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THE NATIONAL BEE-KEEPERS' ASSOCIATION OF N.Z.

PER ANNUM: **3/6** IN ADVANCE.

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The Official Organ of the National Beekeepers' Association of N.Z.

No. 20 DUNEDIN. 3/6 Per Annum.

OUR ENGLISH MARKET.

By J. S. COTTERELL.

It is now some years since I was residing temporarily in London, but whilst there I made a point to walk as much as possible, and, being interested in honey, I looked into a number of grocers on the way. It was surprising to find how well South Australian honey was exhibited for sale in neat glass tumblers; nearly every grocer had it displayed in a prominent place in the window. The thought occurred to me, Why should not New Zealand honey be similarly put on the market, if the right agency could be secured? On enquiry I found that Major Norton was representing South Australia, and it was due to his propaganda that South Australian honey was so well advertised.

Had I been asked who could do the best for New Zealand honey on the English market, I should have said without question, why, Major Norton, if his services could be secured. How times change! It is only a short two years now when Major Norton came to us unsolicited, offering to make a contract for 100 tons or more of New Zealand honey to be sold on commission under the brand of our Co-operative Honey Association. How well he is carrying out the arrangement then entered into, and what yeoman service he is doing for our industry, just read the following letter I have lately received from him:—

"**War Office.**—We are in regular touch with the requirements of the War Office, but, owing to the fact that they are buying a cheaper grade of honey, any quotation we may have given them would have been useless. Apart from this, however, may I suggest that it would not be a good policy on our part to let the War Office have any of the honey we have received from New Zealand this season unless, of course, they would have been prepared to pay us a price equivalent to something over 50/- a cwt., because, having started on our propaganda with the retail grocers throughout this Kingdom, it is essential that we should nurse our stocks in order to keep our clients supplied until the next season's is available; and, considering the extent of our clientele, we shall want every tin of honey we have to accomplish this end. I can assure you, and I think I have already sent sufficient evidence to our New Zealand office to convince you, that the trade for New Zealand honey in the United Kingdom has been altogether revolutionised. In the past it was the exception rather than the rule to be able to buy New Zealand honey in any of the leading stores in London or in any other large centre in this Kingdom owing to the fact that the brokers who had the handling of it invariably sold it to bakers. At the present time, as a result

of our propaganda, New Zealand honey under the brand of the 'N.Z.H.P.A.' may be purchased in something over 3,000 shops, including all the large stores in London. We have had enormous window displays. Amongst them may be included Cooper and Co., of Liverpool, who have a world-wide reputation. This firm informed us that during the ten days that they had the window display they sold 1,083 vessels over the counter. I think you will agree with me that this method of distribution of your produce is bound to be of far greater service to your producers than if we sold it to the War Office, to say nothing of the fact that we shall be returning within a shilling or so of 50/- per cwt. for every case of the first grade honey that we have received. This price in normal times would mean a very considerably greater nett return to you than I venture to assume has ever taken place before. I speak now, of course, of your complete exportable output.

"There is quite an erroneous idea being held by some of our friends in New Zealand that up to 1/- per lb. is being obtained for honey in this country. There is certainly an atom of truth in this, but I can assure you it is only in very isolated instances, and when only a very trifling quantity of the particular honey is available. I know you will agree when I say it is one thing to offer honey by the pound and another thing when one has to talk of it in hundreds of tons.

"Another important feature is that we are not in this business for one season only; we have to look to the future, and my object this season has been to establish the brand throughout the length and breadth of this Kingdom, so that when we have larger quantities from New Zealand, which I understand will be coming next season, and we have to face an unprecedented supply from the States, we shall still be in a position to quit our stocks at a price not less than we are at present returning.

"Although necessarily we are not dealers in it, we have already been offered large parcels of white Californian honey, equal in all respects to your best, at prices far and away below what we are at present returning.

"Another advantage of our methods of distribution is that we are able to dispense with all classes of honey providing it is in sound condition. For instance, if you ship your dark honey to London, you will find it altogether unsaleable. We, however, have a market by putting it up into vessels and labelling it 'Heather' that will take all you can send. In Bristol, for instance, where we have the honey now in more than 100 grocers' shops, they want nothing but white honey. In the Midlands they like the light amber; but in Cumberland and north of that the dark heather honey is preferred, and necessarily we arrange our supplies in such a way that we cater for all.

