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VOL. II.

NO. 4.

THE WESTERN APIARIAN.

AN ILLUSTRATED MONTHLY MAGAZINE.

McCallum Bros. Publishers.

Marville.

MARCH, 1890 *California.*

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
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Editorial Bee Lines.

We would like very much to be able to make an estimate that could be depended upon, of the bee-keepers of the various sections, together with the number of colonies and honey produced, and would be glad to correspond with bee-men in general, and especially one in each county in the United States and Canada.

Though this work is very evidently for the benefit of all, yet we will be willing to pay for services rendered, provided accuracy is guaranteed. Can you not within the next two months, furnish us with the statistics of all bee-keepers in your county?

Let us hear from you on the subject.

How difficult it seems to be to get reliable statistics. All admit the desirability of having them, and yet few will aid in any way to secure them.

It ought to be a comparatively easy matter to be able to schedule the honey-producers and honey production of any given state, and yet we know of no state in which satisfactory results have been obtained. In our own state, Californ-

ia, the tabulated reports presented are so deficient, that the whole thing is absurd, and gives ridiculously incorrect ideas of the honey producing forces and resources of this sunny, flower-land; and yet great credit is due those who have made the attempt.

Never use soiled sections, It will not pay to put on the market anything which, in appearance, is inferior. There is too much of this done. To save the penny of the first cost of the new sections, many lose the dollars of an increasing and appreciative market. Let us here say that a few dollars spent in making honey attractive is not really spent, it is invested and should go into the capital account. Clean, new sections, with neatly printed labels, (not that abominable of homeliness, the blurred and unreadable rubber stamp) will go far to solve the market problem, and, in many instances, answers the oft asked question, "How can I get a living price for my honey?"

Comb honey should be kept in a warm place with an even temperature. Do not be afraid of getting it too warm. If it should reach 90 degrees no harm would be done.

There seems to be considerable doubt in the minds of beekeepers generally, especially of our more conservative men, as to the practicability of the wooden comb. We think, however, they should be thoroughly tested by our most experienced apiarists before judgment is pronounced.

Syrian bees greatly resemble the Italians in appearance, and possess many of the good qualities of the latter. They, however, are irritable and are not readily subdued by smoke.

We have had the most severe winter that California has ever known. The rainfall, here in the Sierra Nevada Mountains, has reached the unprecedented amount of 64 inches. We have, however, the promise of an abundant honey crop, and are confident that California will make for itself a record, all but unapproached by any other state; or rather that California will sustain, or even increase the reputation it has already acquired for enormous returns of that most delicious and healthful of sweets, honey.

Many of the farmers of Oregon, we are glad to say, are awakening to the fact that beekeeping can be made wonderfully profitable. The climate of Oregon is good, and the considerable

amount of moisture, which is well distributed through the season, gives them a flora that fills their hives with honey, and, as they have a most excellent home market, the full hive soon makes fat the purse of the owner of the willing workers. The best reports we have had for some time, come from the beekeepers of Oregon.

We commend them for their enterprise, and recommend to them the introduction of the pure strains of banded bees, especially the Carniolan.

The general sentiment of California beekeepers seems to be that the time has come for thorough organization among the apiarists of the state.

There will probably be some differences of opinion as to the methods by which this organization can be accomplished; and we desire to open the columns of THE WESTERN APIARIAN to the expression of all opinions.

We have received a number of opinions, most of which are favorable to organization.

It would seem to us that an organization embracing the entire state of California, cannot be made a success, on account of the great extent of territory and the consequent expense and loss of time that would be required of many of our beemen who must of necessity live at a great distance from the place where the convention is held.

Allow me to present the following plan for your consideration with the hope that it will call forth discussion that will result in something tangible and practicable.

We would suggest the division o

California into three sections as follows:

1st Southern California with Arizona.

2nd Central California with Western Nevada.

3rd Northern California with Southern Oregon.

We suggest that Southern California shall include the counties of San Diego, Los Angeles, San Bernardino, Ventura, Santa Barbara, San Luis Obispo, and Kern; that Central California include all the counties north of these up to and inclusive of Placer, Sutter, Yolo, Napa and Sonoma; and that Northern California include all the counties north of those above given.

Prof. Norton, whose article we will insert in March, suggests that these local conventions can elect delegates to represent them at a state convention, which would seem to be the solution of the matter.

We think that good results would be produced by county conventions and would gladly do all in our power to aid the several counties in any attempt they may make.

Our county, El Dorado, which has about 25 bee-keepers, is talking up a convention, and if we can have one here in the mountains, surely some of the southern counties need not hesitate.

Next month we will speak of the benefits that will result from such organization; and our reasons for thinking such benefits will come.

We are inclined to render justice, untainted with malice, envy, or revenge. We therefore say unhesitatingly that "THE AMERICAN APICULTURIST" is one of the best bee papers published and that Mr. Alley, its publisher and proprietor, is a successful apiarist, who has invented one of the best hives known and given it to the public without a patent. But Mr. Alley has this little weakness, that, when speaking of his contemporaries or answering one who disagrees with him, he dips his pen in gall and says little sarcastic things which do more credit to his clear cut, pointed thought and diction than to the fraternal spirit which we might expect in him. "The Western Apiarian" will continue to welcome articles from eastern beekeepers, but not because Californians cannot write. We invite articles from all portions of the coast, especially from the extensive beekeepers in the most noted honey producing districts. We would like to show eastern critics that California beekeepers can write articles of value too.

Always keep your beehives well painted. It does not pay to allow them to be weather-beaten and rotted. In addition to the economy of this, you should consider the appearance. Well painted hives on a well-kept lawn will indicate thrift and help your business, perhaps more than you would imagine; while, on the other hand, a dilapidated appearance in the entire apiary, is in itself enough to counteract your most strenuous efforts along other lines, to obtain and retain a market.

One of our exchanges gives the following on painting hives:
"In painting hives, dark colors should be avoided as much as possible, for in extreme hot weather the combs in such hives will melt down, while in a hive painted white, no damage will be done. Such melting down of combs often comes in times of scarcity of honey in the fields, so that robbing is started by the honey running from the hive when the inmates are in no condition to defend themselves, and from this case and the spoiled combs, much damage is done."

**Subscribe for the
WESTERN APIARIAN,**

We have fitted up our Job office with about 60 fount of new type, of the latest styles, together with a large and varied assortment of cuts, borders, card ornaments etc. and can do any kind of work in the very best style. We make a specialty of color work, particularly honey-labels. Before placing your orders for your job printing, allow us to give you an estimate as we guarantee satisfaction and can save you a large per centage on your money.

We have been compelled to do some very rapid work on this number of the "Apiarian" in order to get it out this month. A series of most vexatious delays made it late in the month before we could attach any power to the new press; and the office being entirely new we have worked at serious disadvantage. We now make our last excuse. Our office is now rapidly taking shape, and for convenience, has few peers. We will soon catch up with the time of issue and call upon our readers regularly upon the first of the month. Some few mistakes have escaped our notice in the hurried make up of our forms, but we will continue to improve until we can point with pride to our magazine as equal if not superior to any of its class of publications.

Allow us a word along the line of sending money to this office. We do not object to stamps, when they are sent loose, but many send us stamps that are stuck to the paper, which is very annoying and causes us a considerable loss. If you send stamps please put them in the letter without sticking them. We would also request that you send stamps of the denomination of one

or two cents, as we are overstocked with those of higher denomination.

The best way to send money is by P. O. Order or Express Money Order; but a postal note is a very convenient and comparatively safe way.

We have expended a large sum of money in the APIARIAN office, for the benefit of our bee-keepers. Now we have one of the best equipped offices in the business, and do not hesitate to ask for your patronage.

Is not this journal your own, and is it not for your own best interests to give it a liberal support?

We have received considerable encouragement, and confidently expect that his magazine will be the exponent of the successful apiculture of this country; especially of the West and South.

The blockade on the Central Pacific, during the past winter, sadly demoralized our mail, and many letters were lost. We have heard of some orders being sent us, that we never received, and we have sent out a considerable number of articles that did not reach their destination. If any of our readers have sent us orders, and have failed to hear from us as to their being received and filled, please let us know, and we try and make all straight.

We have been compelled for want of space, to leave out some important articles this month. They will be inserted next issue.

