your bees find time to swarm during their great harvest. In the meantime we don't suppose any one else will dare tell what their bees are doing, now this large yield is given.

OBTAINING HONEY.

G. M. Doolittle read a paper before the seventh annual session of the Michigan Bee-Keepers Association, at Kalamazoo, of which the following is the main portion:

In order to make a careful investi-

gation of the above, the first thing to be considered is the size of the brood chamber, which should be used in a hive devoted exclusively to box honey. Quinby, Gallup, Langstroth and others have told us that the brood chamber to any hive should not be less than 2,000 cubic inches. Now, a hive of 2,000 cubic inches will give us about 1,340 square inches of working comb, which is 440 more than the best queen we ever had would keep occupied with brood for two months in succession. An average of queens will not occupy over 800 square inches of comb with brood for any length of time; therefore it will be seen that we have 540 inches that will be filled with honey and pollen—the pollen nearest the brood, and the honey a little farther away.

If we have a new swarm in a brood chamber of 2,000 cubic inches, and the season is good, we will find in three weeks that they will have 400 square inches of comb filled with the nicest of honey. This is in no salable form, and is usually left in the hive for the bees to live on through the winter. So, each year, our bees are living on nearly twenty-five pounds of the choicest of honey, worth at least, if put in boxes, \$6.25, when \$2 worth of sugar syrup would winter them just as well. In order not to get any pollen in our boxes, allow 150 square inches of comb for that, and the little honey they always will have in the upper corners of the frames, making 950 square inches comb space, as the right size for the box honey, regardless of what style of frame is used.

But some one will say, how many boxes shall we use, and of what size? We would say, suit your own fancy; make the cap and sides to your hive a two-acre lot if you wish, and experi-

ment until you come to some conclusion yourself. We prefer box room to the capacity of from sixty to eighty pounds, and use boxes holding two pounds each. To get our bees in proper condition, we should advise using a quilt like those recommended by Chavice. In spring, about the first of April, fill the cap full of straw, pressing it in tight enough so it will not shake out by lifting off and on. This will press your quilt on the frames, and, by lifting the cap, twenty-four hours after filling with straw, and putting your hand on the quilt, it will feel quite warm; while without the straw it would be as cold as a stone. This sets the queen to laying, and the bees will hatch those eggs, and care for the larvæ, unless we should have steady winter weather afterward, as was the case last spring.

MARKETING HONEY.

I find the best method of marketing my honey, both comb and extracted, is to sell direct to the consumer or retail dealer, and not send to honey dealers for them to adulterate. Last year I put half a barrel of extracted and about 50 lbs. comb honey into my spring wagon, and went among the consumers and sold to them at 12½ to 15 cents per lb. for extracted and 25 cents for comb honey, and in a short time I sold all my extracted honey, and could have sold as much more in about a week, as the people found out that it was genuine honey and not glucose, sugar syrup, &c., with a little honey added, as is most of the so-called honey sent out by the city honey dealers, and besides the spurious honey is so high in price that it is beyond the reach of many people that would like honey.

If the producer would take a little time and trouble to furnish the consumer with the genuine honey at a moderate price, and thus get a market established, he will be surprised at the amount he could sell and not be swindled out of his money by honey dealers. Parties that only got a few lbs. of me last year, are beginning to speak for 50 to 150 lbs. of extracted honey, and the prospect is that I cannot half supply the demand another year, without an extraordinary yield of honey, and I will have 80 colonies (if I do not lose any) to commence the season with. By the producer selling his own honey at a reasonable price to the consumer, he will drive out all of the doctored honey, as the retail grocers will not handle it. One of our grocery men got some from Chicago, put up last year, and it soured on his hands. He says, no more Chicago honey for him, as he thinks the only honey in it was what little some small pieces contained that was put in and pressed against the glass.

I sold of my own raising last year ext. honey 2,700 lbs.; comb honey 300 pounds, and comb honey I bought from a man six miles from me, 1000 pounds.—[Our Home Journal.

FECUNDITY OF THE MOTHER BEE.

But few are aware of the fecundity or prolificness of the mother bee. The name queen, when applied to her, is a misnomer, for her relation to the swarm is that of a mother, not a ruler. She deposits the eggs that produce the swarm and keep up its life and numbers, but does not control or govern their labor or movements at all, so far as observation will disclose.

Some experiments have been made to find out how many eggs she would deposit daily.

The Baron of Berlepsch, in several different experiments, found that she laid 1,604 eggs in twenty-four hours, as the result of the first. In the second, she deposited an average of 1,813 daily for the space of twenty days. In the third one, an average of 2,400 daily was found for the same length of time. In the fourth, she deposited 3,021 in twenty-four hours. She was seen by him to deposit six eggs in one minute.

