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MOON'S BEE WORLD,

— A GUIDE TO —

BEE-KEEPERS.

VOLUME 2.

AUGUST, 1875.

NUMBER 9

CORRESPONDENCE.

WINTERING BEES ON THEIR SUMMER STANDS IN THE MIDDLE STATES.

CH. DADANT.

Several subscribers of the BEE WORLD having asked us how we manage our apiary, to winter successfully on their summer stands, I answer in the journal.

Some of the conditions indispensable here, could be set aside in the South; so I beg my readers to remember that I write for the Middle States.

The necessary conditions are ten in number, and the more closely they are followed the greater are the chances of a good wintering:

- 1st. Honey enough to last till May.
- 2d. Honey of good quality.
- 3d. Strong colonies.
- 4th. Room, proportionate to the number of bees.
- 5th. Access to the honey during a protracted cold.

6th. Very little ventilation.

7th. Permeable and warm quilts, or ceilings, above the frames.

8th. Protection against cold winds, especially on the north-western side.

9th. Facilities for the bees to warm the hive.

10th. Care from the bee-keeper to disturb the bees of all his apiary as soon as the warmth of the atmosphere is sufficient to excite some bees to fly out of their hives.

I will review all these conditions, and give some explanations on them:

1st. HONEY IN SUFFICIENT QUANTITY TO LAST TILL MAY.—In our latitude, from twelve to fifteen pounds are sometimes sufficient for a safe wintering;—I mean to last from November till March. But as it is troublesome to have to feed the bees in March, and as the cold weather (or forgetfulness) may prevent the supply from being given in time, it is far better, if possible, to give to every colony from twenty-five thirty pounds honey. Yet, if the colony was a little less than the average in num-

ber, it would be better to give less honey and less room. In such a case some full combs of honey are put away in a dry room, and kept in reserve, to be given to the bees in March, in place of those which were emptied by the bees.

2d, HONEY OF GOOD QUALITY.—I do not think that in this country the honey of such and such a flower is better than from another for wintering bees; but I know by experience that if uncapped honey, whatever it be, or too thin sugar syrup, is eaten by bees during protracted cold days, the water contained in this food remains in the abdomen of the bees, and if cold continues, the bees, unable to fly outside of the hives, void their fœces inside and dirty their combs and their sisters. Let us, then, examine all our colonies in September, and take out with the extractor all the uncapped honey; unless the quantity of such honey be so small as to be consumed by the bees before December or January.

If the colonies needed the uncapped honey for their winter stores, it would be a good practice to extract this honey and to mix it upon a moderate fire with white sugar, so as to give it a good thickness; then to give it back to the bees.

If you choose to extract the honey, and to replace it by sugar syrup, remember that this syrup ought to be given in September at the latest, and that it ought to be mixed with honey, to prevent it from crystalizing.

3d, STRONG COLONIES.—I have seen some feeble colonies reach spring in good health; but it is only when the winters are mild; so it is better not to try the chance. August and September are good months to incite the bees to increase their numbers. A few

spoonfuls of syrup given inside of the hive for several days in succession will greatly increase the prolificness of the queen, if she is not too old, and if there is room and honey and pollen in the hive.

4th, ROOM PROPORTIONATE TO THE NUMBER OF BEES.—It will be easily understood that if a feeble colony is located in a large room, a great part of heat generated by the bees will be lost. But the difficulty is to ascertain the sufficient space. The bees in winter are always on the empty cells, under, or beside, the empty honey. It would be a bad practice to cut off all the empty combs before winter, compelling the bees to lodge themselves between the solid honey combs. To avoid this, take advantage of a cold morning and see how many spaces between the combs are occupied by the bees. You can take out all the combs unoccupied, unless there is not honey enough for winter in the combs occupied by the bees. In such a case a heavy honey comb should be given.

To lessen the room use a division board, and fill the empty space with rags, straw, sawdust or dry leaves.

5th, ACCESS TO THE HONEY DURING A PROTRACTED WINTER.—It happens often that when the bees have eaten all the honey at their reach, cold prevents them from going around the combs, and they perish, although separated from the honey only by a thin thickness of wax, which divides the comb in two sides. The most of the time the bees, which perish during winter in all the hives, are killed from this cause. It is, therefore, good management to pierce a small hole, or two, in the middle of every comb, at about a third of its height.

Several means can be used to pre-

vent bees from shutting these holes. If you have queen cells, insert one in the hole, and it will remain open; or take a small piece of comb, cut the cells of one side, and insert this small piece in the hole; the openings of the untouched cells placed perpendicularly, the bees will keep the hole open.

Or you can cut some elder, in pieces $\frac{3}{4}$ of an inch long, take out the pith and bark, dip them in melted wax and insert them in the combs.

6th, VERY LITTLE VENTILATION.—For years I have been accustomed to place in front of every hive a small block, so as to lessen at will the size of the entrance of my hives. In winter I shut up altogether the entrances. As the quilts, or paper cover, placed above the combs are never waxed so as to prevent a small, very small current of air in the hive, the loss of warmth is small, and the bees have as much of fresh air as they want. I have never had a colony of bees killed by want of air when shut up during cold days in that way. It is true that as soon as the thermometer arises above thirty-six degrees, I am there opening all the entrances.

7th, PERMEABLE AND WARM QUILTS, OR CEILINGS.—Bees, in eating honey, generate steam. If the ceiling of the hive is water-proof, this steam evaporates on it, and runs on the combs and on the bees. If, on the contrary, the ceiling is porous and able to absorb moisture, the bees are dry, on dry combs, and, of course, in better health. To obtain such a result I put over the frames a cotton quilt made of cloth, or a frame covered with four thicknesses of paper, or a straw mat. I fill the cap of the hive with dry leaves, or straw, or old cloths, etc.

8th, SOME PROTECTION AGAINST COLD

WINDS, ESPECIALLY ON THE NORTHWESTERN SIDE.—Cold winds, in this country, are very piercing. A protection against them can prevent the temperature of the hive from falling several degrees. A high hedge of evergreens is very good, but some close protection is yet better. To be sure of preserving alive the sixty colonies, in which I had as many imported bees, I have, last winter, surrounded the hives with straw, held closely by straw mats; every hive had its straw mat.

9th, FACILITIES FOR THE BEES TO WARM THE HIVES.—All my hives face the south-east, or south. As the warm days in winter are rare and far between, it is indispensable to give the bees every chance of being warmed by the sun. A straw mat, for instance, which would surround all the hive, would act against the warmth as it does the cold, and the inside of the hive would be long to feel the change of temperature. Therefore, my hives are protected on every side but the south.

10th, AWAKENING OF THE BEES EVERY WARM DAY IN WINTER.—As soon as the thermometer arises to 38 or 40 degrees, the most populous colonies begin to extend their bulk. If the weather becomes milder yet, reaching 45 or 48 degrees, the bees of the best stocks improve the opportunity to void their feces outside of the hive. The feeble colonies seem to be insensible to the weather, they remain dormant; and if the next day is cold again, these become restless for not having improved the opportunity of voiding their abdomens. Two years ago we had in the whole month of January one sole day warm enough for the bees to fly. A few of our stocks remained sleeping, while some others, weaker, that I dis-

turbed to see if they were alive, enjoyed the opportunity to have a flight. The result was, that all the disturbed colonies were as gay as crickets, in March, while the undisturbed were found either dead or sick with dysentery.

I end this article by saying we have never been able to follow all these directions closely for all our hives, and that every death that we have experienced in our apiaries could be traced to the neglect of one or more of the advices I have given here to my brother bee-keepers.

Hamilton, Ill., July 11, 1875.

ARTIFICIAL, vs. NATURAL SWARMING—PRESENTATION OF AN ITALIAN QUEEN.

[Translated for the BEE WORLD from *L'Apiculteur* a French journal, published in Paris, France.]

