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Notes from the Executive

by Don Bell

The Executive Committee met recently, in Wellington, for what was in effect, its first full working meeting of this new term. We have a new President and Vice President, and a new member and this will inject some new skills, different attitudes and a whole range of new approaches.

Collectively the Executive has endeavoured to provide good governance of the Association affairs, and at the same time take its direction from the membership as it is conveyed in the remits which were passed at the last annual general meeting, in July.

Individually, executive committee members will bring their personal expertise, experience, energies and time, to consider not only the above, but also to those issues wherein their skills might make a meaningful contribution to both the Association and to the Honey Bee Industry at large.

In this latter respect the beekeeping community, in this country, is most fortunate in having been so well established. Built as it is on the foundation laid by successive Executive Committees, their Subcommittees and the Regional Branches; and this with such adventure and wisdom over a period of nearly eighty years.

Within this there is the freedom to acknowlege and respect the individuality of the membership - almost as a first principal - and this has developed progessively over the years, although perhaps more especially so within the last ten to fifteen years.

Within this environment the processors/ Marketers have been free to ply their marketing skills in whichever direction they so wish. The fact that they have been successful in this is reflected in the national and international recognition of the honey bee industry in New Zealand as it clearly exists at this time.

Equally the beekeepers/producers are free to manage their stocks in whatever manner they determine will best suit their circumstances, and which will result in an appropriate level if commercial return. They have the option to develop as providers of pollination services, honey gather, bee breeders or what have you.

Even the seldom acknowleged Bee Clubs and hobbiest beekeepers play a part in this collective whole. How many full time beekeepers today had their beginnings with a club, or with a couple of hives in the back garden.

Individuals though we, who are involved in the honey bee industry, might be - and long may we continue to be so there is nevertheless an almost total interdependance one upon the other, that in essence enables us, be it a processor/marketer, or a beekeeper in the field, to survive in this present highly competitive global community.

It is, I suggest, this very same individualism and the recognition of the rights of the individual, plus a high degree of professionalism, based largely on the principle of collective inputs, that has been, and continues to be the basic element which anchors the honey bee industry in New Zealand today.

Those who have been following the fortunes - or misfortunes - of the Pip Fruit industry, and currently the Kiwi Fruit Industry, will have noted the pain and disconcert that these industries are experiencing at this time. This as they endeavour to develop their independence and shed the encumbrance of ponderous bureaucracies which have been allowed to build up round these enterprises. Bringing with them their single selling desks "compulsory acquisition" collaborative marketing adventures, the clipping of profits, to fund the bureaucracies and the unnecessary industry controls imposed by the predominantly financial motivated investors, at the expense of the growers and industry participants. And all the while the latter have been trying to live on little more than a litany of dubious assurances.

The New Zealand honey bee industry, in all is various aspects, is largely free of these sorts of overt influences and this I believe has been as a result of the way in which it has defended its right to its individuality and independence.

The independence to manage ones own affairs, the more so when this can be done withing a community of like interest, is a gift which is beyond measure - a true expression of democracy in effect.

Provided we can all learn from, and respect the lessons of the past, inject some energy into the present, view the future with honesty, wisdom and imagination and discard the personal baggage in favour of the collective good, then I have a feeling that history might well mark this 1999/2000 year as being a "good year" for all those who are involved.

Unfortunately the Executive cannot achieve this on its own. It will take more than inputs of six volunteers to make it happen. In this case I echo the sentiments of Terry Gavin when he wrote "the time has come for all those involved to put a shoulder to the wheel," and so it has.

Cover: Moira Haddrell of Cambridge Bee Products being presented with the Roy Paterson Trophy for innovation by Terry Gavin, Vice President of the NBA.

NZ BeeKeeper Apologises to Graeham Gaisford

"An article by Dr Molan which was originally published in the December 1998 issue of the magazine was inadvertently published again in the August issue as a result of an error by the printer.

The article was the subject of a correction and letters which were published in the April 1999 issue of the magazine.

The Editor, Printer and the Association unreservedly apologises to Mr Gaisford for the fact that the article has been reprinted and refers readers to the corrections and letters published in the April 1999 issue of the magazine."

The New Zealand **BeeKeeper**

THIS ISSUE

Letters to the Editor

Dear Sir

I would like to do bees for the coming season (between November and March).

I am a beekeeper in France and I speak English. I have already worked for French beekeepers producing honey and pollen. I would be interested in jelly and queen productions. I have a professional diploma.

Please contact Nicolas Guintini
apt F1111, 100 Galerie l'Arlequin
38100 Grenoble
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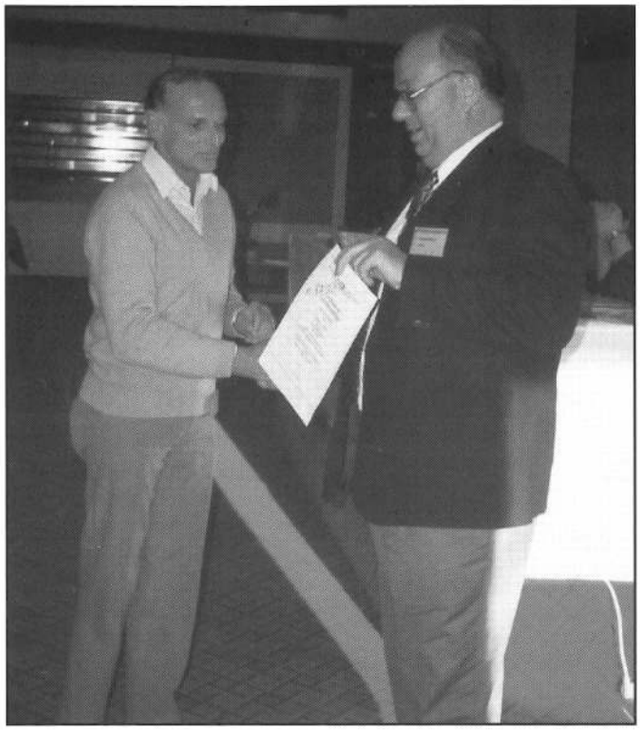
g.gombert@wanadoo.fr



Tony Lorimer being presented with Life Membership of the NBA from the President Mr Russell Berry.

Library News

Discussion paper No.13: Proposed exemptions and inclusions under clauses 7, 46, 47, and 48 of the Animal Products Bill 1998. 34pp, August 1999, New Zealand.

Paul Bolger did have a good spring clean when taking over his MAF office and remembered the library. Besides a number of magazines, which helped to fill gaps, we got eight films on beekeeping subjects. As these are bulky and projectors are not always easy to come by I intend to investigate the possibility to have them transferred onto video tapes. It will take some time. Also included a manual from the NSW Department of Ag: Stace P & Bond T. Honey Houses - A guide to the design. 32 pp, 1998? Australia. If you are planning to build this is something to study first. Very well thought out plans with explanatory text giving the reasons for certain layouts. Much emphasis on smooth flow through of gear and product.

Wallingford N. A History of the National Beekeepers Association and the Marketing of Honey. 1999, 58 pp, NZ.

Nick has done a lot of painstaking research over the past few years. This covers the period from the beginning of 1900 until the end of 1945. So there will be more to come. As Nick says "it is a work in progress - it has not been fully edited and isn't in a completely finished form."

It often pays to look at history. It may help us to avoid pitfalls and the mistakes made by those gone before us. Nick is doing more than just the recording of facts and dates.

Correction: In the August issue of the *NZ BeeKeeper* under Library News: Hilgendo RF FW should of course by Hilgendorf FW.

Why is nosema such a common bee disease?

By Dr Louise Malone, Dragana Stefanovic and Dr Heather Gatehouse, HortResearch, Auckland and Palmerston North.

Nosema disease is caused by a protozoan. Only adult bees are infected and there are no obvious visual symptoms. However, infected bees do not live as long as healthy bees and the colonies ability to collect pollen and to produce honey is significantly reduced by this disease. Honey production from an infected colony is 25% lower on average than that from a healthy hive[1].

Although most beekeepers are unaware of whether their bees have nosema or not[2], surveys have shown that this is New Zealand's most common bee disease.

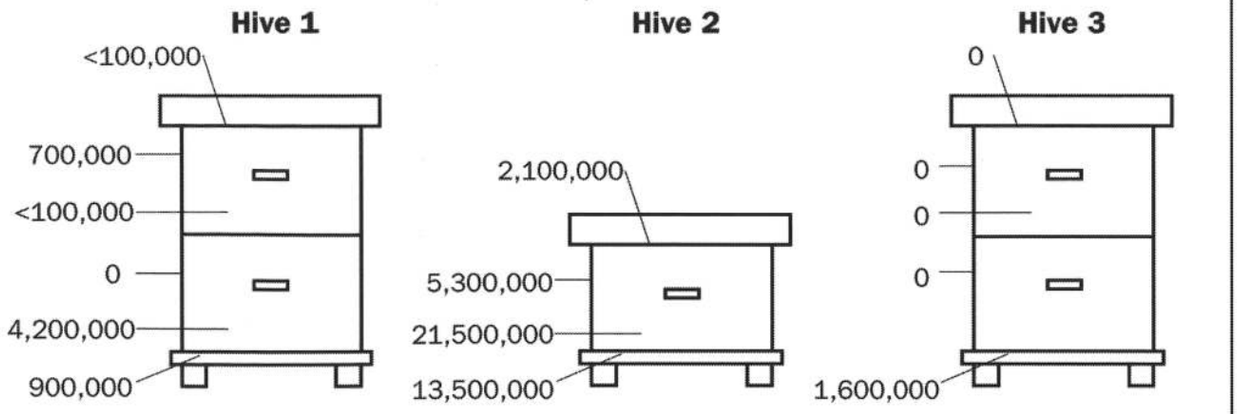
Between 1985 and 1988, Denis Anderson[3] found that 80% of colonies examined during spring and summer had nosema infections (between five and 30 million spores found in a sample of 25 bees). More recently (1995/96), Mark Goodwin found about 50% of samples of bees destined for Korea had nosema spores present. This could have been an underestimate, as these bees were taken from brood comb (young bees) and were sampled during February (not a peak time for nosema). Compare these figures with the latest records for American Foulbrood (AFB)4 (found in 0.38% of colonies in 1997/98), and we can see that AFB begins to look like a very rare bee disease in comparison with nosema.

We are not alone in having high levels of this disease; nosema has been found in nearly every country where bees are kept[5]. Why is nosema so common? One reason is that, because it presents no visual symptoms and is so difficult to detect, it is left unchecked. Another is that it is very well-adapted to the bee's life cycle. Nosema apis belongs to a very ancient group of microbes and it is very likely to have co-evolved with the honey bee.

Nosema develops in the lining of the adult bee's gut, which becomes packed with spores[6]. Infected bees don't die immediately and become travelling transmitters of nosema disease, shedding huge numbers of spores with their faeces which are then ingested by other bees, causing them to become infected. It is also likely that infected bees pass spores to other bees via trophallaxis, or the exchange of food between adult bees. Even low numbers of infected bees in a colony are enough to enable the disease to survive from year to year.

The tough-walled nosema spore can also survive for a long time outside the bee's body. (We have nosema spores that are still viable after seven years in the fridge.) In the field, spores can lurk inside the hive, protected from sunlight and temperature fluctuations, ready to infect any bee that licks them up. That is why improving hive hygiene (replacing, renewing or sterilising combs and hiveware) should reduce the numbers of nosema spores in the hive and thus improve bee health. There are a number of scientifically sound studies that support this idea[7, 8, 9, 10].

However, there are no published studies showing exactly where nosema spores occur in a hive. Obviously, if spores tend to accumulate in a particular location within the hive, then cleaning-up efforts can be directed to that site.



Numbers of nosema spores on hive surfaces

So, where in the hive are nosema spores located? To answer this, we recently took a close look at three hives that had housed infected colonies over the summer. Each colony died during the following winter. Colonies 1 and 2 had high levels of nosema throughout summer and into autumn/winter, whereas Colony 3 had been clear of nosema in the summer, but had a low-to-medium level infection in June.

To track down the reservoirs of nosema spores, these hives were dismantled and the various components - lids, frames, boxes (inner walls) and bottom boards - scrubbed down with warm water. The resultant dirty water was collected, filtered and centrifuged until a concentrated suspension was available to view under the microscope. Nosema spores were counted and the results are shown in the diagram.

Three spore samples (from under a lid, from brood frames and from a bottom board) were fed to healthy bees. All three resulted in infected bees, showing that these spores had retained their viability in the hive.

As the diagram shows, spore count results are very variable and, because we looked at only three hives, only limited conclusions can be drawn. However, this study does show that: viable nosema spores may occur on any of the internal surfaces of a hive and they can be scrubbed off.

It appears that brood frames and bottom boards in particular may be places where spores accumulate. More regular replacement or disinfecting of these parts of the hive may be beneficial in reducing hidden reserves of nosema spores in the hive.

