THE NEW ZEALAND BEEKEEPER

OFFICIAL ORGAN of the
NATIONAL BEEKEEPERS' ASSOCIATION
OF NEW ZEALAND

(An Organisation for the advancement of the Beekeeping Industry in New Zealand)

Better Beekeeping | Better Marketing

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SPECIAL CANTERBURY MEETING.

NEW MARKETING SCHEME.

At Timaru, on November 30, 1940, the Chairman of the Honey Control Board, Mr. W. W. Nelson, addressed a largely attended meeting of honey producers at the invitation of the Canterbury Branch, which was responsible for calling the meeting.

At the previous meeting of the branch, a motion expressing want of confidence in Mr. Nelson had been moved, but an amendment had been adopted that Mr. Nelson should be invited to address a meeting of producers. At Mr. Nelson's request, an invitation had been extended to producers generally, and visitors from North and Central Otago were present. Mr. W. B. Frampton presided over a total attendance of 43 beekeepers.

Mr. Nelson gave a lengthy address and answered many questions. At the conclusion, Mr. A. McArthur moved and Mr. D. G. Hamilton seconded, "That this meeting of honey producers thank Mr. Nelson for his address and convey to the Hon. Minister of Marketing our expression of confidence in the Honey Control Board; we also place on record our appreciation of the past services of the Board and our endorsement of the marketing proposals explained to the meeting by Mr. Nelson, as Chairman of the Honey Control Board."

Mr. W. B. Bray moved as an amendment that all that part of the resolution after the thanks for the address be deleted. The amendment was carried and adopted as the motion and carried.

Mr. McArthur then moved the balance of his original motion and Mr. Bray moved an amendment confining the motion to a vote of confidence in Mr. Nelson. After some discussion, Mr. McArthur accepted the amendment, moving as follows:—

"That this meeting of honey producers express our confidence in Mr. Nelson as Chairman of the Honey Control Board and that expression be conveyed to the Hon. Mr. Nash."

The resolution was carried by 14 votes to 12. Some objections were raised to unregistered beekeepers having voted, but no action was taken.

On the motion of Mr. Bray, the meeting adopted by 17 votes to 4:—"That this representative meeting of honey producers demands that if the Internal Marketing Division is to continue the marketing of honey, any proposals for the fixation of prices or the control of any particular marketing area should be abandoned in favour of the application of a subsidy to reduce prices to the consumer as has been done in the case of coal, sugar, bread, fertilizers, etc."

"That this representative meeting of South Island honey producers, while being sympathetic and anxious to co-operate in the Government's war effort, ask the Minister of Marketing to reconsider his decision in appointing the present Board for the duration of the war, as the Board is now called upon to perform functions other than those for which it was elected," was a further resolution adopted by the meeting on the motion of Messrs. E. G. Woods, Rangiora, and T. F. Penrose, Southbridge. The vote was almost unanimous.

Mr. W. Watson, Geraldine, moved and Mr. Bray seconded:—"That it be a recommendation to the Internal Marketing Division that the accumulated funds, apart from the Seal monies, should be paid out to the suppliers." The motion was carried.

MEETING AT GORE.

Approximately eighteen beekeepers from Southland and Otago attended a meeting convened by the Dominion Vice-President of the Association, Mr. L. K. Griffin, to hear an address by the Chairman of the Honey Control Board, Mr. W. W. Nelson, at Gore on December 2, 1940.

Mr. Nelson outlined the work of the Board, mentioning instances when its influence had been of value to the industry. A suggestion had been made that the continued existence of the Board was no longer necessary, but he considered that it would be unwise to lose a voice in the running of the industry. In the event beekeepers had complaints or recommendations and the Board were notified, it would place them before the Government.

At the last Annual Conference of the Association, a resolution had been passed approving the granting to the Internal Marketing Division of sole selling rights in proclaimed areas. This has been adopted by a big majority, but it was now claimed in some quarters that the measure had been rushed through, which was not so, as the proposal had been brought forward early in the Conference and had been discussed while a representative of the Division was present.

Mr. Nelson was disturbed that a number of beekeepers were not in agreement with the proposal and he wanted beekeepers present to endorse the proposal or to reject it. If they rejected it, he wanted them to give him some better scheme. It had been with a view to getting away from chaotic marketing conditions that the resolution had been adopted in Wellington.

The Government might make the four main centres Proclaimed Areas, but it would not take in the whole of the Dominion as that would entail the acceptance of all classes of honey, good and bad, which the Marketing Division did not want.

At the request of the industry, a new depot was being established at Auckland. This was very necessary and the new plant would handle three times the present volume of honey at less cost.

Several beekeepers present expressed approval of the scheme, stating their view that the proposal would benefit the industry as a whole. There was some opposition, however, and, after considerable discussion, the following resolution was adopted by twelve votes to six:—

"That this meeting endorse the proposal as agreed to at the Annual Conference of the Association—that the Marketing Division take over sole selling rights in prescribed areas."

The composition of the reserve funds in the hands of the Marketing Division was explained by Mr. Nelson. Differences of opinion regarding the correct disposal of the Seal Levy revenue existed, he said, but the fact remained that, irrespective of original intentions with regard to this revenue, it would be foolish to dissipate it in a manner now found to be unnecessary.

A unanimous resolution was adopted by the meeting:—

"That we request the Chairman of the Honey Control Board to make representations to the Marketing Division in favour of paying out that sum appearing under the heading of General Reserves."

A motion that the meeting record a vote of confidence in the personnel and policy of the Honey Control Board was also carried without dissent.

The Gore Branch was accorded a vote of thanks for providing afternoon tea.

CORRESPONDENCE.

(To the Editor.)

Sir,—I hope that you will have full reports of Mr. Nelson's meetings with beekeepers throughout N.Z., on the subject of the new marketing proposals. Mr. Nelson deserves our thanks for presenting the case for his Board in an able way. One is aware, of course, that the necessity for holding meetings was indicated by a lack of understanding of the scheme and also by a definite opposition to elements in it.

Mr. Nelson must have been gratified by the support he received at Gore, although the motion favouring the marketing scheme was carried only by twelve votes to six.

We were informed by Mr. Nelson that the opposition at Timaru was more definite and it appeared that the South Island beekeepers were in general opposed to the scheme, in which case, as the North Island was almost unanimously in favour of the scheme, the best plan might be to recommend that the scheme be applied in the North but not in the South.

This may be good campaigning, but it will prove a divisive influence in the industry. There is still time to negotiate in order to have a scheme that meets the needs of the whole of the industry. It is the duty of both the Marketing Division and the Honey Control Board to hear and examine any objections before any recommendations are made or before the scheme is launched. Mr. Nelson stated that the scheme would not apply to this season's honey, so that there is ample time for Branches to go into the matter before next Conference.

Here are some points I should like brought up:—

Have we a guarantee that the profits made from this scheme will be returned to producers? One expects the Marketing Division to be recouped for its standing and operational charges, but what about the thousands of pounds of profit that can be made from a well-planned and operated control scheme? Mr. Nelson assured the Gore meeting that he would not be in favour of the scheme unless profits were returned to the producers. But when? Last Conference, in its wisdom, decided against a Price Control scheme. There are, of course, no thousands to be made for the Marketing Division in that line. Only the beekeepers who packed would get the benefit.

I hope Branches will protest vigorously until we get satisfaction in the matter of Honey Control Board elections. So far, the only answer we have received from the Government to a Conference motion on the matter has been a gratuitous insult by failure to hold the postal election at the usual time.

The strength of our Association is greater than we appear to realize. We only weaken our position by approving the control scheme before adequate safeguards are provided. The scheme has a great deal to commend it, but it will bear further examination. The Government will watch the interests of the Division and the consumer, but it is the duty of our Association to see that the interests of the producers are protected. There is still time to see that these things are done by the time of next Conference.

Yours, etc.,

WILFRID J. LENNON.

Omakau, Central Otago,
January 4, 1941.

Read "The Scottish Beekeeper," Official Organ of the Scottish Beekeepers' Association. Published monthly, 3/- per annum. 186 Forest Avenue, Aberdeen, Scotland.

INTERNAL MARKETING DIVISION
(HONEY SECTION)

Within a few months, the Honey Section will be removing into new premises. These premises will be fitted with the most up-to-date equipment for handling and packing honey. Producers can now be assured that, this provision having been made for handling their product, the organization for marketing honey has come to stay. Producers have frequently stated that they were keeping up the packing part of their businesses until they could have some guarantee that a Marketing Organization that could handle their honey to the best advantage was permanently established. They can accept with confidence that this time has now come.

