NO. 4 MAY 1986

NORTHLAND BEEKEEPING

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AUSSIE TRIP

As many of you may know, AAOs from around the country met in New South Wales for a week during March for their annual staff conference. While at first thought this might sound extravagant, with airfares what they are it wasn't much more expensive for me than flying to Invercargill. And the visits arranged by Bruce White, N.S.W. Department of Agriculture, were of exceptional value. The tour included :

* the honey bee import quarantine facility at Wallgrove
* a gamma radiation plant used for the sterilisation of AFB-infected beekeeping equipment
* the big Honey Corporation of Australia packing plant at St. Mary's
* the bee breeding and stock improvement facility at Hawksbury Agricultural College
* the Pender Beekeeping Supply factory at Maitland
* Dr Michael Hornitsky's bee disease lab at Glenfield

We also met with local Sydney beekeepers one evening (I gave a presentation on chalkbrood) and spent an afternoon with beekeeping advisors from around N.S.W.

A full report of our trip is being produced and will be made available to interested beekeepers through the N.B.A. But in case you're interested, here are a few personal highlights :

* Finally visiting Hawksbury College and seeing for myself the projects and facilities I had only read about. Hawksbury is undertaking a closed population bee breeding programme with funding from the Australia-wide Honey Research Committee. Research money the committee administers comes from a "seals levy" on all honey sold in Australia.
* Realising that a proper bee import quarantine facility does not have to be as elaborate and expensive as the one at Wallgrove. New genetic material could be introduced using existing facilities at the DSIR, either at Lincoln or Mt Albert. All that is required are closed flight rooms and outside cell starters to receive grafted larvae. The issue still to be resolved, however, is whether New Zealand beekeepers actually want such introductions.
* The Honey Corporation's packing plant, with eight filling lines, all for liquid honey. But while they pack 86-126 drums per day, the system is much the same as that used in New Zealand (only bigger!). The honey isn't even cooled down (after flash heating to 57° C) prior to packing.

We saw at least two interesting ideas, though. One was the way they stacked cartons on pallets. They used to use shrink warping to hold the cartons together, but that was expensive and involved another operation. Now they just stick the cartons to each other (with hot glue) as they stack them. The cartons are open-stacked on the pallet with glue squirted on the carton tops. The glue keeps the cartons from slipping and the gaps allow the packed honey to cool faster.

The other gadget was "bag-in-the-box" honey, on a big scale. Bulk honey was being exported in 1.5 t TNT Pellecon containers with disposable bladders. They're simply a collapsable wooden case built on a pallet which encases a thick plastic bag. At

$15/bag and a hire charge of 75¢/day (paid by the exporter) the containers are cheaper than barrels, and without the hassle.

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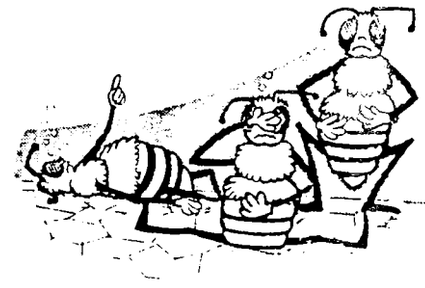
HALF MOON DISORDER AND EFB



Another important reason for the Aussie trip was to get field experience in identifying European Foulbrood. Our halfmoon disorder (HMD) has more than a superficial resemblance to EFB, but I now feel more confident in being able to make an accurate diagnosis. What follows is a comparison of field symptoms for the two problems :

Description	EFB	HMD
Brood appearance	patchy, shot-gun pattern	
Age larvae die	at about four days, when coiled in base of cell	
Colour of larvae	yellow-brown turning brown as they dry into loose scales. Scales can be removed.	
Airtubes (trachaea)	Trachaea stand out as network of white threads	
Position of scale	In base of cell or twisted up cell wall; may be around lip of cell	In base of cell, also forms flattened half-moon scale around cell wall and especially lip of cell
Smell	Urine-like smell, sour	No particular offensive odour
Other symptoms	Rest of brood normal	Queens become drone layers and queen cells are produced. Can be cured by requeening.