Two disinfecting methods have been shown to kill nosema spores on empty combs and boxes: heat-treatment (49°C for 24 hours[8]) or acetic acid fumigation (50ml of glacial acetic acid on a cotton wool pad enclosed within the boxes and left for one week[9, 10]).

Currently we're looking at honey and pollen stores in hives housing nosema-infected bees to see if any spores can be found there. We're also trying to find out if nosema spores remain viable when they're stored in either multifloral or manuka honey. Results will be presented as soon as they become available.

All this information is important as we look for new ways to control nosema. New methods can then be thoroughly tested in the field and cost-benefit analyses carried out to ensure that the costs of control are outweighed by improvements in beekeeping profitability.

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Obituary - Ivor Wilfred Forster

On the 26th of July Ivor Forster passed away peacefully aged 88. Ivor was well known to the beekeeping industry, having spent his working life in the industry.

Ivor left school at the age of 14 and began working for Ernie Sage, a beekeeper at Ohaupo near Hamilton. He worked for Ernie for 4 years and then began running 500 hives on his own in the central Waikato. It gave him a great deal of satisfaction to have accomplished this during the depression, and by the time he was 18 years old.

In 1943 Ivor sold his hives and began working for the Department of Agriculture as an apiary instructor, with his first posting in the Invercargill district covering an area from Bluff to the Waitaki River in the north. This being such a large area meant Ivor spent days away from home, the region, and its beekeepers.

The South Island was split into four districts in 1948 with Ivor being allocated the North Otago/South Canterbury region, where upon he settled in Oamaru. His tasks were varied but disease control was predominant and Ivor undertook this with his usual dedication and vigor.

In the late 60's Ivor took on a new position as a scientist with the Wallaceville Animal Research Department. His replacement as apiary instructor was the late Vincent Cook, also well known in the industry. Ivor continued to reside in Oamaru but now had an area covering the entire South Island, where he became a familiar face to many beekeepers, assisting them with any problems they may have encounted, although this was not part of his actual job.

His work looked at amongst other things the effects of sprays, best requeening systems, records for the amount of honey produced in different areas and pollination techniques. In fact over the years he produced a multitude of papers covering everything to do with bees, which gained him international recognition.

Over the years Ivor had gathered a number of excellent beekeeping books which he gave to the NBA library shortly before his death. Ivor was a life member of the NBA.

He is survived by his wife Barbara, son Ronald and daughter Renna and six grandchildren.

Honey as a Clinical Dressing

by Peter C Molan

Summary

Honey, an ancient remedy, has been rediscovered. Indeed, there is increasing interest in its use as a wound dressing material as more reports of its effectiveness are published. The clinical observations recorded are a rapid clearing of infection, a quick reduction in inflammation, swelling, pain and odour, sloughing of necrotic tissue, a hastening of granulation and epithelialisation and rapid healing with minimal scarring. The antimicrobial properties of honey prevent microbial growth in the moist healing environment it creates. Unlike other topical antiseptics, honey causes no tissue damage - in animal studies it has been demonstrated histologically that it actually promotes the healing process. Further, it has a direct nutrient effect and draws lymph out to the cells by osmosis. Stimulation of healing may also be due to the acidity of honey. Osmosis creates a solution of honey in contact with the wound surface, and this prevents the dressing sticking, so there is no pain or tissue damage when dressings are changed. There is much anecdotal evidence to support honey's use, and randomised controlled clinical trials have shown it to be more effective than silver sulphadiazine and polyurethane film dressings (OpSite®) for the treatment of superficial partial-thickness burns.

Introduction

In 1989, an editorial in the Journal of the Royal Society of Medicine *131 expressed the opinion: "The therapeutic potential of uncontaminated, pure honey is grossly under-utilised. It is widely available in most communities and although the mech-anism of action of several of its properties remains obscure and needs further investigation, the time has now come for conventional medicine to lift the blinds off this 'traditional remedy' and give it its due recognition." Mostly, this was in reference to reports of the use of honey as a wound dressing. Ancient usage of honey as a wound dressing has been reviewed *1, 2, 3 but, in the literature reporting modern usage of this rediscovered therapy for wounds, there have been only some very brief reviews, with little clinical detail *1, 4, 5. Due to in-creasing interest in the use of alternative therapies - especially as the development of antibiotic resistance in bacteria becomes a major problem *6 - and because of an increase in the reported use of honey as a wound dressing in recent times, it was considered timely to review the clinical and experimental findings published on this subject. Pertinent to this are reports of honey proving effective on wounds that have not responded to conventional therapy *7-12.

In many reports, the effectiveness of honey as a dressing on infected wounds is attributed in part to its antibacterial properties *1, 5, 7, 9, 13-31; however, the large volume of published literature from in vitro studies that has established honey's significant antibacterial activity will not be included in this review, since it has been comprehensively reviewed elsewhere *32, 33. Nevertheless, it is noted here for the interest of readers that honeys with median levels of antibacterial activity have been found to completely inhibit major wound-infecting species of bacteria at concentrations of 1.8 to 11 per cent (v/v) *34, and a collection of strains of MRSA at concentrations of 1 to 4 per cent (v/v) *35.

Mode of Application of Honey

The procedure described in most reports is to clean the wound first, even though honey is often described as having a cleansing and debriding action on wounds (see next section). Some re-port abscesses being opened and pockets of pus drained *25, 30, 31, 36, and necrotic tissue being removed *11, 25, 31, 37, before the wounds are dressed with honey. Some reports describe rigorous cleans-ing procedures: scrubbing with a soft toothbrush, followed by hydrogen peroxide, saline rinse, Betadine and another saline rinse 38; dilute Dakin's solution or dilute hydrogen peroxide on the wound bed and alcohol on the surrounding skin *31, or the use of eusol 30 or aqueous 1 per cent chlorhexidine 10. Others have reported cleaning the wound before dressing it but do not specify with what *10, 11, 25, 30. One author described cleaning wounds with gauze *25, but most simply washed them with saline before dressing them with honey 5, 7, 9, 16-20, 39 and when dressings were changed 5, 7, 9, 15-20, 31.

In many reports honey is spread on the wound then covered with a dry dressing, usually gauze 5, 8-10, 15, 16, 19-23, 31,

38-41. The quantity of honey used varies - one author reports using a thin smear of honey (but with relatively poor outcomes) and two a thin layer honey (applied two to three times daily) 15, 36, but most refer to the honey being spread or poured directly onto the wound 9, 16, 19-21, 23, 38. Others describe using a thick layer of honey 42, soaking the wound generously with it 25, pouring it into the wound to three-quarters full 31, and applying 15-30 ml of honey to ulcers 7, 22. Some have applied honey to the dressing then placed it on the wound - honey was spread on gauze 10, 11, 25, 38, the gauze soaked in honey 17, 18, 23 or 'honey pads' used 37. (It has also been reported that covering cracked, sore nipples in nursing mothers with gauze soaked in honey can prevent them becoming infected 43.) Honey-impregnated gauze has also been used to pack the cavities of wounds 22, while other researchers have packed the wounds directly with honey and then covered them 10, 23, 25. Slow-to-heal cervical ulcerations have been treated by inserting 85 ml of honey in the vagina and holding this in place with a tampon for 3 days 43.

Dressings are generally changed daily 7-11, 16, 23, 25, 40, 42 or every 2 days 17-20, 39 or every 2-3 days 41. One paper reported that dressings were changed daily, with less frequent changes (every 2-3 days) if the wounds were clean and dry 42. Another described dressings as being changed once or twice daily until clean, granulated wounds were achieved, with once-daily dressing changes after that 38. Others have reported changing honey dressings twice daily 15, 21, 24, two to three times a day 36, three times daily 30, 37, and three times daily if contaminated with urine or faeces or twice daily otherwise 31. Two papers report mixing lipid material with the honey to make it easier to spread - either castor oil 25 or 20 per cent Vaseline or lard 42. Although this was common in ancient times it is not necessary, since honey can be made very fluid by warming it to 37°C if vigorous stirring is not sufficient. Bulman 23 describes using liquid honey on large surfaces, or carefully warming granulated honey. (Excessive heating of honey should be avoided, because the glucose oxidase enzyme in it which produces hydrogen peroxide, a major component of the antibacterial activity of honey, is very readily inactivated by heat 44).

[Comment: there is no indication that any of the reported modes of application of honey were decided upon on empirical or theoretical grounds, the large degree of variance in modes appearing to reflect a more notional approach. Spreading honey on a dressing pad rather than the wound is much easier and less traumatic for the patient. It also gives more even coverage of the wound surface. Where deep wounds or abscesses need to be filled with honey, the most practical way of doing so would be to use honey packed in squeeze-out tubes, now available commercially. Rationally, the amount of honey used per unit area of the wound would depend on the amount of exudation. It is to be expected that the various beneficial effects of honey reported (see below) would be reduced or lost if small amounts of honey become diluted by large amounts of exudate. Likewise, the frequency of dressing changes required would depend on how rapidly the honey was diluted by exudate. Honey's effectiveness in reducing inflammation and exudate (see below) should result in less frequent changes being required later, with no need to change dressings often to prevent bacterial growth under the dressing - the antibacterial activity of honey will prevent this if it is not excessively diluted by exudate, especially if honey with a high level of activity is selected.]

Clinical Observations

Various clinical studies on the use of honey as a dressing for infected wounds report that the wounds become sterile in 3-6 days 21, 36, 7 days 7, 15, 22 or 7-10 days 30. Others report honey as effectively cleaning up infected wounds 23, 45 or that honey dressings halt advancing necrosis 22, 37.

Honey has also been found to act as a barrier, preventing wound infection 7, 16, 17, 26, 45 or cross-infection 25 and allowing burn wound tissue to heal rapidly, uninhibited by secondary infection 7, 43.

Further, it has been reported that sloughs and gangrenous and necrotic tissue are rapidly replaced with granulation tissue and advancing epithelialisation when honey is used as a dressing 7; hence, minimal surgical debridement is required 21. It has also been observed that under honey dressings sloughs, necrotic and gangrenous tissue separated so that the dressings could be removed painlessly 7; others have noted quick and easy separation of sloughs 10, 23 and removal of crust from a wound 10. Rapid cleansing 9 and chemical or enzymatic debridement resulting from the application of honey to wounds have also been described 16, 17, 19, 22, 37, with no eschar forming on burns 20. Several other authors have noted the cleansing effects of honey on wounds 11, 23, 25, 31, 41, 46. It has also been noted that dirt is removed with the bandage when honey is used as a dressing, leaving a clean wound *40. Honey is also said to deodorise offensive-smelling wounds *7, 15-17, 22, 37, 47.

Used as a wound dressing, honey has been reported as promoting the formation of clean, healthy granulation tissue *7, 10, 11, 20-22, 25, 30, 31 36, 42, 47 and epithelialisation of the wound *7, 18, 20, 22, 37, 42. Indeed, Dumronglert 31 commented that the rapid growth of new tissue is remarkable. Improvement of nutrition of wounds has also been observed *7, as has increased blood flow 31 and the free flow of lymph *23.

Several authors have commented on the rapidity of healing seen with honey dressings. Descottes *39 refers to wounds closing in a spectacular fashion in 90 per cent of cases, sometimes in a few days, while Burlando *48 reports healing as being surprisingly rapid, especially for first- and second-degree burns. Blomfield *41 is of the opinion that honey promotes the healing of ulcers and burns better than any other local application. Bergman 26 has observed clinically that healing in open wounds is faster with honey, as has Hamdy *49, who also found that wounds became suitable for suture more rapidly.

It has been noted, too, that dressing wounds with honey allows early grafting on a clean, clear base *9, with the graft taking promptly *11, 25. Further, honey has been reported as reducing the incidence of skin graft areas *46 and helping skin regenerate, making plastic reconstruction unnecessary *22, 37. Some have noted that skin grafting was found unnecessary *20, 21 and others that dressing wounds with honey produces little or no scarring *22.

Another effect of honey on wounds is that it reduces inflammation *20, 48, hastens the subsidence of passive hyperaemia *42, and reduces oedema *7, 19, 22, 31, 42 and exudation *7, 22, 48 by absorbing fluid from the wound *37. Honey is said to be soothing when applied to wounds *17, 40, 50 and to reduce the pain from burns *17, 48, in some cases producing a rapid diminution of local pain *42.

In addition, it is reported to cause no pain on dressing *23, 46 or only momentary stinging 23, to be non-irritating *19, 22, 23, 47, to cause no allergic reaction *7, 15, 18, 25 and to have no harmful effects on tissues *7, 15, 19, 23, 25.

It has further been noted that honey dressings are easy to apply and remove *11, 25, 41, since there is no adhesion to cause damage to the granulating surface of wounds *20, 23, 46, no difficulty removing dressings *17 and no bleeding on removal *17. Any residual honey is easily washed away with simple bathing *45.