We announce a very important article next month on "Spring Dwindling" by Mr. Alfred Morrill, of Glenwood, Oregon, the writer of that splendid series of articles on bee-hunting, the first of which appears in this number.

We also make special mention of "Beekeeping in Missouri," by Wm. Glennon, Antioch, Missouri.

GLUCOSE.

FOR THE APIARIAN.

By PROF. A. NORTON.

The low price of honey in California is of itself a guarantee that our product is pure. The price of extracted honey except after a dry year, is as low as that of glucose. Therefore, whatever inducements might exist in connection with a strong honey market to tempt unscrupulous parties to offer spurious grades are here wanting.

Without claiming too much for the producer, or, as he has been called, "the honest farmer," nor impugning the character of the majority of the dealers, it can be safely said that the nature of their respective relations to the wholesale honey traffic and the extent of their respective influence upon it, show that if honey should be adulterated to a large extent, it would necessarily be by those who handle the product at second hand and therefore in larger quantities, which would admit of more systematic treatment.

But much of the matter that from time to time appears in the columns of the outside press about the great extent to which this product is mixed with glucose and the refinement of ingenuity in the methods employed, whether by dealer or producer, is worse trash than could be the article which they would have the public believe was being put upon the market. Honey may be adulterated to a small extent by a few dealers in the East where the ruling price is higher, as it might be on this coast if better rates prevailed. But it

has not yet become enough of a necessity with a sufficiently general and constant demand in any part of the country to cause any considerable temptation to adulterate.

And again, the irresponsible articles in the public press exaggerate not only the extent to which this is carried but also the evil that can result therefrom. The impression has thus been made nearly universal that the different grades of honey, syrup, etc. adulterated with glucose are vile and injurious mixtures, whose use sets cleanliness at naught and even puts health in jeopardy.

It is time that this subject was put upon its real merits; and this is best done by considering it first: as a question of public honesty, and second as one of public safety. The question of honesty is easily settled. To sell any article by falsely representing it to be some other article is radically wrong and dishonest. The motive for this is gain. Of course the article that the dealer sells is cheaper than that which the customer wants. The dealer therefore commits the double wrong of selling one thing for another and of selling it at a price above what the customer would have to pay if he called for the same article at its market price. The article thus disposed of may be perfectly wholesome; but still a wrong and dishonest act has been committed.

A man who would buy the purest of granulated sugar to make an imitation of honey, because he could thus sell it for more than sugar might be worth, would perpetrate a fraud even though it were attended with no dangerous consequences. Individual honesty as

well as a care for his reputation should prevent any transaction of this nature.

But, when we consider the reputation of glucose, we are brought to the second phase of the question; public safety.

In the various articles that we read concerning glucose and the means of detecting it and distinguishing it from honey we find nothing about the essential difference between the two. Upon this point and the influence of glucose upon health, a little more might be said with profit.

The fact is that honey itself belongs to the glucose or grape sugar class of sweets. Place a solution of granulated sugar in a test tube and treat it with liquor potassae. It will remain as clear as when you put it in. Now take some of the whitest sage honey you can find dilute it with water and place it in the test tube, as before. The liquor potassae will turn its color to a reddish brown. This is the test for grape sugar or glucose.

PROFESSOR YEOMANS says: "Grape sugar, $C_{12}H_{12}O_{12}$ plus $1Aq$, (glucose) — This variety is less soluble and less easily crystalized than sucrose, (cane sugar). We are familiar with it in the sweet grains of raisins, figs and other dried fruits; and it is also obtained by transformation of starch, and hence sometimes called starch sugar. * * * It is a natural product of the liver in man and other animals. * * * The candied sugar of honey is glucose. Fruit sugar, formerly thought to be a distinct variety, proves to be a mixture of several kinds of glucose."

E. Waller, in Johnson's Cycloedia, also mentions the fact that glucose is

the principal constituent of honey; and that fruits contain it in varying proportions from $1\frac{1}{2}$ per cent in the case of peaches, up to 11 per cent in cherries and 15 per cent in grapes.

I might cite half-a-dozen other authorities, but it is unnecessary.

I will mention, however, as briefly as possible, the statements of three authorities upon the wholesomeness of these adulterations of sugar &c.

Professor F. W. Clarke, one of our most prominent chemists, after describing the manufacture of glucose by boiling starch in diluted sulphuric acid, and precipitating the acid as an insoluble salt by the addition of lime or chalk, adds: "The question whether artificial glucose is wholesome or not, is still under discussion. At the worst it is not a dangerous article of diet."

Professor Chandles, another high authority, says of a prevalent idea that marble dust is added to white sugar, and that poisonous metals are used in refining, and are left in the sugar, that it has no foundation. Of a similar idea about syrup, he states that its only foundation is the fact that: 1st. Some syrups are made by mixing sugar-house drips with glucose from corn, which is harmless; 2d. that some have used a minute quantity of a tin salt and free acid, to improve the color, but in quantities too small to give any cause for alarm; and 3rd. the fact that some sugars and syrups produce an inky color in tea, has been considered by some as proof of adulteration; but this is due to small amounts of iron dissolved by the sugar solution, from the tanks etc. of the factory or refinery, and it is entirely unobjectionable, — perhaps useful.

In conclusion, therefore, it would seem

that, while all manners of adulteration are to be vigorously opposed, the results should not be held up in an untrue or uncandid light.

It is to the interests of beekeepers to have the public well aware:

1st. That only the genuine product comes from producers.

2nd. That neither honey nor syrup is mixed by dealers with substances that are unwholesome.

It is very likely that as good a first step as could be taken for the protection of honest goods, would be to secure the passage, wherever they are needed, of laws after the pattern of the oleo-margarine laws, compelling that all packages containing glucose, and put upon the market, should be labeled as such.

Among the Conventions.

We will present to our readers a condensed account of the proceedings of the various associations which have met in the past few weeks. We are indebted to the other magazines, especially the "AMERICAN BEE JOURNAL" for the following:

VERMONT.

The association met at Burlington, Vt., on Tuesday, Feb. 4th. The President, R. H. Holmes, called to order, and J. H. Larabee, the secretary, read minutes of the last meeting, and the new constitution, which was adopted last year.

V. V. Blackmer presented the first essay, "Management of bees during swarming," which called forth some

discussion and many questions.

"The rearing and shipping of queens," by A. E. Manum, whose name is so well known to the beemen of America, brought out some fine points. Prof. G. H. P. Perkins, state entomologist gave a fine talk, which was splendidly illustrated by a diagram and microscope.

"Wintering, and the influence of the pollen theory" was introduced by Mr. H. D. Davis. He claimed that the pollen became sour if it was damp, and therefore must be kept dry.

"The control and preventive of increase" was then presented and discussed. Miss C. Crehore, of Bradford, illustrated her remarks on the subject by the use of a swarming device, consisting of a brood chamber attached to one side of a hive.

An important subject: "The incorporation of honey among the products placed on sale by the Board of Trade," was presented by the President.

It appeared during the conversation of intermission that many beekeepers in Vermont produce five to eight tons of honey.

"Honey packages" was presented in the evening and Miss Crehore, in a business-like manner told how she marketed honey.

Miss Walcott said that when fine queens issued, new colonies were formed to the best advantage. By having the queen's wings fully clipped in the spring and cutting out queen-cells, the issue may be readily regulated, and entirely prevented, if no cells are overlooked.

Mr. Manum said that it would not be profitable for a bee-keeper who had 50 colonies, to make his own foundation.

He thought one man could manage 300 colonies.

Various speakers said that the best kind of fuel for smoking, is planer-shavings from poplar; rotten elm. The Bingham smoker was very generally the favorite.

INDIANA.

The tenth annual meeting of the Indiana Bee-Keepers Association convened in the State Agricultural Rooms, on Wednesday, Jan. 15th. 1890, at 1 p m., and was called to order by the President, Dr. E. H. Collins.

President E. H. Collins delivered his annual address, which bristled with facts and figures, put in the pointed style that always demands and holds attention.

We present the following extracts taken from the President's address:

The honey-flow of the past three seasons has been quite discouraging, so much depends upon climatic conditions.

We have passed through two years of drouth and one of wet and cold, yet it is noticeable that where good management prevailed, the yield was generally remunerative. Suppose the circumstances connected with honey-production were to be perfect for a few years, what would be the result? The market would be flooded and prices ruined, and with this would come sluggishness and decay. But these ever varying conditions constitute a complicated problem, which necessity compels us to solve, and in the solution of which lies the pleasure of pursuit and the enjoyment of attainment.