While in Australia we spent a day with Dr Hornitsky learning how to identify the disease, both in the field and under the microscope. According to Hornitsky, EFB has radically changed beekeeping in N.S.W. Beekeepers there now feed oxytetracycline under permit to control the disease.

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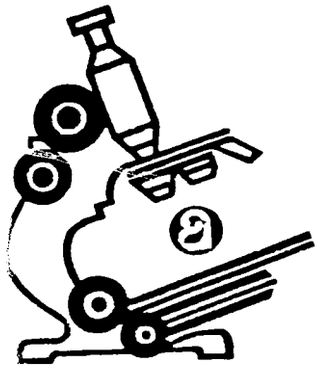

HMD : TO BEE OR ...

It looks as though a recent announcement about the caustive agent of halfmoon disorder may have been a bit premature. Last year Vandenberg and Shimanuki, in the Abstracts of the Society of Invertebrate Pathology isolated *Bacillus coagulans* a bacteria from samples of halfmoon obtained in New Zealand. Everyone here thought the answer had finally been found, but a recent letter received by Dr Denis Anderson casts serious doubt on that diagnosis. The letter from David Knox of the USDA says that it is "premature to consider *B. coagulans* the primary pathogen causing halfmoon." And Denis says most of the HMD samples he has looked at didn't contain *B. coagulans*.

So for the meantime it's back to the drawing board (lab bench?).

By the way, Denis is looking for live queen bees from hives showing symptoms of HMD. If you find any next spring, send the queen and some escorts in a queen cage to :

Dr Denis Anderson
DSIR
Private Bag
Mt Albert
AUCKLAND

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ISOLATION IS NICE SOMETIMES

It's rumoured in England that 100 beehives were moved into a Suffolk orchard for pollination - from Holland! Beekeepers and MAF officials are very concerned, as Holland already has the parasitic mite Varroa.

And they're going to build a tunnel to make it easier?!?

- The Beekeeper's Bulletin, February, 1986

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NEW ZEALAND KIWIFRUIT POLLINATION STATISTICS - 1985

District	No. of Hives	$ Value
Northland	3 510	238 680
Auckland	3 728	205 040
Tauranga	30 999	2 140 000
Gisborne	3 620	188 240
Hamilton	1 053	63 180
S. North Island	3 355	201 300
Nelson	4 300	343 500
TOTAL	50 565	$3 379 940

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GETTING THE FACTS RIGHT

Information supplied by the 1985 Agricultural Review Committee shows that agriculture employs 9% of the workforce and produces 8% of the economy's total net output. In 1986 agriculture will earn 62% of New Zealand's export receipts. Non-traditional exports such as horticulture and fishing will increase 18% compared with last year.

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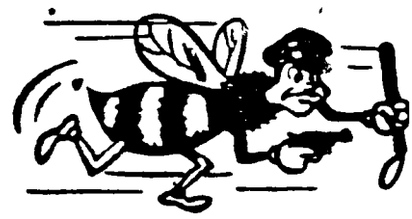
INSPECTION RETURNS!?!

I'm not in the habit of using these pages to air my frustrations, but ... Last year during my introductory speaking tour beekeepers assured me that the main registration/inspection problem in this district was unregistered beekeepers.

Now while there may be a number of people hiding out with one or two hives,



following this year's return of inspection statements I know there's a much bigger problem we face. In 1985 a full 1/3 of registered beekeepers in Northland failed to file a return. What's more, this non-reply wasn't confined to hobbyists. Some commercial beekeepers were guilty as well.

People who expect me, as a matter of course, to chase them up for a report are forgetting what I told them last year. I am not a policeman and the Apiaries Act is not something I use to catch you with. The Apiaries Act is your Act (it was written by beekeepers). It was designed so that if followed by government and beekeepers we would have effective disease control.

NOT A POLICEMAN

I make no bones about it. Disease control is your responsibility and beekeepers who neglect the inspection reporting system obviously don't take their obligations to their fellow beekeepers seriously.

With the changes now occurring in government services, the future of government involvement in the Apiaries Act very much depends on all beekeepers doing their part.