"From time to time we send to our New Zealand office photographs of shop window displays, specimens of show-cards we are getting out, and newspaper advertisements, which, no doubt, when you are in Wellington you would take the opportunity of having a look at, and I trust you will be pleased with our efforts in the interest of your industry.

"Yours faithfully,

"(Signed) A. E. M. NORTON."

HONEY.

POINTS TO REMEMBER WHEN SELLING.

One of Nature's Best Foods.—It is only within the last few centuries that sugar has become known, and only within the last generation that refined sugars have become so low in price that they may be commonly used in the poorest families. Formerly honey was the principal sweet, and was higly valued.

It would add greatly to the health of the present generation if honey could be at least partially restored to its former place as a common article of diet. The almost universal craving for sweets of some kind shows a real need of the system in that direction; but the excessive use of sugar brings in its train a long list of ills. When cane sugar is taken into the stomach it cannot be assimilated until first changed by digestion into grape sugar. Only too often the overtaxed stomach fails to properly perform this digestion, then comes sour stomach and various dyspeptic phases.

Now, in the wonderful laboratory of the hive there is found a sweet that needs no further digestion, having been prepared fully by those wonderful chemists, the bees, for prompt assimilation without taxing stomach or kidneys. As. Prof. Cook says: "There can be no doubt but that in eating honey our digestive machinery is saved work that it would have to perform if we ate cane sugar; and in case it is overlooked and feeble, this may be just the respite that will save from breakdown." A. I. Root says: "Many people who cannot eat sugar without having unpleasant symptoms follow will find by careful test that they can eat good well-ripened honey without any difficulty at all."

Not only is honey the most wholesome of all sweets, but it is the most delicious, and its cost so moderate that it may well find a place on the tables of the people every day in the week.

Indeed, in many cases it may be a matter of real economy to lessen the butter bill by letting honey in part take its place. One pound of honey will go as far as a pound of butter, and at one-third the cost.

Give Children Honey.—When children are allowed a liberal supply of honey, it will largely do away with the inordinate longing for candy and other sweets.

Ask the average child whether he will have honey alone on his bread, or butter alone, and almost invariably he will answer, "Honey." Yet seldom are the needs or the taste of the child properly consulted. The old man craves fat meat; the child loathes it. He wants sweet, not fat. He delights to eat honey; it is a wholesome food for him, and is not expensive. Why should he not have it?

BEES IN RELATION TO AGRICULTURE.

There is, we are assured, in some cases a feeling between graziers and beekeepers which, if translated into the language of diplomacy, would be spoken of as "strained relations." It is said that in certain cases farmers object to the vicinity of an apiary, and complain of bees as trespassers; whereas the apiarist holds that the bees shoudl be welcomed as benefactors.

It is a matter deserving discussion if there really is serious difference of opinion. The case for the owner of grazing stock, so far as we have heard, is that the bees take fattening matter from the meadows which might be consumed by stock if it had not been pilfered. This, we are told, is the gravaman of the dairy farmer's complaint, and the bee farmer claims that he has a complete reply to that special complaint. But the apiarist puts his case on broader grounds. The immense advantage of the cross-fertilisation brought about by the bees in increasing the value of clovers and other plants growing in pasture land, and the resultant strengthening of the pasture, is well known. Admitting the good work of the bee, is the price paid for it by the grazier too high?

Sir Humphrey Davy, Professor Liebig, and others show that the saccharine matter of plants on which the bee lives and works is not derived from the soil, but from the atmosphere and rain water, so that the soil is not robbed, nor its fertility affected, and it is further contended that the nutritive quality of the plants in any growing crop, clover, or whatever it may be, is not injured. There would appear to be good reason to believe that the plants themselves become daily more nutritive during the period of their giving off honey, though admittedly all agricultural chemists are not agreed on the point. But what is the answer to the practical objection of the grazier that "giving the bees credit for their work in many ways, still the honey abstracted is valuable fattening matter which my cows ought to have the benefit of, and the loss of which is to me material?" It is simply that the loss, if any, is infinitesimal, and not to be weighed against the great advantage derived by the farmer from the work of the bees. Here is what is said: "The ordinary working-range of the bee may be taken at a mile and a-half from the apiary on all sides, which gives an area of about 4,500 acres for the supply of the apiary; and if the latter consists of a hundred hives producing an average of 100 lbs. of honey there would be a little more than 2lbs. of honey collected off each acre in the year; or if we suppose so many as two hundred hives to be kept at one place and to produce so much as ten tons of honey in the season, the quantity collected from each acre would be 4lbs. to 5lbs." It is further pleaded that in suitable weather there is a continuous hourly secretion of saccharine matter which, if not taken by bees or other insects, is evaporated during the mid-day heat of the sun; that the bees take successive secretions, whereas if the plant, say a head of clover, were eaten by the cow or the sheep, the animal could only consume the existing secretion, which is estimated never to exceed one-tenth of a grain at any given time. There are further interesting speculations or calculations. But the sum of the whole matter is that out of 4lbs. or 5lbs. of honey assumed to be collected by bees from one acre of pasturage, probably not one-tenth and possibly not even one-twentieth part could under any circumstances have been consumed by the grazing animals, so that it becomes a question of a few ounces of fattening, more or less, for all the stock fed upon an acre during the whole season, a matter which the apiarist contends is so trivial as to be out of all proportion to the services rendered to the pasture by the bees.