[Comment: these clinical observations provide, in isolation, the lowest level of evidence on which to base a clinical decision to use honey as wound dressing. However, when compared with the results generally experienced with more commonly used dressings, they indicate that certain actions and attributes of honey have the potential to make it a very useful wound dressing material. Its physical properties provide a protective barrier and, by osmosis, create a moist wound healing environment in the form of a solution that does not stick to the underlying wound tissues. The anti-bacterial properties of honey prevent bacterial colonisation of this moist environment, to the extent that - unlike other moist wound dressings - it is suitable for use on infected wounds. Its anti-bacterial components do not impair the healing process through adverse effects on wound tissues; on the contrary, honey appears to have a stimulatory effect on tissue regeneration. In addition, there are clear indications of an anti-inflammatory action.]

Evidence of Effectiveness: Animal Studies

In one experimental study *28, comparisons were made between the use of honey and silver sulphadiazine, and between honey and sugar, on standard deep dermal burns, 7 x 7 cm, made on Yorkshire pigs. Epithelialisation was achieved within 21 days with honey and sugar, whereas it took 28-35 days with silver sulphadiazine. Granulation was clearly seen to be suppressed initially by treatment with silver sulphadiazine. In all honey-treated wounds the histological appearance of biopsy samples showed less inflammation than in those treated with sugar and silver sulphadiazine, and weak or diminished actin staining in myofibroblasts, suggesting a more advanced stage of healing. In another study on experimental burns *48, superficial burns created with a red-hot pin (15 mm2) on the skin of rats were treated with honey or a sugar solution with a composition similar to honey. Healing was seen histologically to be more active and advanced with honey than with no treatment or the sugar solution. Moreover, the time taken for complete repair of the wound was significantly less ($p<0.01$) with honey than with no treatment or with the sugar solution, and necrosis was never so serious. Treatment with honey produced a clearly seen atten-uation of inflammation and exudation, plus rapid regeneration of outer epithelial tissue and cicatrization.

In another experimental study on animals, full-thickness wounds were created by cutting away 2 x 4 cm pieces of skin on the backs of buffalo calves *51. The wounds were dressed

with honey or nitrofurazone, or with sterilised petrolatum as a control. Granulation, scar formation and complete healing occurred faster with honey than with nitrofurazone and in the control, while histomorphological examination of biopsy samples revealed more marked acute inflammatory changes in the wounds in the control and with nitrofurazone than with honey, and less proliferation of fibroblasts and angioblasts.

In an experimental study on buffalo calves *14, full-thickness skin wounds, 2 x 4 cm, were made after infecting the area of each wound by subcutaneous injection of Staphylococcus aureus 2 days prior to wounding. Topical applications of honey, ampicillin ointment and saline as a control were compared as treatment for the wounds. Clinical examination of the wounds and histomorphological examination of biopsy samples showed that honey gave the fastest rate of healing compared with the other treatments, the least inflammatory reaction, the most rapid fibroblastic and angioblastic activity in the wounds, the fastest laying down of fibrous connective tissue and the most rapid epithelialisation.

An experimental study carried out using mice *26 also compared honey with saline dressings on wounds made by excising skin (10 x 10 mm) down to muscle. Histological examination showed that the thickness of granulation tissue and the distance of epithelialisation from the edge of the wound were significantly greater, and the area of the wound significantly smaller, in those treated with honey ($p<0.001$). None showed gross clinical infection (honey or control).

In other studies on rats *52, 53, a 10 mm long incision was made in the skin of each rat and the wounds treated topically or orally with floral honey, honey from bees fed on sugar, or saline. A statistically significant increase in the rate of healing was seen with the treatment with floral honey compared with the saline control, this being greater with oral than with topical administration. Treatment with honey from bees fed on sugar, while initially producing a better rate of healing, after 9 days gave results no better than those obtained with the saline control. The granulation, epithelialisation and fibrous tissue seen histologically reflected the rate of healing measured as a decrease in wound length. Infiltration of granulation tissue with chronic inflammatory cells was greatest in the wounds treated with honey from bees fed on sugar, less in those treated topically with floral honey and least in those treated orally with floral honey.

Oral and topical applications of honey were compared in another study on rats 1354 in which full-thickness 2 x 2 cm skin wounds were made on their backs by cutting away the skin. The rats were then treated with topical application of honey to the wound, oral administration of honey or intraperitoneal administration of honey, or untreated as a control. After 7 days of treatment, tritiated proline was injected subcutaneously to serve as an indicator of collagen synthesis in the subsequent 24-hour period. Both the quantity of collagen synthesised and degree of cross-linking of the collagen in the granulation tissue were found to have increased significantly compared with the untreated control as a result of treatment with honey ($p<0.001$). Systemic treatment gave greater increases than topical treatment, the intraperitoneal route producing a better result than the oral route.

In a similarly conducted study following this *55, the rats were treated in the same way but with different parameters studied to assess healing. The granulation tissue that formed was excised from the wounds for biochemical and biophysical measurement of wound healing, with the content of DNA, protein, collagen, hexosamine and uronic acid, plus the tensile strength, stress-strain behaviour and rate of contraction and epithelialisation, found to have increased significantly as a result of treatment with honey ($p<0.05$ - <0.001). Systemic treatment produced greater increases than topical, with the intraperitoneal route giving the best results.

[Comment: these animal studies all clearly demonstrate that honey has beneficial effects on wound healing apart from any resulting from its antibacterial properties. Although one of the studies involved infected wounds, the results obtained were in line with those obtained in other studies in which the beneficial effects resulting from the application of honey could not have been secondary to the clearance of infection. There is clear evidence of a stimulatory action on tissue growth and of an anti-inflammatory action. The experiments showing that these effects were not achieved with sugar demonstrate that the chemical constitution rather than the physical properties of honey is responsible. The stimulatory effects obtained when the honey was administered orally or parenterally suggest that a tissue growth factor may be involved, rather than stimulation of growth being a consequence of wound acidification or improved nutrition of the tissues. No investigations of the component of honey responsible for the stimu-lation of tissue growth have been reported - possibly it is the hydrogen peroxide produced by the honey - but it has been found that the growth of fibroblasts in cell culture is stimulated by hydrogen peroxide at microtonanomolar concentrations 56. Also responsible may be phytochemicals from the nectar source, which would account for the better results seen with floral honey than with that from bees fed on sugar, although the improved healing from this may have been secondary to the reduction in inflammation that the floral honey effected.]

Evidence of Effectiveness: Clinical Study

What was effectively a form of cross-over trial was conducted in a study of 59 patients with recalcitrant wounds and ulcers *7, 47 of whom had been treated for what clinicians deemed a 'suf-ficiently long time' (1 month to 2 years) with conventional treatments (such as Eusol toilet and dressings of Acriflavine, Sofra-Tulle or Cicatrin, or systemic and topical antibiotics), with no signs of healing or with the wounds increasing in size. The wounds were of varied aetiology and included Fournier's gangrene, burns, cancrum oris and diabetic ulcers, and traumatic, decubitus, sickle-cell and tropical ulcers. Microbiological examination of swabs from the wounds showed that the 51 wounds with bacteria present became sterile within a week and the others remained sterile. In one of the cases - a Buruli ulcer - treatment with honey was discontinued after 2 weeks because the ulcer rapidly increased in size. The outcomes of the 58 other cases were reported as follows: "Showed remarkable improvement following topical application of honey." Some general observations reported for the outcomes from honey treatment of these recalcitrant wounds were that sloughs, necrotic and gangrenous tissue separated and could thus be lifted off painlessly - within 2-4 days in Fournier's gangrene, cancrumoris and decubitus ulcers (although it took much longer in other types of ulcer). Sloughs and necrotic tissue were rapidly replaced with granulation tissue and advancing epithelialisation, while surrounding oedema subsided, weeping ulcers dehydrated and foul-smelling wounds were rendered odourless within the week.

Canterbury Branch

September Evening Meeting

Date: 28 September 1999 Tuesday

Time: 7.30pm sharp

Venue: Rumpletums, Avonhead Tavern, 120 Witheils Road, Christchurch

Programme
1. Guest Speaker from Fair Skies (weather forecasting)
2. General Business

Supper/cover charge $2 per head.

TW Corbett, Secretary

The restaurant we are meeting in serves a really good buffet meal at $13.95 per head. To take advantage of this meal and meet with members before the meeting, you will have to be there an hour to an hour and half beforehand.

Burn wounds treated early healed quickly and were not colonised by bacteria.

A similar study, but with less detail given, was carried out on 40 patients, half of whom had been treated with another antiseptic, which had failed *9. The wounds were of mixed aetiology - surgical, accidental, infective, trophic and burns - with the average size of the wounds 57cm2. A third of the wounds were purulent and the rest red, with a whitish coat. The number of microorganism isolates from the wounds dropped from 48 to 14 after 2 weeks of treatment. Seven of the patients had necrotic tissue excised after treatment with honey and three of these underwent skin grafts. It was noted that the honey delimited the boundaries of the wounds and cleansed them rapidly to allow this. Of the 33 patients treated only with honey dressings, 29 were healed successfully, with good quality healing, in an average of 5-6 weeks. Of the four cases in which successful healing was not achieved, this was attributed to the poor general status of two patients, who were suffering from immunodepression; another patient was withdrawn from the treatment because of a painful reaction to the honey, and one burn remained stationary after a good initial response.

In another study *57, honey was used on nine infants with large, open, infected surgical wounds that failed to heal with conventional treatment of at least 14 days of an intravenous antibiotic and cleaning of the wounds with chlorhexidine solution (0.5 per cent w/v) and fusidic acid ointment. The babies' wounds were still open and oozing pus and swab cultures were positive. Marked clinical improvement was seen in all infants after 5 days of treatment with topical application of 5-10 ml of honey twice daily. The wounds were closed, clean and sterile in all the children after 21 days' application of honey.

[Comment: these three studies are effectively cross-over trials, in that a baseline of non-responsiveness was established with other forms of treatment before honey was used. Although this form of evidence is less convincing than where there is a simultaneously treated control group of patients, the consistency of the outcomes and the number of patients involved make it highly improbable that the change from non-healing to healing was due merely to chance rather than the therapeutic effect of the honey. The reports would have been of more value as evidence if greater detail had been provided, but, even as they are, they do provide good evidence that honey is effective in promoting the healing of wounds which do not respond to conventional therapeutic procedures. They also provide good evidence of the effectiveness of the antibacterial activ-ity of honey on infected wounds.]

Evidence of Effectiveness: Clinical Trials

Twenty consecutive cases of Fournier's gangrene managed conservatively with systemic antibiotics (oral amoxicillin/clavulanic acid and metronidazole) in addition to daily topical application of honey were compared retrospectively with 21 similar cases of Fournier's gangrene managed by the orthodox method (wound debridement and excision, secondary suturing and, in some cases, scrotal plastic reconstruction, in addition to receiving a mixture of systemic antibiotics dictated by sensitivity results from cultures) *22. (The microorganisms cultured in both treatment groups were similar.) Even though the average duration of hospitalisation was slightly longer, topical application of honey showed distinct advantages over the orthodox method. Three deaths occurred in the group treated by the orthodox method, whereas no deaths occurred in that treated with honey. The need for anaesthesia and expensive surgical operations was obviated with the use of honey. Further, response to treatment and alleviation of morbidity were faster in the group treated with honey. Although some of the bacteria isolated from honey-treated patients were not sensitive to the antibiotics used, the wounds became sterile within a week.

The usefulness of honey dressings as an alternative method of managing abdominal wound disruption was assessed in a prospective trial over 2 years compared retrospectively with patients of a similar age over the preceding 2 years 15. Fifteen patients whose wound disrupted after Caesarean section were treated with honey application and wound approximation by micropore tape instead of the conventional method of wound dressing with subsequent resuturing. (The comparative group of 19 patients had had their dehisced wounds cleaned with hydrogen peroxide and Dakin's solution and packed with saline-soaked gauze prior to resuturing under general anaesthesia.) It was noted that with honey dressings slough and necrotic tissue were replaced by granulation and advancing epithelialisation within 2 days, and foul-smelling wounds became odourless within a week. Excellent results were achieved in all the cases treated with honey, thereby avoiding the need to resuture, which would have required general anaesthesia. Of those cases, 11 healed completely

within 7 days and all 15 within 2 weeks. The period of hospitalisation required was 2-7 days (mean 4.5), compared with 9-18 days (mean 11.5) for the comparative group. In the latter group the wounds of two women became reinfected, and one developed hepato-cellular jaundice from the anaesthetic.

A retrospective study of 156 burn patients treated in a hospital over a period of 5 years (1988-92) found that the 13 cases treated with honey had a similar outcome to those treated with silver sulphadiazine 13.

A prospective randomised controlled trial was carried out to compare honey-impregnated gauze with OpSite® as a cover for fresh, partial-thickness burns in two groups of 46 patients *17. Wounds dressed with honey-impregnated gauze showed significantly faster healing than those dressed with OpSite® (means 10.8 versus 15.3 days: $p<0.001$). Less than half as many of those whose wounds were dressed with honey-impregnated gauze became infected, compared with those dressed with OpSite® ($p<0.001$). In another prospective randomised clinical study carried out to compare honey-impregnated gauze with amniotic membrane dressing for partial-thickness burns *18, 40 patients were treated with honey-impregnated gauze and 24 with amniotic membrane. The burns treated with honey healed earlier than those treated with amniotic membrane (mean 9.4 versus 17.5 days: $p<0.001$). Residual scars were noted in 8 percent of those treated with honey-impregnated gauze and in 16.6 per cent of cases treated with amniotic membrane ($p<0.001$).