According to the researches of A. I. Root, the following statistics are obtained:

Well-informed bee-keepers lost about 9 per cent of their colonies, while others lost 17 per cent. The cool weather of June and July prevented bees from breeding, and the excessive rains washed the honey from the flowers; yet in spite of this the yield was about 76 per cent of the crop, being 50 per cent better than in 1888. In 1880 our state had 146,000 colonies, and produced 1,097,000 lbs. of surplus honey; but the winter of 1880-81 killed half the bees, which reduced our surplus to 690,000 lbs., making a difference in the two crops of 407,000 lbs. These were very extreme changes.

The yield of 1887 was 1,624,000 lbs., in 1888 the number of colonies increased, the yield being only 923,000 lbs. More attention should be paid to the packing of bees for winter, being careful not to take honey too close, and increase too fast. The majority of our winter losses results from diarrhea and starvation.

BEST METHOD TO GET COMB HONEY.

This subject was ably presented in a well-prepared essay by Geo. C. Thompson, of Southport, Ind., in which he said:

"My method is the result of careful study. To secure a large crop of comb honey, we must have strong colonies. The hive must be full to overflowing with bees. A weak colony may give fair returns of extracted honey, but will not work in the sections so as to be profitable. Construct the hive so as to be easy of access in all parts at all times.

and capable of being contracted or expanded at will, as circumstances may demand. The surplus cases should be easy of manipulation. The colonies must be kept strong during the entire year; swarming must be prevented, for, when bees swarm, they do not store as much honey as when they do not swarm.

PREPARING HONEY FOR MARKET.

This was the subject presented by G. H. Hornbuckle, of Glenn Valley, who said:

"First convince the purchaser that it is pure, and just what you represent it to be, as honey is no new article. We must educate the people as to how honey is produced, and from what kind of flowers the best honey is gathered. I find honey on the market that people condemn, and should not be put on the market. At home is the place to establish a market. Never put honey in the hands of commission men. If our people were more educated on the honey-question, we would find a more ready sale. Extracted honey is better than that in the comb."

Every essay on the programme was read, there being no failures, and a few volunteer essays were offered.

NEW YORK.

The New York State Bee-keeper's Association began its first session of the 21st. annual convention, at 2 p. m., on Feb. 5th., 1890, at Rochester, New York. About 50 well-known beekeepers of the state were present.

President P. H. Elwood called the convention to order, and the Secretary, George H. Knickerbocker, read the minutes of the last meeting. Considerable time was consumed in receiving new members.

METHODS OF REARING QUEENS.

A short essay presented by G. M. Doolittle, the "New methods of queen-rearing," was read by the Secretary. The essay was merely suggestive of questions relating to queen-rearing. The methods of rearing queens over a queen-excluding honey-board were suggested. Some still claim that queens shall be reared by the swarming system. Mr. Doolittle did not wish to advise the use of the larval system, but he

wished to call out a discussion on this point.

President Elwood thought that better queens could be obtained from natural cells, than in any other way.

Mr. Doolittle said that "when the Creator put the bee into the world, he placed it there under the same conditions as other beings—that is with the instruction to increase and multiply,

T. H. Cyrenus said that if care was taken, satisfactory queens might be obtained under the force method. He did not consider queens so obtained, as hardy, however.

BEEES AND HONEY.—RENO "GAZETTE," March 13th., Wm. Bell last year put about \$400 into 100 hives of bees, and recently he sold nine tons of honey at 13 cents a pound besides gaining 300 additional stands of bees. Nine tons of honey sold at the price Mr. Ball realized amounts to \$2240, and 300 stands of bees at \$4 per stand amounts to \$1200, leaving a gross income of \$3440.

MESQUITE.

A Splendid Honey-plant.

By FRANK McCALLUM.

FOR THE WESTERN APIARIAN.

The mesquite, or as it is more properly spelled, mezquite, mentioned by Mr. Gregg, of Tempe, Arizona, in his article on alfalfa, found on another page of this number, is one of our most valuable honey plants, and deserves more than a passing notice.

Its field is somewhat restricted geographically, and yet in one or more of its varieties it stretches over an enormous territory in the southwest that country of "magnificent distances." Beginning as far north as the Canadian river, it extends far south into Mexico; it may be seen but a short distance from the coast in Texas, and is in the greatest abundance westward to the Colorado and the Gulf of California. Within these limits and perhaps somewhat beyond them, it flourishes on those all but boundless plains, that are sterile on account of the lack of moisture, but which in the near future promise to glow with a beauty, unique in its effect and charming in its

every detail.

Under American intelligence, American enterprise will cause the "desert to blossom as the rose," and our great southwest will support in comparative affluence (which means superlative contentment) millions of happy people.

Excuse the digression and allow me to conduct you back to our honey plant.

The word mezquite is said to be derived from the Aztec—(mizquitl) and is purely Mexican. The English language, however, has a wonderful power of absorption, and will soon digest anything presented to it, many foreign words becoming completely anglicised in a single decade; so the word mezquite is now probably as much English as it ever was Aztec.

The mezquite—*Prosopis glandulosa*—is a tree of the mimosa, suborder of the leguminosae. The order, leguminosae, is a very large one. It is estimated that it contains 467 genera and 6500 species. The suborder, mimosae, contains 29 genera and 2000 species.

Often it grows in dense thickets that are all but impenetrable, and in other places it grows singly, and to a considerable size, reminding the observer of an orchard, so uniform and regular are the trees.

Its roots are found almost everywhere throughout the region of its geographical distribution, and travellers across this region, rely upon it for fuel.

It makes an intensely hot fire, and is sometimes used profitably for the smelting of ore in the Mexican silver mines.

The pods, or beans, at a certain stage of their growth, contain a sugary pulp which is quite palatable, and, when ripe, is dry and mealy but somewhat tasteless; the Indians, however, are fond of it.

The pods are ground in a mortar, and the flour used for sweetening.

It seems to me that it could be made of great service in Colorado, Nevada, Utah, and in fact all our warm and western territory, as a hedge plant.

We would suggest that some of our progressive western men living in the region spoken of, give this a trial of sufficient magnitude to constitute a test and, through the columns of the "W. A." tell the beemen of the west of the result.

I have given organization no thought up to the present time, and I must confess that I have but little faith in organizations of any kind and certainly have no plans for anything of the kind.

We print the above without any name, to show that all do not favor organization. We like and invite discussion on both sides.

MR. A. I. ROOT:—Having seen many articles in GLEANINGS about the poor quality of honey-dew, and they not corresponding with our experience here, you will please allow me to state in your columns, that ours in Virginia is an entirely different article; and to prove my assertion I inclose a few pine leaves coated with it. I also send by this mail a vial containing a sample collected this morning, by placing the point of a penknife under the drops, many of which were as large as would hang on the leaves. Bees are swarming on them, and the queens are laying. We often have this honey-dew, but I have never known it to come in midwinter before—generally in August or September. Please tell us your opinion of its quality, and whether you still think the Northern States are preferable for apiaries. If any one doubts these facts I will give him all necessary proof.

THE NORTH VS. THE SOUTH FOR HONEY.

Please let me know if bee culture succeeds as well in the South as in the North, especially East-Tenn-ese, Northern Alabama, or Western Carolinas.

Trilla, Ill., Feb. 10.

W. D. TABLER.

[Bee culture can be carried on as successfully, and perhaps more so, in the South, because there are no serious winter troubles to contend with; but the honey of the North, as a general rule, is of a finer quality, and, of course, commands a higher price.—Root.]

We clip the above articles from "GLEANINGS" to give us a chance to say a word.

It is just possible that to some the above would convey an idea that Mr. Root probably never intended. He certainly did not mean anything disparaging to the South. Mr. Root is not the property of any state, but is the special friend and helper of the beekeepers of the United States and Canada, and has never given any evidence of any local prejudice. There are many locations where the Southern honey is, to say the least, equal to any produced in the North.

With us, here in California, the extreme south of the state produces honey of the finest quality, and in great quantities. Orange blossom honey is of most excellent flavor.

Almaden Letter.

Queenless Bees Fighting

FOR THE WESTERN APIARIAN.

By P. KEATING.

