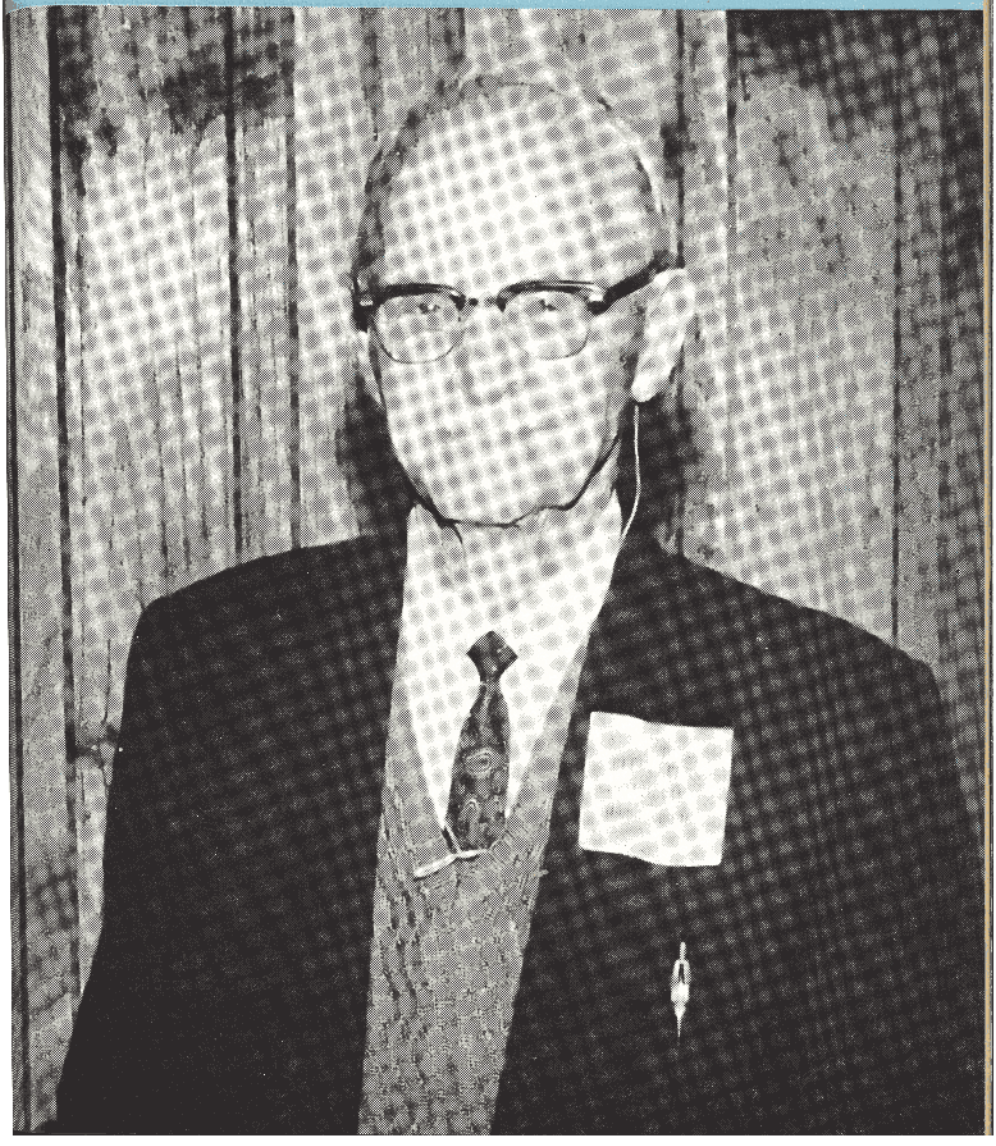
THE NEW ZEALAND BEEKEEPER

FEBRUARY, 1970



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Cheap Sugar

VOCIFEROUS DEMANDS for attention from comparatively small pressure groups within an industry sometimes prod govermental departments and agencies into unexpected action and life, and to the surprise of the more patient elements, results are obtained in a much shorter time than might otherwise be anticipated.

Much has been obtained for the general good by the goading of the few, but history is strewn with unexpected and and unforseen failures through insufficient thought and planning by enthusiastic exponents of a cause in which they fervently believe.

The urgent need for sugar at the cheapest possible rate for bee feed in the Uuited Kingdom is a typical case in point.

Pressure groups insistently demanded that the Government make available supplies of sugar at low rates and without tax, and to overcome the obvious possibility that bulk supplies should not be diverted to other channels and for private use, ways and means were sought to protect a cheap sugar scheme from from abuse.

Let's not beat about the bush. Since we are all human and subject to tempta-

CHEAP SUGAR

tion, there can be no doubt whatever that without proper safeguards, sugar purchased and intended for the bees would have found its way into manufacturing, jam making and other domestic usage.

Green Dye

To make the sugar sold without duty very easily identifiable, the Minisry of Agriculture agreed to the addition of a harmless substance to render the sugar unpalatable to human taste buds but acceptable to bees, and to the inclusion of Green "S" dye.

The Ministry were satisfied that no danger would be caused to human health, and a recognised authority at Rothamstead Experimental Station gave it as his opinion that the 'denatured' sugar was suitable for bee feed.

Both opinions were indubitally correct, but that which could not be forseen was the fact that in some instances, the bees carried the sugar provided for brood feed to the fourth and fifth super at the height of the honey flow. At extraction, therefore, beekeepers were faced with boxes of partly contaminated sugar feed and discoloured honey, and one commercial apiarist in the West Country is reported to have on hand approximately 35 tons of honey with an objectional flavour and green in colour on which he stands to lose some $25,000.

Even where autumn feeding was practised some contamination is known to have taken place, although the problem is more prevalent where dyed denatured sugar was fed as a stimulant in spring.

Some of those most insistent that action be taken to provide bee feed at a cheap rate are now clamouring for compensation from the Ministry for "permitting" denatured sugar to be sold, whereas in fairness it must be seen that officialdom permitted deviation from the stringent Food and Drugs Act to assist in solving an industry problem. Had adequate time and experimentation permitted, there is no doubt but that the snags would have been found and perhaps eradicated.

Bumper Crops

The 1969 season was a particularly good one for beekeepers in the United Kingdom and honey yields were well above average, so that it must be irritating in the extreme to have goods crops spoiled.

Whilst sympathising with our opposite numbers we must ensure that an object lesson is learned from their misfortune in that any scheme put forward by the industry for the alleviation of a grievance or set of circumstances must be thoroughly investigated first. It is no use crying when the milk has been spilt.

DEPARTMENT of AGRICULTURE CLOSED CONCLAVE

Many of us must have marvelled at times just how it is that money can be produced for purposes at short notice, whereas the pundits have solemnly declared that there was not finance to cover apparently necessitious eventualities a short time previously.

War is a case in point. An application for finance to alleviate human suffering or for essential research on the cause of human scourges like cancer and other diseases are met with the answer that there are simply no funds available in the Exchequer to meet requirements. But when war breaks out, funds for destruction are unlimited.

Closer to home and to our own industry a request was made for the services of a technician to be made available to Conference at Invercargill to explain to the country's beekeepers a particular project in which he was engaged. His superior officer, willing and anxious to comply with the request could not concede for the one and simple reason that his financial allocation for travelling expenses would not cover the comparatively short journey and the day's hotel accommodation which would have to be met. This is in no way criticism of the officer concerned who had a budget to be kept.

A fact that does seem extraordinary, however, is that every Apiary Inspector, Horticultural Inspector, Agriculturist and the entire staff of the Apiary Section throughout New Zealand has been called in conclave at Lincoln College in the South Island from February 10, 11 and 12 to talk amongst themselves on current beekeeping problems. Each member will talk for 10 minutes on their work, and even the Honey Grader at the Honey Marketing Authority in Auckland, who will be at his peak in dealing with the current season's crop, will have to be in attendance. Attendance is not voluntary; it is mandatory.

A variety of practical and theoretical subjects appear on the agenda and it seems somewhat akin to a tragedy that so much money can be spent without the advantage of members of the industry or their representatives being in attendance to disseminate any useful information evolved.

At a conservative estimate expenses for the staff involved must cost in the region of $2,000 for their air fares and living costs alone, disregarding the time factor. Discussions with each other and talking to and at their own colleagues cannot possibly have the same end value as when information is given to those most in need.

The Department are entitled to spend their finances in the general interest of the taxpayer, and it is hoped that a measurable return will be seen from this large gatherings at Lincoln of the experts talking amongst themselves.

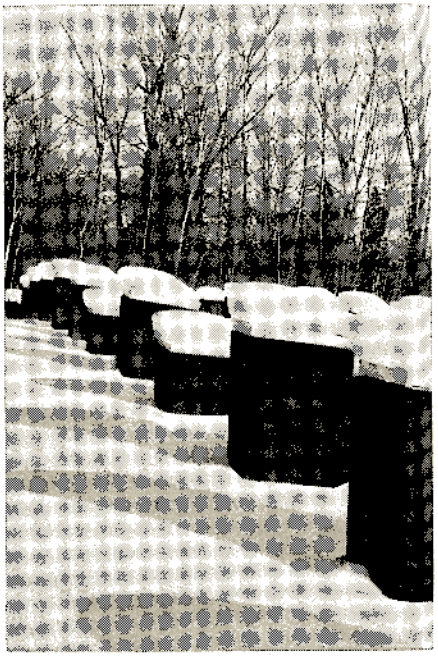
In the light of the expenditure we can but hope that industry will benefit, and that if in the future the services of one particular officer is sought for a national meeting, that his attendance will be able to be afforded even if it does mean scraping the barrel.

Lest it be thought, however, that the officers concerned are to be let off the reins of domestic bliss for uninhibited delights, it should in fairness be pointed out that the official memoranda from Mr J. H. Watt advises them to take their own matches and soap with them, and warns that they must make their own beds.

By the time this issue is published the talking marathon will be over; beekeepers will be able to ascertain the extent to which their Apiary Instructors benefited.

Beekeeping in NORTH AMERICA

By G. M. Walton, Apicultural Advisory Officer, Department of Agriculture, Palmerston North.



Right: Paper wrapped hives in Canada. Colonies can tolerate wide temperature fluctuations with little or no protection if they are strong and have sufficient stores of food.

INTRODUCTION

In this the second of a two-part report on North American Beekeeping I would like to examine some research discoveries that have widened our understanding of the honey bee, and some research trends that could well influence our future beekeeping methods. But before I do this I think we should firstly clarify the meaning and nature of the word "research" itself. Some of us may have wondered why research scientists "have wasted their time" sending men to the moon, or perhaps studying the hind-legs of grasshoppers under a microscope, or even investigating the build-up of hydroxymethylfurfural in honey. You may well ask why apiculture research couldn't be channelled into more productive avenues — for instance; finding ways in which to increase hive production or reduce the incidence of swarming. The real issue here is that there are two types of research—basic (or pure) research, and applied research.

The goal of applied research is to find a solution to a particular problem under investigation. Basic research is directed solely at understanding and interpreting objects, events or situations—an inquiry or search to discover new facts. Basic research is often delving into the unknown and results of this research may open up new areas of interest entirely unforseen by applied research methods. Both types of research go hand in hand.