The establishment of the new premises and plant creates an obligation to carry on and the legislation governing the Marketing Division provides for this being done. The provision of this new equipment and premises will be added to a marketing organization that is already fully established. This organization is successfully covering the local and overseas markets; is in a position to expend the sales of honey to the furtherest possible limit and obtain the best return that the markets will provide. With this position established, producers should now review their operations and give earnest consideration to the suggestion that their best interests lie in reducing their packing to purely local requirements and sending the bulk of their honey to the Honey Section.

The results obtained by those who are already supplying the whole of their honey makes it appear very doubtful that the remuneration obtained by producers packing in retail packages is even as good, instead of better, than those supplying the whole of their honey to the Division. Apart from direct profits earned, the "whole production" supplier has all the time and thought, given by the packer to his packing and selling business, to give to the production aspect of his business and, also, instead of being constantly on the job all the off season, can take a well-earned holiday after a strenuous production season.

The advantages to the retail packer, if weighed in the balance, would probably be found wanting. Account has to be taken of all the costs, time, extra premises required, work and loss of production. Our packing costs are already low and will be further reduced in the new premises. We know where honey will sell to the best advantage and the cost of one seller should be less than the aggregate cost of many sellers.

It is, and necessarily must be, the policy of the Marketing Division to see that its suppliers obtain at least as much for their honey as can be obtained by producers running an extended packing and selling business. Last season, 5d. per lb., pro rata, according to grade, was paid after the honey was graded; two interim payments have been made bringing the total payout to 6¼d. per lb., and it is expected that a further substantial payment will be made after the close of the financial year on March 31.

Early supplies are urgently required. We have no stocks left here and London stocks are very low. We require honey for the Red Cross and military requirements, and we trust that suppliers will do their best to let us have honey as soon as possible. The advance payment in 1941 honey will be the same as last season, 5d. per lb., pro rata.

STRAINING.

The decrease of viscosity of honey when heated to 105 deg. is rapid. Between 105 and 110 deg. there is a slight decrease, but from 110 to 120 deg. the decrease is hardly perceptible. It is therefore apparent that there is no advantage in heating honey much above 105 deg. Fahr., for the purpose of reducing viscosity when straining, while there is a definite risk of deterioration in quality through overheating when higher temperatures are used.

CRITICAL TIME FOR INDUSTRY.

CROP AND MARKETING PROSPECTS.

By G. S. Kirker, General Secretary.

The Department of Agriculture's information was that, at the end of December, crop prospects were as follows:—

Northland and Auckland—average or more.
Waikato—average.
Hawke's Bay, Poverty Bay and Wairarapa—probably a record crop.
Wellington and Taranaki—above normal.
Canterbury—average or better.
Otago and Southland—fair to average, except in North Otago, which might not reach fair.

In short, it appears that the Dominion is in for a season of heavy production at a time when, on the present outlook, it is very uncertain that shipping can be secured for a continuance of honey sales to London.

All London freight is now controlled by the British Government, which specifies the goods required, so that what is most urgently needed in Britain secures preference over honey.

It is believed that exports will commence again and pessimism is not therefore justified. No efforts have been spared to convince the proper authorities of the necessity of export trade to the industry and the United Kingdom Government is not unaware of the food value of honey to consumers, and it is hoped that the resumption of shipments will result.

The marketing of honey will need, however, to be watched carefully during the next few months. If export should entirely cease, it may not prove possible to maintain the market at current levels. Beekeepers can assist in price maintenance by giving close consideration to the manner in which they dispose of their produce.

Beekeepers should remember that vested interests are against co-operative effort, which spoils their game of "farming the producer." They like setting one producer's figure against another's before closing a deal with either, and so prices are forced down; but the largest possible profit is taken by the merchant who is not, however, averse to a little price-cutting on his own to take a quick profit or to "get in on" a competitor.

No one in his senses these days expects the dairy farmer to process his milk into cheese and then sell it. Dairy products are handled by three sets of specialists: the producer, who devotes all his effort to producing the maximum in quantity and quality; the factory which processes the raw product; and the third set of specialists which takes over and markets the processed article.

Is it too much to hope that the honey industry is also growing up? Surely not. Beekeepers produce honey and should be content to specialize in that alone. The Honey Section has a depot in Auckland staffed and equipped to process, blend and pack honey to suit all available markets, while the Marketing Division is an organization which has, and uses, special facilities in the disposal of the packed article.

Beekeepers will be well-advised to give full consideration to the points made by the Marketing Division in notes published this month, and also to the comments of the Chairman of the Honey Control Board. It is the writer's firm opinion that the steps which are suggested are in the best interests of the industry as a whole and that many of the misgivings felt by producers in relation to the scheme have been occasioned purely by the methods which have been used to bring it before them.

Unfortunately, the Government failed to heed in time the urgent representations of the Honey Control Board and, indeed, of its own officers, so that the new packing premises are not available to handle all of this season's production. Since the phy-

sical limitations of the existing facilities prevent the rapid handling of a very large volume of honey, the proposed "proclaimed areas," covering the main centres, are not being taken in hand this season, but this disability will disappear after the taking over of the new up-to-date depot by the Honey Section next winter.

The continuance of present conditions over another season leaves dangerously wide open the door to market-breaking by irresponsible producers who persist in the practice of price-cutting. If this year's production comes up to expectations and exports are discontinued, or even restricted, glut conditions will have arrived with a vengeance and the price-cutting serpent is bound to rear its head. There is only one way to avoid such a thing. The Marketing Division MUST be enabled to remove the surplus from the market and only the producers themselves can enable the Division to do this—by sending their honey in to the Honey Section.

Even with a vast amount of honey held in bulk, the Marketing Division is capable of disposing of it entirely within the Dominion by creating a market through systematic advertising and then feeding the market to meet the demand. The danger at present is that the market will become satiated through independent competitive selling and the Division will then be forced to take special steps to unload part of the surplus on a falling market later in the year.

However, there is a bright side, for, unlike fruit for instance, honey will keep and what is not sold this year can be next, or even the year after. Here again, producers can assist materially by ensuring that only fully-ripened honey is extracted and by observing scrupulous cleanliness in the honey house—two factors which eliminate yeast germs and so avoid honey which is liable to ferment under certain storage conditions.

Should exports be temporarily entirely suspended, we shall probably, at the conclusion of the war, have to begin again building up the prestige of New Zealand honey on the British market, but such an eventuality is already partly cared for by reason of the fact that the Marketing Division has in hand a fairly substantial sum of unexpended advertising as, in recent years, sales have been possible without the expenditure of the full amount of the levy made for such purpose on all honey exported. Recent years, however, have not yielded very large surpluses for export, which accounts for this position, so, while it is regrettable that we might be forced to remain "out" of the London market for a period, the future is not too black. But the present might be critical.

If beekeepers are in for worse times, those times may well be of their own making, for it has been said, "He who always sells for a penny less, eventually is penniless." **Don't** cut prices. **Do** support the Marketing Division.

Matters such as the democratic representation of the producers' interests in marketing matters, the recognition of the Association as the democratically organized voice of the industry, the expenditure of public moneys in the interests of the industry on a democratic basis, and the curbing of autocratic or bureaucratic tendencies, should they appear, are vitally important and must never be overlooked; but it would be a mistake to permit such matters to overshadow the greater factor—the ultimate welfare of the entire industry, the basis of which is sound, organized marketing.

From Jay Smith comes an interesting story of an attempt to mate queens on an island off the Florida coast. In order to determine whether there were drones within flying range young queens but no drones were taken there. No bees were kept on the island which is two miles off shore. Whether drones from the mainland visited the island or whether the young queens flew across the channel, four of the six young queens were mated and returned to their hives safely. Now he proposes to try again on another island six miles out. There has long been discussion of the distance necessary to secure an isolated mating station but nobody seems to know for sure.

("American Bee Journal.")

APIARY NOTES.

HONEY FLAVOURS.

Honey flavours are quite unlike that of any other food. The nectar obtained by the bees from each flower carries with it individuality in the form of colour, flavour, and aroma, and great care must be taken not to impair these qualities. It is necessary for bee-keepers to exercise great care when handling a crop of honey, as it may be spoiled in many ways, such as by the use of unclean utensils, the excessive use of strong-smelling fumigants to protect bee combs in storage against wax moth, especially if the combs are damp or during humid weather conditions, and also by burning materials in the smoker that give off a strong odour, or excessive smoking of the bees and combs while the crop is being removed.

Although honey packing in New Zealand is usually carried out reasonably well, there is still room for improvement, to ensure that all honey of good quality is offered for sale in good condition. It is sometimes noticed that honey apparently in good condition at the time of grading tends to sour and ferment after a few months storage, especially in warm weather. There is no doubt that such honey has been contaminated in some way during extracting and packing operations, or has been gathered by the bees under unfavourable conditions and/or later stored by the bee-keeper under unfavourable conditions.