Honey was compared for efficacy with silver sulphadiazine-impregnated gauze as a dressing for superficial burn injury in a prospective randomised controlled trial carried out using 104 patients *16. In the 52 patients treated with honey, 91 per cent of wounds were rendered sterile within 7 days. In the 52 treated with silver sulphadiazine, 7 per cent showed control of infection within 7 days. Healthy granulation tissue was observed earlier in those treated with honey (mean 7.4 vs 13.4 days). Further, the time taken for healing was significantly shorter with the honey-treated group ($p<0.001$): 87 per cent of wounds healed within 15 days, compared with 10 per cent of those treated with silver sulphadiazine. Better pain relief and less exudation, irri-tation of the wound, hypertrophic scarring and post-burn contracture were noted with the honey treatment, which also produced accelerated epithelialisation at 6-9 days, a chemical debridement effect and removal of offensive odour.

In another prospective randomised controlled trial comparing honey with silver sulphadiazine-impregnated gauze on comparable fresh partial-thickness burns *20, histological examination of biopsy samples from the wound margin, as well as clinical observations of wound healing, were made to assess the relative effects on wound healing in two groups of 25 patients. The time taken for healing was significantly shorter with the honey-treated group ($p<0.001$). Of the wounds treated with honey, 84 percent showed satisfactory epithelialisation by the seventh day and 100 per cent by the 21st day. In wounds treated with silver sulphadiazine, epithelialisation occurred by the seventh day in 72 per cent of the patients and in 84 per cent at 21 days. Histological evidence of reparative activity was seen in 80 per cent of the wounds treated with the honey dressing by the seventh day, with minimal inflammation. Of the wounds treated with silver sulphadiazine, 52 per cent showed reparative activity, with inflammatory changes, by the seventh day. Reparative activity reached 100 per cent by 21 days with the honey dressing and 84 percent with the silver sulphadiazine. In the honey-dressed wounds early subsidence of acute inflammatory changes, better control of infection and quicker wound healing were observed, while in the wounds treated with silver sulphadiazine sustained inflammatory reaction was noted, even on epithelialisation. No skin grafting was required for the wounds treated with honey but four of those treated with silver sulphadiazine converted to deep wounds and required skin grafts.

— PART TWO —

Honey was also compared with boiled potato peel as a cover for fresh, partial-thickness burns in another prospective randomised controlled trial *19.

Of the 40 patients treated with honey who had had positive swab cultures at the time of admission, 90 per cent had their wounds rendered sterile within 7 days. All 42 patients treated with boiled potato peel dressings who had had positive swab cultures at the time of admission had persistent infection after 7 days.

Of the wounds treated with honey, all healed within 15 days, compared with 50 per cent of the wounds treated with boiled potato peel dressings.

The mean times to healing - 10.4 days with honey versus 16.2 days with boiled potato peel - were significantly different ($p<0.001$).

[Comment: the report on the trial on patients with Fournier's gangrene was criticised for failing to adequately describe the two patient groups; thus, it cannot be known for certain that they were comparable *57.

It was also pointed out that, statistically, there would have been no reliable difference in the mortality rate be-tween the two groups *57.

Nevertheless, the trial showed that simply dressing with honey was a very effective treatment for fulminant, rapidly spreading infection that is usually treated aggressively *37.

Although the conventional opinion is that necrotic tissue should be removed because it is a source of noxious substances which diffuse into the wound *57, this trial and that conducted on infected, disrupted abdominal wounds demonstrated that this is unnecessary when honey is applied to the wound, the slough and necrotic tissue being rapidly removed by the chemical or enzyme debriding action of that substance.

The trial conducted on infected, disrupted abdominal wounds, with a closely matched control group, showed clearly that the dressing containing honey was more effective then the conventional treatment of the control group in achieving healing of the wounds, as well as obviating the need for suturing.

However, the conventional treatment using antiseptics - which can damage tissue and inhibit wound healing *58 - although common, is possibly not the best benchmark against which to judge the effectiveness of honey.

Studies of burn patients treated with honey compared to those treated with silver sulphadiazine, however, showed that honey is as or more effective than the topical burn treatment most widely used in modern times *59.

Although the retrospective study did not provide enough details of the cases to show that those treated with honey were similar to those treated with silver sulphadiazine, the prospective randomised controlled trials were well-designed and adequately described, the statistically significant results from large numbers of patients providing convincing evidence that dressing with honey is the best treatment for superficial burns.]

Risks and Adverse Effects No adverse effects were noted in any of the studies in which honey was applied topically to experimental wounds on animals *14, 26, 28, 52, 54, 55 and which included histological examination of treated tissues *14, 26, 28, 53.

Honey has been uapplied to wounds for thousands of years without gaining any reputation for adverse effects.

In more recent times, the many reports published on its clinical usage on open wounds mention no more than a tran-sient stinging sensation in some patients *9, 23, other than in two cases where the pain persisted for 15 minutes *8 and two in whom the pain was such that the application of honey could not be tolerated *8, 9.

A transient stinging sensation and redness of the eye soon after putting honey in it were reported, but this was never enough to cease treatment in the 102 cases in a trial of honey for ophthalmological use *60.

Generally the topical application of honey to open wounds has been reported as soothing *17, pain-relieving *17, non-irritating *19, 21, 23, causing no pain on dressing changes *46 and as producing no secondary reactions *9.

Allergy to honey is rare *61, but there could be an allergic reaction to either the pollen or bee proteins in honey *14, 62, 63.

In reports of clinical studies where honey was applied to open wounds in 125 patients, it was stated that there were no allergic or adverse reactions *7, 12, 15, 18, 25.

However, the occurrence of a minor haemorrhage soon after application of honey has been mentioned with reference to an unrecorded case 10. Reference has also been made to dehydration of tissues if too much honey is applied to a wound, but it has been stated that the hydration of the tissues is easily restored by saline packs *21, 24.

Because honey contains up to 40 per cent glucose, there is a theoretical risk of it adversely elevating the blood glucose level of diabetics when applied topically on a large, open wound.

Honey sometimes contains spores of clostridia and thus poses a small risk of wound botulism.

However, in none of the many reports published on the clinical use of honey on open wounds was the honey used sterilised, yet there are no reports of any type of infection resulting from that application of the honey.

If spores germinated, any vegetative cells of clostridia, being obligate anaerobes, would be unlikely to survive in the presence of the hydrogen peroxide generated in diluted honey. Nevertheless, the use of honey as a wound dressing has been argued against on the grounds that the risk of it causing wound botulism is unacceptable *64.

This objection can be overcome by using honey treated by gamma-irradiation, which kills the clostridial spores *65, 66 without any loss of antibacterial activity *65.

The problem of flies and ants being attracted to honey dressings *67, 68, although not commonly noted, can be overcome by using effective secondary dressings to prevent the honey from leaking or being exposed to insects.

Advantages of Honey as a Wound Dressing Honey provides a moist healing environment yet prevents bacterial growth, even when wounds are heavily infected.

It very quickly and effectively renders heavily infected wounds sterile, without the side-effects of antibiotic usage, and is also effective against antibiotic-resistant strains of bacteria *35.

Further, its anti-bacterial properties and viscosity prevent the cross-infection of wounds and it provides a supply of glucose for leucocytes, essential for the 'respiratory burst' that produces hydrogen peroxide, the dominant component of the antibacterial activity of macro-phages *69.

It also provides substrates for glycolysis, the major mechanism for energy production in the macrophages, allowing them to function in damaged tissue and exudates, where the oxygen supply is often poor *69.

The acidity of honey (typically below pH 4 *70) may also assist in the antibacterial action of macrophages, as an acid pH inside the vacuole is involved in killing ingested bacteria *69.

Whether it is through this action, or through preventing the existence of the toxic unionised form of ammonia *71, topical acidification of wounds does promote healing *72.

The high glucose levels provided by honey would be used by the infecting bacteria in preference to amino acids *73 from the serum and dead cells and thus would give rise to lactic acid rather than ammonia - it is the amines and sulphur compounds that cause malodour in wounds.

Honey produces rapid tissue regeneration and suppresses inflammation, oedema, exudation and malodour in wounds, as evidenced in clinical observations and the results of animal studies and clinical trials.

The antibacterial properties clearing infection alone could account for these effects, since they prevent the products of bacterial metabolism responsible for the contrary conditions.

But honey also has a direct trophic and anti-inflammatory effect on wound tissues, as evidenced by the results of animal studies in which no bacterial infection was involved, particularly in those where the honey was administered systemically.

Honey can be expected to have a direct nutrient effect on regenerating tissue, because it contains a wide range of amino acids, vitamins and trace elements, in addition to large quantities of readily assimilable sugars *70. (The vitamin C in honey - which, typically, is more than three times that in serum and may be many times higher - could be of particular importance because of the essential role of this vitamin in collagen synthesis.)

In addition, the high osmolarity of honey causes an outflow of lymph and thus nourishes regenerating tissue, which otherwise can only grow around points of angiogenesis (seen as granu-lation); healing is delayed if the circulation to an area is poor or the patient poorly nourished.

Also, it has been suggested that the decreased turgor resulting from the application of honey may increase the oxygenation of tissues *7.

This osmotically-induced outflow also helps lift dirt and debris from the wound bed and ensures that the dressing does not stick to the wound - what comes into contact with the wound tissue is a fluid solution of honey, and this can easily be lifted off and any residue rinsed away.

Therefore, there is no pain on dressing changes and no tearing away of newly formed tissue.

The cleansing effect of the osmotic flow and the chemical or

enzymic debriding effects of honey make surgical debridement unnecessary, thereby saving the patient from pain or the risks associated with anaesthesia.

Further, it has been noted that by reducing the surface area of oedematous and soggy wounds, or more clearly defining them, honey enables a definite decision on limb amputations to be made; this is particularly advantageous in cases of diabetic and malignant ulcers *7.

There is also an economic advantage to using honey as a wound dressing. This is evidenced both in the direct cost savings when honey is compared with conventional treatments and in the savings in ongoing costs when the more rapid healing rates achieved using honey are considered.

Cost comparisons that have been made are:

* 480 F for treatment with Debrisan compared with 7.5 F for treatment with honey *39;

* $70 for treatment with antibiotics compared with $2 for treatment with honey *25, and

* $40 for treatment with Duoderm compared with $8 for treatment with honey *8.

Other observations on cost savings have been:

* that the use of antibiotics ceased *30, and

* the length of hospitalisation was reduced *25, 30, 39 (by at least half *15, 21).

In addition, there are the savings in the costs of surgery in cases in which debridement and skin grafting become unnecessary when honey is used.

Honey is also an ideal first-aid dressing material, especially for patients in remote locations, when there could be time for infection to set in before medical treatment is obtained - honey is readily available and simple to use.

It would be particularly suitable as a first-aid treatment for burns, where emergency dousing or cooling frequently involves the use of contaminated water, which then leads to heavy infection of the traumatised tissue.

As well as giving immediate anti-inflammatory relief, the honey would provide an antibacterial action and a barrier to further infection of the wound.

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President's Report...

Beekeepers, Ladies and Gentlemen

The real milestone this year has been of course the implementation of the Pest Management Strategy for the Elimination of American Foulbrood. Many people have put in a huge amount of effort into developing the PMS and I wish to thank them enormously for their effort.

The most important current challenge is to stop the commercial growing of any genetically engineered crops that produce nectar or pollen or any other food, which may be damaging to our bees, human health or the environment.

New Zealanders should be very careful of genetically engineered crops, because once they are introduced there is little chance of stopping the spread around NZ unless they have been genetically engineered to be sterile. Some people consider we have no chance of stopping genetically engineered plants, which end up in our food, being grown in NZ. I disagree very strongly. We stopped nuclear bombs, armaments and power stations coming into NZ. Genetically engineered plants could be just as dangerous.

As soon as people realise the risks they could be running the sooner they will rise up against any government that allows genetically modified plants to be commercially grown in NZ. Any government will in my opinion, run an increased risk of being defeated at the next election if they do not take a very strong stand against the growing of genetically engineered plants which end up in our food.

The problem is not only the possible health and environmental damage being done, but what about the effect on sales of food? Just imagine trying to sell sheep meat in England which has been fed on GE clover pastures, or jam in NZ which has been made from GE fruit with GE beet sugar added, or GE golden syrup for that matter. I hope the farmers of NZ are fully aware that growing GE seed crops in the long term may be very damaging to their profitability.

I also believe that our Industry will be strong enough to put the short term gain of say growing GE clover which produces more nectar, well behind their welfare and I hope other food producers will do likewise.

