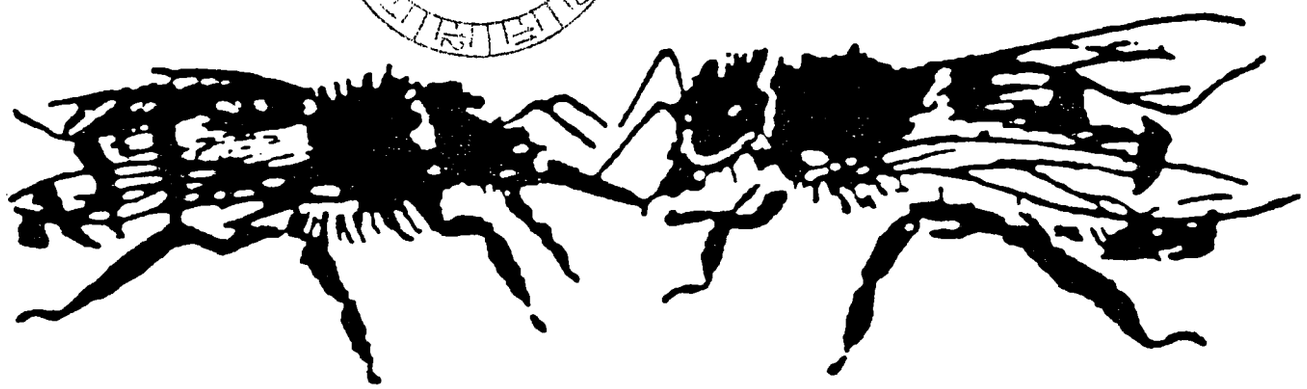
NO. 10 MAY 1988



NORTHLAND BEEKEEPING

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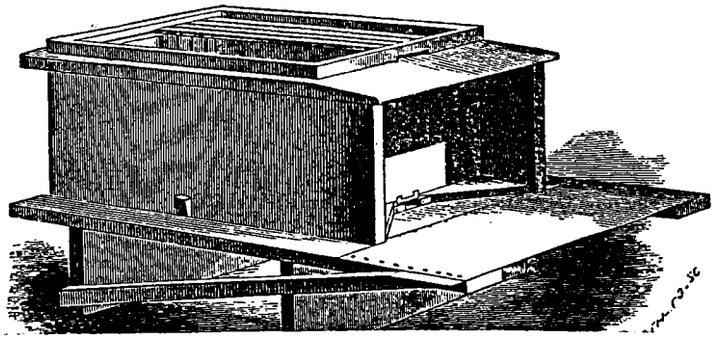

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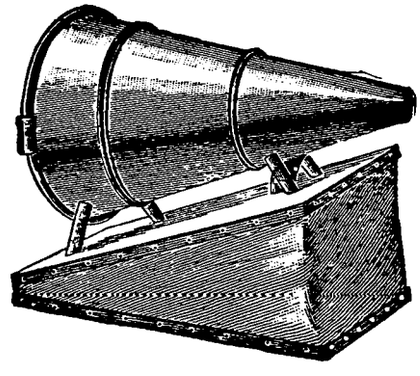


EDITORIAL

Right now is crisis time for the NZ beekeeping industry. The hard decisions can no longer be put off. Rightly or wrongly, for better or worse we are now in a user pays environment for Government services to agriculture.

Decisions made by the beekeeping industry now will have serious implications, the consequences of which have to be faced up to. The NZ beekeeping industry is small, with limited resources and political lobbying power.

As beekeepers we are well aware of the importance of bees to the economy, and most people will acknowledge this when it is pointed out to them. These sorts of arguments carry no weight with Treasury economists who seem have unchecked influence on Government decisions these days. Larger and more vocal primary producer groups than beekeepers have been left without Government support, so it is unrealistic to expect special treatment for beekeepers,no matter how important we consider our case.

This is the reality of the situation the beekeeping industry finds itself in; which must be acknowledged despite the present hard times and low honey prices.

Most beekeepers consider the most important service they require from MAF to be to be disease control, in particular control of AFB. Under the Apiaries act responsibility for disease identification and control rests with the beekeeper. MAF have traditionally assisted by maintaining a hive register, so we know where the hives are,and by administering an inspection service to check beekeeper disease control and identify problem areas needing further work. In other words an audit of beekeeper disease control.

If the industry wants MAF to continue to provide this service then, we have been told, it will have to pay.

What are the alternatives?

What is likely to happen if inspection stops?

The consequences of a reduction in inspection are already being felt in Auckland with its well publicised AFB outbreak.

It seems inevitable that AFB will increase if MAF inspections stop or are reduced any further.Does this matter?

As the proportion of diseased hives increases the cost of control by burning will become unacceptably high. What then are a beekeepers options?

He cannot simply do nothing as the AFB infected hive will inevitably die.His only option (if he wants to remain in business) is to feed antibiotics to contain the disease.
Terramycin (oxytetracyline hydrochloride or OTC) is regularly and routinely used to control both EFB and AFB in North America.
The use of any antibiotic (except fumagillin) on honey bees in NZ is currently prohibited. The Minister of Agriculture has the power to change this by Regulation however.

Surely then OTC feeding is the easy way out? But is it? Let's examine this more closely.

How does OTC work? The drug operates by preventing the germination off AFB spores in the gut of a larval bee. This stops AFB developing in any larva carrying traces of OTC. Unfortunately tthe antibiotic does not kill the spores which are the resting and distribution stage of the bacteria. These remain alive and infective in scale and honey, even in a hive well dosed with OTC. So a hive containing many millions of infective spores can show no AFB disease symptoms. Frames shifted from a diseased hive to an uninfected hive as part of normal hive management will soon spread the disease through a complete outfit.

Does this matter? Well no, as long as you keep up your antibiotic feeding, but once started on this coure you dare not stop for fear your whole outfit will break out in AFB symptoms.

None of this is really a problem. After all beekeepers in North America have been doing quite nicely thank you for many years under just such a regime.