CLEAN UTENSILS.

Examinations made by Lockhead (Division of Bacteriology, Ottawa) of the interior of tanks and pipe lines clearly showed that they may represent more or less serious sources of infection. Further investigations showed that honey-fermenting yeasts are present in the field flowers, apiary soil, and to a certain degree the honey in the hives. It therefore becomes important to keep all utensils as clean and sterile as possible; especially should the wash bucket be emptied and washed clean of every trace of honey each day. Also, the floor mops should be attended to, otherwise they soon sour and become a source of active infection.

FERMENTATION.

Yeast bodies which cause fermentation float in the air; therefore, they are actually present in a viable or living condition in unheated honey. Scientific investigators have shown that these yeasts are unable to grow and multiply in well-ripened liquid honey because of the heavy concentration of sugars which prevent their growth, but when the honey granulates there is a partial separation of the sugars and water, which gives a reduced sugar concentration in certain portions of the honey, in which the yeasts may grow in temperatures above 55deg. F.

Honey may be spoiled by added moisture absorbed while the honey is exposed to a damp atmosphere or accidentally introduced by the bee-keeper during extracting operations. This condition is revealed by the thin light body in either the liquid or granulated form.

Honey will ferment more readily in a soft or semi-granulated state if such condition is a permanent feature. This condition can be brought about either by added moisture, excessive air bubbles, or by stirring when the honey has already begun to granulate.

No honey should be removed to the honey house at the height of the honey flow before it is capped over by the bees, and at other times unless it is fully two-thirds capped over. If this rule is not adhered to there is a danger of taking honey from the hives from which the normal amount of moisture has not been removed by the bees.

AIR BUBBLES.

While it is important for bee-keepers to give greater attention to straining and clarifying, it is also important to see that correct methods are used. In some districts during hot mid-summer weather it may be found necessary to strain freshly-extracted honey.

Warm temperatures may render the honey sufficiently mobile to allow all impurities to rise to the surface to be removed in the ordinary way, but normally it is necessary to strain all honey thoroughly before packing. This is best accomplished as the honey enters the holding tanks.

As honey passes through a strainer it is broken up into thin streams or threads. These thin streams become tiny drops shortly after leaving the strainer, especially if the honey has not been warmed, and, if allowed to fall a great distance, will cause air bubbles to be incorporated in the honey. According to the nature of the honey, these air bubbles are not always released. They invariably carry contamination, which later becomes apparent in stored honey.

The remedy is to baffle the honey as it leaves the strainer. Instead of allowing it to continue its course direct to the surface below, it should be caught by a metal plate or board placed close up and directly beneath the strainer. In this way the honey is diverted to the side of the tank and allowed to flow gently down, thus avoiding the admittance of air. These precautions are necessary where honey has to be kept in storage for long periods because of the time-lag between production and consumption of the total crop.

—T. S. WINTER,
Senior Apiary Instructor, Wellington.
"Journal of Agriculture."

WINTERING

Orthodox.

There are three main essentials for the safe wintering of bees:

(1) A large force of young bees.
(2) A liberal supply of good food.
(3) Adequate protection from cold and changeable weather.

Failure to provide any one of these is to nullify the benefits of the other. To secure a large force of young bees, the colony should be headed by a prolific queen during the autumn months.

As it is far better to find living colonies with a surplus of food in the spring than it is to find them dead of starvation, the winter's food supply should be a liberal one. No colony should be put into the winter with less than 40 pounds of food, not including the pollen, which also is essential. The winter's food should consist either of honey or syrup made by dissolving two parts of granulated sugar in one of water. If the latter is used, it must be remembered that six pounds of sugar made into syrup only furnishes about five and one-half pounds of stored honey. A good windbreak is an important factor in protection of hives at all times.

Queenless colonies are never worth carrying through the winter and should be united to colonies of medium strength by the newspaper method. To do this, simply remove the cover of the queen-right colony, place a single sheet of newspaper over and then lift the queenless colony off its bottomboard and transfer it to above the newspaper. The bees gnaw through the paper and thus allow for gradual and safe uniting of the bees.

Weak colonies covering only two to four frames should be united to colonies of medium strength using the newspaper method. Practical tests have shown that 75 to 85 per cent. of the queens in the upper hive body survive when uniting colonies. This would mean that in cases where the weak colony possessed an old or inferior queen, the beekeeper should remove her to ensure survival of the desirable queen located in the lower storey.

A colony to which a queenless or weak colony has been united should be checked in seven to eight days. It is extremely important in cold districts especially, and commonsense in warmer climates to ensure that abundance of stores are located in the correct place in the hive. As the cluster moves upwards during the winter months, there should always be enough honey to ensure an adequate supply above it. If, therefore, the upper super contains 40 pounds of food, it can be left and the hive wintered as a 2-storey colony. Should the upper super be light in honey, it should be removed, or the position of the two hive bodies reversed so that the honey will be in the upper.

Unorthodox.

The foregoing is the orthodox method of wintering bees and should

be adhered to by amateurs, but some beekeepers might care to experiment with a method which has been used successfully in Taranaki for a number of years. A caution is sounded, however, as what proves satisfactory in the New Plymouth climate might be quite unsuitable elsewhere in the Dominion.

The method is to cut the hives down to nuclei strength and winter on two frames of honey, commencing spring feeding about August 1. The hives are prepared for the winter about the end of March or during April when, **in this district**, there is practically no brood. The bees are shaken off all except six frames which would include any brood there may be, plus pollen and the equivalent of two solid frames of honey which may, however, be distributed throughout the six frames.

There are, of course, far more than sufficient bees to cover the six frames, but they are shaken into the hive regardless. A good mat is placed over the frames and allowed to hang down over the outside frame to act much as a division board. In theory, the stronger, younger bees together with the queen, take possession of the frames and the remainder of the hive population is left to cluster where it can—usually to the hive cover outside the mat in the vacant space left by the three or four frames which have been removed from the brood chamber. The bees in the outside cluster often make a small burr comb which is found when the hive is opened in the following spring, but, by that time, there are no bees to use it.

About August 1, the hives are visited and given their first feed—one frame of honey, which is placed between the fifth and sixth frames then in the hive, i.e., not in an outside position which would cause too much activity through the bees transferring the honey nearer the centre of the cluster and not in the centre of the cluster as that would chill the bees and any brood they might be rearing at that time. If the cluster has become fairly small, the food frame can be placed one place nearer the cluster, between the fourth and fifth frames for instance, the idea being to have it just touching the cluster without breaking it.

The food given during the first week in August will last one month and a further feed should be given about the first week in September. This lasts three or four weeks, so that a further visit is required about the end of September or early October. By this time, the hives have begun to show more activity, food consumption speeds up and the position must be closely watched until about the middle of November, by which time there is usually a nectar supply available and sufficient field bees to gather it.

Beekeepers using this method claim that it is an economy in stores and that the hives do not build up too rapidly and so induce excessive swarming before the main honey flow has begun as would be the case if the food chamber method of wintering were used.

The six frames on which the bees are wintered should, of course, be placed on the warmest side of the hive and, since hives are usually located so as to face north or north-east, the west side of the brood-chamber is the warmer.

—G. S. Kirker, Pungarehu, Taranaki.

LORD, BLESS THOU THE BEES!

"They teach us Diligence, Economy and Order;
With Wax they serve the Altars of Churches;
Their Honey provides Food, Drink and medicine;
Their Lives are sacrificed to restore Infirmities."

BEEKEEPING IN AUSTRALIA

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West Maitland, N.S.W.,
Australia.

N.Z. HONEY CONTROL BOARD

There appears every indication this season of a honey crop well above normal and we may find that the pendulum of production will swing from a season of comparative shortage to one of abundance.

It is surely evident that if stabilised marketing and a payable price to the producer is to be maintained in a glut season, then the powers of the Internal Marketing Division must be extended to exercise a greater degree of control of marketing than is being applied at the present time. Beekeepers' past experience with their own marketing organizations is enough to convince them of the futility of expecting any producers' organization successfully to face up to competitive selling from individual producers and proprietary owned selling units. This problem was fully discussed at the last annual conference of the National Beekeepers' Association, and a resolution was passed indicating the procedure the conference desired to have applied.

The Government, so far, has not been prepared to take any action, mainly owing to the fact that the building now under construction for the Internal Marketing Division will not be available until about June of this year. Meantime the Division must make the best of the existing inadequate space and plant at its disposal. Unless the position becomes acute, it seems improbable that any change in the present selling regulations will be made before the beekeepers meet again in conference.