We are in very unique position in NZ with no nectar or pollen being collected by honeybees from GE plants. Let's keep it that way. Let's keep the market edge we have over the US and Canada where the growing of GE crops is rampant.

There will be tremendous pressure put onto NZ by North America, to try to stop us producing good healthy food which will receive premium prices compared with North America GE modified food.

Some beekeepers think that if they do not keep their bees near GE cops they will be able to guarantee their honey crops will be free of GE material. Perhaps for a year or two that will be the case but in the long term there is no way. If we allow GE nectar or pollen producing crops to be grown in NZ the beekeeping industry may soon be in a steep decline and this will affect the three billion dollar public good and public benefit that the NZ beekeeping industry provides free to the NZ economy, in the way of pollination of clovers, fruit and seed crops.

People power kept NZ nuclear free, people power can stop the commercial growing of GE food crops. Let the politicians be warned if they get it wrong. They will know how it feels to be the losers at election time. Do not let NZ be kicked around again by North America as they have been over the lamb trade levies, or manipulated by the multi-nationals chasing profit. Please stand up and be counted, motivate the people of NZ into maintaining their image of producing the finest food in the world.

Some people will say that genetic engineering can be done safely. Possibly it can sometime in the future, after much further research has been carried out and the public accepts GE food. But the risks are too high at the moment and the possible downside effect on sales too great! Our Industry could be the industry that can determine our Government's policy. Let us learn from North America's mistakes and let us maintain the advantages we have over them and not be conned into following their example by producing GE food.

Some people say we should keep this out of the public arena, that we should not associate honey with GE now or in the future. I say human health is too important to allow for this head in sand approach and people will eat more honey with the positive publicity we receive in fighting for the good health of New Zealanders.

NBA members, including the Executive give a tremendous amount of time to the Industry. The value of this time is far greater than the total value of your levies. Fact: by not supporting an increased apiary levy last year you have run the reserves of the NBA down. Please give the Association an increase of funds this year to allow the Executive and the sub-committees the financial means to assist you. If you do not approve of the $6 levy increase it will not be the Marketing committee or other committees or the executive who loses out, but you!

Your Executive generates far more income for you than it costs you in levies. Be wise business people and vote for a levy increase. The Marketing committee is doing a wonderful job for you. The amount of research that is being done on New Zealand honey compared with a few years ago, is enormous and it looks as if it will further increase, which is good for the NZ producer, ie the levy payer.

Some Top Priorities

To keep pests and diseases of Honey Bees out of New Zealand

To keep Genetically Engineered nectar bearing plants from being grown commercially in New Zealand until we are sure they are safe

To influence Government Acts and Regulations, so making them more user friendly

To encourage Government to recognise the public good and public benefit created by the Beekeeping Industry.

To this end your Executive has made the following six submissions during the past three months: -

Submission opposing the Proposal to Import Honey from Western Australia

Submission re Proposal to Import Honey and Propolis from Pitcairn Island

Submission opposing the Biological Control of Broom

Submission on Infant Botulism

Submission on the Animal Products Bill Supplementary order Paper

Submission on Surfactants

Some of these submissions are quite short while others are very substantial. I wish to thank all those who have assisted with these submissions.

The honey crop last year was once again one of extremes, tremendous Rewarewa and Tawari crops in some areas, very good clover crops in Southland, with some severe droughts particularly in the Eastern South Island with some very poor crops. Also poor crops of Manuka in many parts of NZ, but Kanuka has yielded well. Unfortunately some of the worst hit areas have now suffered poor crops for a number of years.

I wish to thank all members of our Association's Executive, sub-committees, Harry Brown, Bill Floyd, ArgiQual and MAF for their assistance to the Beekeeping Industry of New Zealand. A special thanks to my wife Annette for all the work she has done for the Association.

Harry Brown our Executive Secretary, due to ill health caused by the pressures placed upon him by being the Executive secretary of the NBA, has advised that he will not be available to provide all the services required by the present Contract from 1 January 2000. He has indicated his availability for part of the Contract only, so restructuring of the administration services of the NBA is now in progress. On your behalf I would like to express our hope for Harry's speedy recovery and thank Janice for the work she has done during Harry's ill health.

I thank those who have given me their support during my time as President. For those who think I have not been working for the best interests of the NZ Beekeeping Industry, I hope you can now strongly support your current Executive in helping them to produce prosperity for your Industry. Thank you all for the very unique experience of being your President and I ask for your assistance and forebearance to make this conference a conference to be remembered for Harmony, Happiness and Progress.

Russell Berry

Industry Alert

Exporter registration requirement

Under the terms of the recently passed Animal Products Bill, exporters of beehives products are required to register with MAF Food before November 1, 1999.

Please bring this to the attention of your exporter. MAF Food have further information available at Box 2526, Wellington.
Phone: (04) 474-4169
Fax: (04) 474-4206.

1. ***Corbans Challenge proves value of the Honey Training classes***
2. ***How's Honey in the Supermarkets?.***
3. ***Honey Research***
4. ***Active Manuka***
5. ***Snippets***

Corbans Challenge Proves value of the Honey training Classes.

It was interesting to recently receive the Corbans Wine and food challenge restaurant guide for Auckland, Wellington and Christchurch and look at how honey was represented. I was reasonably pleased. Overwhelmingly we are represented in desserts. Here's a selection of some descriptions that will get your taste buds working.

Auckland: Of the 76 restaurants in the competition eight had honey mentions this represents 9%.

Mains:
Gumdiggers restaurant : Honey cured and smoked ham cutlet, pan fried in butter flamed with rum and glazes with a honey and wine reduction.

Desserts :
Cornwall Park Garden Restaurant: White chocolate & honey mousse

Mosso Restaurant & Bar: Honey sweetened mascapone crepes

One Red Dog Ponsonby: Citrus and honey Compote

Saints Waterfront Brasserie: Honey and ginger sauce.

The Brasserie, at Stamford Plaza Auckland: Honey marinated grapes

Turtle Creek Cafe: Honey and Fig ice cream

Zest Restaurant and Bar: Lemon and Honey Mousse

Wellington: Of the 58 restaurants nine had honey mentions 15%

Mains:
The Conservatory restaurant, at the Angus Inn Hotel. Veal Mille Feuille, veal fillet grilled and layered with taro wafers, stuffed field mushroom, spagetti vegetables and soy honey ginger glaze.

Desserts:
Coyote Street Bar and Restaurant. Apricot honey cake and honeycomb ice cream

Dockside Restaurant: Creme anglaise and honey caramel glaze.

Icon Restaurant: Honey Ice cream

South of the Border: Manuka honey infused cream.

Strawberry Fare restaurant: Honeyed almond tart.

The White House Restaurant: Burnt honey ice cream.

Tupelo Bar and Dining Room: Honey glazed fruit.

Vista: Honey wafers.

But what was really pleasing was the scene in Christchurch where we have been carrying out regular Polytechnic chef classes. Fifty three restaurant were in the competition with 12 using honey 22%.

Once again heavily represented in desserts.

Mains:
Governors Bay Cafe and Bar: Honey marinated pork fillets astride braised pumpkin wedges, adorned with a rich port and blueberry glaze.

O.G.B Restaurant at the Heritage Square: Oven roasted cervena tenderloin with Hagley chestnuts and field mushrooms served with honey infused moi moi and Chilli kumara then finished with merlot and boysenberry jus.

Desserts:
Canterbury tales at the ParkRoyal Christchurch Hotel: Malted honey ice cream.

Cook'n' with Gas: Honey wafer.

Indian Empire , Indian restaurant: Cheese dumpling served in honey syrup.

Ironside House Houghton's Cafe: Passionfruit and honey brulee.

Sign of the Takahe: Pastry with manuka honey glaze.

The Boulevard: Manuka honey ice cream

Tiffany's restaurant and Bar: Honey and praline ice cream.

Untouched world cafe: Blackberry and manuka honey steamed pudding.

Wakefields Restaurant and Bar: Honey comb parfait

Willows on Avon at the Avon River Centra Hotel: Whole orange cake enhanced with honey rose water syrup.

So why so such a high percentage in Christchurch compared to elsewhere? We've been running chef training classes in ChCh for four years now. (It work's ? It works !) It's good to see manuka mentioned specifically as a type. We still have a lot of work to do on our other honey's so chefs will name other honey's to use them as a draw card for people to buy the dish.

Last month we showed ChCh Polytechnic chef Carl Webb with his Innovation Medal . I have included the recipe in this month beekeeper. The manuka and honeydew go well together. A superb dish.

How's Honey in the Supermarkets?

A keynote speaker at a conference I attended recently got a real laugh from delegates when he screamed " Torture numbers and they'll confess to anything." Overall we are getting slightly more for our honey, but we sold less honey through supermarkets. Barbara Bixley from Arataki honey assures me the colder the winter the higher the honey sales, and as it was a mild winter it could account for the small reduction in total volume. Are more beekeeper doing their own marketing at another point of sale: gate sales, flea markets and the like, as the number of brands in supermarkets reduce.

Sales of varietal honey's have been disappointing, but manuka sales continue to increase. The key for us with these varietal honey's is to become less domestic market inclined and aggressively grow exports. The Marketing Committee is working with the Honey JAG exporters group on this.

Honey Research

Peter Molans excellent article "A brief Review of Honey as a Clinical Dressing" in this article of the *BeeKeeper*.

Active Manuka

I attended a meeting of the Active Manuka Honey Industry Group last month. Good to see exports of active manuka at

$17.00kg (equates to $10.00 for the producer) equivalent! At the meeting Peter Molan explained why he thinks Active Manuka could be a perfect answer for teenage acne.

Imagine the world demand if we could prove that!

Snippets:

Waikato Amber

Good to hear about Waikato Amber producers getting together to create their own Marketing Plan for that honey. (Nothing helps achieve success like self help!)

Propolis

I hear demand for propolis is driving prices through the roof. Are you producing (and getting) your share?

Marketing

Apimondia

By the time this is produced I'll have presented my paper.I look forward to telling you all about it. I've been to the doctor to get the anxiety tablets; at this stage I get nervous just thinking about the speech!

A short column to allow for the stats and research except .....

My Honey's of the Month.

Allan and Francie Pimm have been worried about rumours that I've not been exposed to true New Zealand honey's. The talk in the North is that I was raised on South Island Clover and wouldn't know a real honey if it leapt off my fresh buttered crumpet and bit me on the .....

Their Tawari Manuka blend is a seriously enjoyable honey: it has a toffee texture and huge fruit flavours. I get an overwhelming and delightful sense of sweet dried apricot flavours.It has a fresh after taste too. The manuka is there but in balance, and adds a hint of oakiness. Very good honey!

The bush blend has a rounder more buttery mouth feel ,there are a couple of enjoyable flavours that I can't identify . I found it a more savoury honey with a nice clean taste. I think it will be nice for lunch with date scones or pumpernickel bread.

And the manuka has a good strong flavour including the slightly bitter manuka signature after taste. Again in balance. I'd be interested to see the results from antibacterial testing on this and the bush blend.

At the risk of committing blasphemy I have to confess South Island clover has had an effect on me I regard mostly use manuka honey's as an ingredient honey, rather than a table spread.

The Pimms Hikutaia Honey's are delicious eating honey's: good clean processing has kept the rich varietal flavours in the honey and the creaming has given a full rounded mouthfeel. You're right Allan and Francie these are excellent regional honey's.

Regards

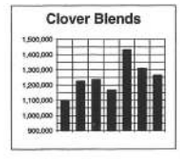
Bill Floyd

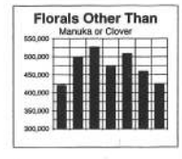
NEW ZEALAND SUPERMARKET HONEY RETAIL SALES DATA

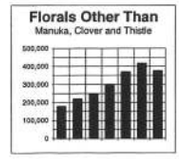
From Scantrack Barcode Analysis provided by ACNielsen Research Company.

