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NEW SERIES
Vol. 2, No. 1, 1895. January.

 The
Practical

Bee-Keeper

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NEW SERIES
VOL. II.

TILBURY, ONT., JANUARY, 1895.

No. 1.

Lambton Bee-Keepers.

The annual meeting of the Lambton Bee-keepers Association was held in the village of Wyoming, on Saturday, the 24th ult. There was a large number present, some of whom drove a considerable distance. The President, Mr. Mowbray, occupied the chair in his usual able manner. The minutes of last meeting were read and adopted, and the Sec'y-treas presented his report, a ter which Messrs. C. Boyd and W. Granger were appointed auditors, who found the books correct. The election of officers and directors for the ensuing year then took place and resulted as follows:— President, W. Mowbray, Sarnia; Vice-President, C. Boyd, Petrolea; Sec'y-Treas. J. R. Kitchen, Weidmann; Directors, E. A. Jones and Geo. Forbis, Kertch; W. Granger, Wyoming, John Armstrong, Wansted. The President gave an address on "Bee keeping of the Past and Present." He showed that years ago the expense of the apiarist in securing a crop was less than at the present time and that prices for honey was better. He also spoke of associational gatherings and how to keep up an interest. The President wished to know the condition of the members bees at the present time. "The reason," he says, "I ask this question is that my own bees are weak in numbers and are principally old bees, all on account of the short honey crop which I am afraid

will bring mortality to many a bee yard." Some of the members bees were in the same condition, while others were not, the condition of them varying according to locality. The President stated that had he attended to the little creatures as he should he could have remedied the existing condition or affairs. A member: "How would you have remedied it?" "By feeding earlier in the fall which would have stimulated brood rearing and then have plenty of young bees to go into winter."

The question was asked: "Has anyone tried the Wells' system of producing comb honey?" Mr. Jones said that he had been trying some new experiments and that some of his neighboring bee men had been laughing at him, but it was by experimenting that the industry advanced. During the past summer he had placed four separate hives in one case with one tier of sections above and queen excluding zinc between. The bees from the different queens then freely mixed together in the one case of sections, but, as he stated, one poor season was not enough to test its merits or demerits. It was decided to discontinue the Bee Keepers Review as a premium to the members, and the secretary was accordingly authorized to notify the editor of the same. The next meeting will be held in the town of Petrolea, on the second Saturday in May next.

J. R. KITCHEN, Secy-Treas.

We are in receipt of Vol. 1, No. 1, of The Kansas Bee Journal, a monthly publication issued by Miller & Durham Topeka. Kansas and edited by Mrs. Edith Miller. The new journal is very readable and will no doubt be appreciated by Kansas bee keepers considering there is no other bee-journal published in Kansas. We welcome the new journal to our exchange list.

We are of opinion that in a two days convention no essays should be read. The time should be taken up with lectures by old, experienced bee-keepers, followed by discussion.

Why Should we Take Exercise.

Ten reasons for the necessity of muscular activity.

1. Any man who does not take time for exercise will probably have time to be ill.

2. Body and mind are both gifts, and for the proper use of them our Maker hold us responsible.

3. Exercise gradually increases the physical powers, and gives more strength to resist sickness.

4. Exercise will do for your body what intellectual training will do for your mind—educate and strengthen it.

5. Plato called a man lame because he exercised the mind while the body was allowed to suffer.

6. A sound body lies at the foundation of all that goes to make life a success. Exercise will help to give it.

7. Exercise will help a young man to lead a chaste life.

8. Varied, light and brisk exercise, next to sleep, will rest the tired brain better than anything else.

9. Metal will rust if not used, and the body will become diseased if not exercised.

10. A man "too busy" to take care of his health is like a workman too busy to sharpen his tools.

Home Remedies.

For colic, or pain in the bowels, take two large, thick dinner plates—I keep them on purpose for this—pur into hot water, let heat until you cannot bear your hand on them, then wrap one in a thin towel and lay over the seat of pain, changing as often as the plate grows cool. This is much easier than wringing cloths from hot water and quite as efficacious a remedy.