—Hawera Star.

BASSWOOD PLANTING.

Your article by Professor Macdonald in the April number of the Journal on basswood planting should commend itself to the beekeepers throughout the Dominion. At a time like the present, when afforestation is being seriously discussed, the beekeepers should see to it that basswood trees receive due consideration in common with the millions of other varieties of trees that are being planted by the Government. The basswood (or linden) might be described as the beekeeper's tree. Not only is it an excellent producer of honey, but the wood is superior to white pine. Its very existence is threatened in America, where the timber is largely used for boxes and furniture. It is a rapid grower, and yields blossoms profusely five years after it is planted, and we have ample evidence in this country to that effect. As a honey producer, both for quality and quantity, it is par excellence. It is on record that Mr. Doolittle got 66 lbs. of basswood honey from a single colony in three days. Five years ago an apiarist in Christchurch took a magnificent surplus from the basswood trees in that city. Surely, then, the basswood tree has some claims to recognition by the beekeepers in New Zealand.

Your correspondent, "H.B." Oahiawa, strikes a discordant note, and evidently has been brought up in a school which puts no trust in the future. For his information I beg to tell him if ever he visits the township of Fairlie he will see basswood trees that will do his heart good, more especially at this season of the year, when the hot north-west winds have destroyed the clover pastures. The basswood trees in Fairlie have been planted just fifteen years, and have borne masses of blossom for several years. Authentic records show that the trees were planted in 1900 as part of a scheme to beautify the township of Fairlie, and to-day the best of the trees are 30 ft. high, compact, and affording good shelter, and are just as vigorous and ornamental as other trees planted at the same time, despite the dryness of the climate and the hard frosts of winter. "Posterity be damned" is the tone of your correspondent's letter in the May number of your valuable journal. Now, what has the beekeeper done to improve the flora of his district? Nothing. Generally he locates his apiary in a district which has been made for him by his progenitors. His apiary as a rule resembles a neglected cemetery, and is usually placed for shelter close to trees planted long years ago by men who looked to the future, and whose efforts have conferred a blessing on the apiarists of to-day. When scouring districts for an apiary site, would he not have blessed the early settlers if in the place of large clumps of pines and other imported trees large belts of nectar-secreting trees such as the basswood had been planted? I think so. He steals into a district, and takes Nature's bountiful harvest, which has been provided for him by the early settlers, and in which he had no hand in the making. He condemns all and sundry if he is not allowed to pick out sites here and there, and to-day he has persuaded the paternal Government to reserve apiary sites when land is thrown open for closer settlement. He froths and fumes when the farmer is compelled to cut the Californian thistles, ragwort, and other nectar-producing noxious plants. Such is the position of the beekeeper to-day. "Trust no future howe'er

pleasant," that is his dictum. If the beekeeper has not the courage, time and money to plant good valuable nectar-secreting timber trees for the next generation, let him see to it that the paternal Government does plant trees that will bring wealth and happiness to the beekeepers of the future, besides being a national asset to the country.

APIS DORSATA.

Correspondence.

SCUM.

Mr. A. IRELAND IN REPLY.

(TO THE EDITOR.)