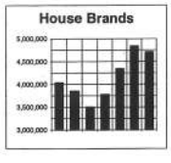
DATA MATRIX•BLOCKS OF GRAPHS SHOWING VARIOUS

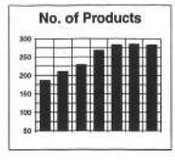
	1993	1994	1995	1996	1997	1998	1999
Total No. of Products	186	211	229	268	283	285	283
Branded Sales	$8,193,856	$9,010,774	$10,138,634	$10,449,700	$11,743,328	$12,426,775	$12,468,109
Clover	$1,535,598	$1,603,432	$1,703,084	$1,677,316	$2,363,926	$2,503,200	$2,412,233
Clover Blend	$1,102,233	$1,227,031	$1,236,140	$1,167,827	$1,431,272	$1,310,717	$1,265,359
Manuka	$1,041,629	$1,623,876	$2,312,085	$2,713,834	$3,414,152	$4,054,114	$4,186,835
Manuka Blend			$4,183	$19,924	$6,234		$86,538
Borage	$8,775	$9,471	$9,414	$13,252	$30,560	$70,557	$52,899
Honeydew	$608		$6,480	$33,387	$33,214	$17,220	$17,092
Kamahi	$18,192	$24,167	$28,557	$31,185	$42,761	$35,339	$31,225
Pohutukawa	$99			$722	$4,526	$297	$731
Rata	$84,507	$101,436	$108,416	$98,898	$111,637	$158,743	$145,848
Rewarewa	$29,877	$33,643	$33,859	$50,116	$59,715	$64,075	$63,684
Tawari		$969	$3,059	$13,284	$34,768	$26,862	$19,660
Thistle	$242,200	$278,086	$277,052	$172,203	$138,266	$40,690	$45,766
Vipers Bugloss	$36,839	$49,615	$60,141	$59,844	$53,214	$46,134	$45,988
All Floral Excl. Cvr & Manuka	$421,096	$497,387	$526,978	$472,891	$508,661	$459,917	$422,893
Florals Excl. Cvr,Man & Thist.	$178,896	$219,300	$249,926	$300,688	$370,395	$419,227	$377,128
Comb	$59,079	$71,798	$67,900	$96,603	$120,783	$112,411	$46,732
Other - Honey & Fruit/RJ/Pollen	$5,243	$4,222	$10,532	$20,716	$70,683	$245,523	$142,238
Controlled Label	$4,043,589	$3,855,484	$3,509,664	$3,781,850	$4,345,412	$4,846,536	$4,708,903
Total Sales	$12,237,445	$12,866,257	$13,648,298	$14,231,550	$16,088,740	$17,273,310	$17,177,012

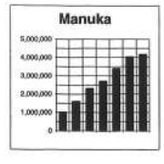


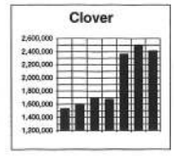








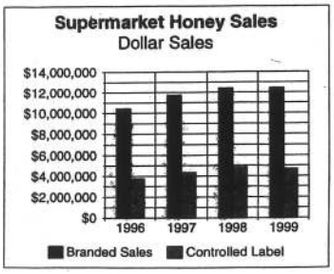




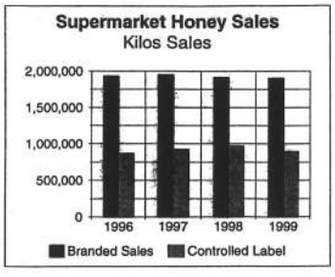
New Zealand Supermarket Honey Sales

July 1st to June 30th. 1996 - 1999

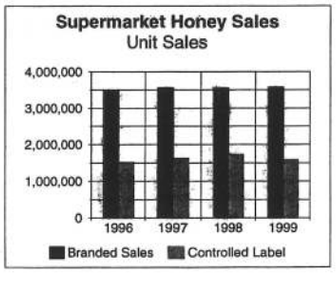
Dollar Sales	1996	1997	1998	1999
Branded Sales	$10,434,982	$11,743,328	$12,426,775	$12,468,109
Controlled Label	$3,781,849	$4,345,412	$4,846,536	$4,708,903
Total Honey Sales	**$14,216,831**	**$16,088,740**	**$17,273,310**	**$17,177,012**



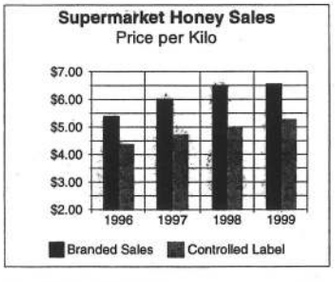
Kilo Sales	1996	1997	1998	1999
Branded Sales	1,936,211	1,954,140	1,915,851	1,902,712
Controlled Label	867,004	922,532	969,668	893462
Total Honey Sales	**2,803,214**	**2,876,672**	**2,885,519**	**2,796,174**



Unit Sales	1996	1997	1998	1999
Branded Sales	3,497,503	3,566,169	3,559,203	3,590,884
Controlled Label	1,516,720	1,622,575	1,730,577	1,583,647
Total Honey Sales	**5,014,223**	**5,188,744**	**5,289,781**	**5,174,530**



Price Per Kilo	1996	1997	1998	1999
Branded Sales	$5.389	$6.009	$6.486	$6.553
Controlled Label	$4.362	$4.710	$4.998	$5.270
Total Honey Sales	**$5.072**	**$5.593**	**$5.986**	**$6.143**



Pest Management Strategy News

NBA Needs your help

The NBA's PMS is now well under way and the Executive, as the management agency for the strategy, seeks your help in a few areas.

The tasks asked of you here will increase the effectiveness of our strategy and help reduce it's cost. Many of our members need a reminder of their part of play in our new disease control program.

Annual Disease Returns. These returns were due in on June 1st. Reminder notices have been sent to those who as yet have failed to return their ADR's for the year. The ADR's are an essential part of the strategy. They provide detailed information on how much AFB is found and where and when it has been dealt with. They alert our principle contractor, Agriquality NZ, to where the problem areas are in the country and they can then target their inspection and audit work most effectively. This gives all beekeepers the maximum benefit from our disease control budget. These returns, which keep the Apiary Register up to date and accurate, also proved the NBA with information for the purposes of our commidity levy. Non returns only worsen the situation for the rest due to a shortfall in Levy collection.

Deca's and COI's

Some members have not completed DECA's yet and need to do that very soon or alternatively arrange for another beekeeper (with a DECA) to do their inspection for them.

Certificate of Inspection forms (COI's) will be sent out soon to all those who have not got a DECA. COI's must be returned within 14 days of the hives being inspected or by December 15th.

Many beekeepers without DECA's will realise pretty soon that they need to contact an approved beekeeper to inspect their hives for them.

They will need access to a list of these beekeepers in their area that are willing to do this for them.

It is proposed that branch secretaries and presidents will have such a list available for these people to contact.

They should of course be encouraged to apply for a DECA. If they apply before mid November they should be able to receive it before the November 30th COI deadline. Then of course, as a DECA holder, they will not require a third party to inspect their hives. In many cases this may save a considerable expense. (The 30th November is the date all beekeepers without a DECA have to have their hives inspected by, using an approved beekeeper for the job.)

Quite a few beekeepers may think they just need to have the COI form signed off by an approved beekeeper. In fact the approved beekeeper has to actually inspect all the hives and sign off individual forms for each apiary declaring that they have carried out the work.

Training of trainers course

Another matter branches and clubs are asked to be involved in is the trainers course. The "Training of Trainers" course will be held on the 1st and 2nd October, the 1st October in the South Island and the 2nd October in the North Island. Contact has been made to all branches seeking their help and assistance. We hope to get branches and clubs involved, sending a member, sponsored perhaps, to become a trainer.

The cost for this trainers course has been set at $150 per person. Individuals can do the Trainers course themselves if they want, and then set themselves up as a private instructor, offering the course and opportunity to sit the test. All courses are subject to audit from the management agency. These people will then be able to run ***authorised courses*** in their area, for free if the branches or clubs want to sponsor them, and follow the course with the test. Larger beekeeping businesses may well want to have a staff member become an ***authorised trainer***.

Need more information?

If you are interested in attending the 'training of trainers course" and require further information, or would like to register for the course, please contact your own branch secretary or phone Bruce Stevenson (PMS Facilitor). (09) 407-7190.

Karl Webbs' Award Winning Lamb Dish from the Christchurch Polytechnic Mid-year Honey Workshop

Ingredients

2 lamb loins
1/2 tbsp brown sugar
1 tbsp white wine vinegar
1 tbsp chopped fresh basil
1 tbsp Manuka Honey
Pinch salt
Grind of black pepper

Combine last six ingredients and mix well to form a marinade. Add lamb loins to marinade.

12 green beans, blanched
2 apples
4 yellow scallopini, cut into wedges
2 roast red peppers, peeled
1 kumara
2 tbsp Honeydew Honey
1 tbsp Extra Virgin Olive Oil
2 tbsp white wine vinegar
salt and freshly ground black pepper (to taste)
6 Cherry Tomatoes, halved
1 Spring onion, finely shredded

Make the dressing by combining the Honey, oil,vinegar and salt and pepper. Heat a heavy pan or a grill pan to high heat. Seal the lamb well, giving an attractive pattern using the grill bars. Set aside to rest. Cut apple into wedges and grill decoratively. Do the same with the red pepper, the beans and the scallopini. Slice the kumara finely and deep fry. Drain well and season. Slice the lamb across the grain. It should be medium rare. Combine the lamb, apple, beans, scallopini and red pepper and toss with the dressing. Arrange nicely on the plate. Allow all the colours to be seen. Decorate top of dish with some spring onion. Garnish each plate 3 halves of cherry tomato. Drizzle a little dressing onto the plate. Finally top with some kumara chips and serve. Serves 4.

Frank reflects...

SPRING

Spring is a wonderful time of re-growth and renewal. Trees are budding up and most hives are in full swing on the warm, clear, sunny days. Have a look at what's flowering and what the bees are working in your area: tree lucerne, pussy willow, early plumb trees, black and bush wattle and the odd kowhai.

Drive into an apiary and observe what is going on. Apart from the tuneful warble from the grey warblers and the song of the Tuis, there is a hum in the air, bees flying in all directions. Walk among the hives and observe what is happening at the landing boards. Masses of bees flying, pollen coming in on their legs indicates a healthy hive, with a laying queen, working an early nectar source. Those with only a few flying bees, or not flying at all with a clump of bees defending the landing board could be queen-less - but not always. Large amounts of cappings out the front indicated a mouse has been feeding on your precious honey and pollen reserves. An abnormal amount of dead bees outside a hive could indicate a nosema problem. No bees at all could means that the queen failed and the bees have absconded or the hives has died from starvation. All need attention.

I have been through a few of my apiaries and I am very pleased with their condition. I winter my hives, mostly three full depth supers high with a minimum of a full super of stores. Being a warm settled winter, the bees have been flying well and most still have that full super of honey. Queens are laying with patches of brood in three frames (these require requeening) to a full seven frames of brood, (these will need to be split next month to prevent swarming). All the brood is surrounded with a band of fresh nectar and pollen and most hives have already started producing drone brood. Only one or two hives in each apiary require supplementary feeding in the form of a few kg's of raw sugar.

SPRING INSPECTION

As soon as you feel comfortable working outside, its time to inspect the hives for disease, assess the amount of stores, the condition of the queen, how much brood and to replace any old, dark, broken frames and rotten woodware.

Load your vehicle (or wheelbarrow) with everything you may need for the inspection. New pallets or hive stands, spare roofs, bases and supers plus a number of last year's fully drawn frames. Water-based poster pens or twink to mark queens, protective gear, smoker and all.

Before fully opening a hive, gently apply smoke at the entrance and under the lid, (hive mat or top feeder). Allow twenty to thirty seconds for the smoke to calm the bees before removing the roof and crown board, cover boards, top feeder or mat (what ever you use). Waft a small amount of smoke over the top of the frames to disguise any alarm pheromone produced by those bees with their stings in the air. This also discourages the guards rushing up and having a go at you.

If the hive is not aggressive and you don't mind the odd sting, remove your gloves and continue to work the hive. I recommend this action for two reasons. You can feel the air temperature and the heat given off by the bees, and when the bees are starting to get out of control, they remind you its time to use a little more smoke. It's also a good idea to top up your immune system with a sting or two early in the season. If the bees get out of hand or are dark and bitchy, keep your gloves on.

Look down into the hive and observe the conditions. Water between the frames, dampness on the inside walls of the supers or in the top feeder, indicates that the hive requires a little more top ventilation.

How many frames are covered with bees? Can you still see sealed honey? How much does the hive weigh - lift the back of the hive slightly and estimate the weight. Then carry on with the inspection.

Strip the hive down to expose the bottom board by stacking the supers on the up-turned lid in front of the hive stands. (As you break each super, waft in a little smoke to control the bees). Lift off the floorboard and inspect the hive stand. Replace if there are any signs of rot, as these have to support a fully loaded hive later in the season. (There's nothing more soul destroying to have a hive full of honey topple over and robbed out through a collapsing stand). Place the bottom board back in position and clean off any debris. (From my observations, hives with small entrances that prevent mice getting in will be fairly clean. Those with wide entrances will have debris caused through the mice damage). Use the flat of the hive tool to scrap the bottom boards clean. If you use the conventional reversible bases, turn it over and wipe away the cobwebs. In The UK, some beekeepers scrub the bottom boards clean as they harbour all the rejected material from the brood nest above, (Nosema spores, sac brood mummies, etc). I believe this is a good practice that a hobbyist should adapt but unfortunately it is not practical for busy commercial beekeepers. I scrub the bottom boards of hives with heavy infestations of nosema using a bleach/water mixture. This strips away everything leaving the surface clean.