Cold and chills may be helped by heating a number of large, thick newspapers as hot as you can on the stove, in the oven, or wherever it is possible to get them very hot; fold thick to hold the heat, then place at the back; on the sides, and over the extremities of the patient, changing as the heat is lost. They will relieve pain, and are much better than wet cloths to promote sweating.

An excellent remedy for cough is made as follows: Take a cup of mutton tallow and two great spoonfuls of spirits of turpentine; put into the turpentine all the camphor gum that it will dissolve, then add to the cup of tallow, melted, mix thoroughly, and keep where you can get it ready to apply to the throat or chest on a cloth when needed, covering warmly. This gives almost instant relief. It is a remedy of one of our best and oldest physicians, who has saved many lives by its use. It is good for any lung trouble, croup or colds. A plaster for sprains or attacks of rheumatism in joints: Take equal parts of resin and Burgundy pitch, melt in a tin dipper, and when liquid put in a piece of camphor gum as large as an English walnut and half that in size of opium. Stir till all is dissolved, as it will soon be if hot, and when none of the gum is visible spread on thin leather or thick vellum. Apply while warm and it will relieve the pain. These are all excellent, tried remedies.

Small Fruits Wisdom.

SUGGESTIONS RESPECTING THEIR
GROWTH AND CARE BY ONE
WHO KNOWS.

Mr. A. M. Thayer is in the habit of issuing monthly bulletins that contain crisp sentences of advice in relation to the growth of the small fruits. We have collected below sections of several bulletins that for the most part are timely for those who are expecting the agent of fruit plants along a little later or who may be contemplating putting out stock for this fall or caring for old stock.

All plants on which orange rust, curly leaf or other disease appear, should be dug out, root and branch, and burned.

Winter covering should be raked between rows for summer mulch.

Old canes should be cut out and turned as soon as done bearing.

Winter protection is necessary for small fruits here.

The cheapest and best protection is to cover with fresh earth.

With a little practice bushes may be laid down without breaking.

Plants should be purchased only of responsible dealers.

New, high priced plants are generally disappointing.

A garden of small fruit gives health of body and peace of mind.

Leave high-priced novelties to the professional grower. They are generally disappointing. Never buy poor plants. The best are cheapest.

The space allowed for different plants should be determined by the varieties grown, the quality of soil and the method of trimming and training.

The following distances give best results in most cases: Strawberries set in rows three and one-half feet apart and about two feet in the row; blackberries and raspberries in rows seven feet apart and three feet in the row; currants

and gooseberries in rows five to seven feet apart and three to five feet in the row; grapes eight to ten feet apart each way.

To our readers one and all, we wish you a happy and prosperous New Year.

A Wonder in Figures.

Some person of a mathematical turn of mind has discovered that the multiplication of 987654321 (which you will observe are simply the figures 1 to 9, inclusive, reversed) by 45, gives 44,444,445. Reversing the order of the digits and multiplying 123456789 by 45 we get a result equally as curious, viz., 5,555,555,505. If we take 123456789 as the multiplicand and interchanging the figures in 45 so as to make them read 54, use the last number as the multiplier and the result will be 6,666,666,603. Returning to the multiplicand, 987654321 and taking 54 as the multiplier again, the result will be 53,333,333,331—all 3s except the first and last figures, which together read 54—the multiplier. Taking the same multiplicand and 27, the half of 54, as the multiplier, the product is 25,636,663,667, all 6s except the first and last figures, which together read 27—the multiplier. Now interchanging the order of the figures 27 and using 72 instead as a multiplier and 987654321 as the multiplicand we get as a product 71,111,111,112, all 1s except the first and last figures, which together read 72, the multiplier.

Mathematicians and others who delight to wade around in the realms of the curious are well aware of the fact that there are many wonders to be met with on every hand, but it is doubtful if there is a better illustration of the trite saying: "Figures will work wonders." than that given above.—[Philadelphia Press.