W. W. CROOM, Translator.

Natural swarming leaves much to be desired. Colonies are sometimes exhausted by inopportune and disproportionate multiplication; and vice versa, they sometimes refrain from sending forth swarms, notwithstanding a prosperous condition and a favorable season requires it. Or, perhaps the swarming takes place too late in the season for them to prosper. In all cases, natural swarming requires long and constant vigilance. The hiving of a swarm at the top of a tree is often a tedious, uncertain, and even a dangerous operation. Our neighbor is not always complaisant, and willing to patiently tolerate the injuries, which the hiving of bees renders inevitable, to shrubs, fruit trees etc. If he, also, possesses bees, the appearance of a swarm, which has not been watched,

may be the cause of unpleasant disputes. Natural swarming, the departure in a body of nearly the whole of the adult bees, is an excessive depopulation of the parent hive, at a time, perhaps, when it is full of brood, a part of which, should a sudden change of weather supervene, would run great risk of perishing for want of the necessary heat. The natural swarm is composed exclusively of adult bees; and with a fecund mother have need to find comb ready made to hand, whether to receive the eggs of the mother, or the honey which is sometimes abundantly offered by nature at the time of swarming, all of which may be lost while the swarm is constructing their new habitation. Again, if it is placed in an empty hive, (according to traditional custom), the bees are obliged to lose precious time in constructing a new brood nest, etc., composed mostly, and most commonly of drone comb. Per contra, the swarm which will now prepare for a new queen, and of course would be disposed to construct new worker comb, is deprived of the advantage of building, and, unless the knife of the intelligent bee-tender intervenes, it is condemned to preserve its old constructions. The new queen, whether from a stock which has just swarmed, or whether from a secondary swarm, is liable to perish on the occasion of her nuptial excursions, which takes place a few days after she is hatched; and if the poor insect perish in this supreme moment, her loss is irreparable: the colony will fail in resources, (in young worker brood) to recover their mother, and is inevitably condemned to destruction.

Now the art of Apiculture undertakes to remedy all the troubles which we have designated.

Let us suppose a bee-man possessing some hives with movable combs, which have passed through the winter safely, and which he wishes to double, or even treble, if necessary. He commences by stimulating without interruption from the commencement of April, (latitude of Paris, earlier in the southern states), till the advent of the honey season, (sooner or later, according as the hive is, or is not, furnished with its natural stores), the laying of eggs by the queens, in order to render these colonies as populous as possible before the ordinary time. To this end he administers to each hive, about evening, from $\frac{3}{4}$ to $1\frac{1}{2}$ lbs. of honey, in one-third or one-fourth as much water. Thanks to this theoretical nourishment, he ends by possessing at the end of four or six weeks hives pretty well stocked.

Now is the time to proceed with the artificial swarming.

For the formation of each swarm, two or three hives are put under contribution, which, together, furnish us with several frames covered with bees, (a pound of bees is enough), one of which contains sealed brood comb— young bees being preferable. An hour of the day when most of the bees are off, is chosen for the operation— from 8 o'clock to midday. These few frames are installed in a new hive which is kept till next day in a dark and quiet place—in a cellar, for example. Care is taken that the little family want neither air, food, nor water. Before, or during this seclusion, a fecund and vigorous mother is given to it, if you have one to spare. She is presented on a center frame, in the midst of the group of bees, protected by a wire cage. The next day, after

twenty to twenty-four hours of seclusion, the new colony is carried to the stand. A part of the older bees will leave, not to return; they return to their native hive. So much the better! the family lose a little of its population, but the reception of the imprisoned queen, on the part of the young bees which remain, is so much the more certain.

Towards the middle of the day, or in the afternoon, the interior of the hive should be inspected. The attitude of the bees is examined in order to interpret their intentions. If it is discovered that they are favorably disposed towards the prisoner, she is given her liberty, not, however, without the precaution to sprinkle both queen and bees with honey, or sugar water, which has the effect of neutralizing the odor, and of putting the bees in a good humor. The new queen, under these circumstances, will be received in 99 cases in 100. Nothing is easier to the experienced eye, than to distinguish the hostile from the friendly bee. If the bee tender finds, or suspects, they have a menacing aspect, he should recapture the queen and put her under cover till next day.

The queen being accepted, the swarm may be considered a success.

From this time, the family is successively fortified by adding, every six or eight days, a frame filled with brood comb. It should be generously nourished in order to stimulate the queen to lay. At the end of a few weeks it becomes a powerful colony.

If you have no queen to spare in forming the swarm, it is necessary to give it a queen cell about ready to hatch, in order to gain some eight or ten—if not twenty-one or twenty-four—days. This cell is given to the

swarm twenty-four or thirty hours after its formation; not before. Some days after, ascertain whether she is hatched and accepted.—M. MONA, in *L'Apiculteur* for July.

—o—
SUNDRIES FROM SUNNY SIDE,
SOUTHERN MISSISSIPPI.

— — —
ANNA SAUNDERS.

MESSRS. EDITORS:—I do not deserve credit for a success which was entirely due to an almost unprecedented flow of honey. I, at least, do not ever expect to see the like again. If I should be so fortunate, I trust I will be better prepared to take advantage of it. I should have stated in my last that the honey was literally dripping from the blossoms,—even the withered flowers showing the honey dried on their petals.

For a month or more before I commenced extracting, I had been taking brood and honey from three hives every few days. So if I had done this by the rest, I would have had them all as strong as these three became, and then would have secured all the delicious early honey, and a place in the "front rank," sure enough.

O yes, my bees swarmed constantly during the first part of the honey flow. I was so hurried, I wouldn't always take out all the frames, and would overlook queen cells if the bees were on the combs.

Just at the close of the blooming of the poplar quite a number of my queens were superseded, when I knew the bees did not swarm. One very fine queen, only a year old, I thought I would try in a nucleus hive for a while—found her daughter laying, so knew she was not wanted in the hive. She

remained in the tiny hive till a queen cell, which they started, was capped, and then disappeared, not having laid an egg during that time.

I use Mr. Hereford's hive, the Dixie, and do not think any hive could please me better, though mine are very badly made. There are such differences of length and depth of both hives and frames, as to give me infinite trouble. They are mostly two-story hives, with ten frames to each story, though a few are longer. Before using, I filled the cracks with strips of wood, resin and wax, or plaster of paris. When there are cracks between the hive and top, I use anything that is at hand: splinters, straw, wool, paper, rags, grass or leaves.

Woodville, Miss., July 20, 1875.

—o—
RATIONAL BEE-CULTURE.
PURSUED WITH FIXED COMBS, FOR
THE CONVENIENCE OF THOSE
WHO USE COUNTRY HIVES.

(Continued from BEE WORLD for July.)

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

III. The Queen does not go out of the hive for the purpose of purification, nor to gather honey, nor to air herself in the sun; she makes one single flight for the purpose of fecundation; and after this, when she makes an excursion, it is in order to guide the swarm in search of another habitation.

Between the third and the ninth day after birth, urged by amorous desire, she issues from the hive about noon, on a fine day, while the drones are flying in the greatest numbers. Upon first going out, the young queen returns immediately to examine and recognize the place and hive of her new habitation; then she goes out

again, and takes a rushing flight through the air. After an absence of about half an hour, she returns, impregnated, and enters the hive. If, on account of an unfavorable season, or other obstacle, the queen is prevented from making her flight, or if she does not remain a day impregnated, she repeats this love-flight the following day, and while her amorous fire continues; but if fecundation is too long delayed, and she loses this amorous desire, she goes out no more. Yet, though not impregnated, she deposits eggs, which, however, are not fecund, and from which are born only drones.

The Queen is impregnated but once in her life, accumulating in the seminal vesicle so much fecundating humor as suffices for innumerable eggs. A few days after her impregnation, she begins to deposit her eggs in one corner of the comb, and then in succession in every empty cell that she finds prepared and clean. In the beginning, she lays but few eggs, but gradually more and more, until in the time of the most abundant production of honey, and with a very numerous colony, she may lay from 1,500 to 3,000 eggs per day, or even more. The young Queen, during the first week, deposits eggs of working-bees; then eggs of both working-bees and drones, according to the season; but when she is old, she deposits more eggs of drones than workers, in proportion as she declines, and as by degrees the fecundating humor is exhausted in the seminal vesicle, which is an indication of the age of the Queen.

IV. A Queen may live and be vigorous many years, sometimes even as many as ten years, but she continues most prolific during the first four years. After this, her productiveness

decreases. The young Queen is sprightly, of a beautiful, lively color, with perfect wings and claws; the old Queen is dark, because deprived of down which, in the young one covers the body, and her wings are wasted.