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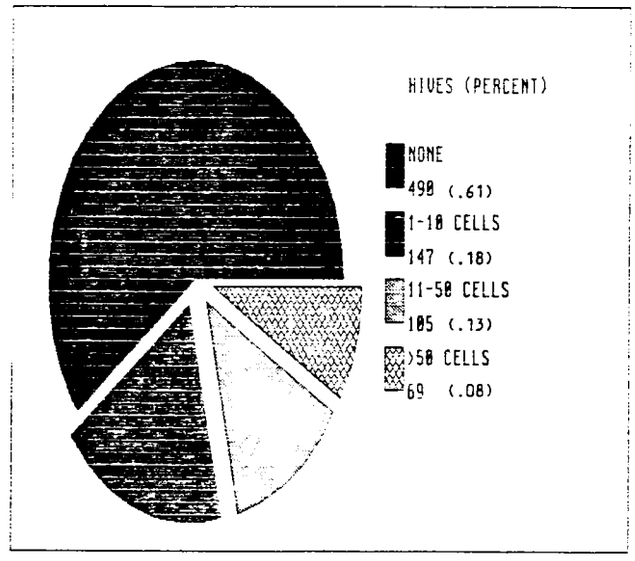
1985 NORTHLAND CHALKBROOD SURVEY

With the recent renewed publicity regarding chalkbrood it was perhaps fortunate that this spring we conducted a district chalkbrood survey as part of the annual apiary inspection programme. The idea was not only to get comparative information on the incidence of the disease (vs 1984), but also to determine the levels of the disease in infected hives. We also took the opportunity to look at chalkbrood susceptibility in yellow and black bee stocks.



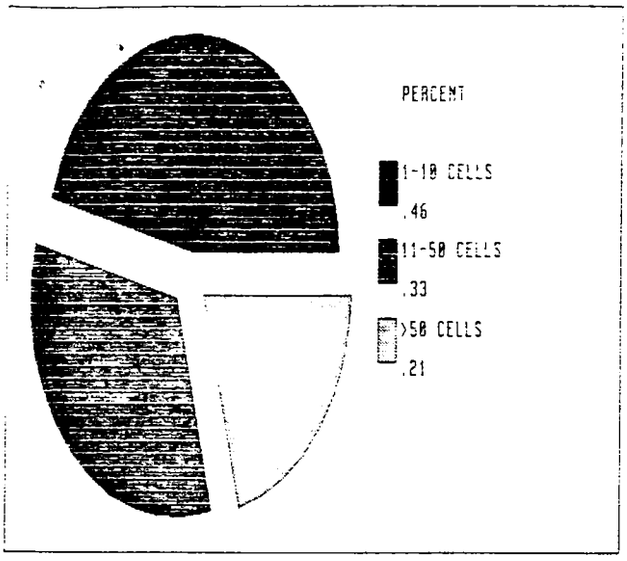
INFECTION INCIDENCE

The results of the survey are summarised in the attached pie (egg?) graphs. A total of 811 hives were surveyed, representing 5% of district holdings. The hives were spread throughout the district and included a number of units used in kiwifruit pollination.

As you can see, 39% of the colonies showed chalkbrood infections. This is up from the 21% recorded in the 1984 exercise survey, but is similar to the findings of a large survey conducted throughout Canada in 1976. We may in fact be reaching an equilibrium situation here in Northland as far as chalkbrood is concerned.

In determining the levels of the disease, we decided to use the coding system used in the Canadian survey. Colonies were coded as 0(none), 1(1-10 cells), 2(11-50) and 3(more than 50), based on counts of the total mummies present in the brood combs. This gives a much more precise figure than percentages of brood affected. In the 1984 Exercise, slight, medium and heavy infections were later referred to in press statements as 5, 20 and 50% of brood affected, a situation which in most cases clearly did not exist.

The current survey found that just under half of infected colonies had 1-10 cells. Serious infections (50 cells or more) made up 21% of infected colonies, but just



INFECTION LEVEL

under 10% of total hives surveyed. This points out again that chalkbrood is not a serious disease, and one which bees can keep at low levels if other stressful conditions do not interfere.