AN IMPROVED SUPER-CLEARER.—We have not yet reached perfection in super-clearers, at least, so thought Mr. Meadows, of Syston, who has just made another move forward, and introduced an improvement in his "clearer," shown for the first time at Shrewsbury the other day. The new feature will be very helpful—especially to amateurs—in times when bees are troublesome to manipulate, and when the exposure of frames in opening hives is not desirable. By its means the bees can be admitted to surplus chambers from below, and shut off again at the will of the beekeeper by very simple means. So that after boxes of combs for extracting are first cleared of bees by means of the usual spring escape, the boxes are then removed, the honey extracted, and the box of wet combs replaced on the clearer for cleaning up by the bees, which are admitted at nightfall by simply moving a slide. Next morning the entrance from below is again shut off, and the bees are compelled to pass down through the escape. In this way a single stock may do the cleaning up of several lots of combs with a minimum of disturbance to the apiary, and no exposure at all of bees or risk of stings.

How the Bees Live During the Winter.

BY TSELSKY.

TRANSLATED FROM THE RUSSIAN.

Where do the bees procure water in winter? This question has been one of great interest to investigators and it may be said that nearly every apiculturist of experience has tried in one way or another to contribute an explanation of this enigma. Different authors have advanced different theories—curious and unnatural—frequently diametrically opposed, in place of penetrating to the real truth by practical experiments.

I find it is useless to cite different hy-

potheses set out in special publications, periodicals and treatises on apiculture; I will re-call only the theories which are actually advanced.

The greater part of apiculturists state that the bees procure water in winter by means of the dampness which collects on the bottom of the hive on the lateral walls and on the cold combs and thinking this dampness a matter to be desired, they seek to procure it in the hives.

Others believe that in winter the bees have need of very little water and that they find sufficient in the capped over honey (not crystallized) which always contains a certain quantity of water.

A third party says that the honey itself by its components provides a source of water for the bees. Being chemically composed of carbon, hydrogen and oxygen, when it is absorbed by the bees, it gives them by the reunion of the hydrogen and oxygen the necessary quantity of water. These different theories have produced in practice all sorts of rules whose application have exercised an influence on the bees themselves for every winter a large number of hives are victims of the ingenuity (?) and the inventive mind (?) of apiculturists. Some assure us that bees should be wintered with cold surroundings, others insist upon heat; the third counsel the ventilation of the hives in winter; the fourth class think it is absolutely necessary to place water in the cells or to provide drinking utensils of a special invention which are placed in the hives, while the fifth reply that in no case should bees drink in winter; the sixth maintain that the bottom of the hive should be kept cold in order that as much moisture as possible may collect there; the seventh class say that the formation of water on the bottom is destructive.

What a confusion of ideas has evoked all these views and suppositions! Berlepsch has amply demonstrated by his

bold assertion that the hive in which moisture is deposited has too little water, while that in a hive completely dry there is a sufficiency. We will see later on that the opinion of Berkepeh expressed in such a strange manner—although based upon a correct observation—has some appearances of truth, as well as the fact that the illustrious German apiculturist had not even guessed the true reason of this phenomenon, although the first to remark the so-called disease "the bee-thirst" and to notice the dangerous consequences of a lack of water.

During winter besides honey, bees really have need of water; in the usual condition of wintering water is furnished by the honey itself, from the fact that it absorbs the water in suspension in the surrounding air. Honey possesses the quality of an absorbent to a great degree as also do other bodies, sugar syrup, salt, sulphuric acid, etc. To prove this we have only to place a comb of liquid honey not capped, in a damp place, in a cellar for example. The next day, or better several days later on examining it, we will notice an increase of honey in the comb, and in such quantity that it will commence to run out of the cells. But this honey which is flowing is more liquid than before, which goes to show that water has been added to it which it has pumped, so to speak from the surrounding air. Honey is not secured from this invasion of water except when the cells are hermetically sealed with wax, but as soon as the covering is removed the honey absorbs the water and that the more easily since the air of the hive, thanks to the respiration of the bees is always charged with watery vapor. He who has attentively observed bees during the winter will have noticed that above and in the centre of the group of bees there are always a greater or less number of honey cells uncapped and that the bees

in going up, uncapp little by little new cells although they do not eat the honey immediately after uncapping it. These cells which have been thus uncapped partly in the vicinity of the group, partly above it are now prepared for the absorption of the vapor of the surrounding atmosphere and thus to procure for the bees the water, which is as necessary as honey for the preservation of their life.