Over the years our knowledge of beekeeping has been continually extended. Two thousand years ago it was accepted that bees originated from the dead tissues of a slain ox. Today, following discoveries by such men as Huber, Dzierzon, Mendel, Laidlaw, Mackenson, Roberts, Nye and Woyke, we can now predict and control the caste and many of the characteristics of honeybee offspring.

CANADIAN RESEARCH

The 9000 or so Canadian beekeepers are well served by two Department of Agriculture research stations, a few provincial laboratories and two universities, all undertaking apicultural research.

The Apiculture Section of the C.D.A. at Ottawa is chiefly concerned with bee pathogens, bacterial bee diseases, disease resistance and bee behaviour. In charge is Dr. T. A. Gochnauer who in recent years has studied the exposure of **Bacillus larvae** infected combs to gamma radiation control. This promising method, although requiring much equipment, results in no ill effects on the bees acceptance of the treated combs. An interesting line of work being studied at Ottawa is that of scent or pheromone communications of the honeybee. The term "pheromone" was coined in 1959 to describe a substance secreted by an animal that causes a specific reaction by another individual of the same species. Brood rearing, queen rearing, aggressiveness, queen attraction, foraging and mating behaviours are all influenced to some degree by pheromones. Drs. Boch and Shearer have isolated and identified the main chemical components of the Nassanoff pheromone — the scent secreted by a gland which lies between two of the tergites of the worker abdomen that, when exposed, results in the attraction of other workers to a hive entrance, a cluster, or a queen. An alerting pheromone, iso-pentyl acetate, has also been isolated by this same research team from the sting organ of the bee. Both the Nassanoff and alterting pheromones are absent in newly emerged bees but concentrations quickly increase up to foraging age. These chemicals can be synthesised but, like Dr. C. G. Bulter's "queen substance" the synthetic does not fully compare to the action of the original honeybee secretion.

Aided by precision biochemical analysis methods the Ottawa team is at present working on pollen attractants. Other groups in Florida and Arizona and Mr. T. Palmer-Jones at Wallaceville are also attempting, or have isolated, the attractive chemicals contained in pollen. Without these chemicals pollen is unattractive to bees. If they could be cheaply and commercially synthesised, they may enhance the attractive value of pollen substitutes to bees.

BEAVERLODGE

The second Canadian Federal Research Station at Beaverlodge in Northern Alberta is primarily studying the adaption of colonies to northern latitude conditions and their role in pollinating various legume crops. Dr. Pankiw at Beaverlodge is at present testing the progeny of a number of queen honeybees raised in New Zealand. The testing programme for New Zealand queens followed dissatisfaction amongst a number of commercial beekeepers and apiculturists with the quality of the queens contained in package bees obtained from some U.S.A. suppliers. Reports of **Nosema** infected, insufficiently mated, or even unmated queens were common. I paid a short visit to Beaverlodge in July 1968. during the first year of testing. The New Zealand strains were more gentle and produced more honey than the control colonies containing Californian queens. Dr. Pankiw has continued and extended the testing of New Zealand strains into a second season, with preliminary results indicating little superiority. This could well be due to improved mating conditions in California or the inclusion of a poorer batch of queens from New Zealand.

UNIVERSITY OF GUELPH

The Department of Apiculture at Guelph, in Ontario, was established over 60 years ago and over this period of time has made significant contributions to world beekeeping. Professor G. F. Townsend, the present Head of the Department, is a respected council member of two international apicultural organizations —Bee Research Association and Apimondia—and an active participant in Canadanian beekeeping affairs. The Apiculture Department offers a teaching programme to both graduate and under-graduate students and provides excellent research facilities. Areas of research include honey processing and grading; bee behaviour—particularly queen introduction and acceptance; physiology of growth, development, and queen-worker caste differences; the secretion of nectar and the role of nectar and pollen in bee-flower relationships.

Professor Townsend has recently tested a light-sensitive apparatus, called a colorimeter, for the colour grading of honey. He has found the colorimeter to be a precise and practical means of classifying honey and an aid to blending according to colour. This apparatus has some advantages over the widely accepted Pfund classifier. Guelph has also developed continuous flow honey "pasturizers", a honey strainer and other techniques in the preparation of honey for market (1). Dr. R. W. Shuel has done some valuable work on factors influencing nectar production, while Dr. M. V. Smith, who was chairman of my thesis committee while I was at Guelph, has investigated various aspects of bee behaviour, breeding, and has developed a practical method of transporting immature stages of bees between countries—a technique that avoids the introduction of adult-bee diseases.

UNIVERSITY OF MANITOBA

Dr. S. C. Jay of the Entomology Department at the University of Manitoba has constructed an improved cage for shipping queens with package bees and has investigated drifting behaviour of bees. Other work has included the laboratory rearing of queens and workers, queen acceptance, and pollen requirements of honeybees.

RESEARCH WORK IN THE UNITED STATES

The honeybee has been a popular insect for both pure and applied biological research in the United States. Many universities are using honeybee colonies for teaching and research purposes. The Entomology Research Division of the U.S.D.A. operates 6 laboratories at Arizona, Louisiana, Maryland, Utah, Wisconsin, and Wyoming—conducting research into such areas as bee diseases and their control; pollination; physiology; behaviour; nutrition; breeding and genetics; effect of pesticides and the productive management of colonies for high yields. Many bulletins and pamphlets are available on all aspects of beekeeping. One of these bulletins "Beekeeping in the United States" is a worthwhile acquisition for any beekeeper (2). Some areas of work and investigation are:

DISEASE RESEARCH

The incidence of colonies infected with **Bacillus larvae** (AFB) is about 5 per cent of all colonies examined by State inspectors. Disease control policies differ between States, each State having its own bee laws. A situation arises where Georgia, for instance, destroys AFB colonies and prohibits drug treatments, while South Carolina, the next State to the north, practices neither the destruction nor drug treatment of diseased colonies. Drug treatment is prescribed in most cases to keep **Bacillus larvae** below the economic level so that the beekeeper can obtain a crop. New Zealand beekeepers are rather more fortunate in having a uniform policy throughout the country that requires all diseased colonies to be destroyed. For this reason the use of drugs for treating diseased colonies is prohibited in New Zealand.

Dr. W. C. Rothenbuhler, of Ohio State University, has done some interesting work on the susceptibility and resistance of colonies to **Bacillus larvae.** By artificial insemination he developed two lines of bees, one highly susceptible and the other highly resistant. The resistant bees were found to quickly clean out dead larvae from the cells. It is believed that adults can protect the larvae by straining the spores from contaminated honey using the proventriculus (honey stopper), and also by producing an antibacterial type of brood food. Young larvae are the most susceptible but differ in their resistance to **Bacillus larvae.**

When I visited the Entomology Department at Ohio State University in 1968 Dr. Rothenbuhler and one of his post-graduate students, Jovan Kulincevic, were endeavouring to find the cause of a mysterious adult bee disease that had drastically affected colonies in the university apiaries. This disease, now regarded as serious, shows symptoms similar to bee paralysis and appears to be caused by a virus or a virus-like pathogen (3).

The USDA have recently been testing heat treatment to control **Nosema** and wax moth and ethylene oxide to control **Bacillus larvae.** Although both methods have shown promise they have not been put onto a practical basis as yet.

POLLINATION

Man has had little influence over the way bees forage. Although the foraging area of a colony covers many square miles, each individual bee works only a small area on any given day—perhaps a few square yards or just a limb or two of a fruit-tree. In the future the foraging and pollinating habits of bees will be investigated further. One of the aims will be to improve the bees' ability to pollinate selected crops. Progress has already been made in this area. Mackensen and Nye have by selection, inbreeding and artificial insemination, produced a strain of bee that preferentially gathers more lucerne (alfalfa) pollen. Pollination will be receiving the most emphasis by apicultural research workers in future years.

BREEDING AND GENETICS

The technique of artificial insemination has greatly increased our knowledge of honeybee genetics and inheritance and has led to practical ways in upgrading honeybee performance. Hybrid breeding—crossing inbred races, strains, or lines —often results in first generation offspring that are superior to parental stock. Hybridization has resulted in improved honey-producing, pollinating, and disease-resisting bees. The environmental effect may greatly influence and modify a colony's inherited characteristics. Bees bred in the north-central region of the U.S.A. for instance, may not compare so well with the "native" bees when managed in Florida.

Inbreeding has a very detrimental effect on honey-producing colonies. It results in inefficient egg-laying and reduced brood rearing. I believe that in some areas in New Zealand beekeepers can obtain quick improvement in their stock by overcoming this inbreeding tendency in colonies simply by exchanging or buying queens from other areas.

PRODUCTIVE COLONY MANAGEMENT

The U.S.D.A. research team of Farrar (retired), Moeller, and Harp at Wisconsin has made a very valuable contribution to our knowledge of colony behaviour, and the management of these colonies to obtain large populations and thus large honey yields (4, 5). There is a direct relationship between colony strength and honey produced. Other research has involved insulation of colonies, package bees, 2-queen systems, queen banks, and nosema disease studies.

FUTURE TRENDS IN U.S. RESEARCH

The future direction of apicultural research in the U.S.A. has recently been indicated by a task force of U.S.D.A., State University and Land Grant College personnel who were asked to make recommendations for the next seven years (6) "It appears to members of this Task Force that the major emphasis of the research programme should be to place importance on use of bees for pollination instead of the emphasis being placed on honey production". This group considered many aspects: "Honey as a commercial product could disappear from the market if beekeeping ceases to be profitable. It could do so without hardship to the public. But would beekeeping for pollination continue to exist if honey production becomes unprofitable?".

From the largest producer of honey in the world today (over 200,000,000 lbs compared to N.Z.'s 12,500,000) these are thought provoking considerations. But their report has been influenced by the fact that about 90 crops grown in the United States are completely or partially dependent on honeybee pollination. These crops are valued at $US6,000,000,000 annually. It has been estimated that the honeybee contributes hundreds of millions of dollars annually to the value of these crops—as compared to 45 million dollars from honey and beeswax.

As horticulture expands and diversifies in New Zealand the honeybee will become increasingly important for pollination purposes. Honey production on the other hand, if current New Zealand and overseas trends continue, will remain static or even decrease. Many of the pressures and problems now faced by the New Zealand beekeeper has been, or are being, experienced and effectively overcome by the better overseas beekeeper. I am sure that those New Zealand commercial beekeepers who can afford the proposed tour to North America will return with enough ideas that will go a long way towards paying for the trip. And if my recent 2-year sojourn in Canada and the United States is an example you will receive wonderful hospitality with the beekeepers, extension specialists and research workers going out of their way to make your visit worthwhile.

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REMINISCING WITH CHARLES F. HORN

Following my honoured privilege of opening the two day North Island Beekeepers' Seminar at Ruakura Hall on the 20th and 21st of August 1969; organised by the N.B.A. it has been suggested that I write something of my 72 years infatuation and continued interest in bees, for our "N.Z. Beekeeper".

My first experience of bees was of swarms in hollow trees and in ordinary boxes, which of course could stimulate interest only at the hive-entrance, but I shall never forget the thrill of seeing for the first time, the inside of a moveable-frame hive of bees.