Bees did not do very well here this year on account of the early rains as bees get a lot of honey from manzanita. I got only one swarm this year and that was a cast from a hive I divided. I gave the bees some brood and they raised a queen. She laid very few eggs. When I last looked in the hive I found no queen. I have three or four queenless hives.

I have 22 hives in all. I practice dividing as I don't stay to watch my bees.

I got 30 lbs. extracted honey per colony, and find the bees have gathered some late honey. My bees fight nearly all the time. That may be the cause of queenless hives. No matter how fast honey comes in, the bees are hybrids, are very cross. I had no swarms last year, but got 100 lbs. honey per hive. I did not notice the new bee disease much this year, but a great many of my bees came out wingless and deformed. I got 30 lbs. comb honey and 30 lbs. extracted from one colony. The honey here is very fine, that made in July having a little tart taste, coming, I think, from the pepperwood.

Like all the honey here, it was candied, yet that of last year was finely flavored. I am going to move my bees next year 4 miles. One side of the new field is covered with brush, the other is open pasture at the head of a canyon, facing east.

THOSE BANDS.—Say, what kind of bees do you say are best? Haven't you about decided that it makes very little difference which kind of bands or how many a fellow's bees have, as far as honey gathering is concerned? I don't care if all my bees are cross-eyed, wear goggles, have hair of terra cotta and stingers a foot in length, so long as they gather lots of honey, and the sooner beekeepers get imbued with these ideas the sooner will they have the balance on the right side of the ledger.

The above from "C. B. J." is certainly sound sense and its wit is sparkling and refreshing; yet it does not touch the race question after all.

If it can be shown that the pure races of banded bees are the most certain to put the balance on the right side of the ledger; and at the same time are much pleasanter to handle, then the banded bee is the success; not because of his bands; but because of his excellent practical qualities. We think it can be shown that the pure races possess these qualities.

WIDTH OF SPACE.

How Wide Should Combs be Spaced?

Upon the above subject Z. T. Hawk, in the *Agriculturist*, throws the following light:

How wide shall the combs be spaced? This is an old question and I presume the veterans who see the caption of this paragraph will elevate their noses. That is all right and they may skip what I have to say about it if they like; but they must remember that not all the readers of this journal are veterans and that many of the veterans themselves are modifying their opinions on this matter since the introduction of the shallow and the contracted brood cham-

bers. A comb having cells of the proper depth for brood-rearing may also serve as a receptacle for honey; but a comb having deeper cells is fit to be used as storage only. A brood-comb is just about $\frac{7}{8}$ of an inch thick, and it is evident that when combs are spaced $1\frac{1}{2}$ inches from centre to centre there is a space of $\frac{3}{8}$ of an inch between the combs when they contain brood. I believe it was our level-headed friend, Mr. J. E. Pond, who several years ago called this space a lofiang place for bees that would better be in the supers or the field. He advanced the idea that crowding the combs close together forced the bees into the sections and gave a greater area of brood to the frame. Some experiments I made at that time led me to doubt the correctness of his conclusion, but I am now very certain that he is right.

The character of the season undoubtedly makes a great difference in the area of comb surface that, by the bees elongating the cells, is rendered unfit for brood-rearing. When honey comes in rapidly, and the bees go to work in the sections with a rush, very little comb in the brood-nest will be drawn out for storage; but if the flow is only a little greater than is required for the daily needs of the colony the cells in the upper part of every comb will be deepened by the bees as fast as the brood hatches. As the season nears its close the entire area of the outside combs is drawn out for the reception of honey and the brood area of the hive is materially reduced.

In the season of 1889 I was unfortunate enough to still further reduce the brood space in a number of my hives by inverting the frames and neglecting

to turn them back at the proper time. The bees promptly deepened cells for a space of two or three inches from the top-bar and filled them with honey. As the result these combs are thick all around the edges, and out of the one hundred square inches of comb in each frame perhaps not more than one-third is available for brood. From the time the main honey-flow begins until frost comes I use a brood-chamber containing eight hundred inches of comb and it is evident to the most superficial observer that I cannot afford to permit the bees to use very much of that space as store comb. With the fixed frame I have been using, I could not prevent the evil, but happily relief is at hand and hereafter my frames will be spaced one-and-eleven-thirty-seconds inches from centre to centre. One of my correspondents says he frames $1\frac{1}{4}$ inches and prefers that distance to any other, though it makes it hard to handle combs containing drone brood.

In a private letter, Mr. M. M. Baldrige, that veteran apiarist of St. Charles Ill., who began keeping bees early in the fifties, and who has for many years numbered his colonies by the hundred—now upward of four hundred—says: "I want all my brood combs only $\frac{7}{8}$ of an inch thick, and a space between them of $\frac{3}{8}$ of an inch is ample. . . . I cannot see why any one should use $1\frac{1}{2}$ inches from centre to centre. That might do in top-story for extracted honey—and I use them thus." Who could ask for more conclusive evidence? I will add by way of postscript, that since 1872 Mr. Baldrige has used a frame $7\frac{1}{4} \times 17\frac{3}{8}$ inches outside measure—pretty good testimony for a contracted brood-chamber.

PIONEER BEES.

FOR THE WESTERN APIARIAN.

By R. WILKIN.

On page 102 of the "APIARIAN" E. H. Schæffle reports for the "*Pacific Rural Press*" that W. B. Hayford of Colfax in 1856 brought five colonies of bees to California, and that a Mr. Zumalt brought fifty swarms. He suggests that from these two importations California was stocked with black bees.

In the fall of 1859 I assisted J. S. and Wm. Harbison in Lawrence, County, Pennsylvania, to prepare a shipment of 114 hives of bees for California. Of these 103 hives arrived safe in Sacramento on the 31st of December.

On the 1st. of December, 1857 Mr. J. S. Harbison arrived in Sacramento with sixty-two colonies. He had received one colony safely in February, 1856. Previous to this in 1858 Messrs. Buck & Appleton of Sanjore, had received one swarm alive.

But I think we have the best of evidence that C. A. Sheldon, who in February, 1853, sailed from N. Y. with twelve hives, arriving in San Francisco with one living swarm, was the first to land bees safely in Cal'a. On moving to Alviso with this colony the boiler burst, killing the owner, and the bees were taken to San Jose, where they did well. For many of these facts I am indebted to W. C.

Harbison who in 1860, two years after I had worked with him in Pennsylvania and taken my first lessons in bee-keeping, wrote a book on bees and especially on shipping bees to California.

I am not fully informed as to who first brought Italians, but I brought a car-load of them with me from Ohio in the fall of 1875 and at that time J. S. Harbison had some in San Diego County to sell.

ORGANIZATION.

FOR THE WESTERN APIARIAN.

By PROF. A. NORTON.

I favor an organization embracing the Pacific States and Arizona.

The one great obstacle to this is the expense of travel. It would embrace no more states than the North Eastern Bee-Keeper's Association, &c. But, if distance prevented this, then narrow the limits to suit.

The plan of accomplishing this is briefly given.

Issue a call to meet at some point accessible to all, but nearer the district from which there will be the most persons to go. Then let the character etc. of the association be shaped according to the views of the majority, modified and improved by comparison and discussion.

Where districts are too large for a fair attendance from all quarters, I firmly believe the interests of the calling would be advanced by a system of representation by delegates to a grand convention their expenses to be paid by the local conventions electing them.

I believe that this would apply even to the United States.

WASHINGTON.

A Voice From the North.

A Long Move in a Grip-sack.

FOR THE WESTERN APIARIAN.

By W. W. MALTBY,
Port Angeles, Washington.

I am away from home at present, but will endeavor to write you my report for 1889, and don't be surprised at the smallness of my apiary, as I sold all my bees but three nuclei in the spring of 1887 in Indiana and moved out to this place, bringing those three nuclei along. I had them packed in a very light box in three apartments, and carried them with me as a grip sack. Partly from the heat of the cars and length of the journey, but more from being broken up by a collision on the road, they were so badly used up by the time they got to this place that I united them all into one. These lived through one year, but came out weak in the spring, the queen dying, leaving no eggs in the hive. I sent South for another queen, but found her dead on arrival. This was in 1888. Now I bought four stands of brown bees in standing frame hives. Well as these were all I could get and it was in June when I got them, it seemed necessary to give up the business this summer; but I got fifty pounds of nice extracted honey all gathered from a country covered with a dense forest of fir and cedar. The bees increased to seven stands, one of which I permitted to starve to death last spring. So I had six stands to start with in the spring of 1889 from which I obtained 450 pounds of extracted honey, and the bees increased to 14 stands mostly by artificial swarming, as I was introducing some Italian queens, wishing to get them thoroughly Italianized next spring. Then I will talk about testing the Carniolans. I hope to see the Western Apiarian succeed, and will do all in my power to that end.

