

Self Learning Program



B-QUAL

Unit 1, Exercise 5 - Biosecurity

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BIOSECURITY

Objective:

When you have completed this section, you should be able to explain the basic biosecurity framework in place within the Australian Honey Bee industry and understand the concept of the 'barrier system' as it would apply to your enterprise.

Purpose:

The purpose of the section is to provide information on biosecurity and explain how biosecurity principles are applied to your enterprise through the B-QUAL program.

What is Biosecurity ?

In a broad sense, biosecurity is a set of measures designed to protect an animal population from transmissible infectious agents at a national, regional and individual farm level. They are designed with the emphasis on managing risk without affecting profitability through excessively strict precautions.

At the farm level it involves a systematic approach of producers on an industry wide basis in providing protection against the entry and spread of disease and parasites. Poor biosecurity will contribute to the likelihood of the occurrence and

severity of a disease outbreak and may burden governments and industries with unnecessary costs.

Biosecurity for the honey bee industry is therefore about managing risk to prevent the introduction of diseases to an apiary and to prevent the spread of diseases between apiaries or to a disease free area. Beekeepers practising preventive biosecurity measures will be implementing emergency diseases preparedness. The application of preventative biosecurity measures will also limit the impact of endemic diseases so their application makes sense from economic, social and bee welfare perspectives.

The ability of an industry to withstand an outbreak of an emergency animal disease and the sum total cost of its control will be influenced by each individual farmer's biosecurity plan and its effective operation.

The Government and Livestock Industries' Cost Sharing Deed for Emergency Animal Disease Response (known as EAD Response Agreement) includes an obligation by each industry party, to develop a program that minimises the risk of disease introduction and spread.

The Honey Bee Industry Biosecurity Plan

In developing the biosecurity plan the honey bee industry has considered the following key factors,

- understanding the targeted diseases and parasites,
- their modes of transmission,
- key risk factors for each mode,
- key factors to exclude the disease and parasites,
- a system to ensure the program is carried out,
- joint on-going surveillance of colony health.
- jointly maintain state response teams to assist government in the event of an incursion of an exotic disease or parasite.

Targeted diseases and parasites include not only exotic diseases but also endemic diseases that have a significant impact on production or trade.

In essence the biosecurity plan aims to minimise the risk of introducing pathogens into the bee colony. It should ensure a rapid response to stop disease and parasites spreading within or between colonies.

Under the industry's quality assurance initiative "B-Qual"®, it recognises that the entry of new pathogens, or new strains of existing pathogens, can devastate

performance and profitability. It encourages beekeepers to implement management practices that reduce the potential for the introduction, production and spread of disease and parasites.

The generic biosecurity plan should be followed wherever possible, although practices may differ across Australia. Beekeepers and governments must be aware of their obligations under the various State Apiaries Acts. However, in the event of an incursion of an exotic disease AUSVETPLAN becomes the operating document for the outbreak.

Advantages of a biosecurity plan for the honey bee industry are: -

- Reducing the possibility of entry and spread of disease and parasites.
- Lessening the social and financial impacts of an outbreak.
- Reduce the possibility of substantial losses being incurred in a disease and/or parasite outbreak.
- Reduces the beekeeper's liability

For further reading read the B-QUAL Approved Supplier Manual, Section 2.5 (See the Contents page of this section to locate the Plan at Ref. 04).

Using the “Barrier System” to implement Biosecurity Standards

In broad terms the Barrier System is implemented to Trace Beekeeping Equipment.

What is a barrier?

- Something that separates.