The real problem for NZ beekeepers is importation of cheap honey. You might well ask what this has got to do with the feeding of antibiotics. Right now the importation of honey into NZ is prohibited. The only reason we can justify prohibiting honey imports in these days of CER and free trade sentiment is the risk of introducing new disease into NZ. The only disease we are concerned about that can be transmitted in honey is European Foul Brood (EFB). However if antibiotics are being routinely fed to most hives, EFB presents no threat to NZ beekeepers, as OTC very effectively control EFB.

I doubt that the beekeeping industry and MAF apiary staff (if there are any left), could effectively counter pressure from overseas exporters, multinational supermarket chains and consumers wanting cheaper food.

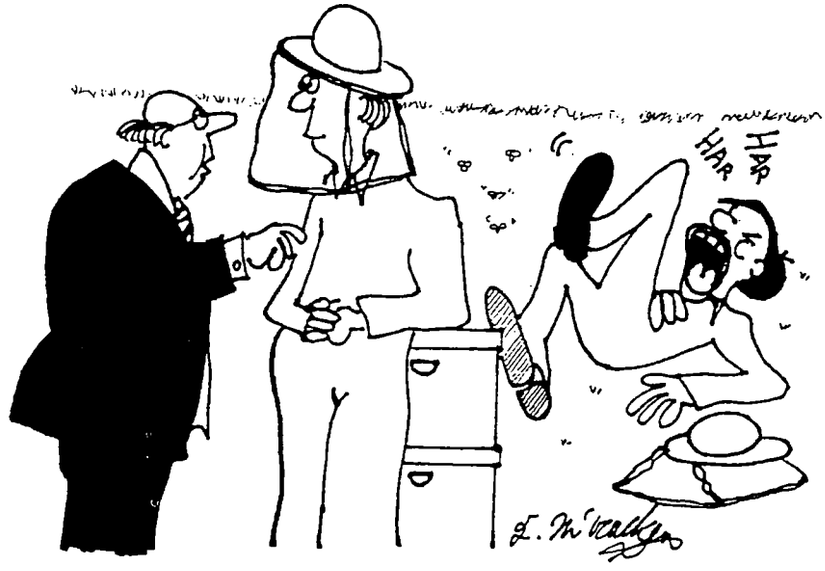
What effect would cheap honey imports have on NZ beekeepers? possibly they would not affect producers of specialty honeys which can be sold in NZ or overseas for premium prices. But how many beekeepers fall into that category? Even demand for these honeys would probably be affected as we would lose our clean green, freedom from contamination competitive edge.

Those producing bulk lines for export or packing for the supermarket trade will just have to compete or go out of business.

How would it affect pollinating beekeepers? If profitability of honey production declined, more beeekeepers would try to get more hives into pollination, increasing competition for contracts and cutting prices. Good news for growers at least.

What would be the effects on live bee exports? With no industry funding of MAF to control disease, AAO's would not be able to justify their existence to the MAF administration, so would be made redundant or given other responsibilities. The confidence that agricultural importation authorities in other countries have in our disease free status and certification system would soon be lost. They would become increasingly reluctant to issue permits for the importation of bees from NZ.

I believe these issues are important to all NZ beekeepers and should be properly thought through before making any decision.



"I THINK I'LL GET OUT OF THIS CRAZY STOCK MARKET AND INVEST IN SOMETHING SECURE...LIKE BEEKEEPING."

Despite the recent drop in honey prices and generally gloomy economic outlook I have had several requests recently from people wanting to increase their hive numbers. Interestingly these are people who want to produce specialty honeys rather than get into pollination, which is increasingly being seen as a specialist type of operation and something of a closed shop. Neither view is entirely correct.

Before starting on a programme of increases it is a good idea to have a hard look at exactly why you want to do this, and what you hope to achieve. Let's assume you have established some objectives and that your reasons are sound and logical. What then are your options?

The relative merits of each of the methods listed below is very dependent on the price of second hand hives compared to the price of making or buying new hives. Hive prices vary from place to place and time to time, and as you would expect tend to be cheaper when honey prices are low and beekeeping unprofitable.It always pays to shop around and get advice.

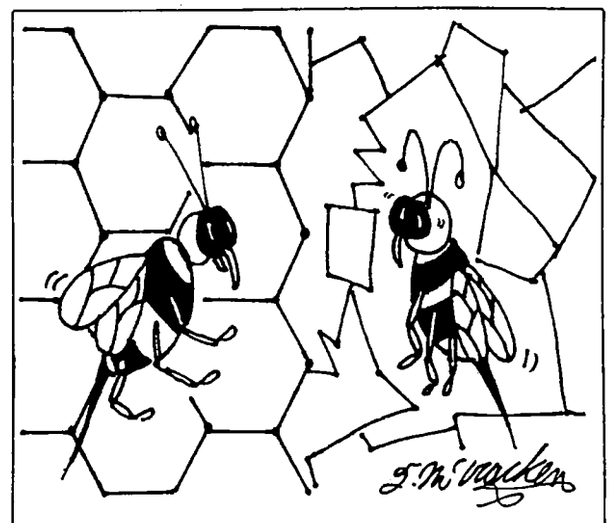
BUY SECOND HAND HIVES TO MAKE UP THE TOTAL REQUIRED

Advantages
No loss of current season honey production in your own or new hives.
Can be very economical if second hand hives are cheap compared with price of new gear.
Might be able to get good sites with hives.

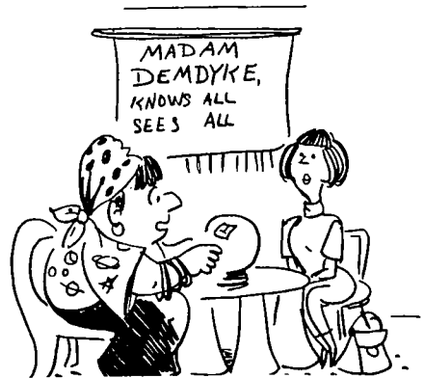
Disadvantages
Could be buying yourself a big disease problem if you are not very careful (inspect each hive very thoroughly before buying-make sure seller has a permit to sell from MAF).
Shifting hives can be a headache if you are not used to it and are not properly equipped.
You will be buying extra work for the future if you buy non standard or poor condition gear.

BUY STRONG HIVES AND SPLIT

The pros and cons are the same as above. A good option if you can get very strong hives at a reasonable price and can also make your own gear cheaply.



"THAT'S WHAT YOU GET FOR SKIPPING GEOMETRY CLASS."