In New Portland, Maine, a swarm of bees, evidently tired of being disturbed and robbed of their honey have sought refuge in the top of a church spire, the hollow space of which they are filling with sweets for their own benefit. Nobody can climb the steeple, and consequently the sagacious bees will no longer be plundered.

We are making arrangements for a central depot of supplies for the Pacific Coast, where our beemen can secure everything they need in the honey business, without

The Unavoidable Delay which always attends the receipt of goods ordered from the East.

We will be able to sell
AT EASTERN PRICES and thus save, in most instances, the considerable item of freight.

We believe such a depot of supplies will be a great benefit to our western apiarists, and will receive their extensive patronage.

We will send a
LARGE ILLUSTRATED CATALOGUE of all kinds of supplies to any address as soon as we can get one from our press.

Send your name for one and it will be sent as soon as it can be prepared.

Address:
MCCALLUM BROS.,
PLACERVILLE, CALIF.

Do you not think 360 pages of this magazine will be worth 75 cents?

Laurel: why your bees do not store honey may be due to a number of reasons. The first suggestion is, if you have twelve swarms in chaff hives, buy a reliable work on the honey bee. You will find just such a work in the A. B. C. of bee culture by A. I. Root, furnished by the Orange Judd Co. of 751 Broadway, New York, for \$1.25. Langstroth on the Honey bee is also a standard work, \$2 and the Manual of the Apiary, by A. J. Cook, is also a fine work. Bees sometimes refuse to go to work in sections without any apparent cause. Look to their ventilation; it must be just right, neither too much nor too little. See that they have good queens and a good location. And if necessary you may put in one or two unfinished sections to draw them up among the sections. It will have a wonderful influence.

To tell without opening the hive whether the bees are bringing in honey and storing it, I might guess closely by the way they come stumbling out of the hive and scamper off and rush back again. The best way is to open the hive and see just what they are doing. You need not be afraid of injuring or interfering with their work, and by this means you will get better acquainted with them, which is very necessary to your pocket and their welfare. During dry weather the nectar is not secreted so freely by the flowers, and on wet days it is washed out faster than the little harvesters can secure it.

REPORT.

M. J. KISTLER,

Collingwood, - - - - - Indiana.

FOR THE WESTERN APIARIAN.

As I am not the least among bee keepers, I will write you a short article.

I have kept bees for thirty-five years, and think I understand the in-

stincts of bees pretty well.

I use the Mitchell hive. I can control a large or small swarm in it as I may desire. It is from eighteen inches to two feet long, and has an adjusting board in it to make it large or small as desired.

Bees have done well here this season. I had eighty-two, spring count, and they gave me five thousand lbs. of surplus honey, in one and two lb. sections; and two hundred pounds of extracted.

I sold my honey at from twelve to eighteen cents a pound.

I have now one hundred and seven colonies in good shape for winter. I had twenty-five swarms this summer. Three years ago one swarm died. This summer I was fortunate enough not to have any swarms die. I use both natural swarming and dividing, and also prevent swarming.

The total yield, as given above, did not include home consumption.

I allow only one swarm from each colony, as I work for honey and not increase.

I consider bee raising and honey producing two entirely distinct businesses, I raise bees and queens to sell if applied for. My bees are pure Italians.

Bee-keepers, do not be at all backward in writing for the "WESTERN APIARIAN." Your contributions will be made very welcome, and will be extensively read and appreciated.

Subscribe for the
WESTERN APIARIAN

Orange Blossom Honey.

SOURCES OF HONEY IN FLORIDA.

Interesting Account of Beekeeping In the Ever Sunny South.

FOR THE WESTERN APIARIAN.

By ARTHUR F. BROWN.

Thinking that it might interest some of your readers to know what our honey sources are down here in Florida, I will give them for this locality (Pulnow Co.)

Our first surplus comes with the orange blooms from the 10th. to the 20th. of March, lasting from ten days to two weeks. Strong colonies will average 35 to 50 pounds of comb honey from this source. Orange blossom honey is of light color, and of excellent flavor. The extracted will run from 11 to 12 pounds to the gallon.

The orange is followed closely by the gallberry, a small, slender bush similar to the holly, which grows all over our flat woods and low lands around bays and lakes. This keeps the bees busy from two to three weeks. The honey from this is very light-colored, some having almost the clearness of water. It is rather light in weight and has a good flavor. The weight is from ten-and-a-half to eleven pounds to the gallon. Surplus from this source is also light, averaging 20 to 25 pounds of comb honey per colony.

After gallberry bloom passes bees

do but little for from two to three weeks or until about the 10th or 20th of May. When the low palmetto is out in fall they make things hum for a week or ten days, and if your dish is right side up you are quite sure to have it filled. Palmetto gives a light amber honey of good flavor and of heavy weight, 12 pounds to a gallon. Colonies in good shape average 40 to 50 pounds each from this source.

This winds up our main surplus, though we sometimes get a short flow of amber honey in the fall from autumn flowers. 100 pounds comb honey in section boxes, and 150 pounds of extracted (with plenty left to carry the bees through the summer and winter) we consider a good year here.

Swarming commences about March 25th and lasts about three weeks. Coming at this time we can get them all in good shape for the palmetto flow in May, and if managed rightly they will not swarm any more during the year.

Bees do but little during the summer months, therefore we leave from 25 to 30 pounds of honey per colony to carry them over to October, when we generally have a flow of light amber honey which puts them in good shape for our short winters, and sometimes gives us some surplus.

Our bees breed up to the 10th or 15th of November, and commence again about the 15th of January. I have tried to get them to breed right on through the month by feeding them daily, but to no purpose.

They seem to think that they must take a rest if it is only for six or eight weeks.

As his article is already too long I will close with the wish that some of the rest of you will tell us of your surplus, swarms, etc.

CLAVICEPS APIUM.

Its Symptoms, Cause and Cure.

FOR THE WESTERN APIARIAN.

By WM. STYAN.

On July 6th last Mr Webster wrote in the "*Pacific Rural Press*," describing what he considered to be a new disease among bees. He said that all the apiarists in his neighborhood pronounced the disease to be foul brood, but he was of the opinion that it was a fungoid disease and he had consulted the best authorities without avail. The editors of the "*Rural Press*" also gave it as their opinion that the disease was foul brood. I wrote to the "*Rural Press*," describing the symptoms of foul brood and I also described the symptoms of the disease, *Claviceps Apium*, hitherto unknown in California, and from the description of the symptoms given by Mr. Webster I came to the conclusion that his bees were affected with the disease. Of course I could not say positively that this was the case as I had not seen the bees and had never before heard of a case in California; but Mr.

Webster at once wrote to me, saying he was sure I was right and that the disease was undoubtedly *Claviceps Apium*. Now as this disease is very infectious, it is quite possible that it may make its appearance again next spring and as it appears to have puzzled so many apiarists I will give a description of the symptoms of this disease and also that of foul brood so that anyone may easily distinguish one disease from the other.

Claviceps Apium first originated in Denmark about nine years ago and is a fungoid disease affecting both brood and bees. The brood appears to be dried up in the cells and although some of the bees hatch out they are quite lame and unable to move their fore legs. They creep about the hive and on the ground as if they had the cramp and die off in great numbers and ultimately the hive becomes queenless. It is a contagious disease and is supposed to have originated from the black smut or ergot of rye having been stored with the pollen. Foul brood is a disease of the brood and does not seem to affect the mature bees. The caps of the sealed brood appear indented and pierced or partly removed, and the cells contain a putrid, sticky coffee-colored substance (all that remains of the larvae) emitting a most disagreeable stench, perceptible several feet from the hive. Foul brood is very infectious and spreads so rapidly that in one season a whole neighborhood may be infected with it while its eradication

and subsequent prevention requires great perseverance and constant attention.

The best remedy for either of the above named diseases is to shake the bees off the affected combs into an empty hive or a hive having frames filled with foundation. Cleanse all affected hives and floor boards with boiling water, burn up all old combs, and finally spray both hives and bees with the following solution:

Salicylic acid, one ounce.
Soda borax, one ounce.
Water, four pints.