Indeed, my very keen interest so moved a neighbour that he promised to give me the first swarm from that hive which swarm I was soon to carry home about ¼ of a mile and set on its prepared stand in a common butter-box but without frames. This was on the gold fields 22 miles beyond Coromandel, and at the time the Pohutakawa was in full bloom, from which my bees soon had the box full and bees hanging out in idleness and distress.

This inspired me to bore two holes in the top and place another butter-box above, which I foolishly nailed on. In about ten days the bees were hanging out again, so I prepared to take the honey from the top-box. Alas, the smoke could not get through to the top-box and when I tried to lever it off there was such "a charge of the Light Brigade" — of really very angry Bees, which soon covered my veil so that I could not see at all. They stung my hands and neck and even got into my boots, and my morale was so shaken that I retreated in undignified haste as far as the front gate, where my father had just then arrived from work.

Now to describe what followed may not seem quite fair to Dad, but it was so funny—at least to me—that it must be recorded. To see his 12 year old son soo easily routed was or seemed disgraceful to Dad and disapproving of cowardice but with commendable courage and in the spirit of "I'll show you how" Dad hurriedly took the veil and the smoker. Before he could reach the hive he was met in his tracks by a now thoroughly alerted and incensed lot of bees which attacked him in a frenzy of fury. They got really tangled in his bushy beard which of course made them scream in venomous anger and frustration. Now the sight of Dad clawing at those scores of bees in his beard proved too much for me—for despite my awesome respect for my beared father, this ludicrous pantomime made me roll on the ground in uncontrollable laughter. However Dad was too busy with the bees' misbehaviou to note mine.

When things calmed down I went back to the bees at the hive and by placing the top-box on its

side on a board and by lightly drumming the box I soon had "the Light Brigade" marching in peaceful and orderly lines up to the brood-box on the stand. That box of honey had to be cut out and strained through a bag of muslin—such a messy business—that I soon learnt of better methods by securing a copy of Isaac Hopkin's book on beekeeping and also supplies of foundation -wax and later on a few of Bagnall Bros hives for which he was the agent.

These hives were made with gabled-roofs which in a large apiary looked as neat as a choice city suburb, but they have long since been superceded by the iron-covered flat-top. However, their Langstroth dimensions have been retained and justifiably so for over 70 years.

When the Kuaotunu gold-mines petered out I had little difficulty in persuading my father to become interested in dairy-farming which because of modern marine refrigeration and the mechanical cream separators, had given birth to a much more promising source of income.

We arrived on our bare and weedy section of 150 acres after pulling down our home and other kauri buildings at Kuaotunu and chartering a scow—the "Margaret" —all the unsaleable timber; tanks etc, even empty hives were taken aboard and around Cape Colville and then up the Firth to Thames; thence by rail to Waihou and then by horse-waggon to the farm. This was in Nov. 1902, and before we could re-build our home, word came of a swarm of bees hanging on a pine tree branch, a mile or more from our farm. I hurriedly assembled some frames in a hive-body and set out in a sprung-cart. By standing or the seat of the cart I could just reach the swarm with a milk-bucket and dislodge them by upward jumps and thrusts. Alas! for half the bees fell over me and some on to the horse's rump. Of course, this alarmed him and maybe he was stung. At all events he made off smartly and by the time I could dump the contents of the bucket into the hive and gather up the reins he was at a gallop. However by good luck I had "her majesty" safely inside the hive and the bees happily calling the others all home, thus promising me an unbroken continuity of bee-keeping interest as well as the beginning of my commercial beekeeping.

The purchase of a two-frame reversible extractor and—because of lack of finance—the laborious conversion of countless benzine cases into hive bodies—both half and full depth—I was able within a year or two and lots of night work to supply the Waihi market with two tons of honey annually in 2 lb tins. That was before the birth of the H.P.A. Co-operative, of which I was registered No. 10. The honey was chiefly from dandelion and clover—an amber honey so delightful that the late Geo Westbrooke, Apiary Instructor at that time—entered a sample of it including some of mine—in the Panama Exposition and won first place against all the World. Modern intensive farming has so eliminated most of the flat-weeds that it is now impossible to produce this special honey in my area.

After I was married in 1912 and settled on my own farm, just across the road from the homestead the coming of war in 1914

involved me very deeply in the management of dairying on two farms but the "call of the bee" was still my first love and in due time I established four out apiaries and had 60 colonies in the home yard. This involved me in converting my first sturdy car into a light truck with drop-sides, which proved invaluable in running my aggregate of 200 colonies and which in my best season averaged 177 lbs per hive.

Now it must be said that in my Hopkins Memorial Essay for which I gained the first Medal in 1927, the method I then used is described, but soon after this I adopted a "two-queen" method of spring management which gave me much stronger colonies just when needed at the beginning of the clover flow in November. To describe this method in detail would make this story too long, but it is the same as used by Mr J. B. Mackisack who bought my out-apiaries and used my extracting plant for 2 or 3 seasons and who adopted the same method with great success.

In my area it is so satisfactory that I am very happy to continue with it as it accomplishes four desirable effects—first: it controls swarming effectively, second: it satisfies the swarming impulse at the most critical stage, third: it provides a big force of bees just when desired and, fourth: when upper and lower colonies are united by the paper method boosts morale amazingly and supplies the united colony with a renewed incentive. Mr Mackisack assures me he does not bother to look for the old queen (at bottom) as the young queen always wins, but if increase is desired the old queen can be transferred to nuclei.

Now this story is already too long, yet the half has not been told. I will therefore conclude with a brief account of my first encounter with bacillus larvae which my apiary contracted in the best honey-year ever. That was the year 1915 when Dick Whiting of Springdale produced 13 tons of white clover honey from 100 hives with very limited equipment. As he decided to re-queen his apiary in that January he gave me these spent queens with which to Italianise my Black colonies, assuring me that the latter cannot or will not combat bacillus larvae.

For ten more years my bees kept getting a return of the disease until I could see the hated symptoms in my dreams and if only one cell really had it I would see it. However, I had a beekeeper friend, only about three miles away who was sure he knew B.L. but fortunately for me he took ill and asked me to manage his apiary of 44 colonies, which I did. To my amazement and his dismay I found all but one hive so infected I decided to treat them on the McEvay method. The remaining clean one was tan coloured and good tempered as well as being very good workers so I raised two batches of cells from it which proved good business.

With the help of a good steam boiler I was able to clean up my apiary within two years
Much more could and should be written concerning the problem of the comparative failure of nectar secretion as compared with earlier days, especially in our clovers, but this is a matter for research not for recrimination and I hope to live to see the matter satisfactorily resolved.

BEEKEEPERS TECHNICAL LIBRARY
of New Zealand
CATALOGUE
of Books, Rules and General Information

Catalogue in Alphabetical order of Authors

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Bees and Honey G.A. Carter 113p 1945
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A Honeybee and Her Master A.D. Chapman 237p 1944
Beekeeping Kenneth K. Clark 222p 1951
Dadant System of Beekeeping C.P. Dadant 115p 1932
Outapiaries M.G. Dadant 126p 1932
The Beekeeper's Enclyclopaedia A.S.C. Deans 190p 1949
Beekeeping Techniques A.S.C. Deans 160p 1963
Bees and Beekeeping A.S.C. Deans 76p 1962
Five Hundred Answers to Bee Questions G.S. Demuth 104p 1947
Practical Bee Guide J.C. Digges 305p 1945
Scientific Queen Rearing G.M. Dolittle 126p 1901
The Skyscraper Hive M. Dugat 78p 1948
The Key of the Hive J.M. Dunning 129p 1945
Beekeeping J.E. Eckert & F.T. Shaw 500p 1966
Beekeeping for All Tichner Edwardes 138p 1934
The Mind of the Bees Julien Francon 146p 1939
Beekeeping in Antiquity H.M. Fraser 157p 1931
Bees — Vision, Chemical Senses, Language K. v Frisch 128p 1950
The Dance Langauge and Orientation of Bees K. von Frisch 566p 1967
The Dancing Bees K. von Frisch 100p 1965
The Hive and the Honey Bee Ed. by Roy A. Grout 550p 1963
The Art of Beekeeping William Hamilton 200p 1951
Blazing the Trail L.S. Harker 137p 1938
The Bee Gertrud Hess 68p 1955
Beekeeper's Guide W. Herrod-Hempsall 169p 1943

Beekeeping: New and Old W. Herrod-Hempsall 772p 1930
Practical Beekeeping Isaac Hopkins 288p 1926?
Plants and Beekeeping F.N. Howes 224p 1945
New Observations upon Bees Francis Huber 230p 1814
Natural History of Bees Francis Huber 314p 1808
The Spell of the Honeybee W. Eric Kelsey 274p 1947
Bees I. Khalifman 366p 1953
Queen Rearing H.H. Laidlaw and J.E. Eckert 150p 1963
The Hive and the Honeybee Langstroth (Revised by Dadant) 575p 1919
Wonders of the Hive S.A. Lavine 90p 1958
Honeycraft in Theory and Practice J.A. Lawson 228p 1931
Communication Among Social Bees M. Lindauer 145p 1961
Honey Plants of North America J.H. Lovell 408p 1926
A Man and His Bees H.J. Lund 156p 1947
Beekeeping in Britain R.O.B. Manly 439p 1948
Honey Farming R.O.B. Manly 293p 1946
Honey Production in the British Isles R.O.B. Manly 328p 1936
Beekeeper's Handbook Herbert Mace 256p 1952
Modern Beekeeping Herbert Mace 225p 1933
The Story of Pollination B.J.D. Meeuse 240p 1961
Thousand Answers to Beekeeping Questions C.C. Miller 276p 1931
Life of the Honeybee E.C. Parnwell 52p 1940
American Honey Plants Frank C. Pellett 419p 1930
Practical Queen Rearing Frank C. Pellett 103p 1945
Beekeeping E.F. Phillips 490p 1939
Beekeeper's Folly J.R. Ratcliff 270p 1949
A Cluster of Bees Tarlton Rayment 750p 1935
Profitable Honey Plants of Australasia Tarlton Rayment 132p 1920?
The Behaviour and Social Life of Honeybees R. Ribbands 352p 1953
Teach Yourself Beekeeping A.N. Schofield 148p 1943
Honey Getting E.L. Sechrist 128p 1944
Better Queens Jay Smith 100p 1949
The Introduction of Queen Bees L.E. Snelgrove 205p 1943
Anatomy and Physiology of the Honeybees R.E. Snodgrass 327p 1925
City of The Bees Frank S. Stuart 183p 1951
Beekeeping Practice Frank S. Stuart 206p 1946
Life of the Queen Bee L. Sutherland 126p 1946
The Golden Throng Edwin W. Teale 199p 1946
Beekeeping J. Tinsley 94p 1945
The Behaviour of Bees H.J. Wadey 175p 1948
The Bee Craftsman H.J. Wadey 116p 1945
Nectar and Pollen Sources of N.Z. R.S. Walsh 56p 1968
Beekeeping for Profit and Pleasure A. Webb 116p 1945

A Manual of Beekeeping E.B. Wedmore 413p 1932
Successful Beekeeping E.B. Wedmore 163p 1946
Bees Are My Business H.J. Whitcombe 244p 1956
Honeybees and Their Management S.B. Whitehead 153p 1946
Curative Properties of Honey and Bee Venom N. Yourisch 198p 1959
Beekeeping in United States 147p 1967

INFORMATION

In addition to the books in the Catalogue, the following are available:-

1. ABC and XYZ of BEEKEEPING — Several copies (not recent editions) of this book are available on long term loan of 50 cents per year. An excellent reference book.
2. MAGAZINES — Bundles of Beekeeping Magazines from various countries including British Isles, U.S.A. and Australia are available on loan for 20 cents for a parcel of twenty.
3. PAMPHLETS — A wide range of pamphlets on subjects is available at 5 cents each. Please write stating the *subject* in which you are interested.
4. OLD BOOKS — About eighty old books published before 1930 are listed on a separate list. Ask for Old Books List.
5. FILM STRIPS and recorded TAPES etc. One film strip on Bumble Bees with commentary (good) and one film strip of Honey Bees with commentary. Hire Fee 20 cents. Inquire about Tapes, Duplicated copies of Lectures etc. available free.

