The bee-keepers' instructor. Vol. III, No. 10 October, 1881

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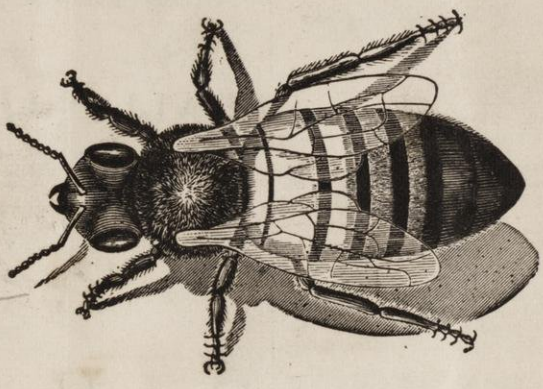
VOL. III. OCTOBER, 1881. NO. 10.

THE BEE-KEEPERS' INSTRUCTOR.



W. Thomas, Editor.

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ADVERTISING RATES.

Advertisements of less than 1 inch, 8 cents per line, each insertion. 1 to 3 inches, per inch, each insertion, 75 cents. 12 lines of nonpareil, our advertising type, containing about 9 words per line, make one inch. Discounts will be made as follows:

On 1 to 3 inches, 3 insertions, 5 per cent; 6 insertions, 10 per cent; 9 insertions, 15 per cent; 12 insertions, 20 per cent.

Special rates given on advertisements of ¼ page or over. Send for estimate.

Advertisements changed quarterly if desired, and all advertisers will receive the INSTRUCTOR free, provided their advertisements amount to at least five times the amount their subscription would be while their advertisements are running.

If our readers in answering advertisements will mention that they saw them in the INSTRUCTOR they will oblige both advertisers and us.

W. THOMAS & SONS.

QUEEN BREEDERS' DIRECTORY.

G. J. PAMMEL, La Crosse, Wisconsin, sells Italian Queens, Comb Foundation, Langstroth and Gem Hives and Apiarian Supplies.

S. D. McLEAN & SON, Culleoka, Tenn. Colonies, Nuclei and Queens. Send for circular.

J. T. WILSON, Mortonsville, Kentucky. Warranted Queens one dollar.

REV. W. BALLANTINE, Sago, Musk. Co., O., Italian and Holy Land Queens. Send for circular.

PAUL L. VIALLON, Bayou Goula, La., breeder and shipper of fine Italian Queens and Bees. Send for 16-page circular.

Clubbing List.

The INSTRUCTOR and any of the following bee journals will be sent to one address, one year, at rates given in right hand column below. The figures on the left give the regular subscription price of each:

Instructor with	American Bee Journa	$2 00	$2 20
"	" Gleanings in Bee Cult'e	1 00	1 30
"	" Bee-Keepers' Magazine	1 00	1 25
"	" Bee-Keepers' Exchange	75	1 10
"	" Bee-Keepers' Guide.....	50	80
"	" Kansas Bee Keeper.....	30	70

THE

Bee-Keepers' Instructor.

VOL. III. SOMERSET, KY., OCTOBER, 1881. No. 10.

Published the middle of each month. W. THOMAS & SONS, Publishers and Proprietors. Terms, 50c. per year, or 30c. for 6 months.

Notice of Removal, and Also of a Slight Change Otherwise.

As will be seen by the date of the INSTRUCTOR this month, we have removed from Adelphi, O., to Somerset, Ky., which we expect to make our permanent home, and to which all communications, and all of our exchanges, should hereafter be directed. Why we have made this change it is hardly necessary to explain to our readers; sufficeth it to say that for good and sufficient reasons we deemed it best to do so. Owing to this change the INSTRUCTOR is a couple of weeks late this month, but we hope to be on time in the future, although the next issue *may* be a little late. As we sold our office in Adelphi, and purchased another one, and thus had the whole journal to reset again, from outside to outside, and in addition to this are publishing a weekly paper, our readers can form some idea of the amount of office work we have had on hands, to say nothing of the labor of moving 250 miles, and getting established in a new home.

In connection with the change of place of publication there will also be a slight change in the firm name, which will hereafter be known as W. Thomas & Sons, W. M. Thomas, a son of the Senior member, having been admitted into the partnership.

We hope that the explanation of the INSTRUCTOR's tardiness this month will be acceptable to its readers, and can assure them that although the place of publication is changed there will be no change in the INSTRUCTOR, except it be be for the better. W. THOMAS & SONS.

PROCEEDINGS

OF THE

Twelfth Convention of the N. A. Bee-Keepers' Society,

HELD AT

Lexington, Ky., Wednesday, Thursday and Friday, Oct. 5, 6 and 7, 1881.

President N. P. Allen called the Convention to order at 10 o'clock.

C. C. Coffinberry, of Chicago, Ill., was appointed Recording Secretary *pro tem.*

On motion the reading of the minutes of the last Annual Convention was deferred until the arrival of Dr. Parmly, of New York, Recording Secretary.

An Amusing communication from B. Hix, Holly, Mich., was read.

Calling the roll of members and reading the Treasurer's report were deferred.

Vice Presidents' reports being in order, the following were received:

TENNESSEE.—Vice President S. C. Dodge reports the winter of 1880-81 was one of unusual severity; the spring opened fine but late; bees were too weak to take advantage of nectar flow from fruit trees; my average was about 25 pounds of honey from spring bloom. The summer was dry and forage very poor. Colonies robbed late in spring scarcely recovered in time for fall bloom. Breeding is now going on rapidly from fall honey, which is coming in nicely. I expect an average of 30 pounds per colony of fall honey. I have effectually eradicated foul brood from my apiary, and after disinfecting the hives and frames am again using them.

ARKANSAS.—Vice President W. W. Hipolite, M. D., reports only about 25 pounds per colony, owing to the prolonged drouth. Increase was moderate, and bees are in good condition. Instead of organizing State and district associations, I have made formal application to have the bee-keepers in this State incorpora-

ted with the Arkansas State Horticultural Society, and have no doubt but that the request will be granted. With some slight changes our State Fair Association will continue the premium list which they last year offered for bees, honey, etc. The fair will be held from the 17th to the 22d of October. As bee culture becomes better developed in this State, I think there will be little difficulty in getting an offer of larger premiums. I trust your meeting may be one of harmony, and result in great good.

INDIANA.—Vice President Rev. M. Mahin reports the winter of 1880-81 was one of the most disastrous to the bee-keeping interest since I have been a keeper of bees. In all parts of the State the losses were very great, and in some counties almost total. For some reason which I am not able to explain, the mortality was greater in the southern portion of the State than the northern. I am not able to give with any certainty the per centage of loss, but I judge for the whole State it was not less than three-fourths. Many lost all they had. In the northern half of the State the season has been very good. I have never known basswood to yield so abundantly. The swarming fever ran very high, and those who were wise enough to save and use the combs of the bees that had died, or to use comb foundation, have had a very satisfactory increase. In this, the north-central portion of the State, the generally prevalent drouth did little harm, and our bees have gathered honey all the season. The fall crop is light, but the early crop was so very large that we have abundant reason to be satisfied. In southern Indiana the drouth has been very severe, and I suppose that the bees are not in good condition for wintering. In this portion of the State there is great room for improvement in bee culture. So far as I know, I have the only honey extractor in this county, and good movable-comb hives are scarce. Bee-keeping has been damaged by vendors of patent bee hives, the patented features of which are their worst ones.

GEORGIA.—Vice President Dr. J. P. H. Brown reports that as there are no regular statistics kept by the Agricultural Bureau of Georgia of the number of colonies of bees, and of the amount of honey and wax produced, it is very difficult to arrive at any very accurate results. I can only give approximate estimates, based upon the last report of the Commissioner of Agriculture upon the subject. I place the number of colonies at about 7,000, and the honey produced at 144,000 pounds, which would only be about 20 pounds per colony. The season has been favorable for the flow of honey, and the yield above the average. The most abundant yield was in May, after which the drouth set in and checked the flow until the rains in July. The fall harvest bids fair to be good, and all those colonies that are strong will lay up surplus above their winter supplies. I estimate the amount of beeswax at 8,000 pounds. Fully 80 per cent. of the bees are kept in the old-fashioned box hives. Movable-frame hives are gradually coming into use, and will be more extensively used as correct apiarian knowledge is more disseminated.

KENTUCKY.—Vice President Wm. Williamson reports the losses the past winter in Kentucky at fully 50 per cent.; some appear to have been more successful than others, and it does not appear to have been from lack of scientific treatment, because those who have the least experience, or given the least attention to them, have in some instances been most successful. The long-continued drouth of this summer destroyed the bright prospects of the early honey season. The flow of honey for a week or two was abundant, rich, and of a delicious flavor, and for the number of colonies would yield about 75 per cent. The increase in colonies has been fully 100 per cent. The prospects for next season seem to indicate a bright future. The recent rains have refreshed vegetation so much that bees are again gathering honey, and will go into winter quarters well supplied.

CANADA.—Vice President D. A. Jones reports the present season as an average one for both honey and increase, and although it has been very dry since July, completely cutting off the fall honey crop, bees are in fair condition for wintering. Honey sells readily at fair prices, and the outlook for bee-keepers was never brighter than at preseut.