It is also advisable when handling bees having any contagious disease to wash the hands in water to which some of the salicylic acid solution has been added to prevent communicating the disease to other hives.

Our Boy Bee-keeper.

*What Boys Have Done,
Boys Can Do.*

FOR THE WESTERN APIARIAN.

WM. STYAN, JR.

I thought perhaps you might like to have a letter from a young apiarist for the December number of the Western Apiarian. I am 14 years of age and I help my father with our forty hives. I was sent to San Francisco this season to transfer a swarm of bees from a common box into a Langstroth hive for a gentleman on Geary street.

I hived seven swarms this season

myself, and I have opened several hives, taken out the queens and mailed them to our customers when my father was away.

I have a large hive which I made myself. It is a double sized Langstroth and I have a very strong swarm in it. Our bees were gathering pollen on December 23rd last year and we had drones flying on January 25th. We think this would surprise some of our friends in the Eastern States. I should like to hear the experiences of any other young apiarists.

The Thing That Makes the Buzz.

By D. H. CASTLE.

"Buzz! buzz! buzz! buzz! you big
bumble-bee

Bending down the clover heads—
can't you talk to me?

What a funny song you sing—buzz!
buzz! buzz!

Don't you get your nose all full of
dandelion fuzz?

"Don't you have a jolly time,
honey every day?

Wearing all your pretty clothes
when you go to play—

Nicest kind of velvet coat—yel-
low satin jacket.

Buzz! buzz! buzz! buzz! how do
you make that racket?

"Now I've got you, bumble-bee,
under my straw hat.

Buzz! buzz! buzz! buzz! I'll find
out how you do that.

Pretty little bumble-bee, I won't

spoil your jacket—

Oh! oh! oh! oh!—Here's another kind of racket.

Mamma calls the bumble-bee,

“Naughty, cross, old thing!

Didn't little Freddy know all about the sting?”

“See how big it's swelling up. Oh dear! oh dear suz!

Mamma, is the stinger the thing that makes the buzz?”

ALFALFA!

A WONDERFUL HONEY-PLANT.

FOR THE WESTERN APIARIAN.

By JOHN L. GREGG,

Tempe,

Arizona.

Would not your readers be pleased to hear in regard to alfalfa as a honey producing plant, and as to the quality of the honey produced.

Mr. W. L. Osborn of Phoenix, Arizona Ter., first called my attention to alfalfa as a great honey producing plant three years ago, and I thought he must be mistaken, from the fact that I had about ten acres of the plant, and my bees did not seem to do much good when at work on it, and the cause is not yet fully apparent to my mind, unless it was because they would not bother with so small a pasture, or from the fact that it did not furnish enough to take all their time.

Upon investigation I found Mr. Osborn had one thousand acres of alfalfa within a radius of a little more than one mile, which I am in-

clined to call a *bee-keepers paradise*, and from which Mr. Osborn's bees (130 hives, spring count) gathered 20,000 lb of extracted honey, and some comb honey.

Then I determined to move my bees to the alfalfa fields and try my hand on alfalfa honey. So I moved 190 hives, three miles, having started one acre of land to set them on. The first crop of bloom did not produce any honey from the fact that a worm something like the army worm destroyed nearly all the bloom, and then a little, black flea beetle took or ate the bloom of the third crop. Late in summer or fall, water became scarce and the alfalfa did not bloom very much, hence you see if nothing had hindered we would have made at least forty thousand instead of twenty thousand pounds of honey.

Alfalfa does not yield honey so rapidly as basswood or mesquite, but the bees will fill their hives in five days to eight days. When I run for mesquite honey alone I extract on Mondays and again on Thursdays, third and fourth days, and my bees averaged all round 485 pounds to the hive spring count. Has anyone ever beat that record? I think not. Mesquite honey to my taste is far ahead of any other variety, and it is in the true sense white honey; it is as clear as water.

Alfalfa honey is not quite clear, but so nearly clear that you can see a pin in the bottom of a gallon bucket that is full of it. Very many think it should be graded No. 1. It has

some acid, which gives it just a little tart taste, just enough for you to notice it. Two years ago I sold a gentleman a five pound can of alfalfa honey, and some two weeks after I was in the store and he called my attention to the fact that I had sold him adulterated and soured honey. Well, I told him I had not sold him adulterated honey, but it might be possible that it had fermented, for I had found a can in the lot at home which had fermented. I said: "Put it in my buggy and I will take it home and bring you one that has not soured." So he brought the can out, I opened it, and found that it contained the best quality of alfalfa honey. Just at that moment Mr. W. L. Osborn stepped in, saw the sample, and exclaimed, "Hi! alfalfa honey!" tasted it, and said, "the finest kind at that." The gentleman took the can, set it back, and would not let me take it home but kept it, and looked ashamed of himself.

BEE-HUNTING.

FOR THE WESTERN APIARIAN.

By ALFRED A. MORRILL.

In presenting this subject to the readers of the "Western Apiarian" I shall endeavor to give only my own methods, and having tried several different ways of hunting bees, shall

endeavor to describe what I consider the simplest and easiest method of capturing the wild honey bee.

I practise a different method in the spring than in the fall. I find it is difficult to get bees to take any kind of bait when there is plenty of honey to be had from the flowers, but late on, when the honey flow begins to stop they readily take honey or sugar syrup.

First I will describe the way I succeed best with in spring. Take an old tin pail—a 5 pound lard pail does very well—punch a lot of holes in the cover to admit air, fill it about two thirds full of dry sawdust, put in urine enough to nearly cover the sawdust, place it in the sun two or three days or until it gives off the fumes of ammonia pretty strongly, and you have a bait that will call bees farther than anything I know of.

Take your pail and hunt until you find bees working, then put it on a stump or log three or four feet from the ground, and in a little while you will likely have plenty of bees buzzing around the pail; if not, leave it there awhile until the next day if necessary.

When they get well at work watch the course they take after leaving the pail. Don't depend much on the first lines, but wait until they have made several trips and got their route well established. On leaving the bait they will circle several times before starting for home, and they will keep

working in the direction of their tree every circle they make: that is, instead of the pail being in the center of these circles it is left farther and farther to one side, and at last it is quite on the outside of the circle; so you can tell the general direction of the tree by the first circle they make.

Now, timing bees forms a very important item in bee hunting. You should provide yourself with a small phiol of white paint and as soon as they get well at work take a broom straw, dip it in the paint and touch a bee very carefully on the back taking care not to daub him, and with your watch in hand note the time of his leaving. Now watch very closely and see how long before he come back again. By the time he is gone you can tell very nearly the distance it is to his home.


I find that bees vary some in their flight, but on an average they will fly a mile in about five minutes, spend two minutes in their tree or hive. So it takes them about twelve minutes to go a mile unloaded and come back. Of course, if they have to face a strong wind it takes them longer.

Bees do not always fly in a straight line home. They will sometimes go around the point of a hill or clump of thick timber, or, if the tree is situated in thick timber near a clearing they will be likely to follow along the edge of the clearing till they get opposite the tree, and

then turn square off to the tree; therefore it is necessary to work very carefully or you will pass the tree before you know it.

When your bees are well at work and you are sure of their course you are ready to move your stand. When there are twenty or thirty bees in your pail put the cover on quickly and move up the line—not too far at first: say two hundred yards in clean ground, not so far in brush. Select a clear, open place for your next stand where you can have a good view of them as they start for home. Remove the cover from the pail and wait as before till they have made several trips. Note the direction they go and move on again. As soon as you pass the tree you will know it by the bees going in the opposite direction.

Sometimes it is necessary to cross line them. You may then look for the tree at or near where the two lines intersect. When you get near where you think the tree is you will need to examine every tree and log you pass. In tall timber you will have to get the tree between you and the sun, when, if your eyes are good, you can readily see them going in and out even if they are clear in the top of a tall tree. If you had a good field-glass it would save you a good many steps in examining tall trees. Look sharply at each tree from top to bottom.

 Continued next month.

I invested \$ 250 in bees last March. I sold bees and honey to the amount of \$455, and have 32 swarms in good condition for winter. Bees in this part get the most of their surplus from alfalfa, there being an abundance of it here.

Alfalfa is certainly a wonderful honey plant, and is attracting great attention from beemen.