"Prepare for an early frost; this will be a bad year for wax moth. Beware of nosema. African bees are headed your way."

BUY PACKAGES

A package is a swarm of bees in a cage with a queen and enough food to keep them alive for a few days. Cheaper than a nuc (about $33 including freight and GST), a package requires a lot of beekeeping skill to get through the first few weeks, especially if you expect to get a honey crop off them in the first season.

BUY NUCS

A nuc (nucleus hive) is a small colony of 3 or 4 frames of bees, brood, honey, pollen and a queen. Because it has brood in all stages of development a nuc is a more natural unit, so is easier to manage especially over the first three weeks, as new workers are constantly hatching out to replace natural deaths, unlike a package. A nuc is more expensive than a package (about $53) but you are much more likely to be able to turn it into a productive unit in the first season.

SPLIT YOUR OWN HIVES

This may well be your most economical option if you can make your own new woodwear cheaply. You will still have to buy or rear your own queens however and the reduction, per colony, in honey production in the first season will be very significant.
In fact without top class management and a good season it would be prudent to budget on no surplus from the split hives.

TAKE NUCS FROM YOUR OWN HIVES

This method, if done properly, will have minimal impact on your honey crop, although their will be some depending on how early in the season the split is made, and how strong the hives are to start with. You will also have to buy or raise your own queens.

BEE-KEEPER AND ASSISTANT COLLECTING A SWARM.

HOW TO TAKE A NUC FROM A STRONG HIVE

Only good strong hives should be used, otherwise you will deplete the bee strength of that hive enough to seriously reduce the seasons honey crop. For each nuc you want to make you will need a box of good empty combs (suitable for a brood nest), a good queen excluder (not half blocked with wax or with bent wires to let a queen through), a good beetight lid and a base.

1 - Take 3 or 4 frames of mostly sealed brood from the brood nest of the selected strong hive. Shake off all the adhering bees and place the frames of brood in the centre of the box of empty comb.

2 - If the frames of brood are without much pollen take up a frame of pollen and place alongside the brood. If your colony has some spare honey take a couple of frames of that also and put on either side of the brood combs.

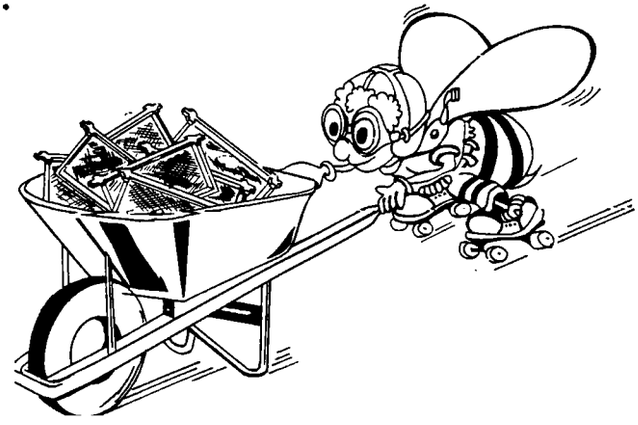
3 - Push the remaining brood combs in the original brood nest together and fill up the spaces on the outside with empty comb. Don't put empty comb in the middle of a brood nest because you will be give the weakened colony all sorts of problems trying to maintain a warm cluster over the remaining brood.

4 - Put the excluder on top of the original hive and place your super now containing frames of brood, and hopefully honey and pollen, but without bees, on top of the excluder. Put the hive lid on the super and leave for at least half an hour while you make up more nucs in the apiary. If you can leave until the next day so much the better.

5 - Take the super which should now contain enough bees to well cover the brood and place on a new bottom board. Cover with a new lid, strap or nail everything together securely, block the entrance and shift nuc to a new site at least three Km. away.

6 - At the new site open up nuc and introduce a previously purchased caged queen or a ripe queen cell. It is advisable to first release the nucs in the evening to reduce drifting by disoriented bees.

Newly made nucs can be left in the original apiary or even on top of the hive from which they where made, separated by a dividing board rather than an excluder. This is a more risky procedure though, as the nucs will lose all of their field bees back to their original colonies, and the risk of robbing getting started is also much greater. If you do wish to leave the nucs on site they should be kept closed for a couple of days and only given a small entrance when opened.



7 - Newly made nucs should be checked after ten days if made up with a mated queen, to make sure she has been introduced and is laying properly. A queen introduced as a cell should be laying well after three weeks. At the same time check the food supply of the nuc. It will almost certainly need feeding until a good honey flow starts. You would be amazed how much food a growing nuc will get through as it expands into a full strength colony.

If you haven't saved frames of honey from last season you will have to feed sugar.This can be fed dry if the nuc has still got at least a half frame of honey, otherwise you will need to feed as syrup. If you have to feed syrup be very careful not to spill any outside the hive and make sure your gear is beetight; nucs do not have many guard bees so are vulnerable to robbing.

While checking the food reserves of the nucs don't forget the parent colonies, now with their field force weakened and portion of stores removed. They will almost certainly need to be fed as much and as often as the nucs.

"I never should of eaten all that honey — I tossed and turned all winter."

"Beekeepers certainly are emotional people!"

WHEN IS THE BEST TIME TO MAKE UP NUCS?

The earlier in the season they can be made up the more likely it is they will have time to develop, by the honey flow, into a colony strong enough to produce a surplus. October is a good time but if you are buying queens you will need to have ordered and paid for them at least six months in advance. February and March are also good times to make up nucs that will be strong early in the next season, this time has the advantage that bees are taken after the honey flow so your crop is not diminished, but feed costs are higher and robbing risks, both from bees and wasps are greater.