(1) This opinion is held in Germany but we do not believe it is shared by apiculturists of other countries, whose aim on the contrary is to avoid the condensation of vapor in the hive.

Editor Revue Internationale.

An American Beauty.

ROMANTIC ORIGIN OF A HANDSOME AND POPULAR ROSE.

There is an interesting story about the origin of the American Beauty. It was first grown in Washington, and here it attained its renown. The late Hon. George Bancroft, besides being a historian and scholar, was one of the first amateur rose-growers in America. Every year he imported cuttings from the leading flower-growers of Europe. The King of Prussia—when old Kaiser Wilhelm was king—allowed the American historian to have a slip of whatever he might fancy in the royal conservatories. Mr. Bancroft's gardener used to cultivate some of his roses in an old house away out on F, or perhaps it was G street, above Twenty-second street, in the west end of the city. Mrs. Grant had a florist named Field in charge of the White House conservatory. He was a rose grower of rare merit and skill in his artistic work. One day he happened into the old building where Mr. Bancroft's gardener potted his plants and budded his roses. Over in a corner he observed a rose of a variety utterly unknown to him, and of wonderful size and perfection in form and

odor. "Where did this come from?" he carelessly inquired of his rose-growing confrere. "Oh, it is an offshoot from some cuttings we imported from Germany," the man replied. It was evident to Mr. Field that the other did not in the least comprehend the value of the new plant. After some talk Mr. Field bought the cuttings he had seen for \$5. A year thereafter, when he had propagated his new purchase, and become convinced that he had a new and very valuable variety of rose, which he named the American Beauty, he sold his find for \$5,000, the most wonderful result of the investment of \$5 on record. Fields invested his easily-earned \$5,000 in lands near the city, which in a little less than three years were sold for \$50,000. Truth is sometimes stranger than fiction. In this instance it certainly was:—Washington Post.

Brace and Burr Combs.

JAMES HEDDON.

The brace-comb muddle has been occupying very much attention among our bee-keepers the past two years, and now just as the more sanguine ones imagine deep top bars and close spacing amounts to a preventive, and will bring more advantage than drawbacks (which isn't true) forward comes the G. M. Doolittle (the master of 60 colonies of bees, on an average) and tells us that brace-combs are of great advantage as wax ladders, encouraging the bees to enter the surplus receptacles, and when properly manipulated are an exceedingly small trouble. Why we don't know anything about any such a performance, or instinct in bees, as to shy the surplus receptacles when there is any honey coming in sufficient to cause them to go above with common arrangements: We are well aware,

that with a hive properly arranged and properly manipulated, the brace-comb problem is nine-tenths bug-bear. In our early days of bee-keeping, about 20 years ago, we got frightened at this supposed awful brace comb, and tried everything (wide and deep top bars included) to do away with them, but nothing did it, entirely; but since we have learned how hives should be constructed; and what not to do in apiary work, we know that the extra cost and weight of the wide and deep top bars is an over-balancing consideration against their use, in so far as they really do tend to prevent the building of brace combs. Bro. Root says Mr. Doolittle is nearly always right, but in this case, in advocating the use of burr-combs and brace combs as an inducement to the bees to enter the sections, he is afraid he might mislead bee keepers.