Sir,—There has been a good deal written upon this subject since I read my paper at the Conference in June. Major Norton, quoting from my paper, says: "Because when the purchaser at the other end liquifies the honey for bottling the scum will disappear." He remarks "Now, this is just where Mr. Ireland is wrong; it does not disappear. We take off as much as 20 lbs. of scum as a result of one day's working. This we sell to confectioners at 16/- per cwt." I was under the impression that the graders turned down any honey for export that had scum in any quantity. And it was in consequence of this turning down that all this discussion has taken place, because a good many thought that what was termed scum was not really such at all, but was pure honey in a state of froth or afflorescence, as some have called it, which, when melted, reverted to pure honey. In my paper I described an experiment that I performed. I took a pint of scum off the top of the tank and slowly melted it. The result was a pint of liquid honey and the thinnest possible film of wax and foreign matter. Now, if that is the result from pure scum (so-called) from the top of the tank, how much less ought there to be scum on the honey after it has been drawn off from the tank, leaving all the so-called scum behind? I have never been troubled with scum or afflorescence. I believe that stirring honey with a paddle is as good a way of producing froth or scum as any way; it mixes air with the honey, and as scum has been proven to be air bubbles, why, there you have it. Major Norton mentions getting quantities of dead bees in some samples of honey with specks all through it. This honey could never have been strained, but just tried from the extractor. How it passed the grader I can't imagine, because bees, being lighter than honey, would float on top and ought to be visible. One writer in the Journal writes of scum growing in the tank. What he means by the term growing I don't know, but whatever meaning he attaches to it he is wrong, for scum does not grow. It may be produced as in paddling, but grow it does not. The term growth is often used wrongly. For instance, it is said that nuggets of gold grow in the drifts. Miners mean that they get larger. Growth is confined to organic beings. The gold got larger by more gold being added to it. But a growing plant by its roots takes up inorganic and mineral

matter, and by a mysterious process transforms it into something altogether different from what it was before—that is, makes it organic or part of the plant itself. In this light how could scum be said to grow, unless you could make out that it was an organism. From Major Norton's letter it would seem that many beekeepers are not using proper methods in harvesting and putting up their honey.

(TO THE EDITOR.)

Sir,—Mr. Jacobsen (page 319) wonders whether a queen lays all the time she is flying. I do not know, but this season I saw a queen lay several eggs on a sack as the swarm was entering a hive. Friends C.A.J. and J.S.C. seem to have a difference of opinion as to whether a queen lays up to the time of the swarm leaving the hive. I tested it myself by hiving a swarm on dry combs. In twelve hours I found one frame with eggs on both sides in a circle about six inches in diameter. I examined the parent hive on the third day, and there were still eggs unhatched, thus proving the queen must have been laying right through. Again, on November 20th I had a swarm issue from a hive that had a queen hatched late in the fall of the previous year. I opened the brood chamber, finding eight frames of brood and eggs and two frames of honey and pollen. I hived the swarm on nine frames of foundation and one comb that has never contained brood. This was at 3 o'clock, and at 10 o'clock the next morning I examined the comb, and found eggs in an oval extending to within an inch of the top and bottom and within two inches from the end. The queen did not take a holiday, and has since proved a hummer.—I am, &c.,

Paki Paki. H. SHEPHERD.

SOMETHING FOR THE SOLDIERS.

Everyone is anxious to send something, however little, to the soldiers at the front, but the question often arises, What would they like? Send some "N.Z.H.P.A." brand of New Zealand honey, and you will never be wrong. Why? Because honey is not only a luxury; it is a necessary article of diet, especially during the winter months, and the soldiers are asking for it. Because the "N.Z.H.P.A." brand is guaranteed by the New Zealand Government to be absolutely pure, and our soldiers are deserving of the best. Because the "N.Z.H.P.A." brand is put up in a most attractive and convenient package, and if packed with ordinary care is certain to reach its destination in good order. Because it is produced by our own people and sold at a price that brings it within the reach of all.

Any Association is just what its members make it. To meet once a year, pay a few shillings in subscription, appoint a few luckless individuals on committees, and expect them to improve the conditions of the industry without paying them and without thanks, is a poor way to accomplish anything. What we want is more enthusiasm amongst the members.

ORGANISATION.

By W. HOOPER TEED.

As far as the writer is aware there are no text-books bearing exclusively on this subject. It is not an exact science, therefore there are no hard-and-fast rules to go by. Society as a whole is an organism; consequently societies or associations are also organisms on a smaller scale: they cannot be made by drawing up so many rules and regulations; it all depends upon the different materials, human and otherwise, one has to deal with, so that the various parts may be drawn together in order that they may coalesce and become a compact body. You cannot have a head without a body, although the embryologists tell us the brain is the first part to manifest itself. We see, therefore, that unless the various component parts of an association show some sort of vitality it is not going to develop. Except the various members of our association show some interest and give some personal service it will never expand. To give two examples—one positive, the other negative.