NEXT ISSUE ---- SMALL SCALE QUEEN REARING

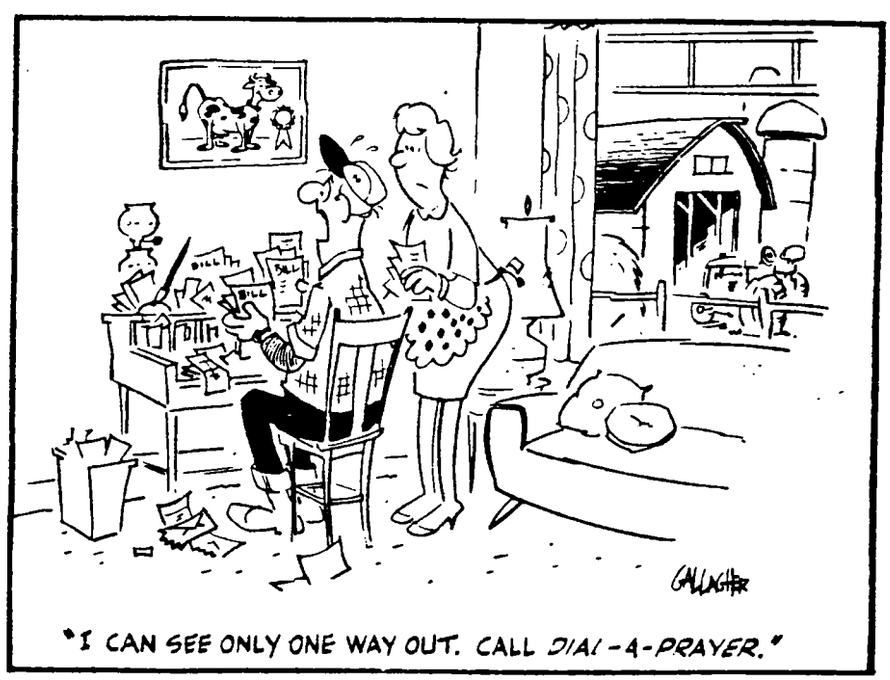
CARE OF QUEEN EXCLUDERS

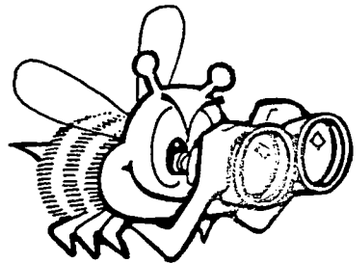
Use or non use of Queen excluders is a contentious issue amongst beekeepers. I don't want to get into that debate in this issue. If you do use excluders and don't look after them properly then you will soon consider them useless and join the anti excluder camp.

The problem with excluders is that they become gummed up with wax restricting bee access.

The temptation is to take to the wax with a hive tool or some other hard scraping instrument. Don't do that. You will bend the wires slightly opening up the gap enough to allow a queen through. A queen excluder that does not exclude queens is only useful for sifting stones from potting mix.

The way to clean an excluder is to melt the wax off. A solar wax melter is ideal if you have one large enough. Otherwise use boiling water. If you only have one or two to do just poor the contents of the hot water jug over the wires.





Bee on the Lookout! It's Coming

THE AFRICANIZED HONEY BEE (AHB) - WHAT IS IT?

I'm sure you have heard of the killer bee, an emotive term which we don't like to use as it has very negative connotations for beekeeping. Well this is the beast being referred to.

TAXONOMY

African honey bee (apis mellifera scutellata Lepeletier) (formerly Apis mellifera adomsonii Latreille)--(Hymenoptera, Apidae), its hybrids with other races of Apis mellifera are commonly referred to as the Africanized honey bee.

HISTORY AND PRESENT DISTRIBUTION

In Africa the pure race occurs roughly between the region of 18 N and 33 S. In 1957 at Rio Claro in Brazil 26 swarms accidently escaped from experimental colonies of pure scutellata kept for research. Since then they have spread at rates varying from 80 to 400 km per year, averaging about 250 km. They have been halted in Argentina by unsuitable environmental conditions, to the west by the Andes, but have not yet reached their northern limit. Currently (May 88) they have reached mid Mexico and at present rate of spread will reach the United States in 1989.

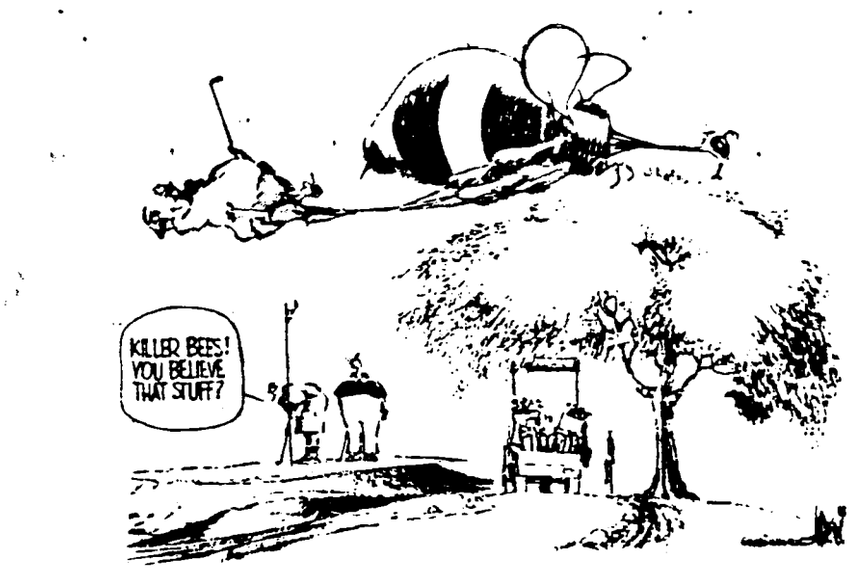
This spread in South America has not resulted in a dilution of the typical characteristics of the AHB as might have been expected. For various reason not all fully understood the African race has completely replaced the European races previously present in these countries. Some of these reasons are behavioral adaptations to tropical savanna conditions which provide a competitive edge over European bees. These include behaviours such as:

1 - production of several swarms per colony per year
2 - production of much greater numbers of drones than European colonies
3 - an ability of small swarms to take over weak or queenless colonies (so called commando swarms)
4 - a predisposition to abscond when disturbed
5 - an ability to make a home in a wide variety of cavities or even in the open.

BEHAVIOUR

COMPARISON WITH EUROPEAN HONEY BEES

Major behavioral differences which distinguish African honey bees from European honey bees are general nervousness, defensiveness, frequent swarming, and almost unlimited range of possible nesting sites.