The Queen is the life, the soul of the hive; therefore, if she fails, the brood ends, the population by degrees diminishes and is lost, and the orphaned bees are discouraged, lose their activity and industry. In a good hive, or rather, to insure a good hive, the Queen should be young, vigorous, and prolific.

§ III. WORKING BEES.

I. The large number of those bees found in a hive, and of those flying about the fields are called Working Bees, because they perform all the labor necessary to the family in the hive.

Working-bees have the acuminate abdomen covered with wings; in the two long, posterior claws are two notches called baskets, in which they carry the pollen of flowers, bearing it to the hive as food for the family. The œsophagus, which receives the honey gathered from flowers, is largely developed. Under the belly, between the abdominal rings, are small glands, the organs for secreting wax, and called wax-glands. At the extremity of the abdomen is the straight sting, delicate, and toothed like a saw at the end, and perforated in communication with the poison-bag. With this sting, the working bee defends itself, puncturing first, and then squirting the poison into the wound. If the bee fixes, or catches, its sting in the resisting substance, such as our own bodies, or clothes, it can not withdraw it because of the resistance of the saw-like teeth at the extremity; and resorting to

force to extricate itself, the insect lacerates its intestines, leaving the sting in the wound, and soon after dies.

II. The working-bee is a female, but, because born and grown in a small cell, and not fed on nourishing and sustaining food, she is not a perfectly developed female, and therefore is not available for fecundation. But it sometimes happens that in the course of her growth, she receives food sufficiently nourishing to develop largely the ovaries, in which case, she deposits eggs, but these eggs, not being fecundated, produce only drones. These egg-laying, but non-fecundated working-bees are called ephemeral queens, and are found in orphaned hives, that having lost the new Queen, and being without broods, strive thus to raise for themselves another Queen. In hives in good condition these ephemeral queens are not found, because there they are persecuted and destroyed. The unfruitful, or non-fecundated eggs of the egg-depositing working bee are deposited by two and three, also in small cells, and the grubs of the drones thus born are shut in with projecting or curved coverings, or lids of wax, and form what are called the gibbous larvæ, which are easily recognized.

III. The working-bee is born of a fecundated egg deposited by the Queen in a small cell. In three days, the egg hatches. The grub is nourished for four days with sustaining food, and for three days more with honey and pollen. When it eats no more, and extends itself along its cell, it is shut in by the bees with a lid, or seal of wax; and thus shut in, it spins its cocoon, in which it envelops itself in about a day and a half. It exists in this chrysalis state for eight days,

and then perforating its cell, comes forth a perfect bee, of a clear color, in twenty-one days from the deposit of the egg, or eighteen days from the birth and shutting in of the grub.

IV. The working-bee goes forth from the hive ten or fifteen days after birth, and immediately gives its care to the incubation and nourishment of the larvæ.

The working bee, during the season of labor, lives from six to eight weeks, and thus the population of a hive is renewed two or three times. In the winter, when the heavy labor is over, the bee born in autumn lives to see spring return.

V. The working-bees attend to all the labors of the hive internally, as well as to those external labors in the fields. These are the internal labors of the hive, namely:—To set the hives in order, closing all fissures, equalizing all roughness, smearing the walls with the peculiar resinous substance called propolis, for the better protection against the weather; keeping the habitation well cleaned, by removing every accumulation, transporting the dead, and sweeping away the excrement of the Queen.—Their own excrement the bees never deposit in the hive, and when they cannot remove that of the Queen they carefully cover it with propolis (a red, resinous substance), that the air be not corrupted with noxious exhalations. Working bees void their excrements while flying through the air; and if hindered from going forth, they retain it in the intestines until they can make the flight of purification, that is to say, a general sortie for the purpose of unloading the intestines. The working-bees also sweep and clean and prepare the cells for the Queen to deposit her eggs; they

take care of the larvæ, warm them, prepare the nourishing food compounded of honey and pollen, upon which the larvæ and Queen are sustained. This honey and pollen it is their duty to store in cells. They keep the hive warm, and refresh it, in hot seasons, by fanning with their wings in front of the entrance, which, also, they do inside, to renovate and keep pure the air. They keep a strict guard, especially by night, to prevent the entrance into the hive of inimical insects; and lastly, they construct new comb, repairing what is broken, strengthening what is weak, cleaning what is fetid.

In order to construct comb, the bees must produce wax, which is a fatty exudation, and is accomplished in this way: The bees, especially the young ones, after having nourished themselves by honey and pollen, unite in a chain, and thus in repose, and by the action of the heat, exude from the wax-glands under the belly, a humor, in small drops, which quickly consolidating in thin layers, or scales, is wax. With the anterior claws the bees now take these layers or scales of wax, and carry it to the mouth; they masticate it, and stick it where they wish, and then begin the comb. Ordinarily, they construct comb from top to bottom, rarely from bottom to top. They attach it above, secure it at the side, and if necessary, prop it from the bottom, leaving interstices for passage-way. They form the comb of a size about two and a half centimetres [A Centimetre is a French measure, a hundredth part of a metre; equal to .39371, or nearly two fifths of an inch, English measure], with a space of one centimetre between the combs, as passage-way. The combs are always parallel,

and when they happen to be more than a centimetre apart, the bees enlarge the cells, making larger comb, called imperial.

The combs are the nests of the larvæ, and the magazines for honey. They are formed of so many cavities or cells, six-sided, or hexagon, arranged in rows on both faces of the comb, and divided from each other by intermediate walls. The cells are principally of three sorts: small cells, or cells of working bees; large cells, or cells of drones; and regal, or royal cells, or cells for queens; and these are nests for working-bees, drones and queens. The royal cell has the shape of an inverted acorn. These are generally constructed on the lateral, inferior margin [of the comb], and sometimes also, in the middle of the comb. The bees close the cell with a thin scale of wax, pressed from the thick edge of the cell itself. Cells containing honey they close with a slightly concave lid, to preserve it. Cells containing the larvæ of working-bees they close with a level lid; and those containing the grubs of drones with a convex lid. Bees exude wax in spring, during warm weather; but not in winter, nor when the weather is cool. The bees of the swarm fabricate small cells in the first four or six weeks; afterwards they make small and large cells. Colonies that have a new and fruitful queen construct small cells, and also weak colonies construct small cells; but populous hives that wish to swarm in spring, or at the season most abounding in honey, make large cells, that they may fill the more quickly.

These are the external labors of the bees:

—THE GATHERING OF HONEY.—The bees fly about the flowers, from which

they lick up nectar; and they fly about the leaves of large shrubs and trees, from which they lick up the sugary exudations. Thus they fill the sack, or first stomach, and flying back to the hive, vomit, or spit it up into the empty cells.

—THE GATHERING OF POLLEN.—The bees detach with the mouth the dust of flowers called pollen, deposit it in the little baskets of the posterior claws, and carry it to the hives to make the food for the larvæ and queen, and to feed upon themselves.

—THE GATHERING OF PROPOLIS.—The bees gather from resinous plants a viscid humor, soft under the action of heat, but hardened by cold; it is odorous, and of a yellow or reddish color, and is called propolis. With this substance they seal up cracks and smear the walls of their hives, and plaster over obnoxious bodies that they can not transport.

Bees also go in search of water to dissolve the honey, particularly in spring, and to make the nourishing food for the larvæ.

During the season of external labor the working-bees run many risks, and wear their lives away by excessive activity.—FLAMINIO BARBIERI, in June number of *L'Apicoltore*.

[TO BE CONTINUED.]

SKETCHES FROM TENNESSEE.

BY S. D. MCLEAN.

OUR HARVEST.

MR. EDITOR:—Bee-keeping, like the other industries of the country, often meets with reverses which for a time casts a damper over the business. Then, again, it makes the Apiarian rejoice at his good success. Thus it was with us, when in early spring a gloom

was cast over our prospects of a good honey crop. This, however, has been dissipated by the realization of a fair yield latterly. The linden harvest is past. Though short, yet in this, as in all the gifts of Providence, we have a right to rejoice, for our anticipations of a good yield have been realized.

We commenced extracting July 3d, and suspended the 13th of the same month, the harvest being over. Our average per hive during that time was over fifty-three pounds for each colony begun with. Some colonies gathered over one hundred pounds, and some from which we extracted every second and fourth days, yielded about fourteen pounds per day. We now have several barrels of nice, clear linden honey, which retails here at twenty cents per pound.