I met Mr. Otis at the Illinois State Fair in 1872, and while in conversation with him on bee matters, he told me that he had known a queen to deposit an average of 3,800 eggs for several days (am not positive about the number, but think he said seven days.)

Last June I sold a queen from a hive, and put another in her place after a few days. I opened the hive on the Saturday following, at about 1 o'clock, p. m., to show the queen and the inside workings of the hive to some gentlemen who were with me. In one of the outside frames was a piece of new comb, which we examined, and found neither eggs nor honey, and the queen was on the third frame from this, leaving two frames between her and the new comb. I visited the hive again at five o'clock the same afternoon, with another party, who desired to see the inside of a hive and a queen bee; found her majesty on this new comb, and an egg in every cell (of sufficient depth,) when upon measuring and computing, I found it to contain over 1,500 cells. This she had accomplished in the short space of about four hours; and I have no doubt but that if I had any means of ascertain-

ing how many she laid in the comb, she was on at the other visit, and the two that she had to pass over in getting to this comb, that it would raise this number from 100 to 300 higher. —[National Live Stock Journal.

PROFITS OF BEE CULTURE.

We promised your readers a report of the profits of Bee culture. We will now fulfill our promise by giving an account of the production of our apiary during the past season.

Let us say, before beginning, that the bee business is not a business in which a man can enrich himself all at once. Let those who search for money without work engage themselves in speculations, then they will either gain or loose without much work. We do not write for loafers, but for the hard working farmer, who knows the price of money and the labor required to earn it.

The advantages that we claim for the bee business are the following: It is light work, although a pretty busy work, and more pleasant than agriculture, as most of the work is performed away from the hot sun in summer. It requires but little capital to begin with—less than any other business. It brings more money for the capital employed than any other branch of farming; the expenses being very light. It can be carried on at the same time with farming, on a small scale.

The domain of the bee-keeper is endless. The breeding of stock or of hogs has a limit, on account of the lack of pasture; but it will take many hundred years before the country is overstocked with bees. And at the present day millions of pounds of honey are annually lost for want of gatherers. The

following is our account for the past season :

Sale of colonies,.....	\$450 00
“ queens,.....	216 00
“ 1200 lbs. box honey,..	300 00
“ 3400 “ ext'd honey,	476 00
Inc. over previous year, 50 colonies,	400 00

Total,.....\$1842 00

Expenses for apiary, lumber, hives, boxes, glass &c....\$311 10

Net profit, \$1530 90

To secure this profit the capital employed amounted to \$2266, making a profit of over 50 per cent. Let the reader draw his conclusions.—[Western Agriculturist.

—o—

We find the following, written by Dr. Lapell, in the Norfolk Virginian: The family of Mr. Quinton T. Etheredge of Currituck county, N. C., partook freely of honey just taken from the hive, on Monday evening last, May 31, about 8 o'clock, and retired as well as usual. About 11 p. m. the father awoke and found two of his children and his wife strangely affected, and immediately summoned me to their assistance. I reside within a mile of his house, and had not retired when summoned, and not more than three-quarters of an hour elapsed between the father's first recognizing their illness and my arrival. I found the two children dead and the mother suffering from paralysis and prostration, and would, in all probability, have died in an hour had not timely assistance been given. She, however, under the effects of the remedies used, gradually improved, and is now out of all danger. Upon investigation I found that these three persons had eaten largely of the

bee bread contained in the honey-comb, and that those who ate only of the honey, free from the bee bread, did not suffer at all. The symptoms would indicate that the bee-bread was composed of the pollen of the flowers of the yellow jessamine or sheep vine as it is commonly called.

Notes and Queries.

Subscribers are especially requested to write short notes on the honey prospects, weather, time and duration of the bloom of different honey-producing plants, price per pound for honey, &c., &c. for this column.

The locust is a total failure here, and white clover almost so.—H. N.

Cynthiana, Ky., May 35.

Our April freeze killed all kinds of blossoms, and bees will get nothing until white clover comes.—J. W.

Cincinnati, Ohio, May 25.

My bees are doing very well. They have increased from nineteen stands to forty, and six went to the woods.—A. G.

Savannah, Tenn., May 17.

Bees are doing well here now. I have extracted from five hives 102 lbs. of honey, and they are now ready to extract from again. I use the plain, single story, hive, with frames 9x12, and about twenty-four to the hive, (upon the New Idea plan) with division board when necessary. I have had a very fair test of the Italians with common bees here this year, and find the Italians far superior to the others.—J. M. S.

Lauderdale, Miss., May 12.

Does the blossom of the orange tree yield much honey, and will bees gather honey from it as well as from other fruit trees?—J. W.

Jackson, La.