NEBRASKA.—Vice President Geo. M. Hawley reports the losses from outdoor wintering at fully 75 per cent.; the losses from cellar wintering 10 per cent. The early season proved favorable, and bees increased rapidly. Later, some sections were affected with local drouths, and but little surplus was obtained, while other portions will secure a full harvest. Would estimate the crop of the State at three-fourths of a full yield. Our principal yield of honey has been from Polygonum persicaræ (hearts ease), goldenrods and silkweed. In the vicinity of rivers or creeks much other bloom

has aided, but the former are everywhere present. The quality of the honey is good, and bees are generally in good condition for winter.

ALABAMA.—Vice President James A. Austin reports: I have endeavored to find out all I could in regard to honey and bees in this State. I think I can safely say that there are not more than 200 or 300 colonies in Madison county. There is very little interest in bees manifested in the State. I am sorry I can not be with you at the convention, and hope it will be a successful one.

MARYLAND.—Vice President S. Valentine reports: I regret I have not been able to get the statistics of the State of Maryland. As far as I can learn, I cannot report over a half crop of honey, if any, for the State of Maryland for 1881. Owing to the mortality among the bees last winter, and the irregular flow of honey this season, it is impossible even to approximate an estimate of the honey crop of our State. I learn from various correspondents in different localities, that the flow of honey has been very irregular through the State—some sections very good while others are poor. I am of the opinion that the clover all through the season secreted an abundance of honey, throughout the State, and the failure in the different localities was owing to the prevalence of heavy rains in the early part of the season, which washed the honey from the blossoms. Following are statistics for Carroll county for 1879: Honey, 13,977 pounds, and wax, 455 pounds. Taking Carroll as an average, would give the State of Maryland 307,497 pounds of honey and 10,010 pounds of wax for 1879. I trust your Convention may be a grand success.

KANSAS.—Vice President Norton reports there is no surplus in Kansas, unless it be in the Eastern tiers of counties along the Missouri river, Any surplus in his locality is usually from the fall flowers, which the drouth has prevented this season. It seems to me a printed circular, setting forth the objects of the Society, for distribution by the Vice Presidents among the officers of the various Fair Associations, would be the most practical and effective manner of reaching the intended objects and producing an effect. It should be an able production, giving statistics of the production of honey, and its importance to the country in a commercial view, with reasons why that production should be stimulated and encouraged by offering of liberal premiums by the several Fair Associations of the country. I would suggest that Mr. T. G. Newman be requested to write it. He could certainly afford it, as the extension of scientific bee-culture tends to increase the circulation of the *Bee Journal*. Since my residence here, now four years, the *Journal* has quite a good circulation, whereas, before I came, not a copy came to the county so far as I know. I wish the society a successful and profitable meeting.

The reports were accepted and ordered to be placed on file.

On motion, the reception of the President's annual address was postponed till the afternoon session.

On motion, adjourned till 2 p. m.

AFTERNOON SESSION.

The President, Dr. N. P. Allen, of Smith's Grove, Ky., addressed the Convention as follows:

Ladies and Gentlemen:

In obedience to a time-honored custom, I am before you to deliver the opening address as presiding officer.

Another year of labor and toil, of joys and sorrows, of successes and disappointments, has passed since last we met in council and grasped each others' hands, and with sympathetic hearts enjoyed the social greetings of our co-laborers in the broad field of apiculture. We have great reason to be thankful to Him who presides over the universe, the dispenser of all blessings, that our lives are spared and we are so favorably surrounded.

The past winter was marked by extreme long-continued cold, and thousands of colonies of bees were lost in consequence; not only bees died, but animals perished in many parts of our northern latitudes; nor was man altogether exempt from suffering and death caused by the rigorous weather.

But in due time the spring sun poured its life-giving rays upon the earth, melting away the snow and frost. The trees put forth its delicate spears and covered the earth with living green; the flowers opened and filled the air with sweet fragrance, and all nature seemed glad with joy, while the hum of the busy bee was heard in the land, filling the heart of the bee-keeper with delight as he beheld the lovely sight.

But the spring-time and summer have passed and the harvest is ended, and we are here to recount our successes and failures—to learn one from another.

Life is made up of toil and labor, of pleasures and sorrows, hopes and fears, happy realizations and sad disappointments—not more so with the apiarist

than with other pursuits; yet, he has a fair field in which he can experience all these different phases of life.

The object of this Association should be to disseminate a correct knowledge of rational bee-keeping; to bind the brotherhood of bee-keepers together as with cords of love and fraternal feeling; to do all in their power to develop the honey resources of the country; to let their light shine so that ignorance and superstition may be dispelled from the land, and a correct system of cultivating the honey bee be the order of the day, that all who keep bees may be rewarded for their labor, and by studying the works of nature in the economy of the bee hive, be elevated in their minds from nature's works to nature's God, and thus be made better citizens and better Christians.

I had hoped to have a valuable statistical table from every State and Province; but from causes over which I had no control I am not able to present it.

Many and varied are the reports of the honey crop. In some States and localities the winter's disasters and the summer's drouth have been so severe as to almost ruin bee-keeping as a profitable business, while in other States and localities bees wintered without serious loss, and the spring and summer harvests were such that good crops of honey were gathered; and in favored spots large yields of honey are reported. May we not hope for a favorable winter, and a rich harvest for our bees the coming year?

Since the invention of the movable frame, by our illustrious co-laborer, the Rev. L. L. Langstroth, in 1855, scientific bee-keeping has been on the increase, and the command of God to man to go forth and subdue the earth, is the watch-word of the bee-keepers—as the movable frame gives him control of the labors of the honey bee in comb-building, brood-rearing and honey-gathering. The intelligent bee-keeper directs the labors of his bees as he chooses. If he wants the delicate comb honey, as white as snow, he can have it by the use of honey boxes and sections; if he wants the pure liquid nectar just gathered from the delicate flower cups, with the sweet fragrance and rich aroma of the flowers from which it was gathered, he can obtain it by the use of the honey extractor. If he wishes to increase the number of colonies, he can do it by artificial swarming and the use of comb foundation. The bellows smoker enables us to subdue and control our bees while manipulating them.

The new races of bees that have been introduced have done much to further the cause of scientific bee-culture. All of the different races are here on exhibition, and we may learn much of their relative merits. We have the German or black bee, the graceful Italian with her rings of gold, and the Albino, so light and beautiful. The Cyprian and Syrian bees that have recently been introduced from the Island of Cyprus and from Palestine are also on exhibition. We had hoped to have *Apis dorsata* also, but have not.

I would earnestly recommend for your consideration, the importance of encouraging State, District and County Societies; the State or Province Societies should be auxiliary to the North American, and the District or County to the State or Province.

Much has been said and written on the subject of the adulteration of honey, and the making of laws to prohibit it. I believe that all articles of food and medicine should be sold under their proper names, and as honey is used both as food and medicine, I recommend that you take such action as in your wisdom may seem best to bring about the end desired.

Several valuable inventions in useful tools and implements have been made the past year, and quite an advance in our bee papers and literature is to be seen—new ones being issued, old ones enlarged and made more attractive. The *American Bee Journal*, published by Thos. G. Newman, Chicago, Ill., is now printed weekly, and is the only weekly paper in the world devoted exclusively to bees.

I return thanks to all the bee papers for publishing the notice of this meeting; also to the committee of arrangements for their labors in getting the use of this hall to hold our sessions in, and for obtaining hotel and railroad rates.

A programme has been printed and distributed for use at this meeting; I return thanks to all those who have contributed to its interest.

In conclusion allow me to thank you for the honor of presiding over your Association during the past year. I have spent both time and labor in furthering its interests, with the hope that it would prosper under my administration, and that this meeting would be one of the best ever held in the western world. May your deliberations be pleasant and profitable to all present.

Dr. E. Parmly, of New York, Recording Secretary, having resumed his duties, read the minutes of the last annual Convention, which were approved.

The selection of a committee on nominations being in order, O. O. Poppleton, of Iowa, moved that the President appoint the committee. Carried.

President Allen appointed as said committee Hon. W. H. Andrews, McKinney, Texas; Hon. G. W. Demaree, Christiansburg, Ky.; O. O. Poppleton, Williamstown, Iowa; F. Della Torre, Reisterstown, Md., and Dr. J. P. H. Brown, Augusta, Georgia.

Prof. A. J. Cook, of Lansing, Mich., delivered the following able address:

The New Races of Bees.

A little less than two years since, as is well known to all, two American gentlemen, D. A. Jones, of Canada, and Frank Benton, of Michigan, started for the old world in quest of new races and species of bees, in the hope that they might discover and introduce into America some new and valuable races or species. After visiting the principal apiaries of Europe, they located in Cyprus, where they established a large apiary in the city of Larnaca. Mr. Benton remained in Cyprus in charge of the bees, which consisted of two distinct varieties, the Cyprian and Syrian, while Mr. Jones returned to America in June, 1880, bringing a large number of the queens of the two races with him.