Our apiary now numbers fifty colonies, outside of nuclei.

FREAKS WITH BEES.

Bees, like many other things, sometimes exhibit many strange freaks of nature, one or two of which I will relate, as it may be new to some. One of which was that of a swarm, on July 11th, issuing a little past five o'clock in the morning, while I was at breakfast. This is the earliest swarm that I have witnessed, though a few mornings prior to that I had one come out before eight o'clock. Another instance was that of a colony storing honey in the bottom chamber of the hive, and the brood all being above.

APIARY FOR AUGUST.

After a honey harvest is over, we think a complete overhauling of the apiary is advisable, for during a great flow of honey but few eggs, and perhaps none, in some instances, are to be found in the hives; and with all the care of the Apiarist while extracting

and exchanging combs from one hive to another, he will sometimes come out minus one or more queens. Should the loss be from a hive without means to rear another, it would, without assistance, result in a complete loss of the colony; a result which would not speak in commendable terms for the vigilance of the bee-keeper.

During this month will be a favorable time to raise queens for Italianizing, etc.; and to retain drones in the Apiary, render queenless one or two of your fine Italian colonies which have many drones, and as most all bees with a fertile queen will now destroy their drones, your chances for pure fertilization will be almost certain. To those who have spare combs and desire an increase of colonies, now is a good time to increase.

Give such new made colonies a young fertile queen and plenty of bees, and they will build up strong for winter from fall pasturage. Guard all colonies, and especially newly made ones, from robbers. If they become troublesome, contract the entrance to those hives being molested. During a scarcity of honey, the pilfering propensities of bees seem to predominate, and it becomes necessary for the Apiarian to keep constant watch over his bees, remembering that vigilance is the safeguard to successful bee-keeping.

Calleoka, Tenn., July 28, 1875.

—Fifty-three pounds per colony is a much better yield than the average, friend McLean, and does credit to your skill and perseverance. We find from the tenor of the many letters we receive, that the average crop will be a light one; and instead of getting a surplus, many are obliged to feed their weakest colonies, with a poor prospect of getting much from the strongest.

Yet bee-keeping is about as certain an industry as other pursuits, we believe. Hard winters are just as destructive to crops, as it is to bees; and unfavorable seasons of the warmer months do not leave the bee-owner, alone, the sufferer. If the advice given in your articles were strictly followed, there would be fewer losses, surely, but, as friend Dabant says, in his valuable article in present number, it is almost impossible to follow all the rules laid down, in a large apiary.

—O—
A BEGINNER'S EXPERIENCE.

M. VAN ESTES.

FRIEND MOON:—YOUR BEE WORLD for July came to hand on the 24th inst., the first number I have had since I saw you. You would probably be pleased to hear from the swarm of bees committed to my care in January last, and as I have a few spare moments this morning, I have concluded to inform you on that subject, and also to tell you of my progress in the study of the science of bee-keeping. According to your directions, I commenced in January to feed my bees a little, and continued to do so until the first of April. Between the middle and last of March they commenced to fly, and as the early flowers opened they went to work in earnest. I watched them very carefully, and soon found that I had a hive full of workers, in a prosperous condition. The comb was speedily filled, and during the first week in May concluded I would try the artificial swarming process, and therefore moved two well-filled frames from the center of my hive to my new one, taking care not to "transfer" the queen. I then set the new hive in the place formerly occupied by the

old one, and moved the old one some twenty feet away. In less than two days from that time, I was surprised and gratified to find that my new swarm had almost filled their hive with comb. Just twenty days from the time I transferred the frames to the new hive, I found, on examination, plenty of eggs in my new swarm. This led me to believe that I had transferred a queen cell, nearly ready to put forth the royal occupant.

I have made no more swarms, because a new hive I had manufactured was not of the right measure to admit the frames from my old one. Early in June I sowed a patch of buckwheat, and to-day it is in full bloom, and alive with bees. I have destroyed all the queen cells in both hives, and am reaping a rich reward from my honey boxes. I adopted the plan of taking the outside combs in my hives and cutting them up and placing them in my honey boxes. The bees fill the boxes up immediately, and in a very few days the new comb removed from the hive is replaced, ready to be transferred again to the boxes.

Now for my progress in bee-keeping: After talking with you a little on the subject, I found that you, nor no other one man, had the time and patience to give full instructions to amateurs in the business. I therefore have bought, and read carefully, every work I could find on the subject. I like to read about the little creatures, and then I have no objection to working with them. I feel very certain I can, without consulting "luck" on the subject, succeed at bee-keeping, by simply following the plain directions marked out by writers on the subject. I think this climate is finely suited to bee-keeping, and that if the people

along the base of the Blue Ridge would only turn their attention to it, more honey could be saved in any of our counties than there is syrup made in any county in lower Georgia. Then why not keep bees? Syrup is made by hard labor, bees do their own work and board themselves.

Gainesville, Ga., July 31, 1875.

—Bees will hatch a queen in fifteen days from the egg, and she could become fertilized and get to laying in three or four days more. So you have two ways to account for your eggs being found in twenty days from the transferring.

—O—
DOLLAR QUEENS.

JOSEPH M. BROOKS.

A. F. MOON:—I received the two copies May and June numbers of BEE WORLD, and must say that I am well pleased with them. In the May number I notice an article from Dr. J. P. H. Brown on Improving the Native Bee, Cheap Queens, etc., that is to the point I think, especially his advice to all to purchase only tested queens to start with; advice that beginners should not forget. But I beg to differ with him on one point, viz: He says that he cannot see that these cheap queens can have anything to do towards disseminating impure stock, etc., particularly when the cross of the Italian and black bee is generally acknowledged by our largest honey-producers to possess superior working qualities over the latter, and that this principle of improvement of inferior stock, by crossing with superior, is fully recognized by all breeders of cattle.

Very true, Mr. Brown. But these

queens are claimed to be bred from pure Italian mothers,—imported or home bred—they are supposed to be pure themselves, and are therefore the superior stock. We all know that if they are fertilized by a black drone, their worker and drone progeny are hybrids, and she herself rendered unfit to rear queens from, which is anything but improvement, so far.

But if these virgin queens were reared from inferior stock,—mothers—there might be hope for improvement in having them mate with superior stock, pure Italian drones.

As we cannot cross a queen upon a drone, we have to cross a drone upon a queen, and unless that drone is strictly pure Italian, we cannot expect much improvement, from the fact that these young queens from pure Italian mothers are the superior stock.

Now I do not want to interfere with any person's business, but my objection to the sale of dollar, untested queens, is simply this: There are a great many such queens sold every season to beginners in bee-culture, that do not know the difference between pure and hybrid bees; and if such a person should happen to get an impure queen, we all know the result: every increase from that queen would be hybrids—queens, workers and drones. And by the time they do learn the difference between pure and impure they have several colonies that are all hybrids, and thousands of impure drones flying, to bother themselves and their neighbors. I have seen but very few beginners in bee-culture that, if they had the worst hybrids, would not contend that they had the best of stock. And go on to say that they got their queens from Mr. So and So, and he wrote them,

saying that the queens were from his best imported stock, etc., and there is no use arguing with them.

But after all they are not to be blamed, for they do not know any better. The trouble does not end there, though: The breeders that send out such queens, may have the best of stock, but as the queens sent out were untested, the breeder is condemned.

I may be badly mistaken, but it is my candid opinion that if these untested queens continue to be sold, it will be but a few years before it will be a rare thing to get queens that are strictly pure, except from a few careful breeders.

I am glad to hear that our friend, R. M. Argo, of Lowell, Ky., has concluded not to go into the cheap (almighty dollar) queen business, yet, but will continue, as heretofore, to rear and sell only tested and prolific queens.

In conclusion I would say that I hope I have not offended anyone, if so it is unintentionally, and I would be pleased to hear from others on this subject

This is the poorest honey season ever known here. Bees have to be fed to prevent starvation, and to keep the queens breeding.

Columbus, Ind., July 31, 1875.

REVIEW.

JEWELL DAVIS.

