

Department of Agriculture

Horticulture Division



ADDRESS TO 1960 CONFERENCE BY MR. A. M. W. GREIG, DIRECTOR, HORTICULTURE DIVISION

In opening this conference I should like to emphasise two points—the importance of bees to New Zealand agriculture and the importance of beekeepers to the New Zealand community.

Many of the economic plants grown by man, including about 50 kinds of fruit and seed crops, require or are improved by insect pollination and of all the insect pollinators the most important and sometimes almost the only pollinating agent is the honey bee. Through recent surveys it has been shown that 95% of fruit tree pollination is done by honey bees whilst on leguminous crops such as clovers, the ratio of bees to all other pollinating insects is 20 to 1. More intensive agriculture has reduced the areas of waste land required by beneficial insects and the increased use of agricultural chemicals has reduced the numbers of pollinating insects. Agricultural crops requiring pollination are thus becoming more and more dependent on the honey bee.

The annual value of honey and beeswax are estimated at over £¾ million. But the value of bees to agriculture has been estimated at 15 to 20 times the combined value of honey and beeswax or approximately £15¼ million (£15,710,500).

But in my official capacity I associate more closely with beekeepers than with bees and it is some of your characteristics as beekeepers which are worthy of recognition. In these days of larger and larger organisations the beekeeper can be recognised by his independence and individuality, traits which should not be permitted to die out in the community. Although all farmers have to contend with or co-operate with nature yet beekeepers have a unique challenge to meet—the bee. Despite real heavy labour in handling 60lb. tins of honey of 80lb. supers of honey combs and despite back aches and bee stings the beekeeper has an independent way of life that should always be his. It was not by accident that the conqueror of Everest was a beekeeper. Although a beekeepers' conference when roused may sound like the buzzing of an angry hive yet I'm sure that as beekeepers through the new methods of discussing problems at your conferences, you should find that you can make a greater contribution towards obtaining facts and reaching decisions and at the same time be able to retain your individuality. It is my opinion that these new group methods of discussion are essential to a dynamic democracy in which everyone should think and everyone attending should have some contribution to make towards a conference decision.

Historical

This year 1960 is the Golden Jubilee of the Journal of Agriculture which was first issued in June, 1910. It is surely unique that one of the first contributors to that Journal was Mr. W. B. Bray, a Bee Instructor, who is today, 50 years later, still playing his part in the industry and attending conference.

Mr. Bray was one of the two Bee Inspectors of 1910, but N.Z. was a large area for two men to cover on bicycles in their efforts to control such a disease. A bulletin also was written by Mr. Bray in 1910 in which is fully described the

causes, symptoms and measures which should be undertaken by beekeepers to check or eradicate disease. The treatment recommended by Mr. Bray reduced the incidence of this disease and from the 1920's onwards economic beekeeping on a commercial basis became possible.

Bee Diseases

Today the most serious disease of bees present in New Zealand continues to be American foulbrood (*Bacillus larvae*). I am assured that it is impracticable to eradicate this bacterial disease from the country so strict control measures, based on a policy of burning infected hives has been continued in conjunction with assistance from beekeepers acting as part time apiary inspectors. The monies provided in the estimates for the past three years and what was actually spent was as follows:—

	On Estimates	Spent
For year ending March 31, 1958	£ 1250	£ 1299
For year ending March 31, 1959	£ 1400	£ 1159
For year ending March 31, 1960	£ 1360	£ 1303
For year ending March 31, 1961	£ 1350	—

In relation to the number of hives inspected the degree of infestation was 1.42% but if taken as over all the registered hives the infestation was 0.31%. I am not convinced that this lower figure is realistic, although I realise that inspection is concentrated on hives which are not as well managed as by most commercial beekeepers. I think the time has arrived for a comprehensive review to be made regarding the control of and inspection for American foulbrood and will initiate discussions with your executive on the subject.