Also of interest was the comparison between black and yellow stocks. Beekeepers throughout Northland have noticed that black hives seemed to show high levels of chalkbrood, but no-one had ever made a statistical comparison with yellow stock before. In this study there was no question that compared to yellow, Italian stock, black bees have both significantly higher incidence and levels of the disease. No-one knows what factors are involved in this susceptibility, but needless to say, annual requeening with Italian stock is one of the best chalkbrood controls.

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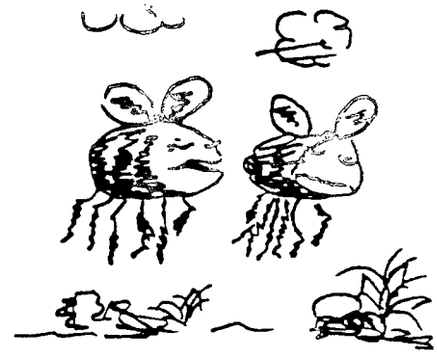
GADGETS AND GISMOS



"Actually, I'm no longer a worker. I'm a pollination consultant."

* Nura Tanks - several beekeepers have shown interest in the liquid A-1 sugar from the refinery but were wondering where they might get a low-cost holding tank. The answer may come from the makers of Nura, a seemless molded polythene tank. They make a range of these tanks including 5,000, 7,500 and 10,000 litre models. The 10,000 l. model weighs a mere 300 kg (empty!).

For more information write : Plumbers Ltd
P.O. Box 12076
Penroe
AUCKLAND

* Northland Farm Location Atlas - a new edition of this popular atlas is now available and as far as I'm concerned it's essential for commercial beekeepers. Put in on the wall and use it as a site map, keep it in the truck to figure out where you are. You can even use it to get correct name, address and road name on your Apiary Returns (hint hint!).

$10.00 from : Northland Farm Location Atlas
C/o Post Office
Titoki
WHANGAREI

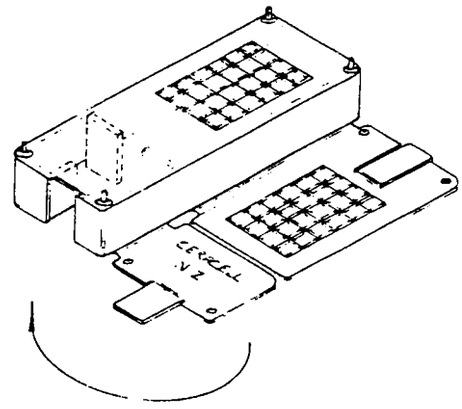
* Hardbark Engineering - I've already written about their N.Z.-made extractor, but I thought you might be interested in the other equipment they produce. Goodies include a baffle tank, cappings reducer, storage tanks, honey pumps and steam boilers. They also make a 1,300 mm dia. cappings spinner which at $2,400 looks to be good value. Write for a catalogue (yes, they even produce a catalogue, with a price list no less) to :

Hardbark Engineering
Woodside Road
OXFORD

* New Plastic Queen Cage - Stephen Mahon at Ceracell is producing a new one-piece

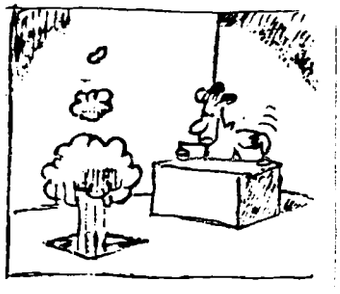
queen cage which is a real improvement on other plastic cages. Because it's made from polypropylene it's boilable and re-usable.

It's also got trap doors which snap into position. At the candy end this means no cutting with a hive tool. At the other end it means no more stung fingers, sliding tops, and lost or squashed bees. If you use plastic cages they're definitely good value.



Price : 1-999 22¢ ea.
1000 t 20¢ ea.

Ceracell Foundation Ltd
P.O. Box 58114
AUCKLAND



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GETTING THE MOST OUT OF YOUR ACCOUNTANT

You have to be a shrewd business operator, as well as a good beekeeper, to stay in business today. The time of casual, "way of life" beekeeping is past us, for better or for worse.