MR. EDITOR:—Friend Simmons is still interested about the size of the comb frames. He goes for a 9x17 inch frame, and a one story hive. Well, I should prefer one a little deeper for our latitude, while the one he chooses may do in Mississippi. The doctor seems to have some trouble in regard

to his bees building drone comb when he desires them to build worker combs. Perhaps, if he would supply them with worker comb already made, during the time of the plentiful honey harvest, and only cause them to build combs when the secretion of honey is less plentiful he would gain the point of having all worker combs built, provided the bees are in their normal condition. Certainly, go on using the tin rabbets if you find they are good. I use the tin rabbets and tin spaces, also Dr. Davis' metal clamps for the upper corners of the comb frames, projecting $\frac{7}{8}$ of an inch to rest in the spacing supporters, thus making it quite impossible for the bees to glue the comb frames fast. Yes, doctor, we have been trying to get the correspondents willing to give their names, but they are a little squeamish on that point. We trust Dr. Simmons will write often, and enlighten us in this northern clime about the ways and doings of his bees in Mississippi.

The pleasant voice of friend Fletcher of Lansingville, N. Y., informs us of the poor condition of his bees up to the time of his writing, June 17. We hope they are more prosperous ere this.

My friend Leach approves of Dr. Brown's long hive, before he understands it. He likewise talks of the poor season in his locality, and thinks of taking a back seat among us little fellows, because Miss Anna Saunders made such an excellent report from her Apiary. Do not let her frighten you off the track, nor let her good report eclipse your noble anticipations in bee keeping. Put your shoulder to the wheel, and see if you cannot excel in the future.

Friend Johnson informs the BEE WORLD that it found him in Shelby-

ville, Ill., all alive and wide awake among his bees, which were on a "bender" for swarming. Mine, too got on that kind of a bender, even on some of those days when the liberal showers washed away the good flow of honey in the flowers, and the bees were a trifle too cross for comfort, and I began to think I would like friend Johnson's Modoc Indian to stay their "upward and onward flight" on such showery days, and prevent them from singing the sharp chorus "Oh, hinder me not," at a time when they are intent on thrusting their barbed stings. Mine, however, did not take wing to parts unknown, for there was a Modoc here that did conquer that propensity. We wish all to notice how he ventilates his bees for wintering. It is entirely too wet for the bees to gather much honey.

Friend Stone now appears, for the first time, in the BEE WORLD. May he long continue to write for it. He says he is indebted to Dr. Davis for two numbers of the WORLD: well, I trust I shall be able to call the attention of others to the great utility of the BEE WORLD for bee-culture in the South, and that its influence may extend far and wide, until thousands more will say "it is the best paper on bee culture." I think friend Stone should let the light shine from his pen, every month, through the BEE WORLD, to enlighten those behind the age in bee-culture. That is right, friend Stone, make up a club for the journal, and that will make the editor glad, while you are waking up an interest in behalf of bee-keeping in Texas, and extending its influence for usefulness.

My friend Kellogg is on hand again with his Scrapers from Illinois. He informs us that the spring presented

much cool, rainy weather is his locality, but since the flower season commenced only a sufficient amount of honey is secreted to induce extensive breeding, and but little storing of surplus honey. Like friend Kellogg, I wish to keep on hand a file of all the bee journals, for future reference.

Reviewer, on page 204, is made to say of friend Bryant that it is quite a "trial" for him to read the varied articles of the BEE WORLD. I did not intend to say any such thing, but to say it was quite a "treat."

Well, friend Parlange, are you making such reports to astonish us, who have such a poor honey season, in consequence of too much wet weather, or are you showing the superiority of your locality for bee-culture, and the barrels of honey that can be saved, if we have the bees to do it?

Mary Baker is determined to do her duty, and keep clear of the "many stripes," and exhorts us to do likewise.

Come on, then, all of you correspondents of the BEE WORLD, and do not let the editor dun us for a few items of interest, which you can supply in a few moments, for the benefit of all its readers. Yes, let the motto be, write early

She seems to think the moths are troubling her bees, from the fact that they were put into old hives, which the bees had died out of the year before. Now I think this is not the case here in Illinois, for I have often done the same thing, and the moths never troubled them if they were strong enough in bees to keep the combs covered and protected. I should prefer the fumes of sulphur, to water, for killing the vitality of the moth eggs.

Friend Standefer, you are right. Send in your notes, for the editor has

need of them to assist in filling up the journal with a variety of matter. I trust your hopes will be realized, and you will average the 100 lbs. of honey to the colony. Glad that you have discovered the importance of buckwheat culture.

S. D. McLean does not fail to send in his Sketches from Tennessee, but I cannot take space to answer his questions, since it would make the Review too lengthy. Do not miss reading what he says about the Apiary for July.

Please notice friend Pike's method of securing good queen cells. After trial, report, as he requests.

Once again friend Palmer has sent in a lot of Chips from Sweet Home. He seems to be well aware that we should need the chips to keep the fire burning, or the journal full of interesting articles, although we were near concluding that he had forgotten us in that respect. All who have observing hives will notice his directions for making them. His bees have stored but little surplus honey on account of the bad weather. Notice his advice about honey extractors, feeders, feeding, and the use of slates in the Apiary.

Friend Wooster, I will say in regard to the black mustard, that the seed dropped from the seed stalks, will come up spontaneously by the last of May, in this latitude, and bloom by the middle of July, often continuing until in August. Sowed in June it would not bloom before August, or late in July. The moths are generally bad when the colonies are reduced in bees so as to be unable to protect their combs. The colonies become weak from being queenless, or from having an uprolific queen. In either case

they must have a good, prolific queen, to save them from the moth worms. It must be done in season, too, or they will be past redemption. A long-protracted dearth in the honey harvest also, may so reduce the strength of the colony as to give room to the moth miller to lay its eggs, and hence hatch the moth worms, from the fact that during long-protracted dearths in the honey harvest, even the most prolific queens seldom lay enough eggs to keep their colonies good in numbers. In this case the remedy is to feed and keep the queens breeding.

All right, friend Wooster, circulate the BEE WORLD, and get up an interest in apiculture, especially in your country, so well adapted to that pursuit. Induce your ladies to imitate Miss Saunders.

Charleston, Ill., July, 1875.

FERTILE WORKERS.

REV. M. MAHIN.

Having had some experience with those very troublesome things called fertile workers, I will give through the WORLD the result of that experience. The first case was some three years ago. The queen of one of my colonies disappeared in the latter part of the winter, or early in the spring, before brood rearing in that hive began. I gave them a queen cell as soon as I could get one, and it was destroyed. On examining the combs I found that eggs were being laid, especially in the drone comb. I at once came to the conclusion that I had a case of fertile worker on my hands. I put into the hive a comb containing eggs and brood, and exchanged places between it and the most populous one I had.

I got a fine lot of queen cells, and had no more trouble with the fertile worker.

Last summer I had two hives containing fertile workers. One was a nucleus to which I had given, and soon after eggs were found in the combs. In this hive I was able to detect the authors of the mischief (for there were two or three) by their movements, and by the deference paid to them by the bees. I caught them, and having killed them dissected them. I found their ovaries nearly as large as those of a laying queen. The other case, last summer, was a very strong stock that had swarmed, and the swarm was returned, and three or four combs taken out with the old queen, and another given them. I did not discover that any thing was wrong until the combs were full of eggs and drone brood. The colony being very strong I thought to find the fertile worker by dividing the bees and making of them four nucleus swarms. I gave to each nuclei a frame of empty comb, and the next day found eggs in three out of the four. So there were in that hive not less than three laying workers. I succeeded, after several trials, in getting three of the four nuclei to raise a queen.

Last spring I had another case. I found a colony queenless, and without brood. I gave it a comb containing brood, and in due time queen cells were built. Shortly after they were sealed I found some of them were destroyed, and, while looking to see if a queen had hatched I found that eggs had been laid. Contrary to what we generally find when there are fertile workers, the eggs were deposited regularly, one only in a cell. I at once began the search for the author or authors of the trouble, and not without success. I noticed a bee moving

about with something of the dignity of the queen, and took her up on suspicion. Dissection demonstrated that I was right. On searching further I caught two bees in the act of laying. After that no more eggs were laid, and in due time a queen was raised.