It is not only useful as a honey plant, but it is one of the most important sources of fodder for stock, and, as it is especially adapted to the so called deserts of the far west, it promises to yield unlimited supplies for bee and beast.

Whenever water can be secured for irrigation, this plant thrives, and when we think of the vast areas of country where it can and will be successfully grown, we cannot but call up before us "the land flowing with milk and honey;" the clover scented plains, and verdant fields, made glorious by the western golden sunlight, and musical by the hum of the bee.

The small item at the head of this, which we have taken from one of our exchanges, gives a good idea of what alfalfa will do.

We see a number of articles in the eastern magazines about pine honey and would like to know if, somewhere in the vast pine forests of the Pacific slope, bees do not get honey from the pine.

In this region we have the incense cedar which yields large quantities of honey; now let us see if the Pacific states cannot show up a world-beating record in pine honey as it does in every thing else.

Fig Syrup as Bee-food.

FOR THE WESTERN APIARIAN.

By E. A. SCHAEFFLE.
Murphys, California.

"Out of the eater came forth meat and out of the strong came forth sweetness." Sampson had every reason to believe himself invulnerable and might have gone on picking stray lions to pieces when Philistines were around and eventually have had his name handed down to all posterity as the great John L. Sullivan of his day had he but let "the little busy bee" and his product alone. His enigma on the honey in the lion's carcass was the cause of all his future misery and eventual downfall. As then, so now. The bee, if he cannot turn the bravest pale, does cause the cheek of his enemy to turn a rosy red in its swelling anger, and the writer who thinks the ways of the bee an easy subject to write knowingly of, soon learns to his chagrin that his discoveries are almost prehistoric in their age; and his infallible rules are no sooner published than Mrs. Bee proceeds to ignore them in toto, while the bee is willing to come down to man's level and do business with the same want of principle, believing that 'unto him that hath shall be given, while from him that hath not shall be taken that even which he hath,' and so robbing his weaker neighbor of his lesser share. He has no intention of giving up his inherited tendencies, any more than a duck

needs shun water, in consequence the best results are obtained where the bee is fed without knowing it, then, as the Irishman said: "Shure it's aisy to lade a man if he only don't know it." In bee culture it is essential that the hive should be early fillied with a strong colony that they may be on hand in full force with stores before the first honey flow begins. To secure this, feeding must be resorted to, and when once begun must be continued uninterruptedly or the bees finding the supply cut short will tear down the brood comb and destroy the young they cannot feed.

To secure a constant, cheap, and proper food, innumerable mixtures and patent feeding appliances have been invented. While some of these may prove successful in the hands of an agent, the bee-keeper who keeps a few bees for pastime only, is apt to find them all a delusion and a snare. Calling upon an old beeman (who kept his hives on the ground, the toads fattening on the bees) he took me out among his hives that thrive in their guarded secrecy; that he might impart to me his method of feeding, casting his eye over the neighborhood to satisfy himself that we were alone with the bees, he said: "You take a milk pan, fill it full of dried figs, pour boiling hot water over them until the pan is brim full, let it stand over night, and in the morning set it out among the hives. That night fill up the pan with boiling water again, and so on the next night, when you will find that the figs have lost all of their sweetness and are only fit for the chickens or the pigs, and your pans need refilling with fresh figs. Now, any cheap dried figs will do, and the bees will build up better on fig syr-

up than any other feed you can give them. Stop this feed when you put on the sections, as it makes black honey."

At the time I did not attach the same importance to this information that the discoverer did, but since then when, in travelling over the state, I have seen the immense quantities of figs that annually go to waste. I have been forced to believe that in these waste figs was a source of wealth to the bee-keeper and in hopes that this bit of information may benefit the apiarists, I therefore give it that he may grow rich; for "the poor bee-keeper is hated even of his own neighbors, but the rich have many friends."

Florida Letter.

WHAT THE BEES HAVE DONE IN 1890.

FOR THE WESTERN APIARIAN.

By JOHN CRAYCRAFT
St. Francis, Florida.

Our winter has been so warm, dry, and pleasant that bees gathered honey all through December from the swamp maple, which furnishes a very great abundance of honey and pollen—more honey than was desirable for successful breed rearing. This is a month earlier than usual, we usually desire to start breed rearing about the 10th of January so that our bees will be strong by the time the orange bloom comes in, generally the first week of March; but from all indications the bloom will be on by the middle of February this year. Our

bees are at this date breeding up very fast with plenty of drones on the wing daily, and indications of swarms in a few days more. To have swarms so early is favorable for increase, and very little hindrance for the honey season, our first fine honey being the orange blossom honey, which is a very fine honey and sells for the best prices of any other. From the South all of ours is engaged to Dr. L. H. Harris, wholesale druggist, of Pittsburg, Pa. We get the very best prices for all our honey, we are very particular to have all our honey as pure as possible. We put the honey in 5 gallon cans, two in a case, and put the date of extracting, the kind, and ship immediately so that our customer will have positive evidence of the pure orange blossom honey, it being the first we have here. I would suggest to the beekeepers of California who are within the orange groves that they put up this honey, and date and brand all their cases this way so that there could be no mistake made. It would be a good plan for all those who are producing the orange honey to forward a small package to their customers so that they could compare samples and know that they were not sold some other honey for it. There is no mistaking the aroma of the orange blossom honey, and such a sample would help to protect from imposition. I see orange honey quoted all the time at New York prices and I am confident there was a

very small amount of real orange honey last year in Florida, and if there was much it came from California. I have said more about this honey than I intended, but as your California readers are interested in it and desire to know who have and are the producers, I would advise that they report to the W. A. their stock of such honey so all might be able to approximate the amount.

Success in bees here is entirely in the location and the man, as in your climate, and in fact, in all places. Bees have very few enemies in January and February. After that the mosquito hawk takes a great many of the field bees and as our honey season is from March until July, almost unbroken, and there are many excellent kinds—first the orange, laurel, gallberry, and wild grape in May, with the saw and cabbage palmetto until July, when the season ends for fine honeys.

The fall production commences about the first of October and consists of gordon red, asters, and numerous other wild flowers in the St. Johns River Swamp. So that almost any season when not rainy or too cold bees can support themselves. Our cold is of short duration and the winter is always dry, just the reverse of your climate. Our rainy season is usually in June and July, and sometimes August. Our climate is very favorable to beekeepers and very nearly the same as yours.



THE WATER DWELLERS.

MARKET REVIEW.**Honey and Beeswax of California.**

✻ FOR 1889. ✻

SCHACHT LEMCKE & STEINER
San Francisco, California.

Honey.—The crop of 1889 has not been as large as in the previous year, but nevertheless, sufficient quantities have been produced so that no scarcity has been felt during the season and, even now, we have sufficient honey on hand for our demand, as the same has not been a very active one for the export trade that generally has absorbed large quantities in previous years. During last spring, it looked as if we would have a very large crop of honey, in consequence of the rain we had in February and March, but later on cold weather and afterwards a very hot wave, have interfered a great deal with a large honey production. It is impossible to name exactly the quantity of extracted honey and of comb honey that has been produced in California and we can only estimate the crop after the information we have received from our agents in the different honey producing counties, as well as from the shipments that have been made out of California and the stock still on hand at the present time. According to the information received, we estimate the crop in California for the year: 1889, 2,000,000 pounds of extracted honey, 200,000 pounds comb honey, or a total of 2,200,000 pounds for the year 1889. Comparing this year's production with former seasons, the result is not a very favorable one, as California produced in 1888,

3,500,000 pounds, 1887, 1,200,000 pounds, 1886, 500,000 pounds, 1885, 1,250,000 pounds 1884, 900,000 pounds, or an average of nearly 4,000,000 pounds. It is difficult to approach again the amount produced in 1884, for the reason that a great deal of land is now cultivated, so that the bee-stands had to be removed farther and farther back into the mountains, and also some apiarists have given up this industry as they have found other occupations more profitable. The prospect for the coming season is so far a very good one. We have had an abundance of rain, and if we should get some rains again in March or April to keep the different kinds of trees and flowers in blossoms, we will probably have a larger yield of honey than we had since 1884. However, nothing certain can be said now, as a great deal depends upon the weather we will have during the honey producing months, which are in particular May, June, and July.