The following winter Mr. Benton proceeded to Ceylon and Java, hoping to find "the great bee of Java," Apis dorsata, and perhaps others that were valuable. His quest on the Island of Java was very thorough, but utterly fruitless. No sign could he see or word could he hear of the great "Javan bee," Apis dorsata. It was not there, and Mr. Benton gained the expensive information that the name Java, as applied to this species, was a serious misnomer. His search in Ceylon, however, was better rewarded, as he procured on this island after severe labor, great privation, and serious hardships, which came near costing him his life, two new species of Apis; the large dorsata which fastens its comb, all exposed, to the underside of the branches of trees; and the minute florea, which nests in the hollows of trees and rocks, as do our common bees. The comb of Apis dorsata is very thick and heavy, while that of A. florea, some of which I received through the kindness of Mr. Benton, is very delicate and beautiful. The cells are ⅓ less in diameter than are those of our common bees.

Upon the arrival of the new queens in America, I at once procured one of the Syrians, and Syrianized the entire apiary at the Michigan Agricultural College, as I then could learn their peculiarities with much more certainty than though I kept several races.

As the Syrian is the only one of the new races and species with which I have had personal knowledge, I will confine the balance of this paper to them, reserving the description of other species and races for a future occasion.

The Syrian bees are of the yellow type, and so are closely related to the Italians. Indeed, there are reasons to believe that the latter bees are the modified offspring of the Cyprians, which as probably were descendants of the Syrians.

The queens of this race are remarkably uniform in coloration, and thus appear more fixed as a variety, than do the Italians, whose queens are quite variable in color. This uniformity is so striking that of twenty Syrian queens which I have reared, it is next to impossible to distinguish one from another. The head, thorax, femora, and bands on the dorsal surface of the abdomen are black. The abdomen above is brown or leather-color, while the legs, except the femora, and the under side of the abdomen are a little lighter. The black bands on the back border posteriorly the segments from the 2nd to the 5th inclusive. They broaden from the back to the last, which nearly covers the 5th segment. The 2d and 3d bands a little broadest in the middle, and the last segment is wholly black. In form the Syrian queens are essentially like the Italians, nor do they differ in size.

The drones are black above and yellowish-brown beneath. The legs are black. Each segment of the abdomen is bordered above posteriorly with golden brown. Olive brown hairs cover the thorax above, while beneath the thorax on the underside of the head, and the base and tip of the abdomen, the hairs are of a lighter hue. These drones are also unlike the Italian drones in their wondrous uniformity. Each seems exactly alike every other. The Syrian and Italian drones do not differ in form and size. In breeding these bees, I have had striking proof that impregnation has no effect to modify the drones. The first four queens that I reared must have mated with Italian drones, as there were no others in the apiary, and no Syrian drones in the State. Yet of a great number of drones from these queens, not one was seen that did not show the marks of pure Syrian in every respect.

The Syrian workers are like those of the Italians, except that they are more yellow beneath; this color prevailing to the last segment which is dark. The young Syrians, just as they come from the cells, appear very dark. This peculiarity furnishes the readiest means by which to identify these bees when there are no drones in the hive. The workers are a little brighter than are the Italian workers, and perhaps a trifle smaller. The tongue of the Italian workers, I find, after examining a large number of each kind, to be the same length as that of the Cyprian, and to average .006 of an inch longer than that of the Italian, and more than .02 of an inch longer than the tongue of the German worker.

I have found the Cyprian bees to be very prolific, and persistently so. Autumn frost or summer dearth of honey secretion does not check brood rearing as is the case with the Germans or Italians. This does away with all need of stimulative feeding, and keeps the colonies strong at all times. Young bees are present at dawn of winter, which is an important adjunct in safe wintering, and a safeguard against spring dwindling. The Syrians are excellent honey gatherers, certainly equal if not superior to the Italians. They are even more sure to repel robbers than are the Italian bees.

Some of the characteristics of the Syrians are not so desirable. They fairly crowd the queen cells when preparing to swarm. Sometimes 5 or 6 queen cells will be massed in one great pyramid; so it is often difficult to separate them without ruining large fine cells. The speedy destruction of the remaining queen cells after the first queen comes from the cell, and the quick appearance of fertile workers in queenless colonies and nuclei, are objectionable features. These bees are more irritable than are Italians, and worst of all when once aroused, they are totally indifferent to smoke, and fight on all undismayed, even in the presence of the best Bingham smoker. This objection is not very serious, however. The bees are breeding at all times, and so are almost always peaceful, so much so, that I have handled them now for a year, without gloves, veil or smoke, and with no fear and annoyance, except in case of colonies or nuclei which had no queens. Queenless colonies are often very irritable. By waiting a little after opening the hive we are safer, but even then it is not always agreeable to handle them without full protection. Fortunately it is not necessary to handle them much at such times. It is much easier to protect fully these few times, than to have to use the smoker most of the year. After a year's experience, I can give hearty praise to these bees, which are certainly a most valuable acquisition to American apiculture.

Rev. L. Johnson, of Walton, Ky., thought orders for Cyprian and Syrian queens should be sent to Mr. Jones, in order to remunerate him in part for his outlay of time and money to secure a superior and pure race of bees for dissemination in this country. The bees mentioned are good natured if properly handled.

Prof. Cook thought a substantial recognition of Messrs. Jones and Benton's arduous and hazardous labors in this behalf should be made by the bee-keepers of North America.

G. W. Demaree, Christiansburg, Ky., was satisfied there are two races of bees —the yellow and black. All the races of yellow bees are undoubtedly derived from the same parent stock, and all variations which are apparent are the result of climatic influences. Mr. Demaree said he had better results in rearing queens from fresh eggs than from larva. He found, where giving larva already hatched from which to rear queens, that the queens are always darker and their workers not so fine.

D. A. Jones was of the opinion that there were but two races originally—the Syrian and the Dalmatian bees. He thinks the Syrian bees were taken to Cyprus from Palestine, and from Cyprus to Italy, where they came in contact with the Dalmatians, and by acclimatization formed the present Italian bees, which have become a fixed race. He has known nearly 250 queen cells to be constructed in one hive by the Cyprians. A neighbor in Canada claims that the Cyprians gathered an average of 20 pounds more honey per colony than the Italians did.

C. C. Coffinberry, of Chicago, Ill., read an interesting paper on the following subject:

Can Honey be Made a Staple Product?

Since bee-keeping has emerged from the mysterious labyrinths of superstition which popularly surrounded it and been allotted a high position among the scientific arts, the great obstacle which, till quite recently, attended its successful pursuit and development has been an outlet or market for the surplus production above the quantity actually required for home consumption

This, however having been overcome, the next serious question which arose in the minds of some of our most successful producers was the fear of glutting the market; but thanks to an intelligence which could comprehend a country and a market as great as our own, this fear has been allayed, and a demand has sprung up abroad which we frankly acknowledge we cannot satisfy, until we can make honey a staple production. By "staple production" I mean when its supply will average, one year with another, as will pork, or beef, or butter, or cheese, or wheat, or corn, or any other product that is dependent alike upon the seasons and the intelligence of the producers.

Contemporaneous with the fear of glutting the market, was broached the bug-bear of over-stocking the country with bees, and many intelligent and deeply interested bee-keepers approached the subject with fear and trembling, while a few proved by actual figures that two or three hundred colonies of bees did not gather as much honey per colony as formerly did their half-dozen or less colonies. Last winter, however, done much to remove their fears of over-stocking; in fact, one advertised this spring to buy or run on shares bees with which to continue his over-stocking process.

The all-important questions now arising are, Can honey be made a staple product? and if so, How? If we were to ask an intelligent pork-raiser where he expected his hogs to find mast enough to fatten on, he would smile at our simplicity, and point to his well tilled fields, where he raised the corn to feed them; ask the dairyman how he expects the best results from his cows in butter and cheese, and he will point to his ample pastures and haystacks; inquire of the wheat grower where he finds so much wheat to cut, and he will with pride show you his broad fields; but the average bee-keeper if asked where his bees get the nectar with which to fill their surplus boxes, will with a smile of satisfaction point to the roadside where abounds what of the clover the hogs have not uprooted, or to the linden grove in somebody's wood-lot, or to some slovenly field where Spanish needles have taken possession, or "over yonder is a marsh with lots of smart weed." But he has never planted an acre for his bees, "because it will not pay." Perhaps, once in a while, some neighbor has put in a field of buckwheat, or nature has been lavish, and the bees, true to instinct, have done well—as they always will if the opportunity is provided them.

But Mr. O. O. Poppleton, of Iowa, can tell you truthfully that his bees average, per colony, the product of an acre of wheat; Greiner Brothers, of Naples, N. Y., realize equivalent to two acres of wheat from each colony; Alderman & Roberts, Wewahitchka, Florida, have realized this season enough to purchase an acre of land for each colony. Many others have done quite as well; and why? Because they have had almost continual bloom.

It is not my intention to suggest what to plant, but to provoke the questions: Should we not plant to secure a continuous bloom? and with a continuous bloom of judiciously selected plants, Can we not make honey a staple product? When every year becomes an extra good honey season, instead of every fifth year, will not honey have become a staple product? If thirty days of good honey flow will constitute the average honey season one with another, will not four times that number of days every season (which I believe can be realized by judicious planting), not only make the product a staple one, but apiculture will become one of the most pleasant, most certain, and most profitable pursuits we can adopt.