In view of the serious problems of marketing and transportation created by the war situation, our position on the export market may become increasingly difficult with the passing months, and we must therefore be prepared to take into account the possibility of having to look to our local market to absorb practically the whole of our production.

Fortunately, we have reason to believe that consumption of honey can be very greatly increased in the Dominion. It will be the responsibility of the Marketing Division to attend to this, but it is obvious that, should our exports be restricted, there will be added difficulties in the way of maintaining marketing stability at a level that will return a payable price to the producers.

The Honey Control Board feels that the Marketing Division should be placed in a position to cope with any situation that might arise from either restricted exports or glut seasons, and, with that thought in mind, the Board fully supports the proposal put forward by the Beekeepers' Association in favour of granting the Marketing Division sole selling rights in certain "Proclaimed Areas." It should perhaps be explained that one or all of the four main centres may be included, but that it is not intended to cover areas outside the main centres.

WALLACE NELSON,
Chairman,
N.Z. Honey Control Board.

HONEYMOONS.

It was long before we had calendars that the term "Honey-Moon" originated from an ancient custom—the serving of honey by newlyweds to all guests who visited them during the period of one moon. Honey was prized highly in those days (long before the first sugar refinery) because it was the only known sweet with the exception of the sugar in fruit juices.

CHUTNEY WITH HONEY.

Four pounds of tomatoes, two pounds of sultanas, one pound of dates, one pound of apples, one large onion, one pound of honey, half a teaspoon of ground cloves, one tablespoonful of salt, the juice of two lemons, and half a cup of vinegar. Peel and cut up the tomatoes, apples and onions. Put all together and boil for two hours.

ROTORUA FIELD DAY.

Under the auspices of the Department of Agriculture, a very successful Field Day was held at the apiary of Mr. H. Geddes, Koutu, on December 21.

Mr. C. R. Paterson, Apiary Instructor for the Waikato and South Auckland district, in opening the proceedings, mentioned that he understood that this was the first function of the kind that had been held at Rotorua, and he hoped that the programme to be carried out would prove to be interesting and instructive to those present. The main provisions of the Apiaries Act were fully explained, Mr. Paterson specially emphasizing the necessity for apiaries being registered even if they contained only one hive, and that permits must be obtained before bees or equipment were sold or removed to another site.

The method of assembling frames, wiring and embedding foundation by means of electricity created much interest. Mr. Paterson demonstrated the correct method of opening up a hive of bees and explained the economy of the hive and the means of detecting disease in its early stages. No stings were recorded by any of the many onlookers as the bees were sufficiently occupied in working the surrounding white clover.

Afternoon tea was supplied by the hostess for the day, Mrs. H. Geddes, and was much appreciated. Mr. Geddes demonstrated the method used by him in his honey house for the extraction of honey from the combs. For removing the cappings from the honeycombs, the steam-heated knife, an electric knife and a Resedale uncapper were all shown in work.

Concluding the demonstrations, Mr. Paterson showed methods to adopt in improving the quality of honey before being packed for the market.

Mr. J. Banks moved hearty votes of thanks to Mr. and Mrs. Geddes for their hospitality, and to Mr. Paterson, and the hope was expressed that similar functions would be held in the future, the sentiments being endorsed by all present.

In the evening, Mr. Paterson gave an interesting lantern lecture on beekeeping topics, concluding with a series of slides depicting aspects of beekeeping and scenery on the West Coast of the South Island. Mr. C. D. Johnson moved a vote of thanks to the lecturer and Mr. Paterson especially thanked Mr. Geddes for the use of his honey house and plant and for the help he had rendered.

APIARIST'S LORRY ABLAZE.

The driver of an apiarist's lorry belonging to Mr. J. Walworth, of Palmerston North, received a surprise in Pahiatua when he was stopped and told that his load of sugar, sacking, a collection of beehive sections and combs, and a smoker was on fire. It was thought that the fire originated in the smoker, but it was not known how long the material had been alight. The whole of the lorry tray and its contents was blackened or charred, as were also the top and back of the lorry cab. The outbreak was suppressed after the lorry had been driven to the fire station.

TOMATO SAUCE WITHOUT VINEGAR.

Ten pounds of tomatoes, one pound of honey, quarter of a pound of salt, one ounce of cloves, the juice of eight or nine lemons, one ounce of allspice, three fair-sized onions, and one pound of apples.

Cut the apples up in pieces without peeling. Peel the onions, and cut into blocks, then add the rest of the ingredients. Boil for two hours, then rub through a fine strainer. Boil up again, and put into clean, hot bottles. Cork tightly, and run wax round the cork. Keep in a cool place.

NOTES FROM A HAWKE'S BAY BEEKEEPER'S DIARY.

Octobed 5th: The day dawned dull and cloudy with heavy rain in Hastings, Havelock and Napier. However, by 11 a.m. the sun had chased the rain away, and by 2 p.m. conditions had so improved that almost a record number of beekeepers turned up at Mr. L. H. Maultsaid's apiary, Irongate, Hastings, for the first field day of the season.

After the President, Mr. A. Lowe, had delivered his opening address in his usual breezy style, Mr. G. V. Westbrooke, Apiary Instructor demonstrated the treatment of American Foul Brood.

Supering up for the honey flow and the control of swarming were dealt with by Mr. Ashcroft Jnr., while Mr. Ashcroft Snr. demonstrated the making of apiary equipment.

After Mrs. Maultsaid had served afternoon tea, Miss D. M. Dalgliesh gave a talk on queen raising, and later Mr. J. N. Walker displayed frames and supers of his own manufacture.

A pleasant afternoon was brought to a close with a hearty vote of thanks to the host and hostess for their hospitality.

November 9th: For some weeks beekeepers had been looking forward to attending a field day in Napier on this date, and they were rather disappointed when rain fell in the morning and some parts of the district were flooded. Our President and his sons had been working for days to drain their orchard and protect the trees from flood waters which seeped through from the old Ngaruroro river bed. By noon the sun was shining, and by the time Hastings members arrived at Mr. G. F. R. Gordon's apiary, in a sheltered valley in the Napier hills, the conditions were quite favourable for practical demonstrations. In addition to his Napier apiaries, Mr. Gordon recently purchased the "Selma" apiaries from Mr. H. Shepherd, the well-known veteran Hastings beekeeper.

After the President's opening address, Mr. Gordon gave a practical demonstration of supering up for the honey flow, and Mr. Shepherd spoke on the same subject.

Mr. L. H. Johnson of Napier demonstrated the Demaree method of swarm control, and Mr. R. J. Lynn gave a most interesting talk on other methods of swarm control. Mr. Lynn, who has had beekeeping experience in England and Ireland, dealt with his subject in an original style.

After Mrs. Gordon had served afternoon tea, Mr. H. Shepherd gave a talk on the beekeepers' bugbear, Foul Brood.

December 14th: On the 14th a field day was to have been held at Mr. A. Lowe's apiary, "Sunnybank," Hastings, but after a spell of hot summer weather, dawn of the 14th brought pouring rain; rivers rose and storm waters flooded some of the Hastings streets. In the morning our President again had to work to save his orchard and apiary from the flood waters. The rain poured down all day, but in spite of the weather beekeepers arrived from Napier as well as Hastings, and a really good meeting was held in the comfortable sitting room.

In opening the meeting, Mr. Lowe extended a special welcome to Mr. W. K. Dallas, the Director of Horticulture.

In his interesting address Mr. Dallas gave some idea of the growth and progress of beekeeping in New Zealand, and spoke of the value of bees as polinating agents. Mr. Dallas also pointed out the value of the apiary products, which would be lost to the Dominion if the nectar were not gathered by the bees. Later Mr. Dallas discussed the problem of bee mortality through arsenical spray. This season, thanks to the practical co-operation of the orchard division, the trouble has not been so great as in former years, though even yet in certain localities apiaries were quite badly affected. It is hoped that by next season more orchardists will realise that there is no need to spray when the trees are in full bloom, for, as Mr. Dallas stated, the calyx is open for 10 days or longer after the bloom has fallen, and in actual fact there is

not a great deal of infection in the calyx, and it is time enough to spray after the bloom falls.

Unfortunately a number of apiaries continue to suffer throughout the season, as some orchardists now grow white clover in their orchards, and whenever the trees are sprayed many bees working on the clover under the trees are poisoned.

Owing to the inclement weather, the only practical demonstration was given by Mr. L. McInerney, of Greenmeadows, who demonstrated the making up and wiring of frames, making a good job with the aid of his frame wiring device. Great interest was taken in samples of Mr. McInerney's comb foundation, which, though homemade, is quite a good article and a credit to this young beekeeper's ingenuity.