The phenomenal success which has attended the Boy Scout movement is no doubt due that it is obligatory that every member shall give personal service, and is encouraged to show some initiative. On the other hand, take the Argentine Republic, where the writer spent some months in 1895, has one of the finest codes of law of any country in the world, but there is no healthy public opinion to back the law up, and chaos reigns.

Let us now examine how civilisation has come about. In the first place, the strongest and most able man takes upon himself to rule those of his tribe who do not come up to him in physical strength or mental calibre. Under his sway surrounding tribes are brought under his influence, and he is eventually recognised as "king," the word in the Anglo-Saxon from which this is derived meaning "the one who knows." As his power gradually extends he takes to himself councillors, to whom he delegates his authority over those who inhabit certain portions of his kingdom, and if he is wise he gives them a pretty free hand. If, however, he tyranises over them, like King John did over the Barons, they will form an association amongst themselves, and the result may not always be favourable to himself. In this case it was the signing of Magna Charta, the foundation-stone of English liberties. All European nations presumably have had their foundations laid in this manner. It is to be feared, however, that some have not yet got much beyond the feudal stage. In the case of the British, however, the spirit of freedom has gradually permeated the lower strata of the State. They in their turn have demanded further liberties, and eventually a Lower House of Parliament has been brought into being. Where this has not been the case the Government has been developed on bureaucratic lines—that is, everything is directed and appointments made from one centre; no office is elective.

Afterwards, in the case of the English, when industries began to be developed, guilds were formed, which are now represented by trade unions. Grouped with these may be Beekeepers Associations, for we are practically in the same category, there being no real difference whether we sell our labour direct to an employer or the same through our product. We are therefore banded together to sell it to our mutual advantage, not necessarily to exploit the public, but that, as the President of the W.B.A. pointed out at the "field day" at Ruakura, we should be entitled to a fair wage for our labour.

As trade unions progressed they found it advantageous to form Trades and Labour Councils. We in our turn have thought it desirable to come to a similar arrangement by forming what we now call the National Beekeepers' Association of New Zealand. The danger, however, is of our developing this on bureaucratic instead of democratic lines. Trades and Labour Councils were formed not that they should dictate to the unions what they should do and what they should not do: they were established as Boards of Advice, in order that for certain purposes the latter should take joint action. They do not pretend to override the decisions of the unions; the latter, however, under certain conditions delegate them the power to act on their behalf. This should be the same as far as the National Association is concerned; it is impossible for an Executive which is not elected direct by the various Beekeepers' Associations to be actually in touch with those whom it is supposed to represent, for they are not fully acquainted with the various local conditions which there prevail. It will be seen, therefore, that if the National Association is to progress and perform its proper functions it must be in closer touch with the Branch Associations, and where these do not exist it will be one of its duties to bring them into being.

Should a solitary beekeeper approach the National Association, it would have a difficulty in dealing with the matter, but should a number of beekeepers, working under like circumstances and who had formed an association amongst themselves, bring their case before the National Association, there would be no difficulty whatever as to the way to proceed.

It has been said now that we have a Honey Producers' Association there is no further use for Beekeepers' Associations. The function of the former, however, is simply for the distribution of our product, and has nothing to do with the conditions under which honey is produced; therefore the latter have still their various duties to perform. The two stand very much in a similar position to one another as do Parliament and the Civil Service: they can never be amalgamated; the two however are complementary the one to the other. In the same way as the Civil Service is under the guidance of Parliament so should the Honey Producers' Association be kept under that of the Beekeepers' Associations, and if they are wise they will do their utmost to act in a friendly manner one towards the other.

Honey Crop Prospects.

The Director of the Horticulture Division has received from the apiary instructors the following reports concerning honey crop prospects:—

Auckland.—Dry weather continues, but honey is coming in freely. There are prospects of fair average yields and considerable quantity of thick honey this year.—G. V. Westbrooke. 3/2/16.

Wellington.—The weather has improved considerably, so prospects are brighter for the beekeeper than formerly. A fair return is predicted from the apiaries in the Wairarapa, Manawatu, and Taranaki Districts, but not so good a return from Hawke's Bay or Gisborne. The quality up to the present is good, and the market conditions are much better than in former years.—F. A. Jacobsen. 8/2/16.