It has been, and is, a question in my mind whether, among the many thousands of eggs laid by a fertile worker or unimpregnated queen, there is not occasionally one that will produce a queen. In one of the hives mentioned above, there were a great many queen cells. I supposed that of course they all contained drones, and destroyed them; but in one I found what seemed to be a nearly mature and perfect queen. The head, thorax and abdomen were not those of a drone, but of a queen. I could see no difference between it and any other queen nymph.

The drone progeny of the fertile workers had then been hatching for several days, so that there could have hardly been any eggs in the hive laid by the queen that had been removed nearly six weeks before. It might be well for our learned savans to look into this question a little.

With my present experience, I do not regard it difficult to find a fertile worker in a colony of peaceable Italian bees, or in any colony that will remain quietly on the combs when they are out of the hive. She will move about over the comb, examining one cell after another, in the same manner that a queen does. Her abdomen is little, if any, longer than that of any other worker, but it is noticeably broader and flatter, especially towards the point. And it is not uncommon for the workers to meet her, two or three at a time, and salute her with their

antennæ, and offer her food. By observing these points, a careful and patient observer will generally succeed in ridding a hive of these troublesome nuisances.

I am inclined to think that pretty generally there are more fertile workers than one in a hive when there is one. In every case in which I have had opportunity to determine the number, I have found more than one. If the fertile workers cannot be found and destroyed, I think the best plan to dispose of them is to set the hive containing them on the stand from which a very strong stock has just been removed, giving it, of course, eggs and brood.

Newcastle, Ind., July 27, 1875.

—o—

MY EXPERIENCE IN BEE-KEEPING.

H. H. C. Q. JAMES.

MR. EDITOR:—In the March number of BEE WORLD friend Fletcher wants to know if any one can explain to him what makes bees come out of the hive when the thermometer is at zero, and the entrance shaded.

Experience and observation has taught me to believe that the lack of salt and water is the cause.

Here is my experience with a strong colony of black bees that tried to leave the hive they were in—a box hive—had lower and upward ventilation, and was protected from the north-west wind by a building. Late one evening, in the latter part of February, 1873, I noticed bees flying out of this hive. They came out and never returned, being stricken down by the cold wind, the ground also freezing rapidly. I confined them in the hive until eight o'clock that night, when I

released them and they rushed out by hundreds. I confined them until seven o'clock the next day, and released them, when they rushed out as if swarming, and I confined them again. Having been accustomed to bees all my life, and knowing from experience that bees use salt and water, I came to the conclusion that it was for this reason they left the hive. I thereupon dissolved one teaspoonful of salt in a half pint of water, poured it on some old comb, put the comb on the bottom board in the super, and attracted the bees to it by pouring a little down in the hive, and shut the door. In less than one hour the comb was covered with bees, filling their sacs. At one o'clock I released them, and they were perfectly quiet, not a bee leaving the hive.

I believe salt and water is essential to their health and prosperity, and that, in this instance, it saved my bees. They came out in splendid condition in the spring, and they were the first colony that swarmed. When bees are breeding they use a great amount of water, and if the weather is too cool for them to fly and get it, they are more liable to become diseased and leave the hive. If you confine them they will accumulate in the bottom of the hive and die.

I would say to friend Fletcher, when it is warm enough for bees to fly, take off the box that contains the chaff, invert it, and let the sun shine on the chaff and honey quilt, and dry it. This will warm the bees up and cause them to fly and cleanse themselves. If the weather is too cool for bees to fly, feed them salt and water once a month, and when they commence breeding see that they are well supplied with it until the weather gets

warm enough for them to fly and get water. If bee-keepers would do this I believe we would hear less complaint about dysentery and bees leaving hives in cold weather.

Shepardsville, Ky., July 27, 1875.

—Many of our writers have advocated the necessity of using water in the Apiary, but who, beside friend James, has ever received any benefit from the use of salt? It is worth a trial, and the awakening they would get, according to friend Dadant, (and we know he is right,) would certainly prove beneficial.

—o—

SCRAPS FROM ILLINOIS.

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WILL. M. KELLOGG.
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LARGE SWARMS.

I see that friend Simmons and I agree in regard to large swarms. He says: "In the spring, when the swarms are small, or when I put a new swarm into a hive, I put in about eleven frames," etc.

We have a great many bee-keepers who have eight and ten frame hives, and they call them big stocks. If they had them in Quinby frames they would be large, but take a Gallup frame, eight or ten to the hive, and I call them good-sized nuclei, only. I think a great deal of the disparity of the reports sent in, is caused by the difference in the size of the frames used, as much as the difference in locality. My swarms range from eight to twelve frames of brood each, and some sixteen to eighteen frames each. I use sixteen and twenty-frame hives, Adair size— $11\frac{1}{4} \times 13\frac{3}{4}$. The entrance is at the ends of the frames, instead of the sides; brood in the center, and honey on each side. Which has been

decided as the best system, frames with ends, or sides next the entrance?

STRONG FRAMES.

I, for one, would not give much for the metal corners, expense or no expense. My frames are made of stuff $\frac{7}{8}$ wide and $\frac{3}{8}$ thick, and are light enough for any one. Top and bottom nailed into side bars with three penny nails, and with all my jerking heavy combs to get the bees off, I have never broken a comb or frame yet.

I will back my frame to stand as much "banging" as those with the metal corners, and it does not hurt my fingers in handling as the sharp corners of the tin do. Use the tin rabbits and the bees will have very little chance to stick the frames down. I expect friends Davis and Novice will want to pitch into me for this.

NEW SWARMS.

I made two new swarms to-day. Bees are getting very little honey beyond the wants of the brood. Friend McGaw, of Monmouth, Ill., writes; "Not an ounce of extracted nor comb honey, and very few new swarms, so far, this year." We wait patiently for September, and buckwheat.

I would suggest to friend Stone to give his information in regard to Texas as a bee country, through the BEE WORLD, so we all can read it.

Basswood has come and gone, but "nary" a pound of honey with it to gladden the pocket of the bee-keeper, and the sweet tooth of the customer.

Friend Moon wants us all to give our experience in raising buckwheat. I have never raised any myself, but must say it pays us big to furnish the seed for farmers to sow. One farmer here expects to sow five or six acres, just for the good it will do the land towards next year's crop. It keeps

the weeds down, and leaves the land very light.

HONEY ROOM.

I intend to build me a honey room this fall, if yield of honey will warrant it, after the following plan. Size of room 7x10 feet, 6 feet high. Sills, girt and plate 2x2 inches. Covered with $\frac{3}{8}$ inch ceiling, matched, or $\frac{1}{2}$ inch stuff, matched and battend. Roof oval like a railroad car. Wire cloth windows in two sides, and one end, the other end having a door with wire cloth window in it, and all the windows closed with shutters, hinged at the top. Would have no floor. Such a house could be readily moved if needed, though of course this size would do only for a small-sized bee-yard. It might be made to hoist up on wheels, and moved in that way.

I hope this plan may be of some use to friend Standefer.

I would like to ask friend Rush, of Pointe Coupee, La., how he gets along with his new neighbors, and if he can talk their "lingo" yet.

If you folks do not stop talking about the South as a bee country, you will soon draw more of us Northern bee-keepers down there to get your honey.

Oncida, Ill., July 29, 1875.

—All right, friend Kellogg, come down and help us gather our great honey crops, which is now almost entirely wasted, for want of bees to gather it. There is more honey wasted in the South every year, than the North can produce in five. If you don't believe it come down here and see for yourself.

—See advertisement on another page, of trial offer for eight months.

NOTES FROM CORNERSVILLE,
TENNESSEE.

J. F. LOVE.

MR. A. F. MOON:—It has been a long time since I wrote anything for your valuable journal, but I want you to know that I have not forgotten the *WORLD*, as yet, nor am I likely to as long as it remains in print, and keep bees. I was very much disheartened at the prospect this spring, especially after those three cold days in April, that killed all the buds on the poplar and apple, and almost everything else; but, after some days, I saw that the linden were not injured. The white clover kept the bees alive and breeding until the linden began to open. I only had to feed two colonies, and believe the cause was the queen filled the hives so full of brood. They were single-story, Langstroth hives, with ten frames. I took a full frame of brood from them, and gave them a frame of honey, and kept it up until the linden bloom, when they repaid me for all my extra care. I have taken out fifteen half barrels since the linden came, in extracted honey, and the hives are all full.