Mr. Westbrooke, Apiary Instructor, gave a talk on queen raising, and, in the absence of Mr. Ashcroft Jnr., also told how to make nuclei for increase.

The production of section honey was the subject of an interesting talk given by Mr. L. H. Johnson of Napier. Mr. H. Shepherd gave a talk on supering up for the honey flow, and also spoke on the control of robbing. When making a few remarks on the value of bees as pollinating agents, Mr. Lowe mentioned that this year a certain variety of plums had been a failure throughout the district as the weather conditions were unfavourable while the trees were in bloom, but he has a good crop on his trees of the particular variety because they are close to his hives and were pollinated in spite of the unfavourable weather.

Afternoon tea, as usual, proved a friendly interlude, tea being served by Mrs. Lowe and her daughter, Mrs. Jackson. Members fully appreciated the opportunity to meet Mr. Dallas and discuss their problems, and hope that in the near future he will again be able to attend one of their meetings.

At the close of the meeting Mr. Dallas, on behalf of those present, thanked Mr. and Mrs. Lowe for their hospitality.

December 30th: Conditions in the Hawke's Bay district indicate that an exceptionally good honey flow may be expected, and some beekeepers have already commenced to extract in order to give the bees more room.

The common European oil beetle developes its larvae from eggs laid in leafy debris. The tiny thing climbs to a flower, waits for a bee, climbs on its back, and so reaches the bee hive. There it feeds on eggs until it bursts it first larval skin. Then it feeds on honey until it again bursts a larval shell and emerges into an adult.

BRANCH ACTIVITIES

TARANAKI BRANCH.

A special general meeting of the Taranaki Branch was held at Eltham on August 19, 1940, Mr. H. R. Penny presiding over a representative attendance of the commercial producer members.

The following resolution was passed:—

"That this meeting will support the proposed restricted area selling and has every confidence in the Internal Marketing Division and the Honey Control Board."

A discussion took place on the matter of alteration of the name of the Branch, and it was decided to defer action until the end of the financial year when that and certain other matters dealt with at the meeting will be again considered.

WAIMARINO BRANCH.

Every beekeeper in Ohakune is a member of the Association. This Branch was formed at a meeting of beekeepers at Raetihi on January 12, 1939, and has a membership of twelve financial members. Monthly meetings were held alternately at Raetihi and Ohakune until petrol restrictions rendered it advisable to hold meetings only as required at the resident of the Secretary in Ohakune. Beekeepers reported very poor crops last season, very few in fact taking any honey at all, but prospects are much brighter this season.

INVITATION FROM SOUTHLAND BRANCH.

The Southland Branch extends an invitation to all visiting beekeepers to attend a Field Day on Saturday, 1st February, at the apiary of Mr. Carl Larson, Myross Bush, 5 miles from Invercargill.

SOUTH AUCKLAND BRANCH.

WAIKATO FIELD DAY.

The South Auckland Branch Field Day is being held on Wednesday, February 12, at 10.30 a.m. Tea only is being provided; members are requested to bring their own lunches.

ON ACTIVE SERVICE.

His fellow beekeepers have learned with regret that Mr. G. D. Yorke, of Foxton, who resigned from the secretaryship of the Manawatu Branch of the Association to join the Royal Air Force, was reported to be missing after operations over Norway some months ago.

In making up a nucleus it is sufficient to include one good frame of mature brood well crowded with bees, together with a comb of honey, and an empty comb or frame of foundation. The small colony may be helped along later on, if need be, after its young queen has commenced egg-laying. A small colony will accept either a queen cell or an introduced queen more ready than will a more populous one.

"It is better to debate a question without settling it than to settle it without debate."—Joseph Jaubert.

HONEY AS A HEALTH FOOD.

By Dr. Annie G. Hedges.

(Doctor of Osteopathy on the Staff of the College of Osteopathy and Surgery, Kansas City, U.S.A. Extract from an article in "The College Journal.")

"Food elements are classed as: protein, fat, carbohydrate, mineral salts, water, vitamins and sunshine.

"We will deal at this time mostly with carbohydrates, with a brief resume of other food elements, as they are so interrelated that there cannot be a lack of any one without upsetting the balance of all of the body economy.

"Protein contains the structural units of protoplasm—the amino acids which build the body tissues.

"Fat is one of the energy foods and has a definite and important function in promoting mineral metabolism, particularly calcium, but **fat cannot be completely oxidized unless a certain amount of carbohydrates is** undergoing simultaneous exudation. Thus a depletion of the alkali reserve may take place with a resulting acidosis.

"Mineral salts play an important part in maintaining the acid-base equilibrium of the body. They also assist in the functions of secretion, excretion, absorption and retention. Animal experimentation has shown that when all of the other elements are supplied in adequate amounts, if calcium and chloride are lacking, both growth and weight cease.

"Sunshine. All the metabolic processes, especially those of the mineral salts, are influenced by sunlight, probably most by the ultra-violet ray of sunlight which promotes the absorption and retention of both calcium and phosphorus.

"Carbohydrates represent the most readily absorbed and combusted of all foods. They supply both energy and heat during the process of oxidation. They include both sugars and starches which are broken down for use by the ferments lactose, invertase and maltose into their simple elements or monosaccharids, in which form they are absorbed.

"Sugars aid materially in the absorption of fats by delaying the formation of insoluble soaps. They are stimulating to gastric motility and secretion and are the first of the food elements to leave the stomach.

"Fermentation varies with the type of sugar. Lactose fermentation is lactic acid in type; maltose fermentation is butyric in type; and sucrose fermentation is **Alcoholic** in type.

"All the more complex sugars must be reduced to monosaccharids before absorption can take place. This fact alone will explain some of the great advantages of **Honey** in the diet of the pregnant and nursing mother and also of the young child. One tablespoon of lactose contains 40 calories; the same amount of sucrose, 60 calories; while Honey which is a combination of levulose, dextrose and sucrose has a caloric value of about 100 calories to each tablespoon.

"Dectrose is found in abundance in many plants and is usually in combination with some other sugar, levulose or sucrose or both. It has many interesting properties among which are its power of crystal formation which causes the granulation of Honey and its ability to combine itself to form more complex carbohydrates. In its simple form as it is found in Honey it is easily absorbed. It is readily soluble in water. It is easily manufactured from various starches and sold as 'corn sugar' or 'glucose.'

"The combination of two molecules of dectrose makes maltose, but the combination of many molecules is necessary for the formation of starch. A dextrose similar in composition to that made from corn, that is containing the same number of atoms of carbon, hydrogen and oxygen, is found in the blood, but the two differ greatly in taste and in chemical and physical properties. Dextrose is only about one-half as sweet as cane sugar, which is more complex, and about one-third

to one-half as sweet as levulose, which has the same number of carbon, hydrogen and oxygen atoms, but differently arranged.

"Honey is sometimes said to be 'predigested' but this is not exactly true, though the bees in some manner break down cane sugar into levulose and dextrose. It has been found that invertasem which is responsible for this action is present in every part of the adult bee and they are able in some way to add this substance to the nectar in the process of ripening.

"Sucrose is the ordinary cane sugar which is well known and is present in such small amounts that no more will be said about it here.

"Honey differs from other foods in that it is a natural food and has not been denatured. A combination of levulose, dextrose and sucrose behaves differently from any one of those sugars alone. When they are in just the right proportions in Honey it does not crystallize. When honey crystallizes slowly it forms crystals of large size, so if a fine granulation is desired this is best accomplished by stirring. Another interesting fact is that the size of the crystals makes a difference in the taste.

"The minerals in Honey assist in maintaining it in solution. **No enzyme has been found in Honey which is capable of causing alcoholic fermentation**, so whatever fermentation takes place is probably caused by some of the yeasts.

"Nectar is manufactured in the plant by the action of the sunlight and chlorophyll (which acts as a catalyst), on carbon dioxide and water. It is most amazing that chlorophyll has the ability to combine carbon dioxide and water, neither of which has energy or fuel value, to form sugars which have high food and energy values.

"The colour of Honey is due largely to the absorption of light waves; this absorption does not take place equally with different wave lengths and varies with certain substances found in Honey, mainly carotin, xanthophyl, and chlorophyll. Chlorophyll looks green but absorbs red light which is known to be the most effective light in the production of sugars in the leaves of the plant. Chlorophyll also absorbs blue light as does carotin, but both permit orange, yellow and green lights to pass through them. The fact that Honey contains at least five light absorbing materials (two of which are not so well known) accounts for the great variation in colour. One colouring material which affects flavour is tannin which is found chiefly in buckwheat and some alfalfa honeys.