Christchurch.—A slight honey flow followed the recent rain, adding a little to depleted stores. Many beekeepers have already lost a number of stocks from starvation. It has been a most trying season in Canterbury for beekeepers, and there will be very little honey to offer. Owing to the poor season merchants are offering 5d. and 5½d. for choice clover honey.—L. Bowman. 2/2/16.

Dunedin.—Reports to hand from North Otago and South Canterbury point to a disastrous season. Many losses have been experienced, and feeding has ben continued. It is now too late for a second growth of clover, as light frosts will undoubtedly follow the rains. From Dunedin south extracting is in progress, and the returns are exceeding the sanguine expectations of the beekeepers. The luxuriant growth of clover, combined with a warm spell of weather which set in early in January, has brought about an abnormal honey flow. A good crop is assured.—E. A. Earp. 1/2/16.

SUBSCRIPTIONS.

The following subscriptions have been received during the month:—

Messrs. J. B. Armstrong, W. L. Bird, H. Betts, T. Brinkley, F. Butt, A. Cocker, A. Dickensen, J. W. Excell, O. J. Herrick, A. E. Lennard, Jas. Parkinson, J. Sillifant, A. Skey, W. D. White, J. S. Coyne.

HONEY-DEW OR APHIDE HONEY.

APHIDES IN RELATION TO APICULTURE.

By F. A. JACOBSEN, Apiary Instructor.

Many apiculturists have not, to any detailed extent, sought to find the reason for the production of honey-dew. It would, in some countries, be well for apiculture if plants yielded no other nectar than that delivered by their blossoms, but unfortunately a too common occurrence is the bees gathering a very inferior quality honey, the source of which it is proposed to give here. To effectively demonstrate this it is necessary to give a brief survey of reproduction amongst the aphides, or plant lice (Hemiptera).

These are hermaphrodites. The first of these insects to appear in the spring are wingless females, and these give birth to living young without the intervention of the male. These offsprings, which are also wingless, give birth in their turn to living replicas of themselves. This system may be continued through several generations, and is called parthenogenetic reproduction. In the course of time, however, male insects appear, which are generally winged, also fertile females, and the result of sexual intercourse is the production of eggs in place of living young. The eggs are generally deposited through the autumn, and the young insects emerge later in the autumn or in the following spring as wingless females, and commence producing their young. These are called "viviparous," and those which produce eggs "oviparous." These eggs are enormous, and are approximately half the length of the body of the aphis, and can withstand the most intense cold of winter. When first deposited they are pale in colour, but ultimately turn brown or black, and are coated with a sticky fluid which attaches them to twigs. The fecundity of the viviparous aphide is almost incredible, a single unit being capable of reproducing thousands of its kind. The position it first occupies is retained, and the foliage in the vicinity shortly becomes crowded with the wingless progeny, with their sharp sucking beaks embedded in the once luscious leaves, resulting in handicapping the growth, and occasionally killing the plant.

None interested can have failed to have noticed the gum-like substance on various plant foliage, such as the plum, apple, rose and currant, and various other plants and trees. Because thought in ancient times to be a deposition of the atmosphere, this condition was called honey-dew. Kirby and Spence, in their "Introduction to Entomology," say:—"You have doubtless observed what is called the honey-dew upon the maple and other trees, concerning which the learned Roman naturalist, Pliny, gravely hesitates whether he shall call it the sweat of the heavens, the saliva of the stars, or a liquid produced by the purgation of the air. Perhaps you may be aware that it is a secretion of the aphides, whose escrement has the privilege of emulating sugar and honey in sweetness and purity." Cer-

tainly but few would agree to the closing words of these authors. Cheshire says:—"Plants rarely, and probably only in diseased conditions, secrete excessive quantities of sweet liquid, which, oozing from various parts of their surfaces, gives the eager gatherer material that is above suspicion; but ordinary honey-dew is now universally conceded to be the product of the aphis. When the gummed leaves are lifted, they will be found to be infested beneath by colonies of these creatures, some winged and some wingless, and a careful examination will generally show that they are provided with two short tubes called the nectaries, by which they are enabled to eject a sweet fluid."