When we have learned what to plant, when to plant, and how much to plant, then, too, will we have overcome the greatest difficulty in wintering, and we will hear no more of bees starving. Our honey will always be the best, because we have robbed nature of the privilege of making the selection. Our colonies will always be strong, from early spring till late in the fall, for we have allowed no cessation in honey flow. Our ramifications for newer and better bees will cease, for our beautiful American-Italians will only be forced to "jump over the fence and help themselves;" and our hybrids and black will become morally and socially better, because not forced from infancy to steal their living. Then, too, will prices become as staple as the product, and the apiarist can with some certainty figure up his probable profits; a few days of adverse winds will not ruin a season's prospects, and bee-keepers will expunge from their vocabulary the dismal term, "blasted hopes."

T. F. Bingham, Abronia, Mich., inquired of Mr. Coffinberry how much buckwheat would be required for a given number of colonies.

O. O. Poppleton, Iowa, answered the question by stating that last season 25 acres of buckwheat gave his bees 6,000 pounds of honey, and he does not know how much was left because of the inability of the bees to take care of or gather it.

Prof. Cook said that the subject matter of the paper was of the greatest importance to the bee-keeper, as it touched on all the vital points connected with successful apiculture; he had no doubt the honey season could be very greatly lengthened, and the crop increased almost indefinitely by a judicious system of planting. He hoped every bee-keeper in America would give the matter of planting for honey a generous trial.

On motion the President appointed the following gentlemen as a committee on apiarian supplies, queens bees, etc.: Dr. L. E. Brown, Eminence, Ky.; D. A. Jones, Beeton, Ont., and D. S. England, Sparta, Tenn.

The following communication was read from Henry L. Jeffry, Vice President for Connecticut:

Report from Sept, 1st, 1880, up to date.

The honey yield from fall flowers in 1880 was below the average as a crop, and consequently the condition of colonies for winter, in the majority of cases, was a scant supply of honey. The pollen yield was as much in excess as the honey was deficient, and in many places the pollen yield was the heaviest ever known.

Winter came suddenly upon us about Nov. 23, and held severe until Dec. 15, when the bees that were in sheltered localities flew a little for two or three days and were then shut in until the forepart of March when they had another fly for a day or two, then, having only an occasional fly until May, when they began to work in earnest every pleasant day, carrying in pollen, and the bees decreased in a greater proportion, by the old ones wearing out, than the hatching brood could replace, thus leaving the colonies on the average no stronger than they usually were the forepart of April.

About 65 per cent. of the number of colonies of last fall were dead by May 10, and more of them died between March 20 and May 10 than had previously. Many that had pulled through till May 1, became queenless and died or swarmed out, or had drone-laying or virgin queens before June 1.

Both soft and hard maples were full 3 weeks later than known before in these parts, but most of the bees were in condition to obtain but little honey from either. Fruit bloom was nothing to speak of. May 25, white clover began to show considerably in favorable localities, but yielded very little honey. Very little, if any, surplus was stored in boxes till basswood, which commenced to bloom July 13, the bloom being plenty and yielding bountifully till the 28th; before basswood was gone sumac began to bloom abundantly, and yielding honey steadily and bountifully till Aug. 5, when the harvest shut off so abruptly as to make it dangerous to open weak colonies or nuclei until buckwheat began to bloom, which was Aug. 22, in some places yielding a fair supply, in others scarcely enough to keep off starvation, and in many places not any. When any amount of honey was gathered it was from the silverhull; the common kind was worthless for honey. The early golden-rods and other early fall flowers amounted to nothing for honey; on the 20th of Sept. bees began to gather a little honey, and the yield showed a steady increase daily. On the 24th it was so heavy that should it continue for 2 weeks as plentiful, the colonies completely destitute could gather enough for a winter supply. The queens had almost come to a stand-still regarding laying; but the past 3 or 4 days, good flow of honey has given them a start, which it is to be hoped will furnish brood enough to send them into winter quarters moderately strong in bees.

In the north-western and western parts of the State, there is a slight showing of a disease in the brood. Just before ready to cap, a large percentage of it turns a yellowish brown, and then dries up. Whether it is caused by a poisonous honey, or the weather, or the drouth, or all three, I cannot tell. The trouble is mostly on low ground or near large swamps. It is contagious by the interchange of diseased combs.

The honey season has not been more than a medium for surplus, though in some places it was uncommon for swarms.

Woodbury, Conn., Sept. 26, 1881.

EVENING SESSION.

Reports on the crop results for the season, with amount of increase, being in order, were given as follows: No. of colonies in the spring, 1,499, increased to 2,700; extracted honey received, 67,632 pounds; comb honey received, 5,005 pounds.

Many of those reporting as above stated their bees were in bad condition in the spring, and others had run for queens or increase. When the roll was called several were absent, not having returned from supper.

Prof. Cook made an explanation regarding fertilization in confinement; he has never been successful in his attempts to accomplish it, although he has diligently tried almost everything which suggested itself to his mind.

Mr. Demaree has tried several experiments, and almost lost confidence in its accomplishment. He has tried tying a silken thread around the queen and flown her in the air, but with no satisfactory results.

Prof. Cook has also tried that method, and suggested several other experiments which met with no better success.

Several gentlemen expressed the opinion that the queen and drone dropped to the ground during intercourse, and gave instances which had come within their knowledge.

Dr. J. P. H. Brown differed with the gentlemen; he thought a few exceptional cases did not constitute the rule.

Mr. Jones has had a Syrian queen mated after she was 30 days old, and she commenced laying three days after being

put in the hive. She has proven herself a good queen, being prolific and throwing worker brood.

On motion of Wm. Williamson, Lexington, Ky., Dr. J. P. H. Brown, Prof. Cook, G. W. Demaree, D. A. Jones and Prof. Hasbrouck, of New Jersey, were appointed a special committee, and requested to continue further experiments with a view to successfully fertilize queens in confinement.

D. A. Jones suggested that bees could be successfully and quickly united by using a small Bingham smoker with a piece of fine sponge next the fire grate, then another piece saturated with the best German chloroform, and a dry sponge on this. Care must be taken, not to use too much chloroform.

Adjourned till 9 a. m.

THURSDAY, OCTOBER 6.

MORNING SESSION.

Session opened with prayer by Rev. L. Johnson, Walton, Ky.

Report of Committee on Nominations being called for, Hon. W. H. Andrews, Chairman, reported the following:

President—Prof. A. J. Cook, Lansing, Mich.
Recording Sec.—Dr. Ehrick Parmly, N. Y.
Corresponding Sec.—C. F. Muth, Cincinnati.
Treasurer—Mrs. F. Dunham, Depere, Wis.

STATE VICE PRESIDENTS.

Alabama—J. A. Austin, Huntsville.
Arkansas—Dr. W. W. Hipolite, Devail's Bluff.
California—W. Muth-Rasmussen, Independence.
Colorado—D. Wolpert, Denver.
Connecticut—H. L. Jeffrey, Woodbury.
Dakota—Calvin G. Shaw, Vermillion.
Florida—W. S. Hart, New Smyrna.
Georgia—Dr. J. P. H. Brown, Augusta.
Illinois—Mrs. L. Harrison, Peoria.
Indiana—Joseph M. Brooks, Columbus.
Iowa—O. O. Poppleton, Williamstown.
Kansas—D. P. Norton, Council Grove.
Kentucky—W. Williamson, Lexington.
Louisiana—G. A. Vincent, New Orleans.
Maine—Dr. J. A. Morton, Bethel.
Maryland—S. Valentine, Double Pipe Creek.
Massachusetts—E. A. Thomas, Coleraine.
Michigan—T. F. Bingham, Abronia.
Mississippi—O. M. Blanton, Greenville.
Missouri—R. S. Musser, St. Joseph.
Nebraska—George M. Hawley, Lincoln.
New Hampshire—J. L. Hubbard, Walpole.
New Jersey—Prof. J. Hasbrouck, Bound Brook.
New York—A. J. King, New York City.
North Carolina—E. E. Ewing, Highlands.
Ohio—Melville Hayes, Wilmington.
Ontario—D. A. Jones, Beeton.
Pennsylvania—W. J. Davis, Youngsville.
Quebec—Thomas Valiquet, St. Hilaire.
Tennessee—W. P. Henderson. Murfreesboro.
Texas—Dr. W. R. Howard. Kingston.
Vermont—A. E. Manum, Bristol.
Virginia—F. C. Jordan, Stephenson's Depot.
West Virginia—Dr. E. E. Worthen, Wheeling.
Wisconsin—John Corscot, Madison.

The report of the committee was accepted, and on motion of O. O. Poppleton, the Recording Secretary was instructed to cast the vote of the Convention as a unit for the above nominees, after which they were declared unanimously elected.

Prof. A. J. Cook, President elect, was escorted to the chair, and delivered the following:

President's Address.

Ladies and Gentlemen of the American Bee-Keepers' Society:

Allow me to thank you most cordially for this unsought and unexpected honor. To receive this kind and unanimous expression is indeed most pleasant. Two years ago I urged Cincinnati as the place for the succeeding meeting. I wished to enlist the interest and quick intelligence and secure the rich fruit of the experience of our honored bee-keepers of the Sunny South. One year later the selection of Lexington wisely furthered the same object. To-day we are proving the wisdom of this idea. We have heard before of the kind-heartedness and exceptional hospitality of the people of this grand old State. To-day we are realizing that it is more than true.