Another bee disease has been recorded during the year. This is an external acarine mite, *Acarapis externus*—NOT the mite which causes the serious Isle of Wight or Acarine disease. However it is of significance that the presence of this disease was not detected by New Zealand beekeepers, Divisional Apiary Instructors or by the Departmental diagnostic service at Wallaceville but by the Australian quarantine services which last month, identified this disease in escort bees on arrival in that country. This led to the destruction of a small consignment of queen bees to Australia last month. This mite is regarded as harmless and lives externally on the bee's neck. It has world wide distribution and failure to identify it earlier in New Zealand seems surprising. Specimens have been forwarded to Rothamsted, Hertfordshire, England, for confirmation of the Australian and New Zealand identifications.

Unauthorised Introductions of Bees

This leads me publicly to express my concern regarding the attitude in many quarters to the surreptitious introductions of bees, plants, seeds or anything which might introduce new serious diseases into this country. The advent of faster and faster air travel has made it very much easier to bring undesirable living organisms into this country. The public of Auckland has recently become well aware of a serious bacterial disease of citrus against which an eradication campaign is being waged. Acarine disease to beekeepers is what citrus canker is to the citrus grower or foot and mouth disease to the livestock producers of this country. Because of the presence of this disease in Europe and in South America (Argentina and Peru) there are strict quarantine procedures to cover the importations of bees. In fact during the past five years there have been no authorised importations of bees. Unauthorised importations could lead to the introduction of Acarine disease with serious repercussions on the beekeeping industry. It is not being smart to be a smuggler of bees into this country.

This naturally leads to the question. Why does anyone wish to import bees? The answer is to improve the breeding stock. However here it is necessary first of all to establish that new introductions would actually result in an improvement of bees. Although most commercial strains of bees in this country are Italian bees bred from imported queens it has taken many years of selection and breeding under controlled mating conditions to establish the high quality strains of Italian bees in this country. Local breeders of queen bees are doing an important and essential service for the industry and this could easily be nullified by the introduction of new strains which might prove to be undesirable as it takes a long time to eliminate undesirable strains of bees once they have become

established. I look forward to hearing the views of qualified beekeepers, queen breeders and research and advisory staff on this subject.

Agricultural Chemicals

An important Bill affecting the beekeeping industry was passed as the Agricultural Chemicals Act during the 1959 session of Parliament. This Act governs the application of all agricultural chemicals and the importance of this legislation to the Beekeeping Industry was recognised by the National Beekeepers' Association being authorised to nominate a member of the Board which has been established to administer this Act. As a member of the Horticulture Division has been appointed as Registrar, the Association and the Division are equal partners on the Board for the promotion and proper use of these chemicals and to reduce their adverse effects on bees.

Beekeeping Research, Field Experimentation and Diagnostic Services

Later at this conference Mr. Palmer-Jones, of Wallaceville, will be speaking on some aspects of recent beekeeping research so I shall only make a brief mention of a few aspects.

For many years as beekeepers you have expressed concern that some bee losses might be due to various agricultural chemicals but the major difficulty was to make a prompt diagnosis which was not too laborious either in the laboratory or in the field. I am very pleased to be advised by the diagnostic service at Wallaceville that a simple and quick method has now been devised by testing the effects of dead bees on living flies. Flies have been found to be good indicators and are very sensitive to small amounts of poisonous agricultural chemicals. This quick test on a small sample of bees will not show which chemical has affected or killed the bees but it will indicate whether the bees' distress was due to a chemical factor.

Advisory Services

The apiary section of the division has been numerically at full strength during the year but two senior members—Mr. R. S. Walsh, Honey Grader, and Mr. C. R. Paterson, Apiculturist, were seriously ill and off duty for a period. Both are now back at work but Mr. Walsh has not resumed honey grading. Honey grading duties have been undertaken by Mr. D. Roberts during the season.

Mr. Paterson has now prepared for the use by Apiary Instructors an excellent series of over 500 colour slides illustrating beekeeping techniques, various types of apiary equipment and the main floral sources of nectar. The present service covers 16 subjects and some additional series are in course of completion.