This means the accountant's role has changed too. Now they are no longer bookkeepers, though they still "do the books". Rapid developments in the use of computers have taken them away from the "books" and put them in the position of financial advisers.

Good accountants are now financial and investment advisers, tax and estate planning consultants, and above all "ideas" people. They should have a broad knowledge of all aspects of taxation including income tax, estate and gift duty, and of the increasingly large range of indirect taxes.

To be effective your accountant should also have a good knowledge of farming and be reasonably familiar with beekeeping. Perhaps you should invite him or her to the next field day (not necessarily to speak), or just to come out on the bees one weekend.

By using your accountant as an adviser, you can benefit from bouncing ideas off him/her as well as having more detailed discussions on the way the business is going. Just as your MAF adviser can't run your bees for you, your accountant can't run the business, but they can be intelligently used for advice or even independent confirmation that old ideas and methods are still valid and workable.

Remember to consult your accountant before finalising any major expenditure of capital, and before any decisions are made on a major change in the structure of the farming operation, such as admitting a son or daughter into partnership or retirement.

Too often accountants are confronted with a *fait accompli* and then berated by the client because there is a tax disaster. Pre-planning, asking a few questions and thinking up a different method of structuring a major change could in many cases have avoided those disasters.

Accountants - particularly good ones - are not cheap and there is no point in

spending half an hour of their time (which is your money) discussing the purchase of a new bee blower. But if you are contemplating a major item of expenditure or a significant change in your method of structure of your farming business, the intelligent use of a good accountant can pay handsome dividends.

Source - Andrew Matheson, The Beekeepers Bulletin, February, 1986

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And here's a helpful hint for smart beekeepers who keep a cash book. When the accountant "does the books" give him a photocopy of the relevant pages of the cash book, not the cash book itself. That way the cash book doesn't sit at the accountants for three months where it can't help you with financial control. It also takes away a common excuse for not keeping the cash book up to date.

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THE WHITE MITE

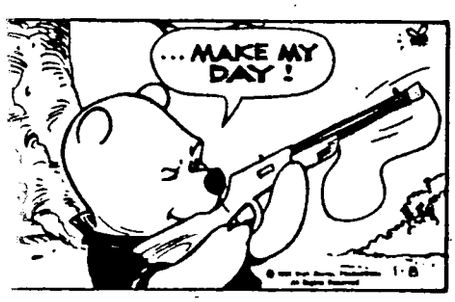
With all the publicity overseas regarding bee mites it's interesting to note that we here in New Zealand have our own "crawlies". At least six different species have been identified here, but thankfully none which cause the economic damage of Acarine or Varroa.

Recently an alert beekeeper brought one of these species to my attention. The mite turned out to be *Neocypholaelaps novaehollandiae*. Quite a mouthful, but to the eye it was just the "white mite".

The beekeeper said that in the hive in question many bees were convered in the mite. When we looked several days later we had a hard time finding any. The infested bees we did find had groups of mites hiding between the abdomen and thorax, and in some cases hanging onto the pollen combs on the hind legs. The bees looked agitated (as you might expect) and a search of the bottom board showed what happened to the earlier, big population of mites. Under the microscope the light-coloured dross turned out to be remains of hundreds of the mites.

A study of the literature revealed that mites of the genus *Neocypholaelaps* are found throughout the world, and not just on bees. The mites are actually pollen feeders and breed on flowers. They use honey bees and butterflies simply as a taxi service to get to new food sources. They are not considered to be harmful to the bees at all.

There is a moral to this story, though. The beekeeper is to be commended for seeing the mite in the first place and then having the courage and sense to notify me. A successful ERP programme for bee diseases depends on the observations of all beekeepers.



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EXOTIC BEE DISEASE ERP

By the beginning of next season MAF offices throughout New Zealand will be in readiness for dealing with outbreaks of an exotic bee disease. A manual which I wrote based on the 1985 Kerikeri exercise is being slotted into the existing Emergency Response Procedures (ERP) system. MAF has created the ERP system for dealing with all types of emergencies, including fruitfly, floods and even snow storms! Exotic bee diseases have also been given high priority and MAF staff throughout the country will be trained in setting up and manning emergency headquarters if and when an exotic disease is identified.