I have long felt a sincere pride in doing what I could to advance apiculture. The apiarist procures his reward, not by sharp practices, not through the misfortunes and adversity of his fellow, but by the honest production of that which is of value to others. His daily work adds to the capital of the world; the fruits of his daily thought and labor add to the comfort, the health, and the happiness of the world. More, when we lead any friend or neighbor to apicultural pursuits, we are working indirectly to cultivate in them thought, study and close observation, for without each and all of these, the best success is impossible. But intelligence and observation are more than elements of success; they make life a joy, and their possessor a delight and a blessing to others.

Apiculture calls its patrons to handle the things of nature, and so refines, elevates, and broadens. How patent the fact, as we associate with bee-keepers in these conventions, that this pursuit developes charity, reverence—yea, the truest and best elements of a gentleman.

In apiculture our sisters find the means to procure a comfortable livelihood. That apiculture is peculiarly adapted to the deft manipulation and the neat and beautiful taste of our ladies, is more than demonstrated by the many successful lady apiarists of America, who are second to none in the land.

To be called to succeed such men as Allen, Newman, Quinby and the honored

Langstroth, is indeed something to awaken pride; to be called to represent the American apiculturists, as the chief officer of their national association, is indeed an honor of no small magnitude.

Asking your aid, unflagging support, and your kind forbearance, I promise to do what I can to make the coming year of this association even more fruitful of good to American bee-keepers, if that be possible, than has been any time in the past. With "Excelsior!" as our motto, let us proceed to our regular work.

The following resolution was offered by C. C. Coffinberry, of Illinois, and adopted unanimously, by a rising vote:

Resolved, That we hereby tender the thanks of the North American Bee-Keepers' Society, to our late President, Dr. N. P. Allen, Kentucky, for the excellent and efficient discharge of his official duties during the past most trying year to bee-keepers.

The following address from P. P. Collier, of Missouri, was read:

About In-and-In Breeding.

In discussing this very important branch of apiculture, I deem it prudent to confine myself to facts long established and proven, that, too long and too close "in-and-in breeding" is detrimental in all domestic animals, as well as the honey bee. It is one of God's established laws in all animate beings to avoid the relative or kindred bloods, and the penalty in the violation of this law, the careful breeder is ever watchful to prevent in the species propagated. While it is a fact that some of the ancients advocated "in-breeding," to retain the original purity of the "bovine animals," yet the proof of this policy is developed in all cases wherever practiced, not only in maintaining the original, but running out of mixed blood, and, while we believe that this law is applicable to all domestic animals, it is none the less true in the honey bee, as probably with all insects.

My father once purchased four colonies in log gums from two different men. For two years his increase was very rapid, his bees doing well, but the third year they became indolent—no honey—moths attacked them, and in two years more he had nothing left save the "gums." There were no other bees near for them to cross with, but they bred in-and-in until they bred "out." I was called, a few years ago, to transfer eighteen black colonies from the old box to the movable frame hives. I did so, and found the bees very indolent; queens and drones dwarfish, bees idle, with little resentment, and although put there in good order with a good harvest, yet they went to nothing. Another case about the same time, and under similar circumstances, was giving queens from a distant apiary (all blacks) with very different results: the close of the season found them strong and vigorous, not a moth about them.

Some thirty years ago, a French writer advocated the exchange of brood from a distant apiary, to prevent "in-breeding." Mr. Dadant, on page 270 in the "American Bee Journal," refers to a case of marked laziness in bees propagated and sold in one locality, all from one colony. He further said: "According to my experience, too close and too prolonged in and-in breeding will produce laziness, and give birth to queens whose progenitors are not so sound as should be desired," and had he added that "such a course was a sure road to destruction," he would have come nearer the facts in the case.

I purchased, in 1877, a very fine imported queen from Dr. Brown, of Georgia. Her offspring was pure. I suppressed all drones except from her. From her I reared some very fine queens and drones, but to my surprise these queens did not produce well-marked workers. The next year (1878), I reared some queens from these; the result was very bad hybrids—very cross. The third year (1879), to my great satisfaction, as well as my neighbors', they played entirely out—the worst mongrels imaginable. Now I had no black drones; all drones were from this imported queen and her offspring. I ask, "was this not a marked case of degeneracy from in-breeding?" I then procured queens from different breeders—reared drones from one, and queens from others, with very different results.

How did man obtain the perfection developed in the various animals under his control? I answer, by taking advantage of this law, with the variation and preserving them, or developing the more perfect, and rejecting the imperfect. Now with no variation, there can be no selection, but happily our great Creator has provided ample provisions by which kindred blood and the penalty thereof may be avoided, and a better and purer race adorn the many apiaries that exist in our broad and glorious land, to the pleasure and profit of all concerned. But permit me here to say, that so long as this dollar-queen business is tolerated, so long may we expect perfection deferred, and a mongrel race flood our country. Why, what would we expect were a stock-raiser to advertise his fine cattle without warrant or guarantee of their purity? Would you purchase of such? Yet thousands of novices are led to believe that they have the "ne-plus-ultra," to their great injury.

Dr. E. Parmly, of New York, maintained that there was not the danger to be apprehended from in-and-in breeding that was generally anticipated. The doctor exhibited a photograph of the most celebrated milch cow now in this country, stating that her extraordinary yielding powers had been developed by in-breeding, and that it was a rule among the best stock breeders to breed in twice and out once; sometimes they breed in-and-out time about. He claimed that climatic influences had more to do with deleterious results than the system of in-breeding with bees. Take, for instance, the human family, and it would be found that some nationalities were not so liable to degeneracy as others. A nervous, excitable people like the Americans would be more likely to degenerate than a stolid phlegmatic people like the Hollanders. According to the theory of parthenogenesis, a queen could not mate with a full brother—the nearest relationship the drone could bear would be that of a half brother, and hence their peculiar natural organization was by nature adapted for breeding in.

An address from C. P. Dadant, of Hamton, Ill., was next in order, entitled

The Prevention of Natural Swarming.

Among the most desirable improvements to be made in the wide, unexplored field of bee-knowledge, is the management of bees in such a way as

to produce at will, either bees or honey. One-half of this question has already been solved satisfactory; it is that which concerns the production of increase in colonies at the expense of honey. Indeed this matter has been so thoroughly ventilated, that it has become a necessity for the older heads to warn the novices against an excess in this line; and notwithstanding these warnings, we daily hear of failures of beginners due to the over-production of artificial swarms in their too great eagerness to quickly become large honey producers.

The other side of the question, and not the least important to the large producer, is far from being so thoroughly solved as the former, and although we see many instances where bees do produce honey without swarming, there are numberless instances where the bees have swarmed again and again, producing a large increase in spite of the efforts of their keeper, whose aim was only the production of honey. All our large producers are anxious to prevent natural swarming and to control all their increase in order to select their breeding stock, and also to prevent any further addition to the number of their colonies, except in a quantity sufficient to cover their winter losses.

In order to find the best means for the prevention of swarming it is necessary to consider the habits of the bee and to act in accordance with their nature. The oldest authorities that write on the subject all agree that bees swarm or prepare to swarm when "a hive well filled with comb can no longer accommodate its teeming population," and they also nearly all agree on the fact that when a colony has made preparations for swarming it is very difficult to prevent their swarming impulse. One thing, however, that we do not find stated, though we may have overlooked it, is the fact that bees often prepare to swarm before the hive is full of comb, but only in exceptional cases when the comb in the hive is not yet all occupied. But there are, we think, several causes of natural swarming. Allow us to lay down a few rules which we will develop afterwards in regard to these causes. The swarming impulse is generally found:

1st. In a colony of bees that contains a large amount of drone comb, in which drones are reared early in the season.

2d. In a colony containing an old queen or a queen that is losing her prolificness on account of age or some other reason, and which the bees try to replace.

3d. In a colony that has most or all of its comb occupied with honey, brood and pollen, even if that colony has a large empty space left.

4th. In some colonies that have already swarmed a few days previously, or in colonies that have prepared to swarm, even if the colony has been divided, when their intentions were discovered by their keeper.

Let us bear in mind that we must always have in view the nature of the bee, whenever we inquire into this question of swarming, as it is only through their natural instincts that we can control them.

In regard to the first question, nearly all the old box-hive bee-keepers will tell you that a colony that rears many drones is more apt to swarm than one that does not rear any. Bee-keepers, however, differ in their explanation of the influence of the drones in this case. Some hold that when the bees intend to swarm, they rear drones largely, to provide for the fertilization of the young queen. Others say that the drones are only reared in good seasons, and that in such seasons the bees are more apt to swarm. We incline to think that although both of these reasons have weight in the matter, the main influence of the drones on swarming is due to the fact that they bother and annoy the bees with their useless presence, and help to make the colony uncomfortable by their running and tumbling right and left in the busiest time of the day, and especially by generating a considerable amount of heat, without ever helping even to ventilate the hive.

Be this as it may, we can safely say and our readers will agree in this, that to remove all or most of the drone comb to replace it with worker comb, is one of the requirements for the prevention of natural swarming.

The second question in regard to the age of the queen, will perhaps not seem so plain at first sight, and still we consider it as very important. Most bee-keepers know that when a queen loses some of her prolificness, the bees usually build queen cells to replace her. They do not always wait till she is too old to be of further service, but sometimes try to replace her when she is still vigorous and only somewhat decreasing in her laying capacities.