Now we think very differently from Bro. Root; that Mr. Doolittle is "nearly always" wrong and in all sincerity we ask if anyone knows of anyone who is a strict adherent to Mr. Doolittle's methods and chosen implements and fixtures, that ever did succeed? We are sure we couldn't succeed with their use, neither do we know of any one who ever did. They succeed best on paper. Some one may say "Isn't this statement a little harsh?" Never mind, ask first if it isn't true, and if not we will attend to the harsh part after that fact is settled. If it is true, we propose to be honest, brave and outspoken enough to call attention to this truth, that is of so much importance to bee-keepers. More than one reader of this journal well remembers that at a convention of the North American bee-keepers' association, held in Chicago, some ten years ago, a successful honey producer, (from either Wisconsin or Minnesota) arose and told the convention how cheaply he could raise large yields of extracted honey, "thanks to Mr. Doolittle." We arose

and asked the gentleman to state to us all, what kind of hives and other implements and methods he used because a little while before, in private conversation, we had heard him say something squarely contra to the closing sentence of his speech. He arose and told the convention that he used our hive, honey-board, supers, and other implements and methods to an exaction. Then we asked him what he was thanking Mr. Dooittle about, when he blushed and said he didn't know, and the convention laughed and cheered. The gentleman was no doubt honest, and was honestly mistaken. We cite this as apropos to show how mistaken honest, intelligent men can sometimes be, and that too, concerning matters of both private and public importance. The gentleman really thought he was reaping a harvest Mr. D. had sown, because some foxy editor had intimated as much, even though he never used an implement, or method advised by his supposed leader. This is another disease which should be cured.

The Horse Nettle.

The troublesome weed, the well-known Horse Nettle (*Solanum Carolinense*), is apparently spreading north, though not so fast as some annual ones. Horse nettle is a native from Connecticut south to Florida and west to Texas, but it will soon be indigenous much further north if it spreads as it has done lately. It is now often seen in the streets of Canadian cities, on vacant lots and too often in cultivated fields, where it does great injury to crops.

Its common name does not indicate that this weed is closely related to the cultivated potato, but the botanical name of the genus shows close relationship. An examination of its flowers will show that they much resemble those

of the potato, being bluish or whitish in color. The berry, commonly called the "seed" also resembles that formed on the potato. The leaves have large prickles on the midrib and some of the larger lateral ribs. They are also slightly hairy. The stem is beset with numerous stout prickles.

Many of the related plants of this genus are annuals; but horse nettle is a deep-rooted perennial, its roots often extending three feet or more into the soil. This fact makes it a very tenacious weed, very difficult to exterminate. For this reason the weed grows in dense patches, which are carefully avoided by stock in pastures. Plow the land at this time, allowing none of the leaves to appear. The plants should be kept down the succeeding year. Plow the ground again next summer. Sow thickly with rye and keep watch of the nettle, allowing none to grow. Careful work for two seasons should remove it.

Evergreens Healthful.

Dr. Alfred L. Loomis of New York gives this interesting scientific testimony of the value of evergreens: "It is stated that whenever the pine, with its constant exhalation of turpentine vapor and its never-failing foliage can be distributed in a proportion to the population, the atmosphere can be kept not only aseptic, but antiseptic by nature's own processes, independent of other influences, except a certain amount of sunshine and moisture. It is not possible for everyone to take his weak lungs to an antiseptic air, but it is possible to render the air of most localities antiseptic. I would, therefore, impress on the public the importance of preserving our evergreen forests and cultivating about our homes evergreen trees."

Queen-Rearing.

THE RESULT OF THREE YEARS' EXPERIMENTAL WORK.

[2071.] In taking up my pen to lay before your readers the results of my experiments in queen-rearing, I for the first time realise the tremendous extent of the work undertaken in striving to render intelligible the multitude of notes I have made for the last three years of the various manipulations carried out, and of making my observations interesting to those who care to wade through them. On looking back to the spring of 1892—when it first occurred to me that the usual rule of queens in our apiaries was not all that could be desired—and the years that followed and have gone: as though all the work, the anxious hours passed in waiting for the result of this or that experiment, the variable weather, the disappointment over failure and the gladness when I succeeded; all this seems like one long pleasant dream spent among the bees and the flowers they love so well; winter came and went, but I seem to remember little for was I not even then, with the bees, either in the mind's eye in futuro, aye, truly:

