

ADVICE FOR THE BEEKEEPER ON BARRIER MANAGEMENT

Be Afraid ... Be Very Afraid!

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We've all seen those science fiction films in which the creator (usually a mad scientist) conjures up some magnificent creature or invention which ends up being too overwhelming to control and results in his or her downfall.

The plots of these films follow a simple formula. Time and time again, creatures like Godzilla are created because scientists forget what should be ingrained into their practices – especially when dealing with radioactive machinery or harmful bacteria! They let one minor detail of biosecurity slip. For example, blowing up an atom bomb on an island full of Komodo dragons. Suddenly, a world-threatening, skyscraper-scaling lizard is born ... What were they thinking?

Barrier Management

Often, we beekeepers will forget about simple routines of basic barrier management. We think we've got it all sussed out until something goes wrong and, unwittingly, disease has spread because we have swapped and changed supers between colonies, for example.

There are many definitions of barrier management but, in terms of beekeeping, it is a set of procedures designed to protect an apiary from the entry and spread of pests and diseases. While beekeeping barrier management methods won't prevent the mutation of a giant apocalyptic bee intent on destroying civilisation, they can prevent introduction or minimise the spread of pests and pathogens between our colonies which, let's face it, is probably the next best thing!

Disease management is made up of two key

components: prevention and cure. The former (biosecurity) is always better than the latter.

Unlike the scientists in the films who show a disregard for basic biosecurity, we beekeepers are generally pretty good at keeping our colonies healthy and preventing disease spreading throughout our entire set-up. At the risk of 'teaching ol' grandma how to suck eggs', let's go through how we can employ simple biosecurity and barrier management practices.

Prevention

- Simple prevention measures like scrubbing hive tools between colonies and smokers between apiary sites is a good start. Use a strong washing soda solution (1 kg of soda to 5 litres of water).
- Wear a clean beesuit which has been
- hot-washed so that it is not coated in honey or propolis. Sometimes, this doesn't seem practical – especially when you get in late at night and you need to go out early the next morning. However, it's far easier than having to find time to clean equipment when infectious material spreads from your clothing to a colony. Wearing a clean beesuit is a basic way to help prevent spread of disease. Some of you may be lucky enough to have a loving partner who will clean it for you. Just let them know that a measure of washing soda with the detergent goes a long way and then duck to dodge the oncoming object they have thrown your way!
- Make sure you carry spare overalls in case disease is found.
- Use disposable gloves for inspections

Hive entrances are arranged to face in different directions to minimise drifting



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Frames for reuse can be boiled in a strong soda solution

and change them between colonies, or, at the very least, between apiaries. Alternatively, use easy-to-clean washing-up gloves which you can wear over leather gloves if desired.

- Prevent robbing and drifting of bees by arranging hive entrances in different directions.
- Make sure the hive bodies, ie, brood box, supers, roofs, etc, are in good condition and have no holes where robber bees can gain access.
- Replace a minimum of three frames of old comb in each hive each year with three clean frames of foundation. This helps reduce the reservoir of pathogens present.
- Make sure your vehicle is clean and tidy and, if necessary, buy a sheet of lino to put on the boot floor so it can be easily cleaned. This will help to prevent cross-contamination when infected equipment is brought in for cleaning and clean equipment is transported back to the apiary.

Control Measures To Take If Disease Occurs

If the number of prevention measures you use for barrier management is low while the amount of disease prevalent in the area

surrounding your apiary is high, then you're going to increase the chances of disease spreading to your bees. It's that simple. Once it's there, disease is difficult to get rid of. In fact, you'll find it won't go away unless you practise a strict routine of good biosecurity measures as listed below.

- Looking at the brood regularly increases your chances of finding disease, while not looking at brood means you won't find disease.
- Change brood comb each year when disease is present. This will probably mean shook swarming whole colonies or whole apiaries; heart wrenching but essential.
- Boil frames in a strong soda solution prior to reuse and render the wax. Alternatively, use new frames and foundation.
- Number your hives and number all supers which go onto that hive with the same number. Following extraction, return them to the same hive. Permanently numbered boxes, where numbers are painted on, can be troublesome should frequent changeover of boxes occur. So, it is better to use removable numbers which can be moved from box to box. Using pipe tags is a great example of interchangeable numbering on hives.
- Quarantine and move infected colonies to an isolation/hospital apiary. This must be done under licence if a notifiable disease is present as colonies will be

under a standstill order.

- Melt out comb and sterilise supers and frames in the winter.
- Clean hive equipment regularly by scorching with a blowtorch or using 0.5% bleach; a solution of one part household bleach to five parts water.
- Close up and collect dead colonies from apiary sites as soon as they are found in order to prevent robbing. This is essential throughout the year.
- Knowledge of and liaison with nearby beekeepers is important. So is surveillance for wild colonies of bees which may become a reservoir for disease within an area. Effective swarm control helps this.

All of this while practising the prevention methods previously listed – what a task!

Now, this all sounds really time consuming, costly and labour intensive. It is far cheaper and quicker to avoid disease in the first place. So, if you haven't already, why don't you start implementing even just some of the simpler barrier management suggestions into your beekeeping? The great thing about these is that they aren't rocket science and are so easy to get to grips with. Even better, they could save you a whole load of cash! So find half an hour, make a brew, and start planning some improvements to your barrier management methods. If you don't and you live in an area where foul brood is lurking, you should (this is a final David Cronenberg coin, I promise) be afraid ... be very afraid! *

Hive numbering using pipe tags