LIBRARY RULES

1. When ordering a book, the borrower must send the Loan Fee and Name of the Branch of which he is a member.
2. Loan Fee is 20 cents for each book and 5 cents for each pamphlet. This fee includes postage to borrower.
3. Books may be kept for one month but renewal may be granted provided the book has not been ordered by another member and provided a further Loan Fee is sent with the application before Loan Period expires.
4. Members who do not return books within three days of due date incur an Overdue Fee of 10 cents per week.
5. When returning books, they are to be packed in thick packing paper.
6. Books are available to Members of any Branch of the National Beekeepers Association of New Zealand.

HON. LIBRARIAN: CHRIS DAWSON, P.O. BOX 423, TIMARU

1969-70

HONEY CROP PROSPECTS

Summaries of reports received from Apiary Instructors on seasonal conditions and honey crop prospects as at mid-January by the Superintendent of Beekeeping Department of Agriculture, Wellington.

NORTHLAND

A mild winter followed by ideal conditions during September, October and November, resulted in strong spring colonies with strong tendencies to swarm.

Little rain fell during October and November and most of Northland was drying out. Later there was a short period of heavy rain which revived pasture growth. Clover is yielding heavily at present and a good crop from this source is assured.

Yields from manuka and pohutakawa will be well above average.

AUCKLAND

With record hours of sunshine for October, November and December, bees have had ample opportunity to gather what nectar has been available. Unfortunately through the lack of rain this season, pasture sources have not been as abundant as last year but the areas where they have had rain (i.e. north of Auckland and as far south as Papakura), the pastures are as good if not better than last season.

Pohutukawa, Manuka and Kanuka have yielded heavy crops of honey. Comb honey producers are having another good season with very good quality sections.

Overall crops will be slightly above average for the district. Honey quality will be good.

HAMILTON

August, September, October and part of November were cloudy but very little rain fell during this time and drought conditions were severe; very little honey as surplus was collected during this period.

Kamahi, the first flow experienced, was only average, being cut short by much-needed rains which stayed till the middle of December. Blackberry produced well between rains. Tawari produced a good crop, while clover and pasture weeds were late.

Since late December, very hot weather with a few showers has promoted growth of clover and pasture weeds. These sources are now being worked and could continue to yield for some time yet.

Should conditions remain favourable the total crop for the district will be about average, and will be mainly from the lighter coloured sources.

TAURANGA

The past spring was one of the warmest and most settled experienced in the Bay of Plenty for many years. Hives came through the winter period in very

good condition and that is the way they are at the present time. Hot and very dry conditions were experienced right up till the end of November. December, however, has proved warm and humid but unsettled.

Crop Prospects

At the present time no more than average crops would be in sight but prospects could be good. Pasture is in perfect condition and with warm settled climatic conditions quite good returns could be expected. Bush sources, in the main, are disappointing.

HASTINGS

Overall the Hawke's Bay-Poverty Bay District is experiencing an average honey flow. However the drier coastal regions are yielding more honey than the inland hill country which has had a higher rainfall.

Although the season started out with November being a very dry month, it was followed by a complete reversal in the weather with high humidity and rainfall during December. This has resulted in a good flowering of nectar sources, especially clover, and should drier conditions prevail in the back country could mean an above average honey crop for the district.

PALMERSTON NORTH

Spring conditions were the best for many years. Early nectar sources were worked freely. Most colonies came into the honey-flow in good condition requiring very little supplementary feeding in most areas.

Below average rainfall was recorded during spring months. Drought conditions began to develop on the light coastal country in the Manawatu and in the light areas in the Wairarapa. Light rain which fell on 22 November and continued for several days partly eased this situation.

Although conditions have been dry, occasional rain on the heavy land and high country has kept clover and other nectar sources flowering freely in these areas.

An above average crop has been gathered from manuka and in some districts from clover. Given favourable conditions the season could be the best for several years except on light country where some hives will only gather winter stores.

HAWERA

Spring conditions were the best for several years. Very little rain and warm temperatures allowed bees to work freely on the dandelion and willow nectar sources and hives built up strongly. In October and November weather conditions remained favourable. Hives situated in Barberry and Kamahi areas, also some coastal areas showed a surplus of honey. In all areas feeding of bees had ceased.

Unusually warm conditions during December encouraged early flows from all expected sources and the normal annual crop of honey was already on the hives.

Nectar sources are still yielding and if the warm weather conditions persist through January an above average crop should be extracted.

NELSON

The West Coast experienced a wet year but with rain at night and fine days and high temperatures the conditions have suited beekeeping. There was an average flowering of Kamahi and Rata is flowering well.

Extracting is under way and a better than average crop is expected.

In Nelson districts rainfall has been adequate. Clovers and other pasture sources have yielded well and with continuation of good weather a better than average crop will be harvested.

Severe drought conditions prevailed throughout Marlborough, but good rains early in January will enable an average crop to be harvested. Vipers Bugloss, Catsear and lucerne are flowering well.

CHRISTCHURCH

Canterbury experienced the driest year since 1894 when official records first became available with only 15 inches of rain against an average 26 inches. The winter months were, in general, sunnier, colder and of course drier than usual. One bright climatic condition, however, has been the nearly complete absence of the high north west winds which enabled queen raising and hive spring build-up to be perhaps the best for many years.

By early December conditions in many areas were so poor, that hives were being moved out of the district to ensure even winter feed. However, since that time broken weather has enabled partial recovery of the pastures in most areas, and in these districts an average crop is expected. However, in other areas missed by the odd rain shower only winter stores for the hives are hoped for.

OAMARU

Drought gripped most of the Oamaru Apiary District from early spring until mid-December. Hundreds of thousands of sheep had to be moved from the worst hit areas in South Canterbury and North Otago to greener pastures in Southland.

Regular feeding of either stored honey or sugar was necessary in many areas throughout November and December. By mid-December, with so many pastures bare, it seemed unlikely that hives in the badly affected areas could gather winter stores. And then it came; from the 16th to the 18th of December about 2½ inches of steady rain, and a further inch at Christmas. The drought was over.

With so much stock out of the district pastures responded very quickly, and by New Year white clover, catsear, lucerne and thistles were flowering abundantly. A short, warm spell enabled the bees to gather sufficient honey to obviate the need for further feeding.

Further rain early in January produced plentiful bee forage in all parts of the district. Cool, unsettled weather has restricted bee activity and only fair quantities of honey have been gathered. Warm, calm weather is required in late January/early February if the bees are to gather an average crop.

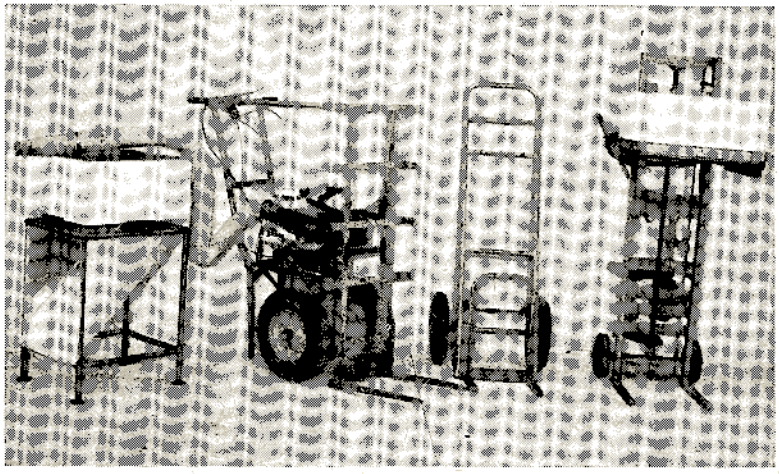
GORE

Spring conditions have generally been favourable in most areas of Otago and Southland with good build up of colonies. Yields from willow and bush sources were good.

Summer weather conditions have been generally good, with regular rainfall, long hours of sunshine and little wind.

Clover started to flower profusely in most areas from the middle of December. As a result most hives had a surplus of honey by Christmas.

Provided weather conditions continue warm, with the growth of clover at present, the crop should be better than average for the coming season.



"WARD" QUEENS, BLOWER, LOADER, HAND BARROW & HONEY HOIST

QUEENS. For my two queen sytsem I raise a number of early spring queens. On completion of this work from 1st November to end of April I will have a limited number of queens for sale at ruling rates.

BLOWERS: During the past season I have increased the power with 4 h.p. motor and incorporated a clutch so that the motor is not starting under load. Also attached is a telescopic device for holding the hose in ready position which is a great time saver. The deflector shute is spring loaded and bees can be deflected to the left or right of the operator. This is a robust unit and should give years of trouble free service.

MOTORISED BARROW. Still the same barrow with two forward speeds available and reverse. Blower can be fitted as extra attachment.

ELECTRIC HOIST. Automatically raises supers to a pre-set level for uncapping (save that back!). Can be used as fork lift for stacking honey on pallets in hot room or to conserve space in honey house. Will lift 400 lbs.

HAND BARROW, Light tubular steel hand barrow with adjustable forks on 16 x 4, 14 x 3 or 12 x 2 tyres. Ideal in the honey house or field.

DUDLEY WARD

KINTAIL APIARIES 47 GUY STREET, DANNEVIRKE

PUBLIC LIABILITY INSURANCE

Public Liability insurance has been and still is an important class of insurance. The public of today are becoming more "claims conscious" so that covers of $100,000.00 indemnity under Public Liability are now not uncommon.

Briefly, the function of Public Liability is to cover your "LEGAL LIABILITY" for injury to persons and/or damage to property caused by your negligence or the negligence of your employees.

For a claim to arise under this policy there must be a negligent act on the part of the beekeeper in the handling of his bees which would make him legally liable at common law.

The Beekeepers' Association holds two Public Liability Policies with the New Zealand Insurance Co. Ltd.

The first is an indemnity for "LEGAL LIABILITY" against death or injury of persons or livestock up to $10,000 for any one claim occasioned by the member's bees. This cover becomes automatic with the payment of membership subscriptions to the Association.

This is a restricted policy covering a small sector of your activities, and only claims arising through your negligence causing injury and/or death occasioned directly by bees is covered.

Because of the restrictive nature of the above policy, and some members being aware of the greater hazards which could involve the beekeeper by virtue of the widespread nature of his activities a wider Public Liability cover is available. This cover is purely voluntary—members can decide the limit of cover they desire.