"The flavour of Honey is due chiefly to odour rather than taste and is derived from the flowers producing the nectar.

"Various uses may be made of Honey which should be made a standard product in every pantry. Drinks of fruit juice sweetened with Honey, particularly orange juice, are very palatable and furnish a lot of energy very quickly to anyone who is making heavy demands on the energy reserve of the body. Children should be given more Honey and less candy and other sweets. Honey and fruit juices are greatly appreciated by the pregnant mother between regular meals. Sugar in most recipes may be replaced in part by Honey, bearing in mind the greater sweetness of Honey and the fact that it contains more moisture."

HONEY FOR HIKERS.

In the National Geographic Magazine, July, 1939, Wendell and Lucy Chapman in an article, "Lords of the Rockies," state:

"We do not use any stimulant except weak tea with a tablespoon of honey per cup. After a 20 to 30 mile hike, a pint of this 'pick-me-up' revives us completely in 15 to 20 minutes with no let down afterward."

Good pollen combs may not at once be apparent. In the fall bees very often store honey on top of the pollen. This seals and preserves it for winter and spring use. Digging down into such combs will show the pollen underneath. Combs like this are just right to put next to the cluster for winter brood-rearing.

REMOVING HONEY BY SMOKE METHOD.

One Way of Taking Off Honey Quickly and Easily.

By W. H. Hull.

Since practical methods for driving bees with carbolic acid have been developed, those who have adopted this plan are apt to think it the only practical one. When we investigate we are, therefore, likely to be surprised at the number of beekeepers who do not use it. And their reason is not always a fear of tainting the honey. In talking with a large comb honey producer recently, he said:

"No, I don't use carbolic acid. We tried it last year but found it too slow. We get along better with smoke."

As he produces about 40,000 pounds of fine section honey a year we must admit that he knows about what he is talking.

His plan is based on the fact that in a yard that has not been disturbed for several days it will take bees 15 or 20 minutes to start robbing, even when honey is exposed in the open. Using an open-body truck that will carry about 50 filled supers, he goes into a yard with two helpers, removes that number of supers, loads the truck and gets away before the bees find out what is happening. To do this it will be seen that each man must take off and load about one super a minute. This leaves only a short period for applying smoke—not more than 10 or 15 seconds. Naturally, not all the bees can be driven out in that time. When most of the bees are out, the super is pulled off and stood on end in the open, while the operator passes on to the next. In this way the required number of supers are removed in a very few minutes.

It is then time to begin loading. Meanwhile the bees left in the supers when they were removed will be returning to the hive, and will not have found their way back to the exposed supers in any number. The result is that when the supers are loaded there are very few bees left in them and before robbers can get fairly to work on the load it is completed and gone.

At the honey-house these supers are stacked in open piles, which allow the bees that have remained in them to find their way out, and also leaves the supers ready for sulphuring to kill moth larvae. Honey-house windows are equipped with bee escapes and a nucleus placed just outside to attract the stray bees as they emerge. The bees salvaged in this way from 1000 supers make about one good colony.

Some precautions should be observed in using smoke. The points to guard against are: 1. Tainting the honey with smoke by using too much. 2. Blowing specks of ashes on to the surface of the comb. Tainting the honey with smoke is avoided by smoking briefly, then standing the super out in the open for several minutes to allow remaining bees to leave of their own accord. Specking the comb with ashes is avoided by dumping the smoker frequently. For example, using planer shavings for fuel, each man dumps his smoker twice in removing honey for a load of this size—from 15 to 20 supers per man.

The fact that we have 15 or 20 minutes of free working time in an apiary that has not been disturbed recently is a good thing to remember. For that length of time we can work as freely during a complete dearth of honey as we could in a good honey flow, provided only that we complete the job and get away before the period of grace expires. To expose honey during that period when there is further work to do afterwards is courting trouble.

("Gleanings in Bee Culture.")

A NEW YEAR WISH.

A few friends who understand us, and yet remain our friends.

CAN BEES TALK TO EACH OTHER?

This is a question that has often been asked, without any convincing answer being given. When one bee discovers a supply of nectar, other bees are soon on the spot. Is the discoverer able to tell other bees of the colony exactly where the supply is? A very interesting answer to this question is given in an article in La Gazette Apicole for October, 1939, written by Abbe Joseph Richard, teacher at a Church School in France. He had been reading an article in the Revue des Deux Mondes on the language of bees, and one day in February, 1939, when a bee came into his room at the school he thought of trying some experiments. There was an apiary of 26 colonies at the school, and about 250 yards from his rooms. So he captured this bee that had come in through an open window, and marked it on the abdomen with a distinguishing colour. He also fed it with some moist sugar, and after feeding, it circled round the sugar and went out of window, home. A few minutes later two other bees arrived, but they were gone before the marked bee came back, which it soon did.

After this hopeful beginning he continued the experiment, making the discovery of the sugar more difficult. Moist sugar was placed in a tiny box, in which was a hole big enough for a bee to feed at. This box was placed on the shelf of the library, among books. A bee was initiated into this secret location, and came back to it. At the same time moist sugar was placed in open vessels, at the window the bees came in through, and on the library shelves a foot or two from the little box. No bee ever visited these open vessels, but a great many came to the little box with a hole in it. Sometimes as many as fifty bees would be in the room at one time, taking their turn at the box, but neglecting other supplies. Between February 12 and mid-June they carried off nearly five pounds of sugar that way.

All these bees were tracked to one colony, number 23 of the apiary, from which the first visitor had come. The bees were thus not attracted by any general odour, and to make sure they did not find the little box by any odour attached to it, it was changed for a new box, in the same place, which the bees came to just the same.

As a further experiment, three little boxes, all alike, were placed in a row on a shelf, and near them an open saucer with moist sugar. Only one box had sugar, and the bees nearly all visited this but none the saucer. In an hour and a quarter, one day, only five went to the wrong box, though the bees were often there, seven or eight at a time.

When the boxes were changed about, however, the mistakes were very many, and the bees were excited and visited all three boxes, but still not the saucer.

Once the box was left without sugar for two days, sugar still being in the saucer. The afternoon of the second day, a bee settled on this sugar, and in less than half an hour, bees from outside were tracking for it in plenty.

These experiments seem to have been carried out with much care as to details, and records were taken on the spot. The impression they convey is that bees can tell each other, somehow, just where to go for a supply of food. What one knows others soon know.

("The Australian Bee Journal.")

INFLUENZA SAFEGUARD.

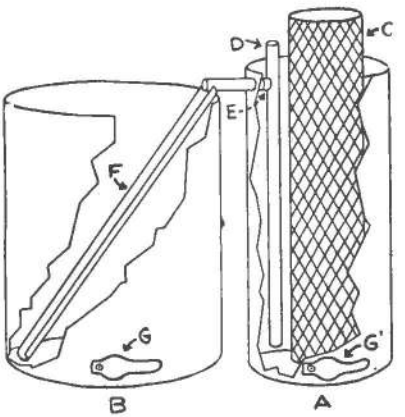
The success of iodine on the tongue as a preventive of influenza in the 1918 epidemic in Uganda is recalled by a recent outbreak in Auckland. Ordinary tincture of iodine was mixed with equal parts of honey, and two or three drops were placed on the tongue at two or three-hour intervals. The mortality where this method was used in 1918 was strikingly low. The use of a wooden match wrapped round with cotton wool for application of the remedy is suggested, and afterward the match should be burned.

STRAINING HONEY.

By D. H. Morris in "Gleanings."

As straining honey is one of the major problems of the beekeeper, I have been trying various methods for years with more or less of a success. I never could get good clear, clean honey by the settling system and I have seen tons of honey put up by commercial producers who did not have any more success than I did, while straining by the ordinary methods was too much of a bother and loss of time in changing strainer cloths. I have changed strainers as much as three times on a barrel of honey.

I devised a straining system that I have used for the past four years that gives me very good results. It is more or less the ideas of several combined in one.



To begin with, my honey is heated from 90 degrees to 110 degrees in the extractor. To do this, I turned the extractor bottom up and soldered cleats or small pipe straps over about 30 feet of ⅜ inch copper tubing such as is used for oil lines on trucks. Then, I filled the V shape of the bottom of the extractor full of mineral wool, or any other good heat insulator. I then soldered four stove bolts on the bottom so that ½ inch extends beyond the level of the bottom of the extractor. Next, I cut a piece of insulating board (Celotex) and bolted it to the bottom of the extractor. That held the mineral wool in place while the extractor was turned back to its original position, also in moving the extractor. It also gives in inlet and outlet for the copper coil. If one wants to heat the honey hotter, or extract faster, make more coils in the bottom. I do my own uncapping and extracting, but where there are two men doing the work it would take a longer coil. I turn on just enough steam so that water and a small amount of steam comes from the exhaust side of the coil.