REPRODUCTION

Africanized honey bees swarm frequently. This behaviour is the primary mode of spread. When a swarm finds a suitable nesting site capable of sheltering its members, it may nest there and construct combs. As the number of bees in the nest increases, they produce reproductive swarms which seek new nesting sites. If a shortage of food, water, or space develops, the entire colony will swarm to a more suitable location (absconding). Swarming usually occurs 2 to 4 times per year, chiefly in late spring or early summer.

DEFENSIVE BEHAVIOUR

Stinging behaviour and aggressiveness are the best known characteristics of Africanized honey bees. While an individual sting is apparently no worse than a sting by any other bee, their sensitivity to disturbance and to communicate alarm within and between colonies can invoke a large number of bees to attack simultaneously. A light disturbance can set off a chain reaction within seconds and affects an entire apiary. AHB's will sometimes pursue and sting animals or people within approximately 90m of an apiary. They can take half an hour to quieten down, while European honey bees on average, will become peaceful again in a few minutes. Bees may attack people even before they enter apiaries and pursue people or animals that have been stung for distances up to 1.5 km. Vibrations from farm machinery or movement (such as passersby) can also result in an attack.

APPEARANCE

Colour is highly variable with most workers having yellow abdominal bands, but a small percentage are black. Consequently mixtures of black and yellow bees are frequently seen in the same colony or swarm. Size is generally smaller than European races.

CELL SIZE

Across 10 adjacent cells average size is 4.9 cm (range 4.6 to 5.0) for African bees; for European bees the range is 5.2 to 5.4 cm across 10 cells.

POTENTIAL DISTRIBUTION WITHIN NZ
The exact climatic tolerances of the AHB are unknown.In Africa they can tolerate;

1 - short intervals with temperatures as low as -10 C
2 - six to eight weeks with a mean of 10 C, a max. of 17 and a min. of 4 C
3 - up to and perhaps more than 60 days per year with temperatures below 0 C
4 - Up to and perhaps more than 150 days between first and last frosts i.e. a 215 day growing season.

In Argentina AHB's have reached 33 S, as far as a line close to the 10 C isotherm (mean temp.) for the coldest month and the absence of bees further south has been attributed to a lack of forage rather than cold. In NZ the areas which fall broadly within these limits are Northland, Auckland, Coromandel, coastal Bay of Plenty and perhaps northern Waikato, coastal Taranaki and parts of Nelson - Malborough.

COULD THE AFRICANIZED HONEY BEE REACH NZ?
Several cases have been documented recently of AHB swarms being found on board ships, originating from South America, that have not been detected until arrival as far away as Canada or England. Several Africanized colonies were eradicated in California in 1985. These are thought to have entered the US as a swarm inside some pipe brought from an oilfield in Venezuela.

The ability of the AHB to swarm frequently and make a home in a wide variety of situations makes this hitch hiking behaviour possible. As the range of the AHB increases so will opportunities increase for this pest to board, undetected, a ship bound for NZ. Fast shipping times through tropical climates makes it highly likely they would survive the trip to NZ.

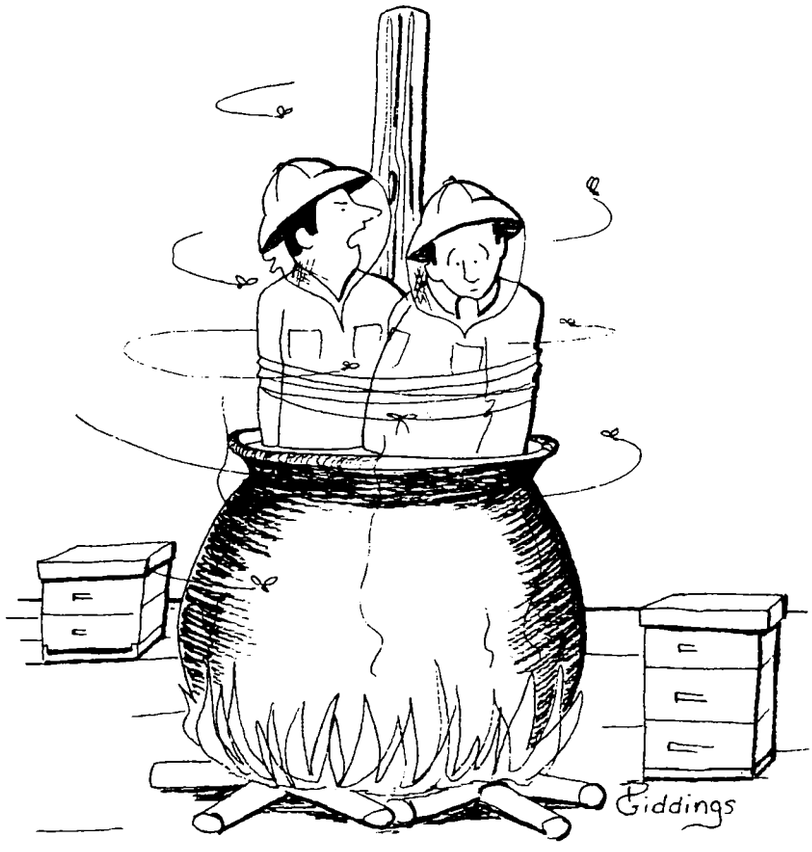
The other possible means of entry to NZ would be as smuggled queens.

WHAT WOULD HAPPEN IF THE AHB ESTABLISHED IN NZ?
Although the direct effect on beekeepers in terms of changed management practices would be very significant, these effects would be totally overridden by the indirect effects of a changed public perception of the honey bee, from a useful and necessary insect to a potential killer and menace to public health.

We could expect demands from the public to have beekeeping banned in all built up areas, close to roads and other public places. Most farmers would be reluctant to allow bees on their properties. On many orchards bees could not be used for pollination without risk to the public or orchard staff. Unless economical alternative means of pollination where available the effect on the kiwifruit export crop would be catastrophic.

In districts warm enough for the AHB to become established hobbyist beekeeping would probably disappear and commercial beekeeping,if it survived at all, would have to be very different.
Our queen export industry would disappear and domestic queen production would have to shift to colder climates with a shorter productive season. The only good thing that might happen is that our honey surplus would disappear so honey prices would rise for those still in business.