Replace the bottom super back on the hive, put a puff of smoke over the top of the frames and remove any burr comb from along the top of the top bars, then remove the outside frame. (If the hive has not been worked for some time, remove the next one in, as the outside one tends to fall apart, as this is the first frame to rot). Position yourself so that the sun is over your shoulder, kneeling, side on to the hive and proceed to look through the frames for BL disease; sunken cells off coloured, ragged holes in the cappings, etc (see your DECA book). As you go, scrape off the propolis build-up on the edges of the end bars so they will fit snugly together. Broken or old dark frames should be replaced or moved slightly to the outside for eventual replacement. If the super doesn't have any brood in it, check for any old capped cells or scale in the bottom of the cells. Flick off the tops with the hive tool and see what is underneath. Most of the time it will be a chalk brood mummy. If you are not sure, close up the hive, scrub your gloves, smoker and hive tool and consult another beekeeper or AgriQuality. Some beekeepers only inspect the frames of brood for disease, but this can be dangerous. I have found hives with beautiful brood in the second super yet, found diseased cells in the bottom super well away from the bees. When the hive population increases or you reverse supers in October to reduce congestion, these cells will be introduced into the brood nest and infection quickly takes hold. Hence it pays to do a complete inspection of all frames in the spring. Thereafter, you can quickly look at three frames of brood to monitor the hives condition. If the super is rotting, place the frames after inspecting them into a new super.

Queens are easy to find at this time of the year as they are concentrated within the broodnest and don't wander. She is usually on the frame where you see eggs. I mark my queens when I come across them. They are fairly easy to mark using twink or a water based marking pen. Gently hold by the wings leaving the queen on the frame and dab just a little on her thorax. (You can purchase a holder to pin them while they are marked that will not injure them). This does take a little practice so try marking a few drones to get in practice. Red for last year's queen, green for this year or just use twink. If you use a spirit-based marker, blow on the queen to dissipate the fumes otherwise these can kill them.

Just as an aside, sometimes when you mark a black queen, they seem to die. In fact they feign death and this can really scare you. (I have thrown away a few queens thinking I had killed them, until I discovered one wandering around the roof of an adjacent hive where I had put her). Warm her up in your hands for a minute or two and she will twitch a leg. Place her on the frame and she suddenly comes to life and runs away. If you are going to handle more than one queen, wash your hands between hives with plain water so you don't transfer one queen's pheromones to another, as the bees may think she is a foreign queen and kill her.

Marked queens are easier to find next month when you want to replace them or make a nuc. Have a look at the brood patten. Is the hive strong or weak? Does the queen need replacing? Is the inner circle spotted (bees of all ages) yet the outer bands of brood are compact with very few missed cells. This spotted pattern is due to nosema when brood was being produced from reserves within the hive. As soon as conditions warm up and the bees are able to bring in fresh pollen, nutrition increases and more royal jelly is produced therefore acceptance rates increase. Capped brood is not really a good indicator of the queen's performance as she can go over the missed cells and re-lay in them. Check the open brood for laying pattern. Missed cells will have younger larvae in them. If more than 15% of cells are missed, (75 X 75 mm square = 100 cells) or all the brood is spotty, mark the hive and replace the queen as soon as possible. Likewise mark the queen for replacement if there is a lot of sac or chalk brood. (Normally I only see four to five cells of chalk brood on the face of a frame in a bad hive, most hives are now resistant to this disease.). Check these hives again next month. They may have cleared up on their own as these disorders are stress related. How much pollen is in the hive? Frames clogged with old pollen can indicate a failing queen. None at all could mean that the hive requires artificial pollen. Normally hobbyists in urban areas will never have this problem. It's mostly seen by commercial beekeepers with more than 10 hives in an apiary where there are very few spring pollen sources. I encounter this problem in a few apiaries after a week of rain or in late October when very little is flowering.

Put a puff of smoke over the tops of both supers to drive the bees down, then place the second super back on the hive. Go through all the frames in the second super, checking for disease but also take notice of how much honey is in the hive. Was there as much as you estimated by lifting or was the weight due to brood and pollen? Never let the honey reserves go below three full frames of honey. This is a week's food supply for a full hive of bees (end of October). If they are running short, start feeding equal weight of sugar and water.

You will notice that you will receive one or two stings when going through the hive if you loose control of it. Take note of the bee's behaviour and when they start getting edgy, ie moving over the tops of the frames, darting out at you, give them a gentle puff of smoke to keep them in check. With gloves on, it's easy to overlook the control factor until a neighbour lets out a howl of pain. The idea is to control your bees and make beekeeping fun for you and your neighbours.

All this should take only five to seven minutes. If you are going to have the hive open longer than this, cover the exposed frames with the crown board or a cloth to conserve heat. As soon as your hands get cold, close the hive down and select another warm day to complete your inspection.

Just to summarise: Check for BL, cull out old frames, feed if necessary, Spray around the hives to control the grass, check the stored boxes for wax moth and continue to make up new equipment.

Swarms. These can start in September in our area and are a real loss to the beekeepers or a nuisance to non-beekeepers. Requeening helps to reduce this problem but some will always get away, (feral hives swarm every second year). Clubs should have a list of those willing to collect them. Notify your regional council, city council and the police that this service is in your area. I do local calls for free but charge if I have to travel some distance. Generally once they have gone in a building, it's easier to destroy them and then get the owner to seal up the hole or repair the surface as they will return again next year. If you know of places that always get swarms, put out a bait box. This can be an old super, with a few dark frames and the rest foundation. The entrance should only be 25 mm wide. Put these on a shed or at least head high and have the owner call you when they see them arrive or when they see pollen on the legs of bees going into the hive. Quite often I get a call and its only scout bees visiting. This can happen for two to three days before the swarm arrives or else this activity dies away - they have found a better place. It's also a good idea to leave a bait hive in your apiary (on top of the tallest hive). Its surprising how far a swarm will travel to a bait box.

If you get a call for a swarm in a bush, ask them to put a carton under them, shake and close the lid and place on the ground. Bees don't normally sting. You can then pick them up in the evening when they have finished flying. Don't take risks trying to recover a swarm up in tall tree. Sometimes they are not worth the effort. If you collect a swarm and want to keep it as an increase, requeen it immediately. If not, allow the queen to lay for a week or two to check for disease, then kill the queen and unite with a weak hive using two sheets of newspaper. (Put the good queen hive on top). If you have to kill a swarm, put a good squirt of dish washing liquid with a litre of water in a sprayer. They can't fly and die very quickly.

Frank Lindsay - email lindsays.apiaries@xtra.co.nz

The Southern North Island Branch will be holding their Spring Field Day at Bryon and Sonia Bluett's honey house, 2km north of Eltham on the Main Highway.

9 OCTOBER - starting with a cup of tea at 10am.

PROGRAMME consists of the WHEN/HOW/WHAT of Sugar and Pollen Substitute feeding of hives - practical demonstrations, gadget display, bring & buy, Spring manipulation of hives, Propolis Mats and their use, AgriQuality Disease recognition & NBA update & Trade Displays.

BRING ANY GEAR YOU WANT TO SELL OR SWAP. ALSO, BRING ANY INVENTIONS/GADGETS THAT MAY BE OF INTEREST TO OTHER BEEKEEPERS

*** SAUSAGE SIZZLE AVAILABLE AT LUNCH $1-00 ***

(The Bar-B-Que will also be available for those wanting to stay a little longer).

Frank Lindsay, Secretary

The following remits were debated at the 1999 AGM

Remit I - Southland Branch
Amended to read:
That this Conference recommends to Executive, that it maintains pressure to monitor the growing of genetically modified crops in New Zealand in view of the potential risks to the New Zealand beekeeping industry.

The Amended Remit was CARRIED by a vote of 12 For 3 Against

Remit 2 - Waikato Branch
Amended to read:
That this Conference recommends that Executive continue to oppose the introduction of Genetically Engineered pollen and nectar producing plants into New Zealand.

The Amended Remit was CARRIED by a vote of 14 For 1 August.

Remit 3 - Auckland Branch
Amended to read:
That this Conference recommends to the Executive, they investigate the possibility of the detrimental effects on honeybees, and implications of honey products, arising from genetically engineered crops.

The Amended Remit was CARRIED by a vote of 8 For 6 Against 1 Abstention

Remit 4 - Nelson Branch
That this Conference recommends, that Executive takes a re-active role rather than a pro-active role in relation to the consultation and implementation processes of the Animal Products Bill 1998.

The Remit was DEFEATED by a vote of 12 Against 3 For 1 Abstention

Remit 5 - South Canterbury
Amended to read:
That this Conference recommends to the Executive that they request the Exotic Diseases Investigation Committee to draft a management plan to contain, or eradicate European Foulbrood, exotic internal and external mites, and Africanised honey bees, as a contingency if the diseases or Africanised honey bees are detected in New Zealand.

The Amended Remit was CARRIED 12 For 4 Against

Remit 6 - Auckland Branch
That this Conference recommends, that the Executive closely monitor what response the New Zealand Government will make to exotic pest or disease introduction affecting the New Zealand beekeeping industry.

The Remit was CARRIED : 14 For 1 Against 1 Abstention

Remit 7 - Exotic Disease Investigation Committee
Amended to read:
That this Conference recommends to the Executive, that they develop separate strategies for each of the exotic diseases and pests, which are considered to be a serious threat to the New Zealand Beekeeping Industry.

The Amendment was CARRIED 16 For 0 Against 0 Abstentions

Remit 8 - South Canterbury Branch
That this Conference recommends to the Executive, that they encourage the use of biological control to help eliminate Clover Root Weevil and Sawfly in New Zealand.

The Remit was CARRIED 16 For 0 Against 0 Abstentions

Remit 9 - Gary Jeffery
Amended to read:
That this Conference recommends to Executive that it encourages Land Care Research to carry out an urgent investigation to determine the pathogen at present reducing wasp numbers, so that it can be used for future wasp control.

The Amendment was CARRIED 13 For 3 Against 0 Abstentions

Remit 10 - Southern North Island Branch
Amended to read:
That this Conference recommends to the Executive, that they rigorously pursue collection of unpaid levies due to the NBA, according to the commodities levy order.

The Amended Remit was CARRIED 16 For 0 Against 0 Abstentions

Remit 11 - Southern North Island Branch
That this Conference recommends to the Executive, that they review the internal spending of the association and actively pursue all cost saving measures recommended by their subcommittees.

The Remit was CARRIED 14 For 0 Against 2 Abstentions

Remit 12 - Auckland Branch
That this Conference recommends to the Executive, that due to the NBA increased budget over runs, the NBA disband the Marketing Committee, thus saving approximately $90,000 per annum. We believe marketing is the responsibility of the individual businessman and not the NBA as a group.

The Remit was DEFEATED 0 For 15 Against 1 Abstention

Remit 13 - Auckland Branch
That this Conference recommends to the Executive to leave aside the Marketing Committee for one year, (with a saving to the Industry of enough funds to clear this year's deficit as well as the next year's anticipated short fall).

This Remit withdrawn by Auckland Branch

Remit 14 - Auckland Branch
That this Conference recommends to the Executive to consider that the levy on non-core activities of the NBA become a voluntary contribution.

This Remit was DEFEATED 1 For 15 Against 0 Abstentions

Remit 15 - Auckland Branch
That this Conference recommends to the Executive, that any increase to the apiary level, is set at no more than the current rate of inflation.

This Remit failed to be introduced, due to lack of Seconder.

Remit 16 - Canterbury Branch
That this Conference recommend to the Executive, that the present Apiary Rating System be changed to a Base Fee and Hive Stock Levy System where everyone who keeps bees pays the base fee of $60.00 plus so much per hive stock unit.

The Remit was DEFEATED 6 For 10 Against 0 Abstentions. A Poll was called for. Poll Vote Result: 350 For / 648 Against, confirming Remit's defeat.

Remit 17 - Southern North Island Branch
Amended to read:
That this Conference recommends to the Executive, that they review the present system used to levy beekeepers.

Amended Remit CARRIED 14 For 1 Against 1 Abstention.

Remit 18 - Otago Branch
That this Conference recommends to the Executive, that the basis for the collection of our levy be on beehives owned.

NOTE: Reworded to comply with rule 19)d)

Remit CARRIED 8 For 7 Against. A Poll was called for: 582 For 426 Against.

Remit 19 - Canterbury Branch
Amended to read:
That this Conference recommends to Executive that they make strong representations to the Ministry of the Environment, MAF and ERMA with the view to reducing chemical poisoning of bees.

Amended Remit CARRIED by 15 For 1 Abstention.

Remit 20 - Canterbury Branch
That this Conference recommend to the Executive that an injunction be placed on the sale of spray surfactants (wetting agents) until research has been carried out to declare them bee safe or bee unsafe and labelled SO.

Moved that this Motion be withdrawn.
(L McKenzie/P Smythe) Motion Carried.

Remit 21 - Auckland Branch
That this Conference recommends to the Executive, that all findings from the investigation undertaken into the use of drugs in honey producing hives, be published with a view to having all drugs banned.

This Remit was DEFEATED: 5 For 11 Against

Remit 22 - Bay of Plenty Branch
That this Conference recommends to Executive that it establish a Finance Sub-Committee to provide advice on financial planning, monitoring and reporting.