The general scope of the Voluntary Cover indemnifies the Insured against liability arising from **ACCIDENTS** happening within New Zealand and occurring in connection with the busines of a Beekeeper as follows:

1. All sums which the Insured shall become legally liable to pay in respect of
   (a) Accidental death or bodily injury including illness of any person.
   (b) Accidental loss of or damage to property.
2. In respect of a claim against the Insured
   (a) All costs and expenses of litigation recovered by any claimant against the insured.
   (b) All costs and expenses of litigation incurred with the written consent of the company.
3. Caused by any defect in the premises occupied by the Insured for the purposes of the business including plant or machinery therein at any place or places where the business is carried on (all plant usual to the occupation of a beekeeper is included in the scope of this indemnity with the exception of motor vehicles).
4. **Fire & Explosion:** All damage to Third Party Property resulting from fire and/or explosion is covered under the policy (except where occasioned by the explosion of a beekeeper's own boiler or pressurised cylinder).
5. **Loading & Unloading:** Accidents happening in connection with the loading and unloading of vehicles if fully covered.
6. **Food Poisoning:** All claims causing accidental bodily injury including illness of any person arising from goods or the containers sold or supplied by the Insured, or poisoning of any kind caused by foreign or delterious matter in honey sold or supplied by the insured.

A "Master Policy" is held by the Beekeepers' Association with a schedule of members electing to have this cover attached to the policy each year.

1. Each member once he has nominated the amount of cover will now receive through the Association an individual policy.

2. All policies issued will have a common due date; viz. 1st of June each year.

3. On the due date of each policy they will be automatically renewed, a renewal certificate will be sent to the General Secretary and will be forwarded on to the Insured.

4. This will have the effect of bringing immediately to the notice of the members the premium due, without waiting for the issue of a subscription notice.

5. By this method the Beekeepers' Association will maintain the number of members effecting the voluntary cover, and it is hoped that more members will give serious consideration to the advantages of the wider cover.

6. Due to recent admendments in Public Liability Insurance, a new schedule of rates has been calculated, this now appears on the reverse side of your subscription notice. There is a reduction of approximately 10% on the previous rates for members with number of hives in excess of 100.

7. A policy may be lapsed at any time simply by notifying the Association.

The Beekeepers' Association have a Personal Accident Death Cover to the Executive members whilst travelling on the business of the Association.

Members will realise that Public Liability Insurance is only a small part of your overall insurance requirements. The New Zealand Insurance Co. Ltd is widely represented throughout New Zealand with branches and agencies, and all members should feel free to contact their local branch to discuss any insurance problems.

NZ Queen Trials A Little Disappointing

Comparison of New Zealand Queens for Honey Production and Wintering for Package Bee Production

From Dr P. Pankiw, Beaverlodge Research Station, Alberta

A preliminary comparison in honey production of California queens and of New Zealand queens which were inported in the spring of 1968 was given last year. Since that time the colonies have been wintered in the Fraser Valley of New Zealand was made in 1969 and these have been compared with California British Columbia and packages produced. In addition, another importation from stock, for build-up, gentleness, disease and honey production.

Wintering

Twenty-three New Zealand colonies and 17 colonies headed by California queens were made up in late August in 2 brood chambers, with 5 frames of pollen, and 70 lbs of honey. In mid September they were fed 50 mg fumagillin (Fumidil B) and 100 mg oxytetracycline (Terramycin). They were moved to Abbotsford, B.C. on October 1 and given 2 lb of pollen supplement.

The winter in the area was exceedingly harsh with above average snowfall accompanied by storms. Snowbanks covered the colonies for several days. On February 25, estimates of bees and brood were made and bees were sampled for nosema. The California stock had approximately 12.5 frames of bees compared to 7.5 frames from the New Zealand stock. The brood area was only ½ frame for each group indicating they had just commenced laying eggs. Only 2 New Zealand colonies had more than a trace of nosema and these were weak and queenless. All the other colonies were practically nosema-free. At this time a third super (averaging 45 lb of honey), 2 lb of pollen supplement, 50 mg of fumagillin and 100 mg of oxytetracycline were given. Another estimate of bees and brood was made on March 25-26. The California colonies were somewhat stronger having 11 frames of bees and 5 frames of brood compared to 9 frames of bees and 4 frames of brood for the New Zealand stock. Sacbrood was evident in the New Zealand colonies. The pollen supplement given previously had been consumed and 2 lb were provided in which was incorporated 20 mg of fumagillin and 100 mg oxytetracycline.

The colonies were again examined on April 30 at which time the queens were moved to the bottom brood chamber. All the pollen supplement had been consumed. Dandelions were blooming in profusion at this time.

Six lb of bees were shaken from the New Zealand colonies and 6.5 lb from the California colonies from the top 2 supers. The colonies were brought back on May 14. Cool and inclement weather prevented further shaking till May 23 at which time another 2 lbs of bees were taken from the New Zealand colonies and 3.5 lbs from the California colonies and still leaving an average of 3.3 lbs of bees in all colonies. Thus an equivalent of nearly 5 packages (2.2 lb per package) of bees were realized from the New Zealand colonies and 6 from the California.

The consumption of stores of honey and pollen other than that brought in by the bees from nectar sources mainly dandelion was 80 lb in over 8½ months.

In summary the California stock appeared to remain more populous during the winter, built up more rapidly in the spring and thus produced more packages of bees.

Honey Production

Thirty two-pound nosema-free packages (average 2.6 lb) headed by California queens and 37 nosema free two-pound packages (average 2.3 lb) headed by New Zealand queens were installed on May 5 with 4 frames of pollen and 20 lb of honey. Capped brood counts made on May 28 indicated the California queens were laying 25% more eggs than the New Zealand. Some of the New Zealand colonies had sacbrood. The major honey flow comemnced on July 5 and ended on August 15. During this period the average production o fthe New Zealand queens was 129 lb compared to 130 lbs for the California stock. Thus even with the slower build-up, the production was similar. During July when preventative feedings were not given, several New Zealand colonies had a light infection of EFB which also tended to reduce their production. As in 1968 the New Zealand stock was quite gentle and a lot easier to manipulate. They would be well adapted for beginners, for school use and also for pollination in greenhouses where gentleness is a factor. Further research will be conducted this winter and the following year to determine how long queens will live. Queens imported in the spring of 1968 did very well in 1969 and are being wintered again.

Based on the experience of the past two years we feel that New Zealand queens are adapted to the areas so far as honey production is concerned. Their wintering performance will need to be investigated further as well as their resistance to the two brood diseases sacbrood and European foulbrood.

Comparison of performance of New Zealand and California queens. 1969.

OUTYARD 1

	New Zealand	California
Number of packages hived (May 5)	23	15
Weight of bees in packages (lb)	2.4	2.7
Number of colonies removed from project (queenless, etc)	3	1
Av. brood rearing at 1 week (eggs per day)	662	903
Av. brood rearing at 4 weeks (eggs per day)	1150	1549
Number of colonies with sacbrood (May and June)	10	1
Number of colonies with EFB (July 24-30)	6	1
Average production (lb)	112	111
Production of non-EFB colonies (lb)	124	113
Production of EFB colonies (lb)	85	90

OUTYARD 2

	New Zealand	California
Number of packages hived (May 5)	14	15
Weight of package bees (lb)	2.2	2.6
Colonies removed from test (queenless, etc.)	1	2
Brood rearing at 1 week (eggs per day)	738	869
Brood rearing at 4 weeks (eegs per day)	1113	1476
Number of colonies with sacbrood (May and June)	0	1
Average production (lb)	146	150
Number of colonies with EFB (July 24-30)	2	0
Production of non-EFB colonies	150	
Production of colony with EFB	107	

NZ HONEY PACKERS' ASSOCIATION

Annual General Meeting Report from Lloyd Holt.

17 members were present at the Annual Meeting of the N.Z. Honey Packers Association Inc., providing a good cross-section of honey producer-packers throughout New Zealand. One new member was elected.

The President reported on the Executive Meeting held the previous evening, when consideration was given to the proposed Health Department Regulations applying to honey production, and on the N.Z. Beekeepers' Association proposals for an Industry Fund.

The meeting agreed with the recommendations of the Executive with regard to the report to be forwarded to the N.B.A. on the proposals for an Industry Fund.

Regret was expressed that the N.B.A. did not send a representative to the meeting to discuss the proposal.

The Secretary was asked to inquire into the stage that the Health Department would assume control.

A summary of the Remits passed is as follows:-

Remit 6.

"That the N.B.A. be advised of the support of this Association should a levy on production be imposed in order to establish an Industry Fund, providing that the voting qualifications for Industry Elections be negotiated on the total levy paid by the producer."

Carried Unanimously.

Remit 3.

"That, in principal, we consider the N.B.A. should administer the levy rather than the present H.M.A. administration."

Carried Unanimously.

Remit 2.

"That this Association advises the N.B.A. that, as the present Seals Levy is not an Equable Industry Fund, the Association members will consider that as from 31st March 1970 they should discontinue to pay the Seals Levy to the H.M.A. until such time as the beekeeping industry bring down an equable Industry Fund acceptable to all parties."

Remit 2a.

"That to cover the legality of the above the Association consider the establishment of a TRUST FUND into which all Seals Levy may be paid until the matter is clarified."

Remit 1.

"That, if necessary, the whole position of the Seals Levy be placed before the Ombudsman after the 30th April 1970."

Remit 13.

"That a full statement of our Annual Meeting be published in the N.B.A. journal. It would tend to contradict malicious criticism and create goodwill."

Note.

In view of the proposed N.B.A. proposals for an Industry Fund other remits dealing with this atter were withdrawn.

Notice of Motion.

The meeting unanimously carried the following resolution:-

"It is imperative that members of the N.Z. Honey Packers Association Inc. **DO NOT** reduce their buying price in line with that of the recent low payout of the Honey Marketing Authority."

The Secretary read correspondence in relation to this year's low selling price of some packs and the meeting resolved:- "That this Association is not satisfied with the Authority's reply to our inquiry re low selling prices and requires the Secretary to request further information."

The matter of the Industry Journal (N.Z. Beekeeper)* giving preferential treatment in a detrimental manner to our Association was discussed at length and items on pages 14, 21 and 24 of the November issue along with comment on letters and the meeting carried the following resolution which was moved by the Chairman:- "That this Association expresses its disapproval of the attitude of the N.Z. Beekeerpers' Association in not submitting correspondence in the Journal for comment when the Packers' Association actions are being attacked."

The Kimpton Contract came under discussion but no action was taken.

Association Executive Officers elected were:-

President:- J. K. Bray. Secretary:- R. Davidson. Executive Members:- Lloyd Holt and K. W. Herron.

A new position of Press Officer was established and Mr Lloyd Holt was appointed.

A letter expressing the wish that Mr N. E. Glass would soon be back to normal health was requested by the meeting.

Apologies for absense were recieved from:- Messrs R. W. Field, N. E. Glass, W. T. Herron, C. L. Hunt, J. D. Hishon, T. C. Gavin and I. C. Thomas.