Now, at the outset I must ask readers to disable their minds of the fallacy that first-class queens can be reared by simply cutting up a piece of comb containing eggs or larvae and giving it to bees. Good queens cannot be raised by rule or thumb. Some people, to suit their own ends, will tell you that queens can be raised anyhow, and that their pet method of raising them is the only way, and that any other which they have not tried, or tried and failed in, is wrong and necessarily bad, but most folks know where the proof of the pudding lies, and after raising queens by every known method up to the present time I feel that the experience gained

enables me to a certain extent to speak on this, to bee-keepers—all important matter with some confidence. I say all-important, because if readers would only think it out they would at once realise that "everything tending to successful bee-keeping centres in the queen," and I am fully convinced that the royal road to success in our craft—if royal road there be—is to have our colonies headed by the finest and most perfect queens we can rear or otherwise obtain, and such queens can, in my opinion, only be reared at the proper time—viz., the natural swarming season, which is the only natural season for queen-rearing. Queens can be reared at other times, it is true, but the bees rear them from necessity, not by natural desire, and, as with ourselves, things done unwillingly or through necessity are rarely done well.

To rear queens after the honey or swarming season is over, you have to get them raised in queenless colonies, which, when the honey season has gone, are very loth to take the job on, and will often leave the larvae until it is three days old before commencing to feed it properly, whereas if the task be given them in proper season, and from proper material, the cells are started at once, and upon larvae under thirty-six hours old and fed on the right food from the commencement. Therefore, one great fact to be borne in mind is, that if you want good queens, make sure they are raised in proper season and under proper conditions. Then comes the question, What are the proper conditions? To my mind they are (1) that the stock that raises the new queens should be strong and flourishing, and (2) have a laying queen in the hive while the new ones are being raised. And I maintain that only under such conditions can the best and most perfect queens be raised. Such queens are fine, strong, prolific, and long-lived, and will

give such an account of themselves that it would take half-a-dozen unmaturing productions (called queens) to equal.

Do not think I am desirous of being accredited with laying anything new before my readers. What I have to say is not new, but is the result of thirty or forty years of study and careful observations of such men as G. M. Doolittle, Dr C C. Miller, Henry Alley, and many other advanced apiculturists on both sides of the Atlantic. No one has a right to put forward as new methods with which he has experimented and made slight modifications of, but should give full credit to the originator of the idea, and I wish it to be clearly understood that although I have somewhat modified and altered the methods adopted by other bee-keepers, yet the ideas are not mine. Indeed, it is hard to say with whom they did originate, and as Mr. Doolittle says: "I cannot give credit to all from whom I have gained knowledge, as there is scarcely a writer on apiculture from whom I have not gained light, and, in fact, it is the many littles of the past that makes the much of the present."

Undoubtedly, the very worst method of rearing queens is the "let alone" method. The bee-keeper, if he wants first-class queens, must take some portion of the work into his own hands and superintend the operations carried on by the bees within the hive. Take a hive that has just swarmed, for instance; on examination we find several cells in various stages, some just capped, others only partly completed. Then comes the important question, "What was the age of the larvae when the first royal food was given the young grub?" The chances are it was too old for good results, for although bees build rudimentary cells prior to swarming, I never saw a queen lay an egg in one yet, and I should require to see her do it before I could state in print that she does so.

The next question is, Do bees place eggs in embryo queen cells? They may, but I am more inclined to the view that it is the young grubs that are placed therein by the bees. Has it ever been recorded that these empty embryo queen-cells are the identical cells which are used eventually for raising queens? I think not. Often have I seen cells started prior to swarming, and have certainly seen these same cells still empty after the queen-cells on the other parts of the combs have been sealed. I am, therefore of opinion that though in a few cases eggs and larvae may be transferred to these empty embryo cells, yet in the majority of cases the cells are built round the young larvae, and in practically every case round larvae over thirty-six hours old. Anyway, when the swarming fever takes possession of the bees it is accompanied by a complete mania for building queen-cells, and after careful examination of many stocks about to supersede the reigning queen I have found queen-cells built over larvae of different ages. It therefore follows that cells built over the oldest larvae will be the first to hatch out, and if the bees determine to throw no second swarm this half-formed insect becomes the mother of the colony. But if a second swarm comes off the next hatching queen becomes mother. This second swarm should therefore always be returned; otherwise the colony is practically worthless for that season, and in any case the chances are that the most perfect queens, i.e., those started from the youngest larvae, and the last to hatch out, are always those destroyed. The theory of the survival of the fittest is thus in almost every case reversed. This is so vital a point that I must be forgiven for dwelling upon it, for although bees at swarming time will, if left alone, raise the finest of queens, yet in nearly every instance an inferior queen is the one that eventually reigns.