In such instances if the young queen is reared during a scarcity of honey, they sometimes keep the two queens side by side for weeks and perhaps months, but when this queen rearing is attempted during the honey months, it is an impetus to the swarming fever. The old queen then leaves with a swarm and this colony having acquired the swarming impulse will swarm again and again, sometimes to the bee-keeper's detriment and also to its own loss. On the other hand if the colony has a young prolific queen which they do not wish to replace, they will not build queen cells unless other causes force them to it.

The third question is the main one in the case, and the cause of most of the swarming. Not only will a colony swarm when the hive is full of combs, but very often also when all the comb in the hive is full, even if the hive be only partly filled with comb. In this latter case, the cause is undoubtedly to be found in the fact that when the harvest is very plentiful the bees find every corner crowded and have to remain idle in order to digest the honey and transform it into comb. This is an annoyance to them undoubtedly, and they make preparations for swarming. But we have never seen bees swarm when enough empty comb had been provided for them from the beginning of the honey harvest, when the two first requirements had already been complied with. When the bees are allowed to acquire the swarming fever, however, from some cause or other we have never been able to find means to prevent their swarming, no matter how much room was given them, and sometimes when divided up in three or four pieces each of these divisions would cast a swarm and make things only worse. It is, therefore, very important to have these rules complied with before the honey season begins.

For the last fifteen years we have kept bees in large hives, larger than the average of bee hives in the country, and we only had 5 per cent. of natural swarms, except in extraordinary swarming seasons, but until about 4 years ago we had never furnished our bees with all the comb that they could possibly use in the best honey season. Since that time we have seen extraordinary swarming seasons among our box-hive bee-keepers, the present season especially, having more than doubled their apiaries, and we have been enabled to keep the natural swarming to about 3 or 4 per cent.

Discussion helps progress. In the foregoing we only give our experience in the matter, and now desire to hear of the experience of others. Such is the aim of this essay.

Rev. L. Johnson, Kentucky, does not favor dividing or artificial swarming. When a colony develops a swarming tendency, he removes it to a new stand and places an empty hive on the old one, in which he puts a queen cell or frame of eggs and larva.

T. F. Bingham, Abronia, Mich., thinks the giving of empty combs will not prevent swarming—that the size of the hive

has nothing to do with swarming.

C. F. Muth, Cincinnati, Ohio, thinks that swarming is easily controlled by extracting from the brood chamber. In running for comb honey they cannot be so easily controlled at all times.

Rev. L. Johnson does not think the presence of drones has any influence on swarming.

Messrs. Muth and Cook agreed with Mr. Dadant in thinking that drones do exercise an influence.

H. C. Hersperger, Keene, Ky., has seen bees swarm under almost all circumstances; but thinks swarming is mostly attributable to the existence of uncomfortable conditions in the hive. At times, however, the swarming propensity seems almost unaccountable.

Prof. Cook explained his method of measuring the length of the tongue of the honey bee. It is done by placing feed on the surface of a pane of glass, then covering with a surface of wire cloth, one end being elevated about one-half an inch. By this means he can get the tongue extruded its full length, when he suddenly decapitates the bee. By this means he can measure it, with the aid of his microscope, to the exactness of one-thousandth of an inch.

G. W. Demaree, of Christiansburg, Ky., read a paper entitled: "The Obstacles to Progressive Bee Culture."

T. F. Bingham, of Michigan, took exceptions to the subject matter of the address of yesterday on "Making honey a staple product." He thinks when honey shall have become a staple product, and can be secured with the same certainty, and sells at as quotable prices as do the ordinary products of the farm, bee-keeping will have lost its attractiveness for most of those who now pursue it. It is the uncertainty of its production, and the many risks now attending its pursuit, that charms its votaries as does horse-racing with the sportsman or stock-gambling with the speculator.

G. W. Demaree disagreed with the gentleman in his ironical allusion to the subject. In his own county he was overseer of the poor. Every year and every day scores of poor people were supported at the public expense, who could become self-sustaining and honored members of the community if the views suggested by Mr. Coffinberry were carried into effect, making honey a staple product, and its price a reliable quotation, which would be the result of a continuous summer honey bloom.

Rev. L. Johnson said there were thousands of good and willing men South as well as north, who had lost a leg or an arm, or were otherwise incapacitated from earning a comfortable livelihood at laborious employment, who would hail with joy the opportunity to support themselves, if bee-keeping was made a reliable occupation, with a certain production and a staple price, as was demonstrated by the author of yesterday's paper (Mr. Coffinberry). These people were now more or less dependent; in the North their government provided pensions for them; in the South their hopes fled with their temporary government, and they depended upon the public charity. In the breadth of the land were hundreds of thousands of women, well adapted for bee-keeping, who are now drudging out their lives, often deprived of the merest necessities of life, who but want to be educated in apiculture, and a steady market to support themselves and contribute millions to the wealth and commerce of the nation.

Mrs. L. Harrison, Peoria, Ill, said that eighteen years ago the doctors gave her but three years to live. She has now cheated them out of fifteen years, and attributes her good health to her occupation as a bee-keeper.

Prof. Cook illustrated the adaptability of bee-keeping as a lady's occupation by instancing several cases where health had been restored through its pursuit.

On motion, the Convention adjourned till 1:30 P. M.

AFTERNOON SESSION.

The Treasurer, Mrs. Frances Dunham, of Depere, Wis., rendered her annual report, showing a balance in the Treasury of $33.50, after meeting all expenses. Report was accepted.

[CONCLUDED NEXT MONTH.]

Our Contributors.

For the Bee-Keepers' Instructor.

Bees Freezing to Death.

G. M. DOOLITTLE.

I see on page 501 Aug. No. INSTRUCTOR that Friend Underhill is still trying to prove that bees *do* freeze to death, and says Doolittle's statement is misleading to the novice, and censures Friend House for letting such a statement pass unnoticed, and attributes the cause of such silence on H.'s part to his fear of the "veterans." That Friend H. has no fear of anyone we

have every reason to believe, and if he believed bees did freeze to death he would not have been slow in criticising my former article. Now, Friend U., no one can say all he would like to on any subject in one article, so I will say a few more words in support of my former position, and see if it cannot be made plain to you that bees do not freeze, while in a normal condition. First, I wish to call attention to the statement: "Anyone who has handled bees knows that too cold weather makes them perfectly stiff and apparently lifeless." Begging your pardon, Friend U., I wish to say that as experienced a man as the late M. Quinby was, in his "Mysteries of Bee-Keeping," when speaking of bees in cold weather, says: "Those on the outside are somewhat stiffened with cold, while those within are as brisk and lively as in summer." I have found M. Quinby's statements more nearly correct than those of most persons, and *especially* do I consider the above correct. If a colony ever gets in the condition U. tells of, they are not in a normal condition from some cause, outside of extreme cold, for extreme cold never will produce such a condition of things with a good-sized cluster of bees. Once more: I wish to call attention to another statement which is quite skillfully worded, found on same page: "But if in any other than thoroughly packed chaff hives, take them to warmer quarters if the (zero) cold lasts longer than seven or eight days." This carries the impression that the writer believes that bees will not survive more than a week of zero cold, unless in well-protected chaff hives. To prove the fallacy of this, again I quote from that veteran of 10 years ago (Elisha Gallup, of Santa Ana, Cal.), who says in *A. B. J.*, Vol. 5, page 33, in speaking of a winter in Upper Canada: "The thermometer for sixty days in succession was not above 10° below zero, and for eight of these days the mercury was frozen," and yet he says farther on: "But my box hives, with a two-inch hole at the top and the bottoms plastered up tight, wintered in excellent condition." U. says: "Had Friend D. told us just how long those bees could have survived," etc.; yet here is sixty days given by one of America's best apiarists, and still he is skeptical. If sixty days of such weather won't freeze bees, will Friend U. please tell us how long it does take? Friend Hill takes us to task in June *Guide*, and says my three days' experiment was not the way to freeze bees, so I suppose Friend Gallup's was not either, as he did not succeed in freezing them in certain hives. H. goes on to tell us how to do it, but forgets, as does also Friend U., that bees freeze (*as they would have it*) in cellars where the mercury never gets as low as freezing. Now, I come to the proof of my position, and will say that from all experience which I have had, bees *in like condition* will succumb (freeze to death if you please to call it so) just as quick with a temperature of 35° to 40° (all know that a temperature of 35° above zero won't freeze anything), as they will with a zero temperature. It is not the temperature as much as it is in their condition, although I admit that extreme cold, steady and continued, will bring on these conditions much sooner than an even, mild temperature will. Can any other reason except exhausted vitality from too long confinement account for the fact that three-fourths of all our losses occur after the middle of March, after the weather becomes much more mild than they have stood for three months previous? On the first of April the past spring my loss did not amount to 10 per cent., while the middle of May my loss was three-fourths of all I had, mostly occurring between April 15th and May 15th, when surely bees would not freeze to death. From this fact that our losses universally occur in the latter part of winter, and during spring, in cellars where it never freezes as well as elsewhere; and from the above instances given as well as from all my experience, I am led to still believe that bees *do not* come to an untimely end by freezing, but by an exhausted vitality resulting from too long confinement.