—The orange is pronounced to be one of the best of honey-producing trees. The honey gathered from its blossoms has an exquisite flavor, and is very beautiful.

MOON'S BEE WORLD.

A. F. MOON & CO.,

Cor. Broad and Elm streets., Rome, Georgia.

JUNE, 1875.

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WILL THE QUEEN STING?

We have read a great many articles negatively answering this question; and from persons who have had a great many years experience in handling bees. We have also read of one or two persons who claimed to have been stung by this royal personage, and must say that we rather doubted the truthfulness of the statement. This was because we had been among bees for over forty years, and handled queens almost constantly, without seeing any indication on their part of their ability to use this weapon of defense, at least on a human being. All this is but a prelude to what we should have said at first perhaps. On June 5th, while examining a colony of Italians, we, from some cause, displeased them, when they at once threw themselves upon the queen, with the evident intention of smothering her. We

lost no time in rendering her assistance, and soon succeeded in liberating her from their angry embraces. Not having any cage with us, we placed her in the hollow of our hand, closing the fingers gently over her, and proceeded to get a cage for her. We had not proceeded far, when the queen, finding herself pressed a little too closely, perhaps, thrust her sting into the palm of our hand, which resulted in drawing it from her body, apparently without injuring her. We caged her, placed her back in the hive, and liberated her on the 7th, and she is now laying finely.

SHALLOW, VS. DEEP FRAMES.

We are anxious to have our correspondents give their experiences with shallow and deep frames during the past winter. We are under the impression that the deep frames have done the best where the cold has been intense, and in the warmer portion of the country a shallow frame has proven to be best adapted to its needs. However let us have reports from the bee-keepers themselves.

WATCH YOUR NEW SWARMS.

After a new swarm has been hived, they sometimes leave and go the woods. A pretty sure sign of this intention is their inactivity. If they are going to stay they proceed to work at once; otherwise they remain idle and silent in their new quarters. We have found that feeding them would soon cause them to work, or by giving them a frame of brood from the parent hive, they could be induced to stay. When either of the above courses are applied the most stubborn swarm is almost sure to stay.

M. QUINBY.

This distinguished bee-keeper died at his residence at St. Johnsville, N. Y., May 27th, 1875, aged 65 years, 1 month and 11 days. M. Quinby was extensively known as the author of "Mysteries of Bee-keeping," and was also a valued correspondent of many of the leading agricultural papers, as well as bee journals. He was extremely practical in his advice to bee-keepers, as well as in his workings in the apiary. He was better, and more favorably known than any other bee-keeper in the United States, his dealings betraying, at all times, a fairness and honesty of purpose that made him once known, remembered with respect. The readers of the BEE WORLD will lose much that might have proven of lasting benefit to them, as, just prior to his death, he had promised to become a regular contributor to its columns. Let our correspondents pay a tribute to his memory.

WAX FOR HONEY BARRELS.

We have a good many queries in regard to leaky honey casks, come to us for answer. We know of no better plan than to apply melted wax to the inside of the barrel. Clean the barrel well, let it get thoroughly dry, and pour the hot wax into the bung, turning the barrel often that the wax may touch every part of the inside, thus completely filling the cracks that the honey has escaped by.

It is a busy time now with bee-keepers, and many do not find leisure to write for the journals. But they should remember that the editor has to depend on them for material to fill his paper, and that without such help its columns are not always readable.

A GOOD SWARM OF BEES.

On the 9th of April last we hived a very large swarm of Italians, which filled their hive and surplus boxes with comb honey to the amount of 160 lbs. May 18th this swarm (No. 1) threw off a large swarm. No. 2 filled their hive and boxes, making 85 lbs. of honey. From May 18 to June 6—eighteen days—the queen had deposited 58,000 eggs, and on June 6 this swarm (No. 2) threw off a swarm which we marked No. 3. On that same day No. 1 cast a second swarm, a rare case, as a hive seldom swarms the second time if it runs eighteen days. Here is four as large swarms of bees as we ever saw, and No. 3 bids fair to swarm again. They have made a large amount of honey, and all together have displayed more energy and pluck than any other bees in the yard.

CH. DADANT & Co. have sent us one of their imported Italian queens, said queen being one of a shipment of 22, of which 21 arrived alive. Mr. Dadant's sublime faith in the purity of the Italian bee has caused him much criticism, but we think his faith will be justified in the end.

IN another column will be found the advertisement of H. Nesbit. He is offering his queens at one dollar each this season, as the late frosts killed the honey-producing flowers in his vicinity, so that it would not prove safe to increase his stock this year.

BUT for a heavy fall of honey dew the past month (at frequent intervals) the honey crop would have been very materially lessened. Bees worked on it early and late, and made honey very rapidly.