It was the discovery of these facts, amongst others, that first led me to inquire more fully into the question of the quality of my queens, and endeavor to find a means of securing queens of the best quality, and produced under the best and most natural conditions. I obtained and perused the works of all the authorities on the subject, but, with the exception of the writings of the gentlemen I have mentioned above, there was no other writer, whose methods were new, or in my estimation worthy of attention.—HENRY W. BRICE, Thornton Heath, Surrey.

TO BE CONTINUED.

Bee Keeping as an Occupation.

Trusting that I am not imposing too much on your generosity by asking the following questions, I should like the opinion of some one more experienced than myself before coming to a decision, under the following circumstances:—I am a young man with a situation (indoor work, partly writing), which the doctor tells me is very injurious to my health, although I am sound. He therefore advises me to leave it, and obtain a situation where I shall be more in the open air. My present salary is £57 p. a. annum.

I know of no occupation I am capable of following out in the open air except that of bee-keeping. This I already understand fairly well, having kept bees in bar-frame hives for eleven years, and I have also recently obtained a "first-class" (advanced stage) in scientific agriculture, taking bee management as one of the questions. My house is well situated, with ample accommodation for carrying on a large apiary, and the district is considered a very good one for honey, as the fields are all pasture—soil, clay loam—and are white with clover bloom in season. Lime,

Spanish nut, and blackberry are also plentiful; and just one mile away is Cancock Chase, where the bees obtain sufficient heather honey to carry them through the winter, after taking the whole of the other honey from them. I think there are not more than thirty hives kept within five miles from me any way, about fifteen half a mile to the north, fifteen half a mile to the south, and east and west nil. I could stock an apiary with 150 hives, and still then have £100 left to fall upon in case of bad season, &c.

I calculate that 150 hives will average 3 lb. of honey per hive each year, which, if sold at 5d. per lb., would bring in a yearly income of £93 15s., and, allowing £23 15s. for expenses, paint, &c., I should have £70 per annum, an increase of £13 on my present salary, and better health. I am also an experienced poultry-keeper, and could fill my spare time in the winter at other things.

I have taken 30 lb. as an average for good seasons, and bad, and 5d. per lb. for honey, as I consider this the lowest it is likely to fall to. I obtain now 10d. per lb. retail, and 8d. wholesale, and often take over 60 lb. from a hive, and I have no winter or spring feeding. I have also omitted to allow for swarms I might sell. I think you will now understand what I require, and shall be very pleased if you will kindly give me your opinion in the BRITISH BEE JOURNAL on the following questions:—

1. Are 150 hives too many to keep together in one apiary? Are there any apiaries so large as this?
2. I have now eleven hives. Could I increase these to thirty next season, sixty the following season, 100 the following, and 150 the next, with a certainty of obtaining a little honey to cover working expenses?
3. Do you think 3 lb. per hive a fair average, and is the price of honey likely to fall below 5d. per lb.?
4. Could one man manage 150 hives in the season?

5. Do you think it likely, "after allowing for working expenses," that the average income from 150 hives would fall below £57 per annum?—Simpleton, Staffs, August 28.