** Any news submitted to the NEW ZEALAND BEEKEEPER is assessed on its merit and value to readers; contributions do not necessarily reflect the policy of the NBA or the personal opinion of the Editor whose responsibility is to inform, and inform fairly. Specifically, the item on page 14 of the November issue was a factual and accurate report by the Secretary of the Association in his capacity of Returning Officer. On page 21 a letter from a producer was published in which he expressed his personal view on a matter of interest and on page 24 was published a report by the Chairman of the HMA. The Editor rejects in entirety any suggestion of "preferential treatment in a detrimental manner" and will continue, as hitherto, to present industry news and views without bias, restriction or censorship; from whatever source.*

—APIARIES ACT 1969—

The attention of beekeepers is drawn to this Act which comes into force on the 1st April 1970.

The Act consolidates the amendments made to the 1927 Act and also incorporates various Regulations which have been passed since 1927 with the exception of the Honey Export Regulations. Thus, a beekeeper, in obtaining a copy of the Apiaries Act 1969, has available to him all legislation relating to management of his hives.

The new Act has made certain basic changes with regard to registration of apiaries. Bees can now be kept for fourteen days before registering the apiary.

Code numbers are now allotted to beekeepers; — under the old Act they were allotted to apiaries.

Under the 1969 Act provision is made for registration of seasonal apiaries.

A beekeeper is no longer required to submit an annual return showing decreases or increases but is still required to inspect all his hives once a year during the period 1st August to 31st October each year and to submit a return in accordance with the schedule to be supplied by the Department.

There are two provisions relating to the control and eradication of disease and a beekeeper is now required to take measures forthwith to eradicate disease in order to prevent its spread, (under the old Act seven days' grace was given). Similarly, when disease is found the beekeeper is required forthwith to notify in writing an inspector for the district and to take proper measures to eradicate the disease to prevent its spread.

Further details on the requirements expected from beekeepers under the Apiaries Act 1969 will be published in the May issue of the Journal. Beekeepers should be well informed on the requirements of the Act, and copies can be obtained from your Branch Secretary or direct from the Association's General Secretary, P.O. Box 40-127, Upper Hutt, at a cost of 20 cents each.

COMMENTARY from the Editor's Desk and Mail

QUEEN REARER F. D. WHITE of Kamo, Northland had an unpleasant experience when he found quantities of bees dead and dying outside some of his best hives in the Ngararatuna district last December, and lost no time in getting the Department of Agriculture on the job from Auckland to pin-point the reason. Apiculturist Bob Walsh and others agreed that the symptons were suspiciously allied to spray poisoning by insecticide, and samples of dead bees were sent down to Wallaceville for microscopic examination. Precise identification of the causative spray was not possible, but it seems that some fruit grower in the district had been spraying trees in bloom without prior notification or permit from the D of A. Fortunately, the poisoning was short lived and no severe damage caused to queen rearing stocks destined for the export market to Canada.

★ ★ ★

BEEKEEPERS IN ENGLAND had an exceptionally good year for honey production in the Northern summer. but survival of stocks left without ample supplies of feed in the current severe winter will be doubtful. Bitter winds, snow and ice with unexpected fluctuations in temperature will tax the strength of colonies to the limit. Intensely cold conditions followed by a day or so of warmer weather cause havoc with the cluster because of damp conditions within the hive due to condensation. Provided there is adequate feed and reasonable protection from piercing winds, life continues but damp interiors are killers.

Another problem beekeepers in the UK experienced last season was the fact that some honey was fit only for feed purposes due to green discolouration brought about by the use of de-natured sugar in the brood chamber in the spring. Whilst the honey is technically fit for human consumption, it would take a good salesman to convince a prospective buyer of this fact and in some cases, a bitter taste has been noticed in affected honey.

Beekeeping associations agitated for a number of years to purchase sugar at reduced rate for feed purposes, and the Ministry of Agriculture eventually approved a scheme to enable supplies to be obtained which were easily identifiable by artificial colouring and an unpalatable taste to the human taste buds. To the bees, however, sugar was sugar and was readily converted into feed. Sucro octo-acetate was added to provide a bitter taste and a harmless dye green in colour to provide visual identification.

A similar scheme has been in force on the Continent where Methyl Violet or Methylene Blue was added as coloring agents, but neither substances were acceptable under the UK Food & Drugs Act requirements. Continental beekeepers have been facing similar problems with honey discoloration and tainting.

Naturally, beekeepers are incensed that they have been permitted to use a product which has longer residual effects than at first thought, but it has been pointed out that the Ministry did not recommend the use of de-natured sugar but simply made facilities available for reduced price buying. Similarly, Dr. Bailey of Rothamstead Experimental Station did not endorse the use of de-natured sugar, but in the light of tests made in a very short period of time indicated that it was safe as a bee food. During and after the war when sugar was strictly rationed, sugar was available at a reduced rate to beekeepers for feed purposes. It was amazing the number of 'back-yard' apiarists who sprang up like mushrooms overnight to take advantage of the easy and legal way to obtain extra supplies of sugar. Whether all supplies went into the brood chambers is a matter for conjecture.

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HONEY PRICES is a topical subject discussed in the 'British Bee Journal' which relates that Rumanian acacia and Californian clover is selling on the local retail market at 4s-8d per lb and suggests that home producers should cut their pattern according to their cloth and local demand. Pointing out that 6s-6d is a good price for mixed flower honey and 7s-6d lb acceptable for first quality heather honey the warning is given not to be too greedy in fixing too high a price for the product and to settle for 5s-6d a lb in thinly populated areas. Honey dew and black honey has been more noticeable in crops from the last season.

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IN SCOTLAND, heather honey production was less last year, and the following minimum prices are suggested:

Per 1 lb jar extracted or pressed heather honey ...	7s 6d	5s 7d
Per 1 lb cut comb heather honey in cartons (6d per oz)	8s	5s 10d
Per 1 lb top quality heather honey sections	9s	7s

Because of imported or other honey being fobbed off on unsuspecting buyers as 'Scottish Heather Honey', application has been made for registration of "SCOT" trademark to the Board of Trade to protect the Scottish producer.

SUGAR AND HONEY FOOD VALUES—According to the U.S. Department of Agriculture's food-composition tables, a pound of granulated white sugar—either cane or beet—contains nothing but carbohydrates and calories. All protein, minerals and vitamins present in the raw material is removed in processing. One pound is left containing 451.7 total carbohydrate and 1,748 calories.
Extracted or strained honey contains all major nutrients except Vitamin A. Included in 1 lb of honey are: 1.4 grams of protein, 23 milligrams of calcium, 73 mgs. of phosporus, 4.1 mgs. of iron, .02 mgs. of thiamine, .17 mgs. of riboflavin, 1.0 mgs. of niacin, 16 mgs. of Vitamin C (ascorbic acid), 360.9 total carbohydrate and 1,333 calories.

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IF YOU HAVE any private or personal reason for not wishing to have contact with the police, beekeeping in France will not have much appeal. The law there demands the following requirements to be met:

The site of each apiary must be declared to the nearest police station each year. Any proposed apiary site has to be declared and the destination of any hives moved.

Each hive must have an identification card showing a letter and number as well as a visible board at the apiary.

All contagious or infectious diseases must be notified immediately and prescribed treatment carried out to combat extension.

Revenue from all hives in excess of 10 must be declared each year, and every honey producer must show his name and address on wrappings or labels.

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THE IRISH BEEKEEPER, in a critical review of Irish beekeeping, points out that the Irish honey industry does not obtain adequate tariff protection because the Department of Agriculture claims that insufficient is produced to warrant protection. It is further alleged that the Department's official production figures are well below the factual tonnage and that they may have been purposely produced to substantiate Departmental reasoning. The queston is asked "How stupid can they get"?
Irritation is also expressed at a broadcast on beekeeping in Ireland in which reference is made in the program to Irish honey being too expensive and the claim that it should be as cheap as foreign honey since it does not cost any more to keep bees in Ireland than elsewhere. The contributor points out that it is a pity the program compiler did not study his economics which might have enabled him to explain why it is that Irish butter is an average of 1s-6d a pound cheaper in England than in Ireland and that Czechoslovakian honey in Prague costing 12s-6d a pound in Prague can be purchased for approximately 1s-0d per pound at the London docks!
Apparently the T.V. program concerned showed the beekeeper smoking a cigarette whilst extracting and bottling, and some caustic comments are

justifiably made that cigarette ash does not improve the flavour of honey neither does it improve the clarity. Perhaps it would be a good thing if prohibition of smoking in honey houses became international.

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A RUSSIAN produced a sweetened compound which he bottled and sold as 'honey'. The 20 tons produced brought no sweet reward for on conviction in the court he was sentenced to seven years in prison. No messing about in this judge's court.

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DUDLEY WARD'S son James of Dannevirke has now returned home after two years practical work with Robert Banker's Apiaries near Cannon Falls, Minnesota, U.S.A. The Bankers operate 2,000 colonies of which most are two-queen and James was able to gain some very good first hand experience on American commercial beekeeping methods in various parts of the country including early queen rearing in California and Texas when snow blanketed his host's operations in the north. It will be interesting to hear from James how far he has been able to equate his experience and work overseas with New Zealand conditions.

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REPORT FROM LONDON from a non-beekeeping visitor: "New Zealand honey is selling in Buckinghamshire at 7s-0d a comb but it is not very attractively packed compared with overseas honey.
The Americans are selling hard-to-resist pottery jars, mugs adn cups full of honey for 7s-6d" The salient factor is: how much honey is contained in the pots? If you want a jar to eat, that could alter the situation.

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POLLINATION CONFERENCE—The 8th Pollination Conference will convene at the Arlington Hotel, Hot Springs, Arkansas, USA on Oct. 13-15, 1970. Participants will include workers from the areas of plant breeding, seed production, bee breeding, apiculture, commercial pollination, extension services and others. The program has for a major goal a review of new knowledge and understanding of plant-bee relationships and their importance to crop and honey production developed since the last conference in 1965.
Researchers, commercial pollination services, practical apiculturists, seed producers, plant breeders, and others will exchange information relative to current research and practial field problems pertaining to pollination of crops and honey production.
The program includes topics on small and orchard fruit pollination, vegetable production, bee genetics, forage crop production including soybeans, alfalfa and other legumes, oil crops, cucurbits and other subjects of interest. Leaders in the various fields are scheduled to head up the discussions and are representative of all areas of the United States.

The conference is sponsored by the University of Arkansas, Cooperative Extension Services of Arkansas and Oklahoma, American Beekeeping Federation, Southern States Beekeeping Federation, Apiculture Branch, USDA and local beekeeping organizations.
A formal program and schedule will be published later.

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INTERNATIONAL QUEEN COLOUR MARKING. An error appeared in the November issue for which the long suffering printer can easily be blamed. The colour code should have read: Year ending 1 or 6—White, 2 or 7 Yellow, 3 or 8 Red, 4 or 9 Green, 5 or 0 Blue. Thanks to the sharp eyed reader who enabled the record to be set straight.

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PROCEEDINGS OF THE BEEKEEPING SEMINAR held in the Conference Hall at Ruakura on August 20 and 21 1969 have been collated and bound by the Department of Agriculture into a very well worth while publication. Verbatim reports on speakers subjects with subsequent questions and answers will form a most worth while source of information for beekeepers unable to attend the Seminar, and much of the material will be published in subsequent issues of the NEW ZEALAND BEEKEEPER.