The tissues of plant leaves contain starch, which is eventually converted into the soluble form of sugar, thus providing an abundance of nourishment to the pests. Darwin, amongst others, has shown that ants literally milk the aphides, and in consequence Linnæus has called the aphides the cows of the ants. The superfluous quantity is voided on the leaves in sticky profusion, especially in warm weather, and is readily gathered by bees. It has an unpleasant odour, and is often very dark in colour, and is more easily removed after a shower of rain.

The "hemiptera," however, have numerous natural enemies, a provision in favour of the plant world.. Foremost amongst these are the various species of (Coccinella) ladybird, the food of which consists almost exclusively of aphides. Other enemies are various kinds of (Diptera) flies, and amongst the smaller kinds of (Hymenoptera) "saw" flies, wasps, &c., are found very useful destroyers of aphides.

It is not generally conceded that honey-dew is produced by the aphides alone, for leaves of certain plants at various seasons of the year exude a saccharine substance, which the bees gather. Honey-dew is, as a rule, not a fit food for bees to winter on, as it is liable in the early spring to start dysentry. Neither is it a fit food for human consumption, and although little is gathered in the Dominion, care should be taken in regard to it.

PREPARING BEES FOR WINTER.

By J. A.

We are apt to forget that the fixing up of the bees for winter is the first step in the new season's work. Not only so, but on it more than on any one thing we do during the season depends our success. I will not touch on the queen question. There are those who advocate using only one or two season queens and systematic re-queening; while others leave that question to the bees, depending on them to supersede all failing queens. I don't know which is best, but I get on best when I leave it to the bees; only, in my last inspection of the brood nests, I am some critical as to the work of the queen, and I pinch those I don't like. I like to fix up for winter as

soon as I get through extracting and all the super combs stored away. My first operation is to go carefully over the colonies and examine every one thoroughly. All diseased colonies are sulphured and their combs extracted and melted down, care being taken to give no chance for infecting others. Any undesirable queens are pinched, and their colonies marked for doubling up. My mark for queenless colonies is to stand the brick which weights the roof on end; to me a brick in such a position is like a danger signal, and I am always uneasy until it is on its flat again. My second operation is to weigh each colony and mark its weight on the hive. This is done by putting the apiary scales on to the wheelbarrow and wheeling in handy to each hive. The cover is removed, and, without disturbing the mat, the brood chamber is lifted on to the scales, when its weight is taken and marked. In order that no smoker may be required, a rather chilly day is chosen for this purpose, when the bees are clustered close enough to give no bother. Some will say that, having just examined the colonies carefully, I should have noted their condition as to stores, and saved this trouble of weighing. My answer is that at best that is only guesswork, and in this matter I want accuracy. It is too important to be satisfied with a guess. Having the weight of each brood chamber marked on it, I know definitely what I am doing, and nothing less than that should satisfy any beekeeper. I now fix on a minimum weight, and with me that minimum weight is getting higher every year since I began this system of weighing. I want every brood chamber to reach to or exceed 50 lbs.; allowing as tare 20 lbs. for the brood chamber itself and ten empty combs, that means 30 lbs. nett for the contents of the combs and the bees. I want most of them to be a few pounds heavier than that, and none lighter. In practice there are a few reach as high as 65 lbs., and at one time I would have taken an outside comb from such a colony to help a more needy brother, but I don't do so now. It is not good policy; better leave it as it is. Those under weight will extend all the way from 25 lbs. to 49 lbs. There are two ways to deal with these: one is to feed up to the necessary weight; the other is to double up. The latter is the plan I adopt. I put the lightest on to the heaviest, the second lightest on to the second heaviest, and so on until they are all united. The uniting is done by simply removing cover and mat of the one colony and placing the other on top of it and covering up snugly. This method is both simple and reliable. The bees will destroy the queen they don't want, and the other will mother the double colony. Should the beekeeper have a preference in the queens, it would be better for him to destroy the other one, but otherwise it can be safely left to the bees. It will be found that colonies fixed up in this way will come out about the 1st of September about 16 lbs. to 18 lbs. lighter than they were in the autumn, so that those at 30 lbs. nett will only have from 12 lbs. to 14 lbs. left. In my location where nectar is available every warm day right through spring and summer that is usually enough. In a purely clover district it is not quite satisfactory, and some feeding would probably be required.

GRADING RULES FOR SECTION HONEY.

Considerable advance in the value of sections will follow a systematic and careful grading, and we suggest that beekeepers should obesrve the following rules:—

Sections should be removed from the super just as soon as they are capped over, in order to get them nice, clean and bright. When ready for shipment, sort them out into three different grades.