[Before giving our opinion on the questions enumerated above, we deem it necessary to say that our uniform rule is to endeavor to dissuade persons from engaging in the occupation of bee-keeping in this country as a sole means of obtaining a livelihood. From this rule it is not our intention to depart. There is, however, in the details furnished by our correspondent much to cause us to think favourably of the position as presented above. In the first place, he is giving up present employment from necessity, not choice. Second, he possesses the great advantage of eleven years' experience as a bee-keeper, and a full knowledge of the locality in which he resides as a honey district. Third, the prospective average is based on what he has already secured in the past, and the price of his produce is fixed at a much lower rate than he obtains at present. Fourth, he understands poultry-keeping and proposes to add it to the business, besides "filling up spare time in winter at other things." Fifth, the income expected is a modest one, and he possesses sufficient capital to enable him to secure "best terms" for all he requires, and would thus start under the most favourable conditions.

All this tends to clear the way for a plain reply to the several questions:—1. Yes, 150 stocks would be better and safer if divided into fifties and located two or three miles apart for several reasons, but mainly in case of disease breaking out. We do not know of any one in this country who keeps so many as 150 hives, though several have over 100. 2. So much would depend on reason for queen-rearing and safely dividing for increase, at the rate proposed that we could promise no "certainty" in the matter.

Besides, in the case of making a business of bee-keeping it would be best to start with more than eleven stocks. 3. Yes, 30 lb. per hive is not at all an extravagant average to count on, and for good honey 5d. is a very low price, especially when considering that a portion would be sold retail. 4. No. In the busy season some help would be required, particularly in the way of having a handy person to watch for and hive swarms at out-apiaries. 5. As we have said, the prospects of realising £50 per annum under the circumstances detailed above are, in our opinion, quite likely of fulfilment, but in the whole business it depends as much upon the capacity and aptitude of the individual as upon anything else for making it pay.—EDS.]

A New Honey Plant.

A plant that will pay land rent in honey alone has long been wanted. Figwort, the spider plant and many others have been tried and found wanting. At present German bee-keepers are very enthusiastic over a new forage and honey plant, which it may be worth while to give a trial on, this side of the water. A few seeds of this plant were sown this season by bee-keepers in this country, and their experience with it will be gratefully received by this department. The American Bee Journal has the following to say concerning the plant:—"It seems that a scientist named Wagner of Munich, Germany, has been at work for the past 30 yrs., crossing and improving, and from a bitter weed has developed a succulent forage plant unusually rich in sugar and relished by all kinds of stock. The illustration of plant shows its resemblance to the sweet-pea, to which it is closely related. The roots are said to penetrate the hardest, driest and rockiest soils, reaching to the depth of 10 or 20 feet.

Drouth has little effect upon it. Barren land occupied by it has its fertility improved. Those who understand how red clover takes so much of its nourishment from the air will have little difficulty in believing this, as the flat pea, like the clovers, belongs to the leguminosæ family. Four tons of dry hay per acre can be obtained if three cuttings are made. The first cutting takes away all chance for an early honey crop, but, if we understand it correctly, the bees gather a rich harvest after the first cutting, and not until October is its yield of nectar over. A somewhat serious drawback to growing it in this country is the difficulty of getting a start, as it is very liable to be winter-killed during the first and second years."

Summer Drinks.

The celebrated Dr. Parks makes the following suggestions in regard to drinks for laborers, either summer or winter. "When you have any heavy work to do, do not take either beer, cider, or spirits. By far the best drink is thin oatmeal and water, with a little sugar. The proportions are a quarter of a pound of oatmeal to two or three quarts of water, according to the heat of the day and your work and thirst. It should be well-boiled, and then an ounce or an ounce and half of brown sugar added. If you find it thicker than you like, add three quarts of water. Before you drink it, shake up the oatmeal well through the liquid.

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three late but different issues of the REVIEW will be sent. The May Review contains an article from M. M. Baldridge in which he tells how to get rid of foul brood with the least possible labor — no taking bees off the combs, they transfer themselves to a new hive at a time when their bodies are free from the spores of the disease. He also tells how to disinfect hives with one-fourth the labor of boiling. B. Taylor tells how to secure as much white comb honey as extracted.

W Z HURCHINSON, Flint, Mich.

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