It pays to brand 'em

Don't sell your honey blind! If you want people to buy **your honey** — not just any honey — you must mark it with your brand or name.

- **Branding pays, especially in CARDEA cartons because you can get bold striking designs which make your name stand out.**
- **With a distinctive design and a boldly displayed name, customers will be able to pick YOUR honey out AGAIN**

Frank M. Winstone (Merchants) Ltd.

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BENEFITS of COMPANIES and Suggestions on Accounting Records

By A. E. HILTON, ACA, in an address to beekeepers at the Hamilton Seminar.

I have been asked to give beekeepers attending this year's North Island Conference, some points on Companies and some general suggestions on Accounting records. Naturally, in the time available, all aspects cannot be covered, but I hope to bring out some of the main points which you may then be able to consider and discuss with your financial advisers.

Companies Taxation:

Many people look upon Companies as a means of saving income tax and, although this may be partially true in the short term, it is really only a means of deferring the payment of tax. This is because the undistributed profits held by the company, if required by the shareholders at any time, attract dividend tax in the shareholders' hands when distributed to them by way of dividend. Under present rates, dividend tax is 35 cents in the dollar maximum against personal tax maximum of 67.5 cents, and some tax savings can be managed here, depending on various circumstances of the shareholders and the set-up of the company. Generally speaking, it is not worthwhile forming a one-man business into a company until the business is earning approximately $9,000 net profit per year.

One must consider each case in its merits. Exemptions must be considered, i.e. number of dependants, Life insurance premiums paid etc., as these can give widely differing results to individuals.

Limited Liability:

Here you must understand the concept that in law a company is a separate entity and trades as such. Limited Liability Companies, which are the most common, have a fixed capital made up of shares, known as share capital. When the share capital is fully paid, this becomes the limit of the shareholders' liability for debt. This means, in general terms, that if the business should fail the shareholders are not required to pay in any further money to pay the company's debt. This means that the personal assets of the shareholders e.g. House, furniture etc., would not be available to the company's creditors. In practice, however, most lending institutions today require the personal guarantee of the shareholders when the company borrows money and this virtually cancels the protection of the companys limited liability as regards the individual shareholders.

Estate Planning:

Once again, depending on individual circumstances a Company can also be useful for estate planning.

A company can carry on indefinitely as long as it continues to pay its way and its shares can be transferred from one individual to another. Thus ownership of the business and its assets can be transferred fairly readily.

This means that a married man with say four children could stabilise the bulk of his estate by forming a company and have most of the shares held by his wife and children. In the event of his death, his estate might then consist of relatively few shares, with a subsequent saving in death duty. During his lifetime, by spreading the income over several people i.e. the family, income tax savings may also be affected. It is essential however, to set up the share capital in such a way that the owner or husband should be able to retain control should he desire. This can be done by having various types of shares with different rights attaching to each.

Accounting Records:

I cannot stress enough the importance of accurate business and accounting records. Many of you look upon beekeeping as a hobby, and no doubt this makes your occupation that much more enjoyable, but you cannot ignore the fact that every one of you here today is a businessman, and this means you must run a profitable business to provide for your wants.

Most of you will take a keen interest in the technical sessions at this seminar and evaluate the points made, and try to adapt them to your own business, in the best possible manner. If you spend as much effort on the management aspect you will find it equally rewarding and successful.

In this day and age of specialisation, we go to the expert for advice on matters outside our sphere. I would suggest that each of your should ensure that you have the services of a good accountant and a good solicitor. Your financial adviser, however able, is not a magician and he can only give you good advice if you supply him with full and correct information. To this end, I would suggest that you discuss with him what would best suit your needs. Even in this day of the computer, a handwritten cash book still has merit, especially if it is written up regularly at say monthly intervals. This then gives you an up-to-date record so that accounts may be taken out at any time. Rather than take out annual accounts, six months after the close of your financial year, you are in a position to take out monthly accounts with all the many advantages of checking on budgets, making financial decisions, backing up application for further finance etc. If you wish to keep your records in a sugar sack or a shoebox and have them processed at greater cost once a year, that is your prerogative, but the loss is also yours — loss because of delays, not knowing your true financial position, missing of opportunities. You may tell me, "I am not a bookkeeper, I'm no good with figures, I leave that to the experts." Well the experts aren't really interested in the details, they are keener to help you with major decisions, which, with their experience, they are better qualified to assist. I can assure you

that if any of you care to keep your accounting records on a monthly basis and use some of the rudiments of business management, it will pay you handsomely. A great deal of business acumen is only common sense. Today more than ever, you must be up with the play.

In conclusion, I would repeat that you discuss the points I have mentioned with your financial adviser. Don't use him once a year to find out how much tax you have got to pay. Discuss your financial problems with him and get his assistance frequently. Believe me he is very interested and you may be able to show him a thing or two about beekeeping!

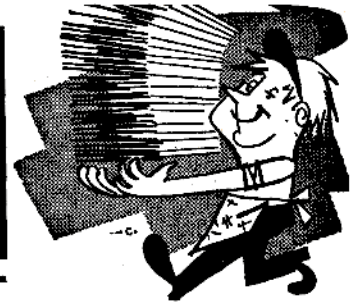
APICULTURAL ADVISORY OFFICER

A Notice in THE GAZETTE announces that the Apiary Instructor for Oamaru, Mr Vince Cook, has been promoted to the position of Apicultural Advisory Officer in the Department of Agriculture.

This is good news indeed and promotion that has been well deserved and thoroughly earned. Beekeepers in general who have benefited from Mr Cook's work published in THE NEW ZEALAND BEEKEEPER and apiarists in his area in particular will be especially pleased to know that his work has been appropriately recognised.

It had been understood that promotion to Apicultural Advisory Officer would not be made unless the candidate was in possession of an academic degree from a recognised University. It is fitting that a man with Mr Cook's practical knowledge should be the exception to the rule, and the industry will be united in tendering him sincere congratulations.

BRANCH NOTES



BAY OF PLENTY

Of recent months the branch has met on several occasions and at one meeting discussed the pending new Apiaries Act. The opportunity was also taken to honour Mr C. P. London as a Branch Life Member. Charlie was one on the original foundation members of the Branch and both he and Mrs London have been a great help to the Branch.

A more recent meeting was held to arrange for the Annual Field Day and a very good programme has been arranged for Sat. 31st January.

The honey season at time of writing (early January) is very patchy. A good winter with a better than average spring, but since then conditions have deteriorated. In bush areas Rewarewa flowering was almost nil. Tawaire was below average because it started to yeild and then the weather broke and that was that. In pasture areas we are experiencing beautiful sunny weather, but with very little clover flowering, and a very limited amount of flowers of any kind. Present indications are for below average crops in bush areas, and patchy returns in pasture areas.

Reported by Don Barrow.

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WEST COAST

The annual field day was held on November 1st at the home apiary of Mr P. Lucas, Hari Hari.

Weather conditions were ideal and Mr Lucas welcomed a well attended gathering of beekeepers, including a number from Canterbury. Also present was Mr E. Smaellie, Superintendent of beekeeping, and Mr Varley our local apiary instructor.

Mr Lucas showed beekeepers through his new honey house, and there were talks and discussions on various topics of interest to beekeepers. We were well catered by Mrs Lucas and her daughters, who provided morning and afternoon tea which was much appreciated.

Since the beginning of November weather conditions on the Coast have been favourable for bee-keeping. There was a light flowering of Kamahi, and at the present time, Rata is flowering well; — about a fortnight earlier than usual. The prospects are for an above average crop this season.

Reported by R. V. Glasson.

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SOUTHLAND BRANCH

Beekeeping and NBA affairs in the South had been quiet until the HMA payout was made final and then most beekeepers took a keener interest in honey marketing. A meeting in Invercargill dealt with the matter in some detail with the cooperation of Mr J. Fraser, Chairman of the HMA.

The annual field day is to be held at Mr W. T. Herron's home apiary on February 7th

The spring was warm and feeding of bees was not excessive. Spring queen mating was good. The clover is now flowering well even after about 6½ inches of rain in the Christmas—New Year period.

The honey crop should be good. Ten days fine weather is required to make the season as good as last year.

Reported by K. M. C. Herron.

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CANTERBURY

The honey crop in North Canterbury and the lighter soils of Mid-Canterbury are a total failure this year. By the beginning of December, stores in the hives were down to zero and owing to the shipping strike, no sugar was available for feeding, despite assurances, in Mid-September, from the

manager of N.Z. Sugar Ltd. that ample stocks were on hand. Brood rearing ceased in some areas and hive strength fell to nucleus size. Some hive losses have been reported. Fears were held that hives would not get winter stores but rains in Mid-December have revived some pastures to some extent. The dry conditions have caused the second crop of lucerne to flower prematurely being only two to six inches high. This lucerne is being worked by the bees and should help the winterfeed situation. Large numbers of hives have been shifted from the light land to the bush or to greener pastures in the foothills of Mid-Canterbury.

Reported by R.R. Bushby.

SOUTH CANTERBURY

Weather conditions remained dry up to the end of November and the outlook for a honey crop was grim to say the least. Much feeding was necessary. However, rain came—light at first then heavy later—until over 3 inches changed the whole outlook and now in the middle of January 1970, crop prospects are for average yields in most areas and depending on weather, crops in some places could be above average.

The fact that thousands of sheep have had to leave the district and will not be back for a while should make more clover available. It's an ill wind that blows no one any good!

Harvesting the honey crop will be some three weeks later than usual but no beekeeper will mind that, and all will be indeed thankful that we will have honey to extract. Now is the time to check over the honey house and "get going".

Reported by J. G. McKenzie.

OBITUARY

Eric B. Hight of Thompson St., Tinwald, Ashburton died suddenly while attending church on Sunday 2nd November, 1969. Mr. Hight, who had recently retired from beekeeping, was one of the oldest members of the Canterbury Branch, and had passed over his bees to his son David. He regularly attended Branch meetings and his presence will be sorely missed.

He is survived by his wife and children.

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WAIKATO

After dry conditions in October-November, clover stared to yield well and prospects were for an early crop. How thrilled we were when we had heavy soaking rain one evening. However rain continued, some areas receiving good quantities while others very little.

Tawaire was very poor mainly due to rain, and a lot of shifting took place, some hives being shifted in and then removed in two weeks.

When the rain stopped around Christmas, fine warm weather prevailed followed by a flush of pasture growth and very little honey coming in, but with drier conditions now a better flow has come and prospects are for an average crop.

Very noticeable is the varying yield of different apiaries in an area. Some have done far better than others for some reason, whether humidity or extra rain.

Reported by C. Bird.

"QUOTES"

"I estimate the number of authors who have written about bees, before my time, at between five and six hundred."

A. De Montfort, Luxemburg, 1646

"American Brood disease (Bacillus Larvae) is easy to get rid of. I touch wood when saying that in running a couple of thousand colonies we have had hardly any B.L. for years."

R. O. B. Manley, England.
"Bee Craft" 1965

"Every known disease of bees can be and must be excluded from the apiary by systematic endeavour."