I had thirty-five two-story hives, and including single-story I had seventy-four. There were some hives that, during the season, did not, at times, have a pound of honey ahead. This was during rainy weather.

I find that stocks that I winter in two-story hives, with no honey board, come out the strongest and do the best. I had twenty-one hives seven miles from here, sixteen of them double hives: they have increased to twenty-five, and twenty-one are now double, and I have taken nine half barrels, or between 1,800 and 2,000 lbs., of honey.

I have, in all, about 5,000 lbs. of honey, of which the linden is the whitest and best of any that I ever had. I is very finely flavored.

I always let my bees commence to seal their honey before extracting it. I had one of the Gallup-Adair, or New (or Long) Idea hives that I took from, at one time, seventy-six pounds of honey. The frames were near the Gallup size, and thirty of them in the hive. I think, if the fall bloom is good, I will get some more honey yet, and there is every prospect of it. Bees generally fill too full to winter so well. We never have to house bees in Tennessee.

Cornersville, Tenn., July 30, 1875.

THE USES OF HONEY AND HOW TO
MAKE USE OF IT.

Honey—luscious honey—is generally a treat to our little ones for the breakfast, tea or supper, in place of butter, and nice and wholesome it is too, as well as an agreeable change; but, unlike bread and butter, they soon tire of it, so it is only as a treat that it can be consumed in that way. To the buyer of ten or twenty pounds this does not matter, but where we keep our own bees, and our little friends supply us with the delicious commodity by the hundred weight, then an important question arises. How to dispose of our honey? Naturally the answer comes—Sell it. Very good, but first a customer must be found, and we do not all like to turn hawkers without license; so now I suggest we should take a lesson from our neighbors of the continent, who have many ways of using honey to please all palates.

Almost contemporaneous with our

Crystal Palace Exhibition, were held at Paris and Copenhagen gatherings of a similar character, and, in addition to most of the exhibits that were shown there, appeared a long list of eatables and drinkables made wholly or partly with honey, which would be very welcome on the table of our own land. Taking the Paris catalogue, I see there were shown honey bread, spiced bread, fruits preserved in honey, jellies, sweetmeats, cakes, bonbons, pastiles and chocolates; whilst for eau de vie we need not leave old England, seeing it is to be made both from honey and wax! Then we have hydromel or metheglin, champagne, red and white wines, liquors, fruit syrups, vinegar and fruit cordials. There is a pretty list of delicacies for our housewives to exercise their ingenuity and skill upon!

Regretfully, I say I have no knowledge how to make most of these good things. Metheglin is generally made from the waste comb, after all the available honey has been run out, and I extract an excellent receipt furnished by Mr. Oliver to the *Journal of Horticulture*. I may state that I have tasted the liquor made according to this receipt, and can vouch for its being super-excellence:

"When the comb has been drained of its honey, put it in a large vessel, then pour in sufficient luke-warm water to swim it nicely. Let stand two days, stir occasionally, then strain it. Skim the scum from the liquor carefully, filter the sediment through a flannel bag, then boil one hour. To three gallons:—two pounds raisins, one ounce ground ginger and seven or eight laurel leaves, then cool.

Add a little brewer's yeast, let it stand part of a day, then barrel it, leaving the barrel open for two

or three days, bung it up, and let it remain untouched for six months, then bottle it."

I daresay some who try their hands at making this honey drink, will be anxious to taste before the expiration of the six months, but the longer it is kept the better it will be. If an egg will float on the liquor it will be about the right strength.

"Metheglin may, of course, be made from run honey; but by soaking the combs in water we utilize the honey which would otherwise be lost. A little lump sugar put in each bottle will make it fine as brandy."

Honey vinegar is made as follows:

"Put half a pound of honey to a quart of water, boiling hot; mix well, and expose to the greatest heat of the sun, without closing the vessel containing it, but sufficiently so to keep out insects.

In about six weeks this liquor becomes acid, and changes to strong vinegar, and of excellent quality. The broken combs, after being drained, may be put in as much water as will float them, and well washed. The linens also, and sieves which have used for draining honey, may be rinsed in the same water, and with this make the vinegar; first boil and skim it before mixing it with the honey."

To clarify honey: Melt the honey in a vessel standing in boiling water, strain while hot, through flannel previously moistened in hot warm water.

Honey is prescribed by the medical council of Great Britain for use in the following pharmaceutical preparations, viz: confection of pepper; confection of scammony; confection of turpentine; honey and borax; oxymel of squills and simple oxymel.

Honey cakes; Mix a quart of strained

honey with half a pound of powdered white sugar, half a pound of fresh butter and the juice of two oranges or lemons. Warm these ingredients slightly, just enough to soften the butter, then stir the mixture very hard, adding a grated nutmeg. Mix in gradually two pounds or less of sifted flour, make it into a dough just stiff enough to roll out easily, and beat it well all over with a rolling-pin; then roll it out into a large sheet half an inch thick, cut it into round cakes with the top of a tumbler dipped frequently in flour, lay them in shallow tin pans slightly buttered, and bake them.—[A Manual of bee-keeping by John Hunter.

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.

We have had a severe drouth since May. Flowers literally parched up; nothing scarcely for bees to feed upon. My bees were busy upon the mimosa trees May until last week. They are now working on the crape myrtle. I have a species of hollyhock that is one of the finest things for bees I ever saw. It begins to bloom early in the spring, and continues branching and blooming until frost. It has about ceased now, however, in consequence o' the drouth. I believe I shall have to feed some of my bees.

When is the best time (I mean day, or night,) and best plan of feeding bees in Thomas hive? I like my Thomas hives better and better every day.

I thought probably I might report something from Floral Apiary that would be worth hearing, but Miss

Anna Saunders' report scared me so. I will take down my sign, and be as "mute as a mice" hereafter. I am sure I never can come up to her figures, even if I kept a barrel of sugar within their reach all the while. However, I will jog along, and try to make enough honey for my own table, if I make no more; and if I am fortunate enough to make any to spare, I know where I can get a handsome price for it.

I see many bee-keepers recommend catnip as a fine plant for bees. I planted out quite a patch of it, and it has been blooming more than a month; but not a bee have I ever seen upon it, except bumble-bees: they work upon it finely. I am certainly mistaken in the plant. I send a leaf that you may see if it is really catnip. It is what we call catnip in this country.

Mrs. KATE GRAYSON.

Nixburg, Ala., July 24.

—We advise you to feed your bees whenever they need it: a careful inspection of them being the only way to determine their condition to a certainty. Feed them at night, by means of shallow dishes at the entrance of the hive in summer, or, lay an empty comb on the frames and pour the food over it. In this case the honey-board must be taken out, when the bees will readily find the food. The leaf sent us is catnip, judging by taste and smell. Yes, and it looks like catnip, also. There must be a difference in catnip, just as there is in buckwheat: some kinds failing to secrete honey.]

—o—

For the past four months there has been so much interest manifested upon the subject of bee keeping in our community, that I have thought it a good

opportunity to get up a club for the BEE WORLD.

Like most Southern bee-keepers, I am a beginner. Last spring, a year ago, I had six colonies black bees in box hives. I transferred them in movable comb hives, Italianized half of them, and increased to twelve, and took about two hundred, or three hundred, pounds, comb honey. A swarm issued from one of the Italian hives about the first of September, filled up its hive, and came through the winter in as good condition as any. During the fall and winter I bought about thirty stocks, in boxes and round gums. These I transferred at various times along through the fall and winter, except a few of the strongest which went till spring. From this experience I would not transfer good strong stocks in winter, but if scarce of stores I would do so in order to feed them successfully. I only lost one or two weak ones, and I think they lost their queens, as they swarmed out and went into other hives, leaving honey plenty. I have increased to seventy, about one-half Italians.

The yield of honey has not been as good as I expected; only about 1,000 lbs. from twenty of the strongest.