Walt Disney's WINNIE The Pooh

Obviously inspection and eradication will be carried out by AAOs and bee inspectors but we're glad to have the support of everyone in MAF when it comes to bee disease.

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CUTTING COSTS

Believe it or not, the average production cost per commercial hive in Northland is somewhere in the neighbourhood of $42 a year. Major expense items are vehicles, sugar, and processing and marketing. The $42 does not include personal expenses, indebtedness, taxation or development.

With that type of expenditure level it's becoming obvious that unless more income can be generated from each production unit, the margin left (profit) is a diminishing one.

"Hey! I can feel it — we're turning around."

If the bulk honey price doesn't increase and pollination fees remain the same, the only other alternative is to become more efficient and hopefully reduce costs. Here are some ideas :

* Make autumn splits when queens are more available/easier to produce.
* Reduce the number of apiary rounds by planning carefully and avoiding all unnecessary visits.
* Convert petrol vehicles to CNG or LPG.
* Avoid over-capitalising and sell off all unnecessary (unproductive) assets.
* Use the 26-46 Rule - don't let debt servicing costs as a portion of gross beekeeping income go beyond 26%; or personal drawings as a portion of net profit go beyond 46%.
* Be quality-orientated, not quantity-orientated.
* Make every hive a producing hive; passengers are more expensive.
* Make up nucs and keep them handy.
* Bees produce crops, not hives. Manage hives accordingly.
* Site apiaries for ease of access. Excess gate opening and getting stuck are unproductive.
* Site hives to reduce drifting and minimise stress.
* Use co-operative schemes for purchasing bulk sugar, etc.

- Adapted from T. Bryant's Your Newsletter, March, 1986

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HONEY HOUSE FLOOR COVERINGS

Recently I've had several enquiries regarding honey house floor coverings. It's good to see beekeepers showing concern for this important aspect of honey house construction/maintenance.

Honey house floor coverings should be thought of in the same way as something like dairy factory coverings. While they should be hard, long-lasting and temperature tolerant, they must also be able to withstand the high acidity inherent in honey. Bare cement always seems to fall prey to etching if not coated with some substance.

Types of floor coverings which meet all these criteria can be divided into categories by substance. What follows is a short list of those categories, together

with a few comments and trade names.

Vinyl (PVC)

Industrial grade vinyl floor coverings which can withstand high acidity. They work very well, except if you drop a drum or other heavy weight on them. I know of several honey houses down south which use these successfully.

Trade names : Altro, Armstrong, Nylex, Vinyl Corlon, Krommenie, Surestep, Poly-Flor.

Polypropylene

Plastic sheets which, if used on floors, must be thermofused. Able to withstand impact better than vinyl.

Trade name : Hippolon.

Epoxy

Any of a number of two-pot epoxy finishers made specifically for floors. Other epoxys are not suitable.

Trade name : Nitocote, Nitoscreed, Farmrok 5, Farmrok 201, Farmrok Tuff-Top, Pitakote, Aquapoxy.

Polyurethene

Usually an epoxy primer with an overcoat of polyurethene and colour chips. Usually can be applied by licensed peoply only. Also know of several honey houses with these floors. Very pricey and you must get a guarantee!

Trade name : Terrcote, Uraflex, Farmrok 280, Farmrok 14.

Polyester/aggregate

Similar to the polyurethene products, some with licensed applicators.

Trade name : Celicote, Terrazeile, Polytop, Epiglass Flooring.

Fibreglass/silica

Don't know much about this one, but sounds as though it must be put on by a licensed applicator.

For those of you who want further information on floor coverings, I can supply you with a copy of the MAF Dairy Factories Finishes list. The list identifies manufacturer/supplier and provides further technical information. I'd also be interested in any comments from readers on products they've tried.

A last comment : no covering can survive honey for too long if the floor isn't washed daily.