In addition Mr. Paterson has designed and assembled the apiary feature displayed in the Department's Show Exhibit at A. and P. Shows and Winter Farm Schools each year. These features, and particularly the one designed for this year's North Island circuit, have been of a very high artistic standard and excellent for their educational value. The theme of this year's North Island exhibit is to show the Growth of the Honey Bee in its various stages by means of models set within hexagonal panels.

Eighty-three lectures and demonstrations and 13 radio talks covering many aspects of apiculture were given by members of the Apiary Section, and 20 separate articles on beekeeping as well as the monthly seasonal notes were published in the Journal of Agriculture. This is a very good record from a small specialised section totalling 13 men in all. Visitors such as Dr. E. J. Dyce of Cornell University, U.S.A., and Mr. A. L. Eastley, of Goulburn, New South Wales, have emphasised that New Zealand beekeepers have the best advisory service they have seen in any part of the world. That qualified opinion should not be overlooked.

National Diploma in Apiculture — N.D.Ap.

After lengthy negotiations with the Examining Board of the Royal New Zealand Institute of Horticulture I am pleased to announce that the Institute is prepared to recommend the establishment of a National Diploma in Apiculture. This diploma requires that a holder must have a minimum of six years' practical experience in handling bees and have passed in nine written papers and two oral and practical examinations followed by a thesis on a special subject approved by the Examining Board. Persons over 40 years of age who have had at least 20 years' active

beekeeping experience may on application and nomination by the National Beekeepers' Association be awarded honorary diplomas. It is hoped that the syllabus for this diploma will be gazetted before the end of this year. Honorary awards are only available for two years from the time the diploma is available.

Honey Crop

For the year ended May 31, 1960, the crop of honey produced was assessed at 5,470 tons. This was slightly below average—between 3% and 4%—the average assessment for the past six years being 5,780 tons.

These figures are obtained by Apiary Instructors in co-operation with beekeepers and are based on information supplied by beekeepers after drawing the honey from the hives and is the net surplus after leaving an adequate quantity for winter feeding. Crops above average were obtained in the Waikato, Bay of Plenty, Taranaki and Southland districts whilst in all other districts honey crops were below average.

A new procedure of crop estimating was introduced during the year, and the following terms were adopted:—

CROP FORECAST — obtained in months October, November, December. Based on seasonal conditions and honey flow.

CROP ESTIMATE — obtained in months January, February, March. Based on honey crops being harvested.

YEAR'S ASSESSMENT — based on the estimated total net surplus of honey for the year ending May 31.

Trends in the Beekeeping Industry Today

Statistics relating to the numbers of beekeepers and hive holdings have for many years been subdivided into: Domestic beekeepers, with under 30 hives; Semi commercial beekeepers, with from 31 to 250 hives; and Commercial beekeepers, with 251 hives and over. The trend in recent years is for the number of domestic and semi commercial beekeepers to decline whilst the number of commercial beekeepers and their hive holdings have increased. For the two year period ending June 30, 1959, domestic beekeeping reductions are by 234 beekeepers and 1,340 hives and semi commercial beekeeping reductions are by 88 beekeepers and 4,227 hives. On the other hand commercial beekeeping figures show an increase of 5 beekeepers and 1,229 hives.

Final figures as at June 30, 1959, are 4974 beekeepers with 176,350 hives situated over 11,526 apiaries or hive sites.

The Future

During last month an Industrial Development Conference was held in Wellington and it is appropriate that the beekeeping industry too should take stock and consider what part it can play in New Zealand's development.

Beekeeping is so closely associated with agriculture and land use that future development depends more on intensive production than through new areas of land being brought into use.

As beekeepers I put this final question to you. "What would you do to improve New Zealand's beekeeping industry to meet the country's development in the next 25 years?" When you have decided the industry's greatest needs then I'll see what I can do to assist you through the Apiary Section of the Horticulture Division and its associated research services at Wallaceville.

It now gives me very great pleasure to declare the 1960 Conference of the National Beekeepers' Association duly open.

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I expect to pass through this world but once. Any good, therefore, that I can do, any kindness that I can show to any fellow creature, let me do it now. Let me not defer nor neglect it, for I shall not pass this way again.