S. Simmins, England. 1914

DAR-ES-SALAAM BEESWAX

By Dr. F. G. SMITH

Editor of "APICULTURE" W. Australia to whom we are indebted for this story.

Why does Dar-es-Salaam beeswax fetch a better price on the London market than good Australian beeswax? This question has been put to me several times in recent months. Having devoted thirteen years of my life to the improvement of Dar-es-Salaam beeswax I am in a position to answer this question.

Beeswax produced in Tanganyika and exported through the port of Dar-es-Salaam is known as Dar-es-Salaam beeswax. It has a long established reputation for good quality. This was started by the Germans at the beginning of the century when they taught the African beekeepers how to render beeswax. At that time the Germans were leaders in the wax rendering field and the principal British wax refiners learnt their trade from the Germans. The standards established by the Germans were maintained by the business houses dealing with the export of beeswax from Dar-es-Salaam. Later the Tanganyika Government played their part by doing extension work on beeswax preparation and by establishing export standards for beeswax quality. This work was intensified and expanded in 1949 when I arrived in Tanganyika to study African bees and beekeeping methods and to improve and stimulate beeswax production throughout the Territory.

The main reason for the popularity of Dar-es-Salaam beeswax is that it bleaches easily. This is because the colouring matter in the wax is only that which it has obtained naturally from the oils in pollen grains. It is free from the unbleachable stain caused by chemical reaction between molten beeswax and certain metals. It is also free from the damage caused by overheating and by prolonged heating.

Overseas buyers have always been insistent that producers should be taught to render beeswax into clean cakes in the first place, so that no subsequent treatment is required. Dar-es-Salaam beeswax is exported in the form of the original cakes as rendered by the beekeeper, broken in half or perhaps smaller pieces by the shipper to ensure that there are no stones or other foreign bodies in the cake. The overseas buyers have been most insistent that cakes of wax of different colours should not be melted down together because the refiners like to be able to pick out different colours for different uses. The pale yellow waxes are used for making cosmetics and for pharmaceutical purposes, the orange and darker colours go into polishes, electrical insulation and for other purposes where colour does not matter. The overseas buyers have always preferred to tolerate a

little bit of dirt rather than have large quantities of wax melted down in iron drums and subjected to prolonged heating.

Tanganyika has been fortunate in that the domestic appliances readily available for the beekeeper to use were not made of materials which reacted chemically with beeswax. Earthenware cooking pots, good quality tinplated four gallon kerosene tins, aluminium saucepans and enamel basins are the vessels normally used for rendering beeswax by the Tanganyika beekeeper. None of these hurt beeswax in any way. The wax is melted in plenty of water but the water is never allowed to come to the boil because this would cause a partial emulsification of the wax. The wax is constantly stirred in the water while being heated and as soon as all the wax has melted the fire is withdrawn.

Another important point is that the bowls used as moulds for the melted wax after it has been strained are smeared with a film of soapy water or, in some cases, with honey. Honey has disadvantages but does not damage the wax. Oil or fat is never used for this purpose. It must be remembered that while ordinary solids like sand and dust can be removed from beeswax by filtering, wax that has been damaged chemically by reaction with metal or by overheating, or wax which has been adulterated by the addition of another wax or an oil or a fat cannot be made good by refining. It is permanently damaged and its usefulness is greatly limited, or lost altogether.

There is no reason whatsoever why the wax obtained from cappings in Australia should not be equally good and in as much demand and fetching as good a price as Dar-es-Salaam wax. All that is required are cappings reducers and moulds made of metals which are not injurious to the wax. In fact I have seen wax in Western Australia which has been in contact only with stainless steel and is quite comparable with Dar-es-Salaam wax.

The wax from old brood combs presents altogether a different problem. It should *never* be mixed with the wax from cappings. The first problem lies in the comb foundation. This was inserted by the beekeeper to provide a base on which the bees built their comb. But in most cases the beekeeper has no knowledge of the composition of the wax or of the treatment to which the beeswax forming the comb foundation had been subjected before he bought it. It could well be adulterated although that is

unlikely. It probably has been overheated, and it most certainly will at some stage or other have been in contact with galvanised iron or other injurious metal.

Then there is the problem of the wires in the frames. These wires have a very poor coating of tin. The steel is frequently exposed. The nails used to hold the frame together may be galvanised but by the time the old comb is ready for rendering the nails have become rusty. So it can be seen that when the old combs are melted there will be a reaction between the wax and the frame wires, and the nails. This detracts from its quality.

It is difficult to see how any improvement can be made in this field until—

- the comb foundation manufacturers use only cappings wax for the manufacture of foundation;
- only very well tinned frame wire or monel wire is used; and
- the parts of the frames are secured by nails which do not corrode or by a type of glue which is not soluble in hot water.

Until such time as this occurs the wax from old combs will have to be kept quite separate from the wax from cappings. This will enable Australia to market cappings wax of a quality comparable with Dar-es-Salaam wax and to use its wax from old combs for other manufacturing purposes which don't require such high standards as the cosmetic and pharmaceutical industries.

The main points to remember when rendering beeswax are as follows:—

- Iron, zinc, galvanised iron, brass or copper should not be used for the vessels or the metal parts coming into contact with melted beeswax because they tend to stain it.
- The wax should be heated either in water or with a water jacket between it and the source of heat. Overheating causes decomposition of the wax and prolonged heating darkens its colour.
- Old combs and dark combs should be melted in water to improve the colour.
- Cappings and wild comb, such as burr comb and brace comb, should be melted separately from the old combs to prevent the wax of the cappings and wild comb from being stained by the combs which are dark or already damaged. Beeswax of different colours should not be melted together.
- Soapy water may be used for smearing in the moulds to prevent the wax from sticking when it sets, but *under no circumstances* should any oil or fat be used for this purpose. If the wax is not too hot and the surface of the mould is quite smooth then there may not be any need to use even soapy water.

For further information on the chemical and physical properties of beeswax, the preparations of beeswax, the Tanganyika Produce Export Beeswax Rules and the uses of beeswax, the reader is recommended to see *Beekeeping in the Tropics,* published by Longmans, London, pages 198-203; 224-237.

MEDICINAL VALUE in HONEY

We are indebted to the German bee journal "der Imkerfreund" for the following item on the medicinal value of honey.

Dr. Stamboliu recommends honey, especially along with Royal Jelly and pollen, as an effective means for the treatment of liver illnesses. The beneficial property of honey for the liver is largely due to its high content of glucose. In clinics glucose is frequently injected intravenously as a cure for liver troubles.

Bladder and kidney troubles are looked upon as illnesses of the complete organism in the modern medical world.

The normal working of the heart, liver and nerve system are involved and disturbed thereby. Honey is considered to be a most thorough and effective palliative in all these illnesses; for honey is a hypertonic solution of glucose (37-40%) and glucose is a recognised means of helping the body to work with energy and combat illnesses. Besides glucose, honey contains other elements that are important to the organism. Honey can be recommended as a preventive, but taken as such, the effective dose should be prescribed by a doctor.

Prof. Zander writes: "There is no better, safe night cap than a glass of honey-water which at night always has the effect of strengthening and pacifying." Such a drink can be prepared with warm water to which is added a spoonful of honey and the juice of a lemon.

In ancient Egypt, honey was considered to be one of the most effective cures for a number of eye-troubles. In a papyrus discovered by Ebers, beside a prescription for the preparation of a honey ointment and its use, there is written in red the following remark: "Note this well, for it really is a good cure." In Russia today an ointment mixture of honey and sulphonamides is used to treat inflamation of the cornea.

An Ode to the bee, reprinted from "A MEDICAL BULLETIN" published by May & Baker Ltd, London.

Consider well the worker bee,
Which unlike either you or me
Is quite without gonadic means
To pass to other bees its genes.
(This apine task by drones is done,
Who, some would say, have all the fun.)
The worker bee, as you may judge,
Spends all its life in one long drudge,
Spending all day in search of food
To feed the drones, the queen, the brood.
For miles and miles it flies and flies,
And then exhausted falls and dies.

CONVICTION

A young beekeeper was charged before Mr J. H. Murray S.M. in the Whangarei Magistrate's Court last month, on a series of charges relating to burglary, theft, false pretences and dangerous driving.

David Benjamin Balle, aged 20, was sentenced to borstal training on three charges of burglary, three of theft, two of false pretences and convicted and discharged on four charges of theft and one of dangerous driving.

The National Beekeepers' Association

(For the advancement of the Beekeeping Industry in New Zealand)

'Better Beekeeping—Better Marketing'

SUBSCRIPTIONS

0 to 20 hives	$2.00		1001 to 1100 hives	$22.00
21 to 200 hives	$4.00		1101 to 1200 hives	$24.00
201 to 300 hives	$6.00		1201 to 1300 hives	$26.00
301 to 400 hives	$8.00		1301 to 1400 hives	$28.00
401 to 500 hives	$10.00		1401 to 1500 hives	$30.00
501 to 600 hives	$12.00		1501 to 1600 hives	$32.00
601 to 700 hives	$14.00		1601 to 1700 hives	$34.00
701 to 800 hives	$16.00		1701 to 1800 hives	$36.00
801 to 900 hives	$18.00		1801 to 1900 hives	$38.00
901 to 1000 hives	$20.00		1901 to 2000 hives	$40.00

JOIN YOUR NEAREST BRANCH
AND DERIVE FULL BENEFITS

APIARY INSURANCE
(Public Risk Indemnity)
Free Cover for Association Members

All financial members of the Association are automatically indemnified against Public Risk claims up to $10,000 in any occurrence of injury or death to persons or livestock directly attributable to the action of the members' bees and arising from his or her negligence as the beekeeper. The cover is underwritten by the New Zealand Insurance Company Ltd and the premium met by the Association from consolidated funds.

THE N.Z. BEEKEEPER

This Journal is issued to all members of the National Beekeepers' Association and direct subscribers.
Literary contributions and advertisements must be in the hands of the Editor, Mr L. W. Goss, P.O. Box 3561, Auckland, not later than the 25th of the month preceding publication.
Nome-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.

ADVERTISEMENT RATES

Quarter Page	$4.50	Per Inch	$1.25
Half Page	$8.25	Min. Charge for each insertion.	65c.
Full Page	$15.00		

Front Page Story

Pictured on our front cover this month is that grand young man of beekeeping Charles F. Horn of Waihou, with a record of 72 years experience in beekeeping behind him.

As a 12 year old boy in '97 he carried home a swarm in the close confines of a humble shoe box given to him by a neighbour, thus starting a life-long interest in the wondrous workings of the bee.

Active, hale and hearty at the age of 84, Charles stepped into the breach to open the North Island Beekeepers' Seminar held at Hamilton when the speaker scheduled for the opening ceremony failed to attend.

Listeners to the formal opening will be very well aware that Charles F. Horn is as active mentally as he is physically, and readers will enjoy his reminiscences of his life with the bees, published in this issue.

There are many of us who would be happy to know that we shall attain and retain our health and interest for such a busy life, and to be able to write so lucidly for the enjoyment of others. As a dairy farmer and beekeeper he is an outstanding example of the fact that hard work never killed anyone and that life out of doors has the edge on the desk bound tycoon.

Picture by courtesy of Lindberg Photo Productions, Hamilton.

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