Now, to strain the honey: I have two tanks. A is 20ins. in diameter by 41ins. high, while B is 32ins. in diameter by 36ins. high. C is an expanded metal tube 10ins. in diameter by 48ins. high. Inside of C is the cloth strainer. I used cheese cloth last year, finest grade, and strained out ten thousand pounds with one strainer before washing. The life of the strainer depends upon the fineness of the mesh. Any kind of weight can be used to hold the strainer down and prevent it from floating. I use a glass frog such as is used to hold cut flowers in a dish. D is a tube that goes to within 1in. from the bottom of A, then in a tee near the top of D and the tube is fastened to it by a taper fit at E. F is a trough that lets the honey flow out of E and go down an incline in the tank B. Regardless of the height of honey in B the honey from E does not go over ½in. below the surface. G and G-1 are faucets. G-1 is used only in changing strainers or when one is through.

In starting, I let my extractor fill up to the point where the reel won't swim, then I drain off just enough honey to let the reel move freely. By this honey being heated in the bottom of the extractor, all cappings come to the surface much quicker than in cold honey. Therefore, the honey that is drawn out of the extractor in small quantities to start with, is practically free of cappings. This is done to prevent clogging the

strainer on the start. I do this until tank A is full or nearly full. After that I can pour the honey in tank A as fast as I wish.

Here is the secret of the long life of the strainer. When honey is poured in the strainer that honey does not go down in the honey that is in the tank over 10 or 12 inches, consequently all the cappings and foreign matter stay at the top, while the honey that goes to the bottom part of the strainer is practically free of foreign matter.

Now, so many have trouble with foam in the honey. If you will notice the tube D goes to within one inch of the bottom of tank A, and all the honey that passes over into tank B comes from the bottom of tank A, consequently it is practically free of foam. Last year I let two tanks full stand a day or two in B before I drew them off and I could have put the foam from both tanks into a pint jar. The space between the strainer and the tank wall in tank A catches a large percentage of the foam, that in that part that does go through the strainer. Of course, there is quite a bit of it that stays in the strainer and comes to the top there. To make one of these outfits for a big commercial producer, make the strainer tank higher. And to eliminate what small amount of foam that passes over into tank B, make tank A larger in diameter.

I have used a great many straining systems, but this fills the bill better than any I have ever tried. Last year I strained ten thousand pounds with one strainer cloth without washing.

It is very important to have the strainer holder or expanded metal tube higher than the tank, as when the honey commences to clog the strainer there is a pressure of the honey from the top of the last of the honey in tank A to the top of the strainer on the honey below, so you can see it has to go through. When the honey commences to pile up in the strainer, it is time to wash up or change the strainer. Tube D could be soldered direct into the cross-over tube E, but it would be very inconvenient when it comes to washing up the outfit.

The above outfit has a storage capacity of about eighteen hundred pounds and it does not take up very much space. If one was in a hurry, honey could be canned from tank B as fast as extracted and the amount of foam per 60-pound can would not be detrimental. It would also be free of any wax.

[This is one of the simplest and best strainers we have seen.—Ed.]

RESISTANT BEEKEEPERS NEEDED.

Most beekeepers evince great interest in the accounts of progress being made into development of the "Resistant Bee." However, our idea is that much more good will result to our industry if we manage to evolve a "resistant beekeeper." Just try to picture all of the benefits which would follow a combined resistance towards accepting low prices, dumping honey on a loaded market or offering dirty or unripe honey to the consumer trade. A strict observance of these principles would quickly "tone up" the whole honey business and honey itself would, probably, clothe itself in a "halo of excellence" like that with which we surround vintage wines. The levelling of honey prices down to the point of competition with competing sweets seems to mean actual loss to producers, so why make the attempt? We are all familiar with certain articles of food like caviar—which sell at prices entirely beyond the reach of the average person—but these articles are sold—and honey will also be sold regardless of price, if we combine to place it on the pedestal of excellence where we think it belongs.

—J. M. BATEMAN, in
"The Beekeepers' Item."

THE PASSING OF THE BRITISH BEE.

By John Crompton.

(From "Chambers's Journal"—August, 1938.)

I

The British bee—the bee that has been native to Britain for countless thousands of years—has gone. The beginning of the century saw it with us in full force and strength. Now it is extinct. Its passing was sudden, unexpected, and pitiful, but probably only bee-keepers witnessed it or knew about it. To most people a bee is just a bee. To some, I'm sorry to say, it is a wasp. More than once I have seen a misguided mistress of the house diligently killing 'wasps' on her window-pane in June. They were bees, of course, and how anyone can mistake the two is difficult to understand. Yet people profess to be 'interested' in bees. They still read Maeterlinck's epic and are attentive when told about the inmates of the hive. But this is an age of second-hand knowledge. Most of us now see life and nature through the medium of the cinema or of books. It can be done that way from a comfortable chair. First-hand knowledge is not attained so easily; so that many who have sat enthralled over **The Mystery of the Hive** or **The Lore of the Honey-Bee** may well continue to kill 'wasps' in June.

To go back to the British bee. What did (alas! that it should be 'did') she look like? Not at all like the bee one sees now. There were no golden bands. She wasn't pretty. She was a brownish black; rather a drab-looking bee. Incidentally, she would never have been mistaken for a wasp. It is the bright colours of the Italian that mislead the ignorant. But do not be deceived. Ugly she may have been, but no bee to-day that pokes its head into a flower was ever her peer—in her own country. The reader, even if old enough, probably does not remember the honeycomb that appeared on tables thirty years ago. It was of snowy whiteness—a whiteness so pure it seemed wicked to set teeth in it. That comb was the work of the British bee, and few, if any, modern bees can make it. The foreigners and mongrels (the only bees we now possess) seal their comb without the air space which gave the old comb its glorious whiteness, and which, incidentally, preserved its contents from the effects of a damp climate. Our modern comb has an oily appearance, and very soon it 'weeps'; the damp attacks the honey staining through the cappings and forms a wet film. The British bee found this out centuries ago and learned how to overcome the difficulty, not that you or I might benefit, but that the honey might keep during the long, wet winter months.

But white comb was one of the smallest of the virtues of the British bee. A more material advantage was that it had an exceptionally long life. The honey-bee only begins to forage and bring in honey when she is about three weeks old. Until then she is a maid-of-all-work in the hive. If at three weeks she is approaching the end of her days (as is the case with some breeds) then she will give but small return for the stores used in rearing her; and additional stores, labour, and space are necessary to rear her successor. The British bee had a further month or so of life at the time when she was most useful; an active, experienced worker in the fields; a source of income to the hive. It is a fact that with these short-lived bees, unless the season is exceptionally good, all the nectar brought in is used in rearing successive batches of young instead of being stored for human breakfast-tables; converted into larvæ, in other words, instead of into honey.

And the British bee was hardy. She withstood the winter cold and damp better than bees do now, and required half the stores of the modern bee to see her through till spring. Finally—her greatest asset—she knew our climate. Indeed, she ought to have known, for she came to these islands long before we did. Go to almost any hive now in summer and wait till a

passing cloud obscures the sun. Soon the air will be thick with bees hurrying home. The alighting-board will be black with them as they crowd inside as if seeking refuge from some appalling catastrophe. They come of stock reared under brazen Continental skies. Rain terrifies them. The cloud passes—out they all come, back to work. But what a waste of time! Rain or sun, it was all the same to the British bee.

II

Long-lived, hardy, weather-wise—what exterminated this desirable bee? In actual fact a close relative of the common cheese-mite did it. In 1904 a malady broke out in some hives in the Isle of Wight. Bees, unable to fly, their abdomens swollen and full of dysentery, would come out of the hive, fall off the alighting-board, and crawl away. They came out in their thousands and covered the ground like a carpet. In the evening they huddled together on stones and blades of grass until exposure and starvation put an end to their sufferings.

The disease spread rapidly throughout the island, and in 1909 appeared in Hampshire and Sussex. A few years more and it had spread throughout England and Scotland, whole apiaries being destroyed and very few bees left. It was known as the Isle of Wight disease, and learned scientists were sent by the Government to investigate it. Somewhat naturally, they confined their attention to the abdomen of affected bees and the dysentery symptoms; and, sure enough, they found a disease germ there called **Nosema.** They returned. **Nosema,** they said, was the cause, though they were quite unable to suggest a remedy.