I made my own extractor. I don't see why any one should send off and pay \$15.00, or \$18.00 for an extractor, when one can be made at home in a few hours that will answer just as well. I use a brandy barrel, sawed off the right length, and waxed, for can. The revolving frame is composed of a small iron rod and sundry pieces of hoop-iron bent so as to make the frame of the size and shape wanted, and soldered to the rod. The gearing is that of an old Common Sense sewing machine, (can be had for nothing

in this country,) and is just the thing wanted. About two square feet of wire cloth is all the material that need be purchased, and it costs but a trifle. I have a little circular saw for making hives. It costs but a small amount, and is a great help in hive making. At first I had trouble to get suitable frame material, and had to send to Mobile for it. I now find it can be sawed at any of the country saw mills out of poplar or cypress that will do as well as any. W. F. LEWIS.

Baldwin, Miss., July 28.

—The above shows that transferring may be practiced at any time of the year most convenient, and successfully. In these days of hard times, it is worth one's while to practice economy, and honey extractors are as good a thing to begin with as anything we know of.]

Not seeing anything in the WORLD from this part of Texas, I will give you what few items I can. Bees gathered honey very rapidly up to the first of July, when dry weather set in, since which time they have gathered but little more than they consumed. The honey here is of good quality this year, clear and thick. There is not much interest taken in bee-culture, here; the box hive is used almost entirely. I have twelve colonies in movable comb hives, three of them with Italian queens. They are all about full of honey, with plenty of bees. If I had had an extractor I could have taken a great deal more surplus honey from my bees than I did.

I would like to have you answer the following questions:

1st, Is there any difference in the markings of pure Italian bees? I have

two queens that I purchased as tested; they both produce three-banded workers, but the bands on the bees from one shows much plainer than the other. They are about twice as wide, and yellower. A. Yes, there is a difference. A great many claim that the dark work the best. Our experience is that the light bees are in the greatest demand by new beginners, as they think them the purest.

2d, Will a queen that produces hybrids, produce pure drones, or impure? A. We have always taken the ground that such queens produce impure drones, and have never seen proof to the contrary, although some of our best Apiarians differ with us on that question.

3d, How long after a bee is hatched before they go to carrying in honey? A. As a general rule, from eight to ten days. Up to that time they are engaged in feeding the brood, nursing young bees, etc.

E. M. WISE.

Waxahachie, Texas, Aug. 2.

I think that it was some time last season that I asked the question if any Apiarian had, in cutting out queen cells, found any of them (the queens) with their heads at the bottom, or base, of the cell. I have found another one to-day in that position. I have very often had queens hatch out, and the cell showed evidence of having been gnawed open at the bottom, and by the young queen herself. Cannot Dr. Davis, of Illinois, or Dr. Brown, of Georgia, or some other Apiarian answer and give the cause?

I like the BEE WORLD as well as any of the Journals, but that stinging subject, in the last number, might have been left out and the place filled with

something of more benefit to bee men. I can say the same thing of the American Bee Journal, also.

J. F. LOVE.

Cornersville, Tenn., Aug. 3.

—If you do not find the worth of your money, and something besides, in the BEE WORLD, you are hard to please. Many of our best writers have been silent this summer who will soon take up the pen and give their views and advice to our readers, when we will be able to dispense with selected articles.

—o—
I can report nothing encouraging about bees; but could say much to the contrary. We have had an extraordinary wet spell, unprecedented in duration and in amount of rainfall. Of course bees have been close in doors, and idle during most of the time.

JOHN W. JONES.

Coral Hill, Ky., July 30.

—o—
We are having a terrible time here for bees. It has rained almost every day for six weeks past, and still rains. There was not more than one-fourth of the days during that time that the bees could leave their hives, and consequently they have not gathered enough yet to winter them, while some are actually starving. T. N. HOLLETT.

Pennsville, Aug. 2.

—o—
The honey season is over. We are having dreadful floods here. Bees did nothing this season. S. D. BARBER.

Mattoon, Ill., Aug. 2.

—o—
A careful examination of the bees will pay the owner. There are many stocks this year that are short of stores.

MOON'S BEE WORLD.

A. F. MOON & CO.,

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

AUGUST, 1875.

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THE BIGGEST REPORT YET.

The following letter from Charles Parlange came to us too late for insertion in the correspondent's column, but as it was too good to lay over until our next, we place it here:

MR. EDITOR:—The BEE WORLD for July has reached me. I now write to correct a few errors you made in commenting on my former report. My barrels are molasses barrels, and contain from forty-one to forty-four gallons, instead of thirty-two, as you say. They weigh five hundred pounds, on an average. All the honey I have extracted this year was taken from 140 colonies, instead of 300, as you write.

I have taken my 49th barrel to-day. I have, therefore, extracted 24,500 pounds of honey since April 12, or an average of 175 pounds per hive, counting weak and strong. I will have 60 barrels before this appears in the

WORLD, as I am taking six barrels, or 3,000 pounds, per week. The colony which gave me sixteen gallons from April 12 to June 9, has thus far yielded thirty-three gallons, or 396 pounds, and cannot fail to give me 500 pounds before the end of the season. Hosmer had better look out. The same colony has raised two queens this season. I have hives that have yielded eight gallons, or ninety-six pounds of honey at a taking.

I hope to make between 30,000 and 40,000 pounds before October. I now give notice that unless some one steps forward with a bigger report than mine, I will claim the championship of the South for honey-raising.

CHARLES PARLANGE.

Pointe Coupee La., Aug. 6.

—We imagine the above will make a commotion among our less fortunate friends both South and North, who had unfavorable weather to contend with. In fact, friend Parlange has been favored wonderfully, and, as he says, Hosmer, (and all the other big honey-raisers) had better look out. But we want to know what your honey was gathered from, and what hives you use. Look out for a host of Northern bee-keepers down your way during the coming year.

— o —

A LIGHT HONEY CROP FOR 1875—WILL IT INCREASE THE SALE OF ADULTERATED HONEY?

The honey season has so far advanced that we can tell, with some degree of accuracy, the prospects for a honey crop for 1875. The general impression is, we believe, that the yield will fall below the average, except in some few specially favored locations. In the North and East the extreme cold weather of the past win-

ter reduced the stock of bees fully one-third; and the cold wet spring following, with its consequent lateness of honey-producing flowers, has made the prospect anything but a flattering one. California is also complaining of a short crop, (although the increase in stocks over those of last year, will make the crop an average one), while in the South, with a few exceptions, the crop is destined to be light also. It would have needed no cunning mind to have prophesied this result three months ago, for although the flowers came at their allotted time, copious rains and heavy frosts told the bee-keeper that his calling would be far from profitable this year. Such an unpropitious state of affairs must bring about two things: a better price for the honey we do raise, and an increased sale of adulterated, or spurious honey. It will be a consolation to the honey raiser to know that he will get a good price for his honey, but it may not add to his peace of mind to see the adulterated honey dealer reap a harvest through the same agency that his loss came. The uninitiated will scarcely realize the extent to which adulterated honey is manufactured in our great northern cities. To counteract this sale as much as possible, we must be teachers, showing how much better the pure article is to the adulterated, even when the latter has the advantage of cheapness to recommend it. This is no easy task, when applied to consumers in the city, but we can readily reduce its sale in our country towns. At its next legislative session, let the bee-keepers of each state see that laws are made prohibiting such manufacture, and the nuisance will soon be abated.

Now that the hurry and labor of the honey season is about ended, we shall expect our contributors to give the readers of the BEE WORLD the benefit of their experience. A few words of advice from an old and valued contributor are always treasured up by beginners, and generally leads them into a more earnest and remunerative labor in their apiaries.

Friend Dadant has an article in present number on wintering bees, which, if followed carefully, would be of incalculable benefit to the bee-keepers of the United States. The apiary, under his management, is a success, and the inexperienced may well follow his teachings.

Our readers have a good variety of reading in this number of WORLD; but we promise them a better number for September than we ever have issued from this office. We have several articles to publish that we believe will be of much benefit to Apianians.

We call the reader's attention to A. I. Root & Co's. advertisement in another column. We can recommend them as prompt and reliable dealers.

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Publisher's Department.

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1-3 Column	6 00	10 00	15 00	20 00	30 00
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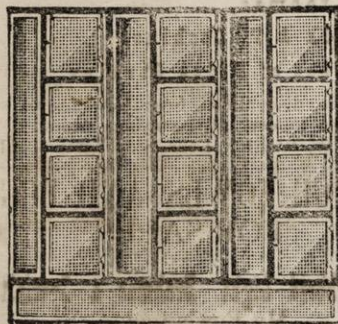
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