WHAT IS MAFQUAL DOING ABOUT IT?
I have recently been revising the Emergency Response Procedure (ERP) Manual for bees, which needed updating after the restructuring of MAF. We are upgrading procedures for surveillance, diagnosis and rapid response to the detection of any exotic bee disease including AHB. Separate specialist teams are being trained to deal with foot and mouth, fruitfly and bees, which will all be supported by a common administrative structure able to be set up anywhere in NZ.



YOU AND YOUR EXPERIMENTS WITH AFRICANIZED BEES!

British Officer's Tales of African Bees in WWI

Reprinted from SPEEDY BEE March 1988

By ARTHUR LOVERIDGE

Arthur Loveridge recorded his adventures as a naturalist and Curator at Harvard's Museum of Comparative Zoology in "Many Happy Days I've Squandered" (Harper & Brothers 1944). His graphic description of experiences with African bees (*Apis mellifera adansonii*) while serving with the British Army in Africa during World War I are excerpted below.

It is remarkable that a bee with such notoriety was selected for the now famous hybridization experiments in Brazil. In the course of its migration toward the United States, it has not shown any cross-breeding. Whether there will be dilution when it meets the larger population of European bees in North America remains to be seen.

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...When patrolling in the vicinity of Moshi, we had an encounter with bees which few of the regiment will ever forget. Being in the rear of the German lines, with self-effacing modesty we were endeavoring to render ourselves as inconspicuous as possible by riding in a clear, fast-flowing stream which had carved itself a channel between high banks. As the water was up to the saddle flaps, I had crossed my legs on the neck of the mule that was successor to my horse; the latter had succumbed to tsetse-borne trypanosomes, the cause of horse sickness. Suddenly and without warning, the animal plunged so violently that I came near to being unseated. Down went her head beneath the water as a sharp sting on the back of my hand apprised me of the presence of a bee. Thousands more, buzzing menacingly, were descending upon us. All around me men were cursing as they sought to control their maddened mounts and at the same time ward off the furious insects. Splashing through the water, the terrified horses attempted to scramble up a steep bank. The leaders achieved this successfully, but the water which streamed from their hides rapidly converted the 20 foot bank into a greasy slipway on which others floundered and fell. Most of the men were wildly waving their helmets to ward off the insects from their eyes, which these bees are especially prone to attack. Such actions may have been mistaken, for the great majority of stings received were upon the head; of the fifteen to twenty which I got, all but three were about my ears or head.

On attaining the crest of the bank, the maddened beasts spread out and stampeded for a quarter of a mile before they were brought under control. It was a mercy that there were none of the enemy at hand to take advantage of our discomfiture. As we formed up into squadrons Lieut. Tryon, one eye closed, rode down the line inquiring for me. When I stepped my mule forward he asked if I would oblige by removing a sting from just below his eye - for he knew that I always carried a pair of entomological forceps. These forceps were in great demand for the rest of the day, and because so many men were bung-eyed we remained under some nearby trees until next morning. One trooper named Gould, who had dropped his helmet and gone back to fetch it, claimed to have a hundred stings: 60 were removed by a friend of his that afternoon and I took out eleven more the following morning.

The stings are much more severe than those of an American wasp, and the unpleasant effects lasted from 24 to 48 hours. On Gould the site of each sting was marked with a purple spot. One of mine had a dark clot of blood at the point of puncture, surrounded for six inches by swelling; the other stings I received caused scarcely any swelling. Whether the bees objected to the strange odor of a body of horsemen, or whether the attack developed when someone brushed against a branch from which the swarm depended, will probably never be known.

The wild honey bee (*Apis mellifera adonsonii*) of East Africa is superficially very similar to the domesticated from of Europe, but its sting is about twice the length of that of its civilized relative. The aggressiveness of the African insect is notorious, a classical illustration of this being provided by the battle of Tanga. In this fight, firing through the trees annoyed the bees, which then attacked and routed both combatants. Among the British troops a rumor arose that the attack was the result of German ingenuity. I quote the popular version as it appeared in Brett Young's interesting book, *Marching on Tanga*. In it he writes: "As we walked, a man who had fought at Tanga, in the first disastrous assault from the sea, told me how the outlying bush through which our men had passed had been full of these hives, and how the Germans had snared the

pathways of the wood with cords which set them in motion, so that when our attack began the hives were roused, and the wild bees swarmed in their millions, doing more damage to one Indian regiment than the German Maxims." On the other hand, in his book on the campaign, Von Lettow Vorbeck, Commander-in-Chief of the German forces, states that the bees were enraged by the firing of his machine gun company, which, on account of the insects' attentions, had to retire no less than the enemy....

During my brief absence from Handeni an Indian had been stung to death by bees. The unfortunate man had entered a deserted *banda* where there was a nest; the swarm attacked him. It was surmised that he had tripped and fallen, for he was found lying unconscious by the roadside, where he expired shortly afterwards....

In a corner of my new apartment was a tall built-in cupboard with two pipe-like apertures; to the local bees this seemed to bc an altogether desirable nesting place. On Jan. 9 they swarmed, hundreds buzzing up and down the window against which stood my table. Others persistently hummed about my nose, and when I attempted to strike one away I was stung on the forearm. The swelling was considerable and did not subside until the fourth day. On Jan. 26 they swarmed again.Nearly a thousand bees invaded my quarters during the day; at one time there must have been fully five hundred on the windowpanes in front of me, creating a noise reminiscent of a wireless operator's room. I managed to carry on with my work, though their angry humming around my mouth and nose was distinctly trying.

"Why do you not clear them out?" inquired a neighbor. I replied that I had twice dislodged them with smoke but had no more material with which to make a smudge fire. "What do you want with fire?" he continued, "A stick is all that is necessary." I handed one to him, then, seeing that he was in earnest, sought refuge inside my mosquito bar. The cupboard, I should explain, was nine feet high with a floor space only four feet square. Presently I heard the stick striking about in the cupboard and my friend cried out that the bees were all gone, in proof of which he held out the stick with a large piece of comb on the end. It was perfectly true; in broad daylight he had knocked down the nest directly above him and the bees just fled out of the pipe hole like a stream of smoke. When asked for an explanation for his immunity from attack, he replied that, to the best of his belief, he had never been stung in his life. This injustice was soon righted, however, for that very night one of his homeless bees cuddled down in his cap and stung his bald pate when he donned the cap the following morning. Moreover, being my next-door neighbor, he received several more stings during the succeeding days.