Prices have been rather high last year and, in fact, too high to permit a large export business. In consequence, shipments by sail or by rail, have not been as large as in the past year, especially shipments to Europe have only been small. Overland, mostly to Atlantic ports and partly from Southern California, 900,000 pounds extracted honey, 100,000 pounds comb honey, have been shipped, against 1,000,000 pounds in 1888, 950,000 pounds in 1887, 2,000,000 pounds in 1886, 1,270,000 pounds in 1885. Shipments by sail to Europe from San Francisco have been from January 1, 1889, to June 1, 1889, 1745 cases of extracted honey. These shipments, of course, belong to the crop of 1888, while in the

year 1889 the quantity exported was exceedingly small. Comparing these shipments to Europe with former years, the supplies in Europe must be and remain very small as of the shipments of previous years very little is now in first hands, according to informations received from Liverpool and Hamburg.

The following shipments are for the former years, by sailing vessels to foreign markets, mostly to England and Germany, viz: 1888, 5,000 cases, 1887, 2,000 cases, 1886, 7,500 cases, 1885, 8,800 cases, 1884, 15,000 cases, 1883, 6,700 cases, 1882, 3,600 cases, 1881, 9,500 cases, 1880, 9,400 cases, or an average of 7,500 cases per year.

To New York, 500 cases have been shipped by sailing vessel in the past year, and to Australia, Sandwich Islands, British Columbia, and other foreign countries, 900 cases, mostly by steamer.

Since the 1st. of January, 1890, 76 cases were sent on the "Falls of Foyers" to Liverpool, and 300 cases are on board of the "Baring Bros.," sailing soon for Liverpool. Also 107 cases of honey are on board the "Maria e. Teresa," which we are loading, at the present time, for Hamburg. This will probably constitute all the shipments to Europe of the crop of 1889, because there are, at the present time, no other vessels ready to take honey for Europe and, on the other hand, there is not much choice honey left available for the export trade. Owners of honey in Europe should therefore realize good prices for California honey, if the same is wanted.

Arrivals in San Francisco have been, during the past year, 1,200,000 pounds, while in 1888 receipts were 1,500,000

pounds, in 1887, 1,300,000 pounds, in 1886, 2,500,000 pounds, 1885 2,000,000 pounds, 1884, 3,600,000 1883, 1,400,000 pounds, 1882, 1,000,000 pounds. In the first month of 1890, we have received 950 cases or 110,000 pounds. honey in San Francisco.

At the present time, the supplies in San Francisco are not large. They consist of about 500 cases of extracted honey and 400 cases of comb honey in the first hands, and in the interior, we estimate the stock at 1,000 cases of extracted honey, and 5,000 cases of comb honey, or a total of 1,500 cases of extracted honey in California, against 1,200 cases extracted honey at the corresponding time of 1888, 1,600 cases, 1887, 5,000 cases. 1886, 5,500 cases. 1885, 15,000 cases 1884. These statistics show that in Europe the supplies are very short and that also very little honey is on the way from here to Europe. In the East, the stocks of honey are also limited, and in California, we have no new honey before June or July, with February, March, and April before us, in which months generally a great deal is consumed.

The quality of the honey has been choice, but only little white honey has been produced, and in consequence, a good many orders for white honey could not be filled.

The large amount of matter contained in this number of the "W. A." made it necessary for us to put in this extra sheet, which we have not paged.

Counting the covers, this number of the "W. A." contains 38 pages.

April's issue will contain some special articles.

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REPORTS.**FOR THE APIARIAN.**

The following ?? were in previous numbers of the W. A. and will serve as a key to the reports below.

- 1st. How many colonies of bees have you?
- 2nd. How many have been added to your stock during the year?
- 3rd. How many colonies died?
- 4th. How many swarms escaped?
- 5th. Do you use the natural method or do you divide?
- 6th. What was the total yield of honey from your apiary (a) comb (b) extracted?
- 7th. What was the largest yield of honey from any one colony?
- 8th. What was the largest increase of any one colony?

Sunny Lane, Texas.

LAURA NEWTON.

Seeing your request in the "Apiarian," I thought I would send in my mite. I am a beginner.

- 1st. 18 colonies.
- 2nd. 10 added.
- 3rd. None.
- 4th. 1.
- 5th. Natural method.
- 6th. About 700 pounds.
- 7th. 55 pounds.
- 8th. 3 swarms.

Armona, California.

"GROWLER"

- 1st. 184.
- 2nd. 44.
- 3rd. 6.
- 4th. None.
- 5th. Divide.
- 6th. 3000 pounds. 12000 pounds.
- 7th. 200 pounds.
- 8th. 4 swarms.

- 1st. 50.
2. No increase.
- 3rd. None.
- 4th. None.
- 5th. I divide or build up.
- 6th. 1800 pounds comb honey, 1200 extracted.
- 7th. Can't tell.
- 8th. _____

Newhall, California.

WM. G. HEWES.

- 1st. 261.
- 2nd. 141.
- 3rd. 15.
- 4th. 2.
- 5th. I divide.
- 6th. Extracted, 11760 pounds, No comb honey
- 7th. Don't know—maybe 150 pounds.
- 8th. 3 swarms.

Ventura, California.

R. WILKIN.

- 1st. 350.
- 2nd. 86.
- 3rd. 20.
- 4th. None.
- 5th. Natural method.
- 6th. 2½ tons extracted.
- 7th. 80 pounds.
- 8th. 2.

N. Searsmont, Maine.

H. E. MILLER.

- 1st. No. colonies I have, 14.
- 2nd. Added this season, 10.
- 3rd. None.
- 4th. 1.
- 5th. Natural.
- 6th. 75 pounds of comb honey, extracted none.
- 7th. 24 pounds.
- 8th. 4.

**LIVE OAK APIARY,
Huntington, Florida.**

ARTHUR F. BROWN.

- 1st. 42 colonies now.
- 26 colonies.
- 3rd. None.
- 4th. None.
- 5th. Both.
- 6th. Average, 82 pounds comb honey in 4¾ by 4¾ sections per colony, spring count. Our summer and fall yields were a failure this year.
- 7th. 103 pounds of comb honey.
- 8th. Treble.

The slip of paper on which the nameless report, given in the other column, bore no name, and we were unable to identify it. Who claims it?

Tustin City, California.

JEFF. WILLIAMS.

-
- 1st. 140.
 2nd. 20.
 3rd. None.
 4th. None.
 5th. Natural method.
 6th. 2½ tons extracted.
 7th. I never took any account of any one colony.
 8th. —

Raymore, Missouri.

Wm. O. HEIVLY.

-
- 1st. 50.
 2nd. 23.
 3rd. None.
 4th. None.
 5th. Natural.
 6th. 3000 lbs. extracted, 4016 lbs. comb.
 7th. 2.
 8th. —

Needy, Oregon.

D. KAUFFMAN.

In reply to your request on page 87 of "Western Apiarian" I will send you my report.

- 1st. 106 colonies of bees.
 2nd. Added 21 during the year.
 3rd. 6 colonies died. (Bears killed one.)
 4th. None escaped that I know of.
 5th. Natural swarming.
 6th. 3000 lbs. comb honey, 1080 lbs. extracted.
 7th. Largest yield, 157 lbs.
 8th. Largest increase, 2 swarms.

I cut out all queen cells and prevent all in crease. I can hive two and sometimes three swarms in one hive so as to make them go in the sections at once.

Bees have done tolerably well in the mountain this season; have done nothing in the valley for the last three or four years.

San Jose, California.

M. BRAY.

Answers to questions on pages 97 and 98 of the "Western Apiarian."

- 1st. 94.
 2nd. 3.
 3rd. 6.
 4th. 2.
 5th. Use the natural method.
 6th. Have taken no honey.
 7th. some colonies can spare 25 lbs., others need help.
 8th. One swarm.

Possibly I could take between 5 and 10 lbs. of extracted honey per colony, but prefer not to until I see my bees through; consider them in good condition as regards strength or numbers and stores.

We have had a very good yield of honey in this county this year. The autumn flowers are in bloom now. Golden rods and asters are plentiful but bees do not work on them much. Bee keeping is not much of an industry in this county (Holmes). Nearly all of the bees are blacks and in old fashioned gums, but some Italians in movable frame hives. Honey is low. Comb honey is selling from 10 to 15 cents per pound. We have no trouble in wintering our bees. We leave them on the summer stands and very few are ever lost.

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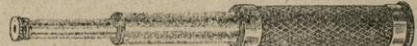
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