But two Scotsmen, Dr. Rennie and Dr. Anderson, of Aberdeen University, were not at all satisfied with this finding, for the rather obvious reason that many bees affected with Isle of Wight disease admittedly showed no trace of **Nosema.** So with dour Northern perseverance Dr. Rennie set himself the task of continuing investigations into this mysterious malady. Years passed, until one day a Miss Harvey, one of Dr. Rennie's assistants, while dissecting far from the supposed seat of the trouble—to be exact, in the breathing-tubes in the thorax, just behind the head—found some strange tortoise-like creatures. They were of the same family as the common cheese-mite, but much smaller and invisible to the naked eye. The cause of the disease was found at last, and, incidentally, the dysenteric symptoms were explained; for the main breathing-tubes of the bee (which the mite always selects for its invasions) are close to the base of the wing, and nourish the large and important wing muscles. The mites destroy and choke the tubes, so that the wings become unable to perform their functions through lack of oxygen. Since the bee can only void its fæces while on the wing, when it is deprived of flight the waste matter accumulates in the abdomen, causing dysentery.

It was in 1920 that the mite was found, and in the meantime disastrous steps had been taken. It had been found that, while the British bee was very susceptible to the disease, certain foreign breeds (Italian, and particularly Dutch) were resistant. So the idea was conceived, and carried out, of flooding the whole country with Dutch bees. Boat-loads were brought over from Holland by the Ministry, and the country was swamped with them. Bee-keepers also imported a large number of Italians. Now, there is really no such thing as immunity from or resistance to the attack of the acarine mite, as it was called (**Acarapis woodii,** to give it its Latin name). The mite is a true parasite, living and breeding in the breathing-tubes of the bee and migrating in times of congestion to other bees. A bee can no more be 'resistant' to such a creature than a man can be resistant to fleas. If men live in flea-ridden houses they will be attacked. So will bees in the case of the acarine mite. Dutch and Italian bees appeared resistant because they were shorter lived; most of them died before the mites inside them had started to migrate to other bees. Also, they bred so fast to renew natural losses that they were able, to a certain extent, to keep pace with the ravages of the mite. But the end was just the same—though it might be prolonged for years.

The trouble was that these new Dutch bees that were now with us were very undesirable bees—cantan-

kerous to a degree, and swarming continually instead of storing honey. And many think that the Italians are very little better—though they are the breed now chiefly used. Both require large hives to rear the huge quantity of young they produce, and neither, unlike the British Black, will get any surplus honey in a poor season.

III

Needless to say, the discovery of the acarine mite was not the end of the trouble. In itself it took our harassed bee-keepers no further. The problem was to find some agent, presumably a gas, that would kill the mites inside the bees. Many such were found—but unfortunately they also killed the bees. Again a nasty jar for scientific experts was in store. Where scientific brains and apparatus had got nowhere, a Lincolnshire station-master, Mr. R. W. Frow, succeeded. He announced that he thought he had discovered a substance that would kill the mites without killing the bees. He had. Subsequent experiment proved his claim fully justified. The ingredients of his 'remedy' are of interest only to bee-keepers. They are weird enough, however, to be worth mentioning: petrol, nitrobenzine, and saffrol on a pad in the hive. It is a poisonous, inflammable mixture. No wonder it kills the mites! The marvel is it does not kill the bees. At first it did, and Mr. Frow's discovery was within an ace of being dropped. But it was only a matter of finding the correct dose.

So these two, Dr. Rennie and Mr. Frow, saved bee-keeping in Britain—but they did not save the British bee. There had been plenty left, but they were given no chance to build up again as a pure race. The country had been swamped with foreigners. Dutch and Italian drones in vast numbers scoured the countryside looking for virgin queens to mate with. A race of mongrels ensued. And mongrels are all we now possess.

They have their points, these mongrels. They fear the rain and give us a watery comb; they are gingery and spiteful, and they swarm a lot; but they get us honey according to their lights. The snowy whiteness of the comb made by the British bee was only an æsthetic advantage, after all. And with extracted honey the comb does not matter, anyway. If the bees are irascible, it is the bee-keeper who gets the stings, not the consumer. And their Italian blood makes them definitely prettier to look at. At any rate, it is no use worrying—the British bee has gone.

When I state that mongrels are all we now possess I am aware that certain professional bee-breeders, by ruthless suppression of mis-mated queens and the use of isolated stations, can keep imported foreigners—if they get enough of them—in a more or less pure condition. But in the hands of ordinary bee-keepers to whom they sell, these Italians—or whatever they are—will not remain pure, figuratively speaking, for more than five minutes. The best thing now, it would appear, is to let well alone. Out of the mongrels a more stable race may come, wise to our climate, accommodating themselves. But it will not be in our time.

One question remains: where did that devastating plague of mite originate? It is impossible to say with certainty; but for some time before the disease appeared bee-keepers had been importing queens and stocks of various nationalities. Men always seek some new thing. It is probable that the mite was endemic in one of these. Very short-lived races might carry it indefinitely, if they could breed quickly enough. The long-lived, moderate-breeding British bee, of course, was utterly unable to cope with it. It is not the first time that the importation of alien creatures has been attended with disastrous and unforeseen results. We were given the ideal bee for our climate. We were not satisfied with it, so now we can go without it.

WHITE CAPPINGS.

(Mr. John Crompton's contention that white cappings are solely the work of a specified race of bees is not supported in the following article from "Gleanings" of February, 1939.—Editor.)

"Not so much lately, but a few years back there was some controversy on

the question of what race of bees sealed their honey with the whitest cappings. Beautiful white cappings are, of course, the result of an air space between the cappings and the honey. Cells filled too full bring the honey into contact with the cappings, causing them to appear dark and greasy.

"Now a beekeeper in Finland comes along with the suggestion, backed by experience, that white-capped honey is not obtained by selection of a race of bees, but by manipulation. Sufficient storing room for proper ripening of honey into nectar, he asserts, resulted in the largest percentage of white-capped combs in colonies of different races.

"Those contemplating producing comb honey would do well to consider this angle and not rely too heavily on any particular strain of bees. 'Different' characteristics of bees are sometimes nothing more than adaptions to colony manipulation and variations of environment. This question is worthy of further consideration."

SCENT GLANDS OF BEES.

(From "The Beekeepers' Item.")

Every beekeeper has observed the peculiar fanning of the bees at the entrance during the hiving of a swarm. During the fanning the abdomen is turned upward with the last segment bent downward so as to bring into use the scent gland which is called the Nassanoff gland.

In the June 1940 issue of the "Schweizerische Bienen-Zeitung," Dr. Begnesco of Rumania describes his experiments on the orientation sense of the honey bee. When honey was fed to a colony in January in a specially constructed observation hive located in a warm room it took the first bee one and a half hours to discover the food but when the first bee returned to the honey and began to use its scent gland a second bee found the source of food in two minutes. In five to ten minutes many more bees had discovered the location. Dr. Begnesco drew the conclusion that the odour of the honey was not sufficient to attract the bees and that the scent gland plays the important role in the location of a source of food.

DOMINION PRODUCTION OF HONEY.

The Department of Agriculture estimates that, on the basis of 60lb. per hive, average production on all apiaries throughout the Dominion, which is considered a fair estimate over a period of ten years, the total production for the Dominion, from 122,854 registered hives is 7,371,240lb. (3,286 tons) annually.

On this basis, the consumption of honey per head in New Zealand, is in the vicinity of 3lb., after allowing for exports.

"THE N.Z. BEEKEEPER"

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Nom-de-plume letters must be signed by the writer and address given, not necessarily for publication, but as proof of good faith. Letters accepted for publication do not necessarily express the views of the Editor.

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CONTENTS

Open Letter to Beekeepers

Dear Sir(s),—

You are aware that it has been our practice for many years past to issue an annual Price List, but in view of the present state of emergency we have decided that no useful purpose would be served by issuing a Price List for the 1940-41 season.

As a result of import restrictions and war conditions there is a good deal of uncertainty as to supplies and prices of raw materials and finished goods. Consequently any prices quoted in a printed list may, in a number of instances, have little relation to prices current at date of delivery.

We feel the only use of a Price List, under present conditions, would be to remind our clients of our continued existence. Our goodwill is such that we consider it unnecessary to issue a list for this purpose only, and you may rest assured that our price list will again be issued as soon as we feel the time has come when firm prices can be quoted and when a printed list can be a useful guide to you in placing orders.

In the meantime we will endeavour to keep prices as low as possible in accordance with changing costs, and, at the same time we will do our utmost to give you as adequate service as possible under present difficult trading conditions.

As costs and selling prices become known these will be communicated to our Provincial Agents, to whom clients in the various territories should apply for quotations.

Yours faithfully,

The Alliance Bee-Supplies

Company, Limited

MASON STREET, DUNEDIN

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P.O. Box 572,
DUNEDIN.

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