On Feb. 2 another swarm arrived, the sky being peppered with their tiny forms. On the fifth I killed 747 bees on the windowpane in front of me by quietly crushing them-one by one-with a little metal pillbox. During the afternoon a commotion in the square outside caused me to look up from my letter writing. A group of natives had been propelling and pulling a heavily laden *hamali* cart

"YES, THE AFRICANIZED HONEY BEE THREAT IS REAL, BUT YOU WON'T HAVE TO WORRY ABOUT THEM THIS FAR South."

down the road. Suddenly, with a shout, one of the men dived beneath the cart and tried to conceal his head beneath his arms; another stripped off his *kanzu*-that night-shirt-like garment much in vogue among the Swahili-and as he ran attempted to wrap his head in it. The bees, the cause of all the excitement, were left in possession of the vehicle, which probably contained some sweet stuff. Years later a similar incident occurred near Kilosa. In this case the cart definitely contained goor, a crude native sugar, and the bees while looting the vehicle held up all the traffic on one of the main roads for the best part of an afternoon. Now, even as I watched, a bee came flying straight through the open window and without any provocation on my part stung me on the eyelid. The poor insect could not extricate its sting, so for a matter of seconds bee and eyelid fluttered up and own together until I forcible plucked the insect away, then went in search of a friend to remove the sting....

Like all monkeys, Kima had a great dislike for natives and would return their grimaces with interest, but her attitude towards Salimu varied considerably. One day when I was absent from camp, a swarm of bees invaded her box, and at no small risk to himself the boy unfastened her chain and brought the scared animal away. Word having reached me about the invasion of bees, I was hurrying to my quarters when I met with Salimu with the monkey clinging round his neck and making a great show of affection. She chattered wildly when I attempted to take her. "Today, monkey and I are great friends," was the boy's comment in Swahili, Kima was more fortunate than another monkey of the same species living two hundred yards away, it was stung to death though an officer and a sergeant made several unsuccessful attempts to rescue it. On preserving this animal I found considerable hemorrhage beneath the skin, of which there was scarcely a square inch which had not received a sting. Fortunately my monkey had been stung only on eyebrow and neck.

As we walked back to camp speculating as to what was best to do to get rid of the bees, a stout-hearted Kavirondo met us and volunteered to remove the pole. Cautiously he dug it out, then, balancing it on his shoulder, walked the length of the camp with the swarm still in the box and a cloud of bees around it. As he neared the incinerator the bees became excited and their buzzing about his face caused his nerve to give way. Dropping box and pole he fled incontinently. It so happened that the irate bees were flung down in the vicinity of an indispensible outbuilding. The hurried exit of natives in all stages of deshabille, ducking their heads and laughing at their own discomfiture as they tried to run, was cause of much merriment to the onlookers....

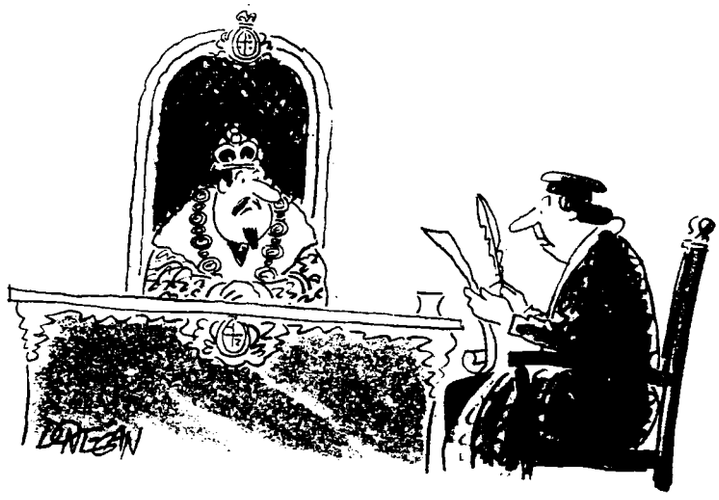
HIGH MOISTURE HONEY - A NEW HONEY EXPORT PRODUCT FOR NZ

Last season a group of beekeepers in the southern part of the South Island sold a portion of their crop to Japan for a worthwhile premium. This is a new product for the NZ beekeeping industry known as high moisture honey.

Excessive moisture in honey is usually considered a problem as it creates conditions that allow fermentation. The problem seems to have been overcome with this product by the processing it receives in Japan.

High moisture honey is really nectar extracted straight from the comb as soon as it has been collected by the bees, before it has been evaporated and capped. Its production requires a high standard of management, with an extraction round every few days during the honey flow.

Unfortunately it does not look like a product that will help Northland beekeepers to lift their incomes. Payment is made on colour grading. The lighter the colour the higher the price.It is really a product suited to areas having a short intense flow from white clover, not a long dribble from many sources as we have in this part of the world.



"I make it 50,000. Of that, five went on entertaining, six on palace maintenance, 10 on prisons, and 15 on the army, the rest went on bread and honey."

MAF NATIONAL HONEY GRADING SERVICE:

* Honey packers and beekeepers are advised that a nation-wide honey testing service has been established at Auckland.

  Samples will be accepted from anywhere in New Zealand.

* WHERE TO SEND SAMPLES:

  MAF Plant Protection Centre
  P O Box 41
  AUCKLAND 1 Attention: B Milnes

* SERVICE AVAILABLE:

  HONEY TESTING SERVICE:

  This laboratory operates the following analytical services for HONEY. All tests are conducted according to CODEX ALIMENTARIUS standard CAC/RS12-1969. The laboratory operates an internal Quality Management system to meet BS 6460 requirements and is registered by TELARC for chemical and microbiological testing. Analytical charges have been calculated on a single sample basis and are usually subject to a 40 per cent discount for three or more samples presented in one batch.

  (a) Refer to attached submission form for list of tests available and the cost of each individual test (G.S.T. inclusive).
  (b) Grading of Honey in tank or in store:
  All transport costs and travelling time must be added to prices listed.
  Quotes available on request.
  NOTE: Contracts for testing for an entire season can be negotiated at prices to suit both parties.

* SAMPLES:

  A sample of every item graded shall be retained by the grader for six months.