Special Sections.—To be well filled, combs firmly attached to all sides, and evenly capped, except the outside row next to the wood. The comb and cappings should be white, and should not project beyond the wood. The sections to be well scraped, and should weigh not less than 14 ozs. gross.

Prime Sections.—To be well filled, combs firmly attached, not projecting beyond the wood, and to be good sections, although not so well finished as those in special grade.

Good Sections.—To be composed of sections picked out from the two other grades.

The front row in each case to be a true representative of the contents of the case.

Most growers in the past have packed all grades of sections in the same case, consequently the price obtained has been governed by the lowest grade of sections in the consignment.

The wholesale prices should not be less than:—Special sections, 8/6 per dozen; prime sections, 8/- per dozen; good sections, 7/- per dozen.

Send us some ideas. You may do the other fellow some good and benefit yourself by the exchange of experiences. Do not say you cannot write; it is the ideas which count.

N.Z. CO-OPERATIVE HONEY PRODUCERS' ASSOCIATION.

The N.Z. Co-operative Honey Producers' Association offers the solution of the honey marketing problem. Beekeepers will be studying their present and future interests by taking up shares now. The secretary's address is Mr. F. C. Baines. Hawera.

Applications are invited from BEEKEEPERS ONLY for SHARES in this important enterprise.

NEW ZEALAND CO-OPERATIVE HONEY PRODUCERS' ASSOCIATION,

LIMITED.

CAPITAL - - £3,000

This Association is a **Co-operative Organisation,** established for the purpose of marketing the honey product of the Dominion solely in the interests of producers.

It has taken over from the National Beekeepers' Association an offer received by it from the Bristol and Dominions Producers' Association, Ltd., and has made a firm contract with the latter Association for the delivery of **not less than One Hundred Tons nor more than Five Hundred Tons per annum** of High-grade Honey, for a term of three years, on a fixed guarantee of a return of **4d. per lb.** The price is nett for Honey delivered f.o.b. at main ports, less packing expenses and 5 per cent. commission. The Producers' Association, while guaranteeing a return of **4d. per lb.,** also undertake to pay as much larger a sum as possible, the impression being that up to **5d. per lb.** will be forthcoming.

The experience of honey producers in the past throughout New Zealand, as far as export to Great Britain is concerned, is that the results have not been particularly satisfactory. The honey has been dumped on to the Home market, and handled in the rough-and-ready style generally accorded to overseas consignments. Under the contract above referred to, the Bristol Association receive the honey in bulk at their warehouse in Bristol, where provision will be made for its bottling and packing in such a way as will meet the requirements of the retail market in Great Britain. It will be sold bearing a uniform and attractive label, and with a continuous supply of a standard quality, it will doubtless command top prices. In this way the honey producers of New Zealand will receive the bulk of the profit instead of the middleman, as heretofore.

The New Zealand Co-operative Honey Producers' Association, Ltd., have now before them the task of raising this large quantity of honey, and invite the co-operation of the beekeepers throughout the Dominion in taking full advantage of the splendid terms which are now before them.

In order to deal with the proposition in a business-like way, the honey will only be received from members of the Association, every one of whom will be required to undertake the supply of a certain minimum quantity of honey per annum for three years. Shares will be allotted in accordance with the average quantity of honey to be supplied by each producer in the proportion of **one Share for every 4 hundredweight of Honey delivered.** The value of the Shares is £2 each. No deposit or other payment is required, as the deduction of **one-eighth of a penny per lb.** on the returns received from each shareholder's honey will be applied to the payment of the shares until such time as the shares are fully paid up, when no further deduction will be made, and honey may then be shipped by the producer in any qunatity free of share deduction.

As it is anticipated that the shares will be fully applied for, it has been decided to give preference to applications from members of the National Beekeepers' Association. Those who are not yet members of this Organisation should become so without delay, and thus secure preference in their application for shares in the above Company.

An application form for shares will be posted on receipt of request by any of the following:—

Mr. H. W. GILLING, Chairman of Directors N.Z. Co-op. Honey Producers' Association, Ltd., Matapu, Taranaki.

Mr. F. C. BAINES, Secretary N.Z. Co-op. Honey Producers' Association, Ltd., Normanby, Taranaki.

Mr. R. W. BRICKELL, Secretary National Beekeepers' Association of N.Z., P.O. Box 572, Dunedin.

And the Secretaries of all the District Associations

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