This Remit was DEFEATED 5 For 11 Against

Remit 23 - Bay of Plenty Branch
Amended to read:
That this Conference recommends to Executive that a subcommittee be set up immediately after Conference to research the idea of structural changes for the NBA Administration.

Amended Remit CARRIED 15 For 1 Abstention

Remit 24 - Bay of Plenty Branch
That this Conference recommends to Executive that it demonstrates openness and transparency in management and administration, allowing membership access to information as of right, choosing to treat requests for information in the same way a government agency would.

Remit CARRIED 12 For 3 Against 1 Abstention

Remit 25 - Canterbury Branch
Amended to read:
That this Conference recommend to Executive, that the NBA investigate the use of Federated Farmers or a similar provider, as an umbrella organisation to provide administration services:

Amended Remit CARRIED 11 For 5 Against

Remit 26 - Waikato Branch
That this conference recommends to Executive that in the light of the current financial crisis, it is not the appropriate time to restructure the administration of the NBA.

Remit DEFEATED 6 For 9 Against 1 Abstention

Remit 27 - Gary Jeffery
That this Conference recommends to Executive, that the NBA investigate replacing the MAF (AgriQuality) in fields of disease inspection, issuing export certificates etc.

Motion to withdraw this Remit Motion Carried

Remit 28 - Nelson Branch
Amended to read:
That this Conference recommends, that local branches take active measures to highlight the dangers of feeding honey (or honeyed water) to birds.

Amended Remit CARRIED 8 For 7 Against 1 Abstention

Remit 29 - Ron Morison, Hawke's Bay
That this Conference recommends to the Executive that support be given to those branches participating in activities aimed at increasing public awareness of the benefits of Beekeeping.

Moved that this Remit be withdrawn Motion Carried

Late Remit 1 - Allan McCaw
That this Conference recommends to Executive that they investigate without delay the data available from both the NBA register of members and the Apiary Register to ensure that the information available for Apiary Levy collection is accurate and complete.

Remit CARRIED 16 For 0 Against 0 Abstentions

Special Meeting to consider a increase levy and the NBA marketing role.

Notice of Motion 1:
NBA Executive
This special meeting requests, that the Executive seek approval from the Minister of Food, Fibre, Biosecurity and Border Control to obtain a $6 per apiary levy increase to fund the current range of activities of the NBA (Administration, PMS and Marketing)

The Notice of Motion Was CARRIED by a vote of 9 For 7 Against. A Poll was called for. Result of the Poll was 481 For 525 Against. Notice of Motion was DEFEATED following a poll of members

Notion of Motion 2:
NBA Executive
This special meeting requests that, the Executive seek approval from the Minister of Food, Fibre, Biosecurity and Border Control, for a levy increase of $1.50-per apiary to fund the current range of activities of the NBA, excluding Marketing, Approval for this 1999 Notice of Motion" is contingent on members' acceptance that the Executive would need to provide notice of a withdrawal from the funding of marketing as at the end of 1999.

The President moved that this Notice of Motion be withdrawn. This Motion was CARRIED by a vote of 16 For 0 Against

Special Remit 2 - I Berry/A Richards
This Conference of Branch Delegates requests that the Executive seek approval from the Minister of Food, Fibre, Biosecurity and Border Control to obtain a $4 per apiary level increase to fund the current range of activities of the NBA, (Administration, PMS and Marketing).

The Special Remit was CARRIED 11 For 2 Against 3 Abstentions

Moved (P Berry / D Stedman) that this Conference of Branch Delegates recommend Special Remit 2 be passed on to the AGM for approval

This Motion was CARRIED 12 For 4 Abstentions

Conference of Branch Delegates duly adjourned and the Annual General Meeting reconvened.

Moved (T Girvan/LMcKenzie) That this Conference recommends to the Executive that we seek the Minister of Food, Fibre, Biosecurity and Border Controls approval for a levy increase of $4 per apiary.

A vote, by show of hands, was taken of members who were in favour of the above Motion. The Motion was CARRIED 52 For 13 Against

The Chairman of the Conference advised that we have a decision which can be taken to the Minister.

The special meeting to consider increase levy and the NBA marketing role.

Moved (P Berry/D Stedman) that this Conference of Branch Delegates recommend Special Remit 2 be passed on to the AGM for approval

Special Meeting to consider Rule Changes
That Rule Changes 1 2 and 3 be withdrawn. Hawke's Bay branch indicated they had no objection to Rule Changes 1 2 and 3 being withdrawn

Rule change 4 :
Rule 15 currently reads:
15. PRESIDENT AND VICE PRESIDENT
The President and Vice President shall be elected at the Annual Meeting of the Association from the six members of the Executive elected in accordance with Rule 16.

Should there be an equality of votes, the result shall be decided by lot. Those elected shall take office immediately upon their election.

Proposed rule change:
Add the words "for the ensuing year" after the word "Executive". NOTES:

All six members elected to the Executive, regardless of whether they have formally 'assumed office', should be eligible to stand for either President or Vice President of the Association. The Annual Meeting has, for over 80 years of NBA history, selected the President and the Vice President from the six members of the Association who will be on the Executive for the following year. This rule change proposal confirms and clarifies that this should remain the case.

While the Annual Meeting might view previous Executive experience as an asset, the meeting should not be restricted to selecting from only three, or perhaps even fewer, of the members when choosing our President and Vice President.

The Proposed Rule Change was Carried by a vote of 15 For 1 Against

Rule Change 5:
I propose rule changes to replace the words "Balance Sheet" in rule 17 (c) (vi) and in rule 18(b) (iv) with the words "Statement of Financial Position" and to replace the words "Statement of Income and Expenditure" with the words "Statement of Financial Performance".

"The Proposed Rule Change was Carried by a vote of 14 For 1 Against 1 Abstention

RECIPES

Honey-Glazed Salmon Burgers

Makes 4 Servings

2/3 cup honey
2/3 cup ketchup
1 tbsp cider vinegar
2 tsp prepared horseradish
1/2 tsp minced garlic
1/4 tsp crushed red pepper flakes
1 can (14-3/4 oz) salmon, drained
1 cup plain dried breadcrumbs
1/2 cup chopped onion
1/3 cup chopped green bell pepper
3 egg whites
4 hamburger buns, toasted

In a small bowl, combine honey, ketchup, vinegar, horseradish, garlic, and red pepper flakes until well blended. Reserve half of sauce to use as a condiment. In a separate bowl, mix together remaining ingredients, except buns. Blend in 2 tbsp reserved sauce. Divide salmon mixture into 4 patties on well-oiled grill, 4-6 inches from hot coals. Grill, turning 2 to 3 times and basting with sauce, until burgers are browned and heated through. Serve with reserved honey barbecue sauce and buns.

Southern-Style Honey Barbecued Chicken

Makes 4 servings

1 2-1/2-3lb cut up chicken
Salt and pepper to taste
1 cup thinly sliced onions
3/4 cup tomato sauce
1/4 cup honey
1/4 cup cider vinegar
2 tbsp Worcestershire sauce
1 tsp paprika
1/4 tsp bottled hot pepper sauce

Place chicken, skin side down, in single layer in large baking dish. Sprinkle with salt and pepper to taste. Combine remaining ingredients; mix well. Pour mixture over chicken. Bake, uncovered, at 375°F 30 minutes; turn pieces and bake 20 minutes longer or until chicken is glazed and thoroughly cooked.

Honeyed Carrots

Makes 4 servings

3 cups sliced carrots or 1 package (16 oz) baby carrots
1/4 cup honey
2 tbsp butter or margarine
2 tbsp chopped fresh parsley or 2 tbsp dried parsley flakes
1-1/2 tsp prepared mustard (optional)

Heat 2 inches of salted water in medium saucepan to a boil over high heat. Add carrots and return a boil. Reduce heat to medium-high. Cover and cook 8-12minutes until carrots are crisp-tender. Drain carrots; return to saucepan. Stir in honey, butter, parsley and mustard, if desired. Cook and stir over low heat until carrots are glazed.

Fruit Salad with Honey-Orange Dressing

Make 4 servings

1/2 cup low-fat plain yogurt
1/4 cup nonfat mayonnaise
1/4 cup honey
3/4 tsp grated orange peel
1/4 tsp dry mustard
3 tbsp orange juice
1-1/2 tsp vinegar
4 cups assorted fruit

Whisk together yogurt, mayonnaise, honey, orange peel and mustard in small bowl until blended. Gradually mix in orange juice and vinegar. Toss fruit gently with dressing. Cover and refrigerate until ready to serve.

Honey Gingerbread Cookies

Makes about 3 dozen cookies

1-1/2 cups honey
3/4 cup butter or margarine, softened
1 egg
5 cups all-purpose flour
2 tsp baking powder
1 tbsp ground ginger
1 tbsp ground cinnamon
1 tsp ground cloves

In large bowl, cream honey and butter until light and fluffy. Beat in egg. Add flour, baking powder, cinnamon and cloves; mix until combined. Wrap dough in plastic wrap and refrigerate for at least 2 hours. When dough is chilled, divide dough in half; return one half to refrigerator. Dust work surface and dough with flour. Roll out dough to 1/4 inch thick. Cut into desired shapes using cookie cutters; transfer to well-greased baking sheet. Bake at 350°F for 10-12 minutes. Remove cookies from sheet and cool on wire rack. Repeat with remaining dough.

Acknowledgment, American Bee Journal

IMPORTANT DATES FOR 1999

BRANCHES SEND YOUR MEETING DATES IN FOR 1999. NO CHARGE.
MAGAZINE Copy/advertising deadline 1st of month. EXCEPT for DECEMBER issue. DEADLINE 25 NOVEMBER

COMING EVENTS...

EXECUTIVE MEETING DATES

13-15th December

★ ★ ★ *BRANCHES...PUT YOUR MEETING DATE IN HERE...FREE* ★ ★ ★

NZ QUEEN PRODUCERS ASSN
Call: Mary-Anne (06) 855-8038

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AUCKLAND BEEKEEPERS CLUB INC
Editor: Colin Bell
Phone: (09) 818-4325

NORTH CANTERBURY BRANCH
Meet the second Monday of every month
March to November inclusive.
Contact: Mrs Hobson
Phone: (03) 312-7587

SOUTH CANTERBURY BRANCH
Peter Lyttle
Phone: (03) 693-9189

CANTERBURY BRANCH
Meet the last Tuesday of every month.
February to October.
Field Day November
Contact: Trevor Corbett
Phone: (03) 314-6836

CHRISTCHURCH HOBBYIST CLUB
These are held on the first Saturday each month, August to May, except for January on which the second Saturday is applicable.
The site is at 681 Cashmere Road,
Commencing at 1.30pm.
Contact: Mr Lindsay Moir
33 Shackleton St,
Sth Brighton, Christchurch
Phone: (03) 388-3313

DUNEDIN BEEKEEPERS CLUB
We meet on the first Saturday in the month September - April, (execpt January) at 1.30pm. The venue is at our Club hive in Roslyn, Dunedin.
Enquires welcome to Club Secretary, Dorothy, phone: (03) 488-4390.

FRANKLIN BEEKEEPERS CLUB
Meet second Sunday of each month at 10.00am for cuppa and discussion.
Secretary - Yvonne Hodges,
Box 309, Drury.
Phone: (09) 294-7015
All welcome - Ring for venue.

HAWKE'S BAY BRANCH
Meets on the second Monday of the Month at 7.30pm,
Arataki Cottage, Havelock North.
Phone: Ron (06) 844-9493

MARLBOROUGH BRANCH
Meets every second Thursday in every second month.
Call Jeff on: (03) 577-5489

MANAWATU BEEKEEPERS CLUB
Meets every 4th Thursday in the month at Newbury Hall, SH 3,
Palmerston North.
Contact: Andrew MacKinnon
Phone: (06) 323-4346

NELSON BRANCH
Phone: Michael
(03) 528-6010

NELSON BEEKEEPERS CLUB
Contact: Kevin
Phone: (03) 545-0122

OTAGO BRANCH
Phone: Mike (03) 448-7811

NORTH OTAGO BRANCH
Bryan O'Neil
Phone: (03) 431-1831

POVERTY BAY BRANCH
Contact: Barry (06) 867-4591

SOUTHERN NORTH ISLAND BRANCH
Contact: Frank
Phone: (04) 478-3367

SOUTHLAND BRANCH
Contact: Don Stedman,
Ph/Fax: (03) 246-9777

TARANAKI AMATEUR BEEKEEPING CLUB
Phone: (06) 753-3320

WAIKATO BRANCH
Call Tony: (07) 856-9625

WAIRARAPA HOBBYIST BEEKEEPERS CLUB
Meet 3rd Sunday each month (except January) at Kites Woolstore, Norfolk Road, Masterton at 1.30pm.
Convener Arnold Esler.
Phone: (06) 379-8648

WELLINGTON BEEKEEPERS ASSOCIATION
Meets every second Monday of the month (except January) in Johnsonville. All welcome.
Contact: James Scott, 280 Major Drive, Kelson, Lower Hutt.
E-mail: JLscott@clear.net.nz