Lest Friend U. should see anything in this as he did in my former article, to lead him to believe that "there is no use in protecting our bees," I would say that I believe in protecting them, to help them stand the long confinement they must of necessity stand during our long cold winters, as he must know if he has read my articles elsewhere.

Berodino, N. Y., Aug. 24, 1881.

For the Bee-Keepers' Instructor.]

Among the Bee-Keepers.

F. L. WRIGHT.

During the past week we have been taking a jaunt through the neighboring country, and have met a number of bee-keepers. We find the larger share of them far from encouraged. Last winter's losses, added to the poor honey yield of the two preceding seasons, had about disheartened all who were trying to make their

bread and butter at the business, but when the spring of '81 opened so bright and beautiful (albeit rather late), they plucked up courage and gathering together the remnants of their once fine apiaries, they went at the work of building them up with a will.

This season, although a fair one, has not been what they all hoped by any means. Bees have swarmed almost beyond precedent, and the yield of light honey was in some localities above the average, but owing to the severe and long-continued drouth, bees have hardly made a living except in specially favored localities, since the middle of July, and consequently all late swarms are light. Should the coming winter prove a hard one, I fear many will give up the business.

We called on Prof. Cook at our State Agricultural College the 15th, and found him and his pupils busy extracting honey, uniting nuclei, etc. They report a good yield of honey of very fine quality, and they find a good market for all they can produce, at the boarding hall on the college farm.

We passed a pleasant hour looking over the apiary and fixtures, and another examining the almost numberless honey plants and shrubs which they cultivate. We found many curiosities. Among them were rabbit-foot or stone clover, *Trifolium arvense*, and Buffilo clover, *T. reflexium*, and many others equally as curious.

Any one having time to travel and a taste for Agriculture, Horticulture and kindred pursuits, would be amply repaid should they visit Michigan Agricultural College. Everything that will grow in our climate may be found on the grounds, and so labeled that one cannot be mistaken, and their extensive green-houses contain thousands of tropical specimens; their Museum, Library, and a host of other places of interest, and last, but not least, the Apiary, with its different styles of hives, and the honey house and shop, wherein is stored articles from all nations under heaven, from a bit of section box veneer to costly machinery, makes time pass swiftly, and one hates to see the sun go down, for not the half has been seen.

The Prof. uses and advises the Gallup frame. The hive they make takes 16 of the above frames, and are so fitted with division boards that nuclei or full colonies fill them. Their surplus, when it is desirable to obtain it in boxes, is obtained in boxes fitted into a case setting above the brood chamber; also in the outside frames in lower story.

A little further along we found another good brother who used the same frame, but tiered up sometimes three stories high, and who is confident he gets more honey than Cook does.

I would like to tell you of many other things I saw, and of a visit to one who is confident he invented the movable frame hive, but must leave them for some other time.

Oh, by the bye, Friend T., do not understand me that I meant to distract Bro. Root. I wrote detract, viz.: to take away, to draw off. At present I have more faith in Early Amber sugar than in the Burch difficulty.

Plainfield, Mich., Oct. 4, 1881.

For the Bee-Keepers' Instructor.]

The "Bees By the Pound" Question.

MRS. L. HARRISON.

We copy the following from the *American Bee-Keeper* for September:

WEIGHT OF SWARMS.

E. M. HARRISON:—Let us hear who has had the largest natural swarms this season. I wintered seven colonies, and the five largest swarms cast weighed when hived: 1st, eleven pounds; 2d, seven and a half; 3d, six and a half; 4th, six; 5th, five and a half pounds. Next. Respectfully,
Keesville, N. Y. J. W. HARKNER.

You will hardly think, Mr. Editor, that the figures given above are "exceptionally large," and yet the five swarms amount to thirty-six and a half pounds, which being divided by five (the number of swarms) will give each seven and three-tenth pounds. Seven and three-tenth pounds, at $2.00 per pound, would am't to $14.60. A very good price for bees in swarming time. We would ask as a favor of the bee-keepers of Central Ill. that they weigh first swarms and report.

When we wrote about "bees by the pound" we had no idea of criticising anyone's business, but merely to discuss what was best for bee-keepers—to purchase a colony of bees in a hive, or buy them by the pound. We agree with Friend Flanigan, with this exception—he considers June, the "great swarming month," to be early in the season, while we do not. And if he will weigh his first swarms, he will find that 12½ pounds is not so "exceptionally large" as he now believes.

We feel that we have had a mistaken idea about the INSTRUCTOR. By its name we inferred that it was to teach us; that we could discuss the implements for the apiary that are in the market, pro and con, and thereby ascertain which is for the best interest of bee-keepers to purchase, with as much freedom as if it was

lumber, nails, paint, etc. We do not expect this license by a supply dealer who prints a paper in his own interest, but you claim to be free, and yet get as nervous as an old hen with chickens when a hawk flies overhead, and quote scripture, too, like a preacher, if one of your chicks *gap*.

Peoria, Ill., Oct, 1, 1881.

We are sorry that our esteemed correspondent should feel out of humor over our brief comments in the Sept. No., as what we said can not surely be attributed to any nervous, fault-finding spirit of ours. Nothing had been said with regard to implements connected with the apiary, unless a covered up, baited hook were such, and few, we opine, would be willing to concede that they use such an implement. We surely have not attempted to muzzle discussion in regard to apiarian implements or bee supplies, and hope that sister Harrison will dispel all such notions. We have said before, and again repeat it, that we are not now, and never have been, connected with the supply business in *any* form, either directly or indirectly. Our interests are identical with those of the great mass of bee-keepers, and in furthering their interests, which we certainly try to do, we further our own.

Question Box.

My bees are all in L. chaff hives, except what are in bee house (and that is on same principle). My hives are now about four inches from the ground, and banked up in front with sawdust, with white sand on top. My alighting boards are 16 inches wide, the side next to the hive being beaded and hung on hinges, to allow them to stand at any angle.

I am thinking of making bottomless boxes the size of each hive, out of 6-inch strips, and setting on the old stand, filling the inside with sawdust, and set the old hive thereon, to raise it that much from the ground for winter. What do you think of the plan? GEORGE E. HILTON.

Fremont, Mich.

From your description we think your bees are almost as well off as they well can be. We would advise you to bank up the sawdust around your hives as they now stand, taking care of course not to obstruct the entrances. We do not think either plan will be any great advantage, but ours is considerably less work. In all our experience the hives that have set near the ground have wintered better than those set up a distance. During the hard winter of 1878-79 the largest part of the hives in our apiary had only a 2-inch plank between them and the ground, and were banked all over with snow nearly the entire winter. All (about 40 colonies) came out in the spring bright and lively, with scarcely a dead bee or a mouldy comb, while bees near here that sat on a bench two or three feet frem the ground, all died. Since then we have wintered near the ground, and always had good success.

1. I notice in "Kansas Bee-Keeper" that Mr. Heddon writes in favor of dark or leather colored Italians. What is your experience?

2. My bees are short of stores and weak—divided too much. Am feeding, but they swarm out and go into other hives, leaving brood and honey. What is the cause? and

3d. What is the remedy? J. TAYLOR.

Richmond, Kansas.

1st. We have no choice. For several years we have been buying bees and queens of nearly everyone who claimed to have a superior strain, and have had bees of nearly all the colors of the rainbow, and taking one year with another the light, golden bees have done as well for us as the dark, leather colored ones. By dark we mean strictly pure bees, and not hybrids. Hybrids, as a rule, store a little more honey for us, winter full as well, and sting ten times as bad, as pure bees of either race.

2d. Sorry to hear your bees are behaving so badly. You have stated the cause. It is quite a common occurrence among such swarms this time of the year. Instinct teaches them that in the condition they now are they can not survive the winter, and so they unite with some other, expecting (we suppose) to there find food in abundance.

3d. The only remedy we know of is to unite it with another colony, or else give them a frame of hatching brood from some colony that can spare it. In your latitude, where winter is of short duration, we think you would stand a better chance of wintering weak stocks than we would here, and you might, if you have honey enough to go round, simply exchange a frame of cutting brood from one hive for that of another, throughout all of your apiary. We did this one *spring*, when our bees were determined to swarm out, and they stopped it at once. Whether that was the cause, or whether they had just got ready to stop, we do not know. Have not had occasion to try it since.

Does the food fed the queen larva differ in quality or only in quantity from that fed the worker larva. NOVICE.
Adelphi, Ohio.

It differs in *quality*. We have long held this opinion, but had nothing to sustain it, until while visiting Prof. Cook recently we questioned him about it, and were informed that they had analyzed it, and there was a difference, and a marked one. That fed the larva destined to become a queen contains double the quantity of the nitrogenous principle that the food of the worker larva contains. It is probably made from the same material but compounded differently—the honey and pollen being combined in different proportions. This is the opinion of several able chemists. We have often compared the two kinds of food, and in both looks and taste found them quite unlike, but could not tell how they differed.

Several questions received too late for this month will be answered next month.

Editor's Corner.

Pressure of other matter has crowded the "Editor's Corner" into rather small compass this month.

Owing to the lack of space we are obliged to omit a number of articles this month, but will publish them next month as far as possible. Have patience.

When you want a work on bee culture remember our book list. We furnish all the books described at publishers' prices, and invite those wishing to purchase to send us their order.