  - Sample size: 400 grams minimum.
  - Containers: Leakproof, unbreakable containers must be used. Rust-free tins are recommended.
  - Packaging: Enclose tins in a sealed plastic bag, then wrap in a wad of newspaper and insert in strong cardboard box to prevent crushing.

  NOTE: The Ministry cannot be held responsible for broken samples that damage mail in transit to Auckland.

  Obviously glass or plastic jars are unsuitable.

  Cartons containing many samples may be delivered by courier direct to the reception counter at Lynfield Agricultural Centre, 131 Boundary Road, Blockhouse Bay, Auckland.

  Each sample must have the owners NAME AND LOT MARK clearly labelled on the tin (NOT ON THE LID).

* SPEEDY SERVICE:

  Results can be relayed immediately be telephone in advance of the written report, provided "collect - person to person" calls are used.

* AVOIDING UNNECESSARY DELAYS:

  Each sample must be accompanied by a submission form and payment in advance.

  A copy of the required form is attached.

NEW ZEALAND HONEY EXPORTS

Honey and beeswax leaving New Zealand for the half year July-December 1987.

	Tonnes	Value fob	$/tonne
Bulk honey (floral)	567	$1,043,855	$1,840
Retail packs (floral)	224	$ 689,112	$3,077
Comb honey	144	$ 740,465	$5,146
Honeydew	78	$ 165,696	$2,116
Beeswax	49	$ 242,937	$4,920

(Source: Statistics Department)

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Inflation in Mexico last year was over 130%.

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THIS IS IT!

At last: a comprehensive booklet on bee diseases, with excellent colour photos, a good description of each disease, and an affordable price tag.

The book is simply called "Honey bee diseases and pests', and is produced by the Canadian Association of Professional Apiculturalists (or CAPA to its friends). A number of CAPA members have contributed to the book (including Cam Jay, known to many of you).

Subjects covered include: normal honey bee development, AFB, EFB, chalkbrood, sacbrood, nosema diseases, wax moths, mites and minor colony abnormalities.

There are some excellent colour photos of disease symptoms. Every beekeeper needs a copy of this book - in the truck or with equipment you take into the field, not on the bookshelf. At $3 each (yes, $3 post free) these books are a steal. Order them from me at:

Andrew Matheson
197B Grange Road
Tauranga

THIS IS EXCELLENT VALUE FOR MONEY
HAS THE BEST COLOUR PHOTOS OF DISEASE I HAVE EVER SEEN

TO: M.A.F. PLANT PROTECTION CENTRE
P O Box 41
AUCKLAND 1
Attention: B Milnes (Honey Grader)

SUBMISSION FORM: NATIONAL HONEY TESTING SERVICE
Name and address of sender: (Please Print Clearly)

Phone number and Exchange of sender: _____

Enclosed is a total of _____samples of honey identified by the following marks: _____

Please test these samples for the following (see reverse):

Sample marked:	Type of Test Required:	Cost of Test (per sample)	Total Charge $
TOTAL COST OF TESTING SERVICE (GST inclusive)			$

NOTE: *Payment (cheque/money order MUST accompany the samples. Cheques should be made payable to "Ministry of Agriculture & Fisheries" and crossed "not negotiable".*

Futher comments: _____

_____

_____

NOTE: Clients residing outside Auckland toll-free calling area seeking an early reply regarding results of tests will be telephoned "person to person" and "collect" on request. Please confirm this request by placing tick in box. ☐

Signature of sender: _____ Date: / /8

* TYPES OF TESTING SERVICES AVAILABLE:

Sample Grading Only:	Cost per sample (as at 1 March 1988)
- Colour grading only	$5.50 (GST inclusive)
- Floral source only	$2.75 " "
- Flavour class only	$2.75 " "
- Test for physical impurities	$2.75 " "
- All of the above	$13.75 " "

* OTHER ANALYTICAL TESTS AVAILABLE:

This laboratory operates the following analytical services for HONEY:
All tests are conducted according to CODEX ALIMENARIUS Standard CAC/RS12-1969.

The laboratory operates an internal Quality Management system to meet BS.6460 requirements and is registered by TELARC for chemical and microbiological testing.

TEST	Cost per sample (G.S.T. inclusive)	Cost per sample 3 or more sample batch (G.S.T. inclusive)
- FRUCTOSE, GLUCOSE AND SUCROSE	$78.65	$47.19
- ENZYMES (Diastase Activity)	$108.90	$65.34
- ACIDITY	$26.62	$15.93
- MINERAL CONTENT (ash)	$48.40	$29.04
- WATER INSOLUBLE SOLIDS	$34.48	$20.69
- APPARENT REDUCING SUGAR CONTENT (Codex Method)	$127.05	$76.23
- APPARENT SUCROSE CONTENT (Codex Method)	$164.56	$98.74
- HYDROXY METHYL FURFURAL (HMF)CONTENT	$96.80	$58.08
- WATER (MOISTURE) CONTENT	$15.73	$9.44
- CLOSTRIDIUM BOTULINUM (BOTULISM)	$63.28	$37.97
- ASCORBIC ACID (Vitamin C)	$60.50	$36.30
- INHIBITORY SUBSTANCES (Antibiotics)	$33.88	$20.33

* SAMPLES:

- A sample of every item graded shall be retained by the grader for six months.
- Sample size : 400 grams minimum.
- Containers : Leakproof, unbreakable containers must be used. Rust free tins are recommended or unbreakable plastic jars with firm fitting screw lid.
- Packaging : Enclose tins in a sealed plastic bag, then wrap in a wad of newspaper and insert in a strong cardboard box to prevent crushing.
- The Ministry cannot be held responsible for broken samples that damage mail in transit to Auckland. Obviously glass jars are unsuitable.
- Each sample must have the owners NAME and LOT MARK clearly labelled on the tin - (NOT ON THE LID).
- Each sample must be accompanied by a submission form and payment in advance.
- Cartons containing many samples may be delivered by courier direct to the reception counter at Lynfield Agricultural Centre, 131 Boundary Road, Blockhouse Bay, Auckland.
- Where microbiological or antibiotic testing is required a separate sample is required. This should be a consumer pack or a sub-sample of at least 30 grams placed in a sterile disposable sample container.