We have just received from Mr. D. A. Jones, Beeton, Ontario, his very neat 20-page circular and price-list of bees, queens, etc., for 1881-82. In addition to the advertising matter, it contains brief but explicit directions for five different methods of wintering. Mr. Jones is known as a very successful bee-keeper, and the circular is well worth sending for.

THE NATIONAL CONVENTION.

The Convention at Lexington seems to have been quite successful, and the proceedings very interesting and instructive. We had expected, as stated in last month's INSTRUCTOR, to be present at the Convention, and were very much disappointed that circumstances over which we had no control prevented it—our time being fully occupied in the labor of moving from our former home to Somerset. In this number we give a portion of the proceedings of the Convention, and next month will give the most interesting portions of the remaining part of the proceedings.

DEVELOP YOUR HOME MARKET.

There are only four words in the above heading, and yet we consider it one of the best pieces of advice that could be given bee-keepers, and one which, if followed, would result in saving them a large sum of money annually that now goes into the coffers of the railroad magnates. And in many cases not only this money that is now paid for transportation could be saved, but the honey could be sold for a larger price close at home than could be obtained for it in a distant market, not taking the expense of shipping into account. A case in point is that of Riegel & Drum, of Adelphi, O. They sold all this year's crop of honey (a good many hundred pounds), in Columbus, O., for which they received 25c. per lb., this being from 3 to 5 cents per lb. more than honey was quoted at in New York, the great honey market of America, at the same time. And in addition to this difference in price they only had to pay for 40 miles transportation when selling at Columbus, whereas if they had sent it to New York they would have had to pay for 1,500 or 2,000 miles. Who will say under such circumstances that it does not pay to develop home markets? But even if everyone can not do this well, our advice would be, do the best you can. If there is not much home demand for honey, *create* a demand for it, by using every honest means you can to develop a taste for it, and you will finally reap your reward.

NOVEMBER MANAGEMENT.

As our journal is so late this month we will only give the management for Nov. Full provision should have been made before this for wintering, except in the far South, and even there if the honey season is over. But if any have neglected to prepare their bees for winter to this late day, it should be attended to immediately, or on the first day that is sufficiently warm to do so. If bees are to be housed they should be properly prepared and left on their stands until cold weather has set in to stay, as if put in sooner their uneasiness may make it necessary to return them to their summer stands. Except in very severe lati-

tudes, we would recommend wintering on summer stands. To do so they should be packed in chaff, or some other dry absorbent material that will give sufficient upward ventilation to allow the moisture to pass off, and yet retain all of the animal heat of the bees, as far as possible. The most important object to be attained, aside from plenty of good stores, is to so prepare the bees as to prevent undue condensation. This can only be done by ample protection, so as to prevent the effects that are sure to follow all sudden changes, in thin, unprotected hives. Condensation, as is generally known, is brought about by heated air coming in contact with cold surfaces, and the result is, when carried to excess, that considerable quantities of water, and then ice, are frequently to be found in the hives. If the inside of the hive can be kept free from these sudden changes, bee life will be comparatively safe; otherwise, after the cold has become unbearable (so to speak) to the bees, they become aroused, and by their active breathing soon raise the temperature of the hive many degrees (some say as high as fifty) in a very few minutes. The atmosphere of the hive at this high temperature coming in contact with the cold walls, condensation rapidly takes place, and as the hive gradually cools down, ice is frequently formed, and death ensues unless the bees have enough vitality to again and again go through with the warming-up process. From this we see the great importance of protecting our bees through the winter, especially in cold latitudes. A good chaff cushion on top of the frames, with a good double-walled hive, is about all that is necessary except in the far north. Ample protection, however, in all cold latitudes will be of advantage, as it will not only keep the bees comfortable in cold weather, but will prevent them from being affected by sudden changes of the weather. Division boards with the space of the brood chamber thus cut off filled with chaff, will be found to be beneficial, especially in the case of weak colonies.

Ventilation is also an important factor in wintering. In fact, we are not so certain but what many of us miss it right here as much as anywhere else. We should not forget that the amount of ventilation should be in proportion to the strength of the colony. It should also be governed somewhat by the weather. The colder the weather the less ventilation, and vice versa. We should remember, though, that we are more likely to err in giving too little than too much ventilation. If the hive is sealed up air tight above, it will bear to be largely ventilated from below. If free upward ventilation is given there should be none from below. Our experience has been mostly with lower ventilation, which we think is the best and most natural. Prepare your hives now so that in the case of sudden changes from cold to warm, or from warm to cold weather you can increase or diminish the ventilation. And whether wintered in doors or out make it a point to have your bees kept as quiet as possible.

Honey and Beeswax Markets.

REPORTED FOR THE INSTRUCTOR.

New York, Oct. 20.

Honey—Best white in 1 lb. sections, 19 to 22c.; best white in 2-lb. sections, 18 to 20c. Fair white in 1-lb. sections, 17 to 20c.; fair white in 2 lb. sections, 15 to 17c. Dark and mixed in 1-lb. sections, 12 to 15c.; dark and mixed in 2-lb. sections, 11 to 14c.

Large boxes 2c. ₱ lb. less than above.

Best white extracted, 10 to 12c.; dark extracted, 7 to 8c.

Beeswax—Prime yellow, 22 to 23c.; dark, 20 to 21c. H. K. & F. B. THURBER & Co.

Chicago, Oct. 17.

Honey—White comb in 1 to 1½-lb sections, 20 to 22c.; white comb in 2 to 3-lb sections, 18 to 20c. Dark comb in any size sections, 15 to 18c.

All kinds of honey in good demand.

Beeswax—Light, 22c.; dark, 20c.

R. A. BURNETT.

St. Louis, Oct. 17.

Honey—Is active and values increase with the lower temperature. Comb, 17 to 18c., with 19c. paid in some instances for extra. Extracted, in cans, 11 to 12½c.; in barrels, 8½ to 9¼c.

Beeswax—19 to 20c., with 20½ to 21c. for extra.

R. C. GREER & Co.

San Francisco, Oct. 15.

Honey.—Of last week's receipts 333 cases went directly on board a vessel for Liverpool. Sales as far as reported are of a retail character, asking prices restricting trade in a wholesale way. Considerable old honey is still on market, some of it having been received this season. White comb, 16 to 20c.; dark to good, 10 to 14c. Extracted, choice to extra white, 9 to 10c. Dark and candied, 7 to 9c.

Beeswax—23 to 25c. ROOT & HATCH.

Boston, Oct. 17.

Honey—Best white comb, 20 to 22c.; dark, 15 to 14c. Strained, 10 to 15c.

Beeswax—25c. CROCKER & BLAKE.

Cincinnati, Oct. 19.

Honey—Comb is neglected. There is not much in the market, with a slow demand. A choice article would bring 18 to 20c. The demand is very good for extracted, and more than keeps pace with arrivals. It brings 8 to 11c. on arrival.

Beeswax—20 to 22c. C. F. MUTH.

Cleveland; O., Oct. 17.

Honey—The market for white comb in unglassed sections is fairly active at 21c. for 1-lb. and 20c. for 2-lb. sections. Glassed sections and dark honey about 15 to 17c. Extracted slow at 12c,

Beeswax—20 to 22c. A. C. KENDAL.

Books for Bee-Keepers!

COOK'S MANUAL OF THE APIARY is one of the latest additions to bee literature, though by no means least. It is particularly valuable to the scientific bee-keeper (although in part II, under the head of "The Apiary, Its Care and Management," instructions are given that the most inexperienced can understand), as in it Prof. Cook has opened up a hitherto comparatively unexplored field, by giving a full description, illustrated by numerous engravings, of the physical structure of the honey bee. It is fully illustrated, and handsomely printed and bound. Price, in cloth, $1 25; paper, $1.00.

QUINBY'S NEW BEE-KEEPING, by L. C. Root, is a handsomely illustrated book of plain, practical information for bee-keepers, very neatly and substantially bound. Its author follows apiculture as a business—being one of America's most successful honey producers—and is therefore thoroughly qualified from personal experience to impart that information to bee-keepers that is essential to their success. Cloth, $1.50.

The A B C OF BEE CULTURE, by A. I. Root, embraces "everything pertaining to the care of the apiary," arranged in the handy cyclopædia form, and contains much useful information to both the novice in bee-keeping and the experienced. Cloth, $1.25; paper, 75c.

THE BEE-KEEPERS' TEXT BOOK is one of the older works on bee culture. It has lately been re-written and revised by A. J. King, and is now fully up with the times. Cloth, $1.00; paper, 75c.

BEE CULTURE; OR SUCCESSFUL MANAGEMENT OF THE APIARY, by T. G. Newman, presents in a condensed form instructions for the apiary's successful management. Published in English and German. Price for either edition, in paper, 40c. each; per dozen, $3.00.

THE DZIERZON THEORY, by the Baron of Berlepsch, presents the fundamental principles of bee culture, and furnishes a condensed statement of the facts and arguments by which they are demonstrated. Paper, 15c.

HARVESTING, HANDLING AND MARKETING EXTRACTED HONEY is the title of a very neat, thorough and exhaustive pamphlet on that subject, by Charles and C. P. Dadant. Price, 15c.

Any of the above will be sent by mail, post-paid, on receipt of price. Address

W. THOMAS & SONS, Somerset, Ky.