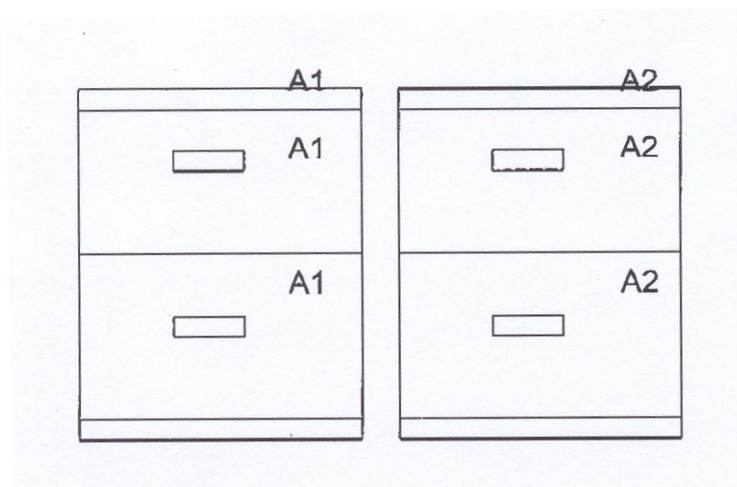
Setting up a Barrier System

The barrier system depends on you keeping an accurate record system and keeping colonies and material in a group that can be traced. The barrier system is a management tool involving the recording and identification of hive material and its movement. The system is used to rapidly trace the origin of hive material.

A barrier system can be organised using the following systems:

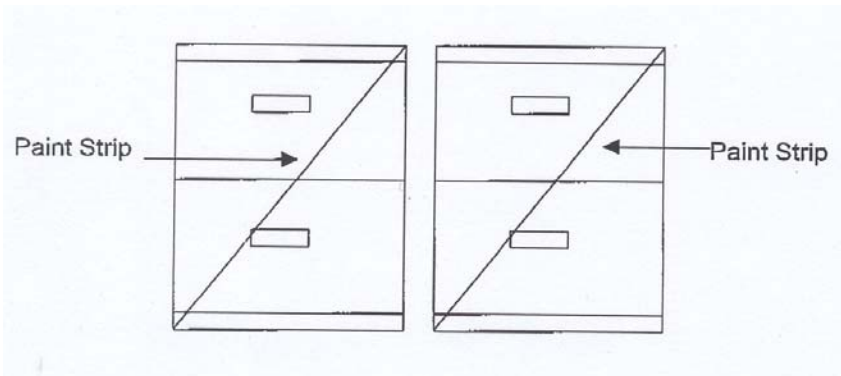
- Identifying each hive in the apiary.
- Identifying one or more apiaries.
- Identifying individual hives.
- Identifying with barcodes.

Identifying individual hives



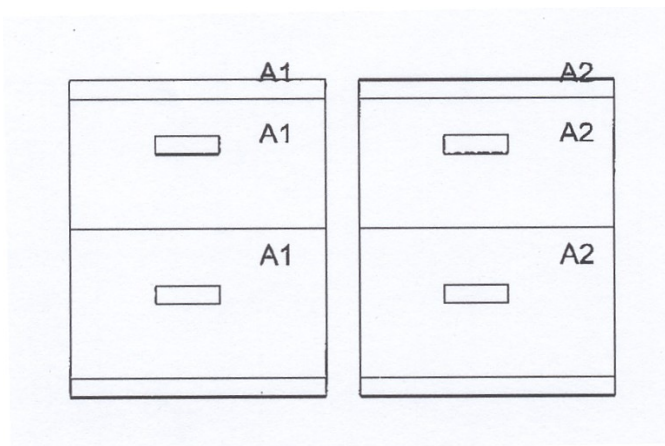
e.g. Hives one and two also identify bottom board

Identifying one or more Apiaries



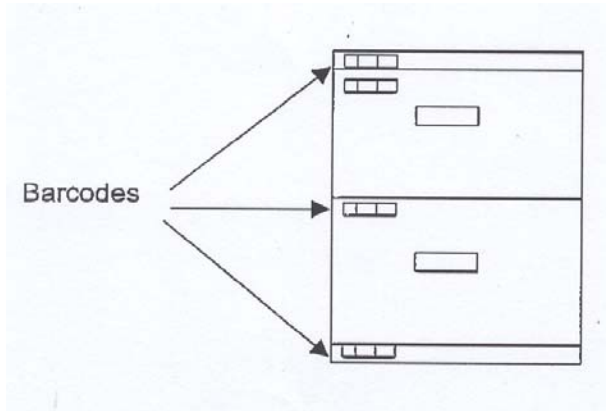
All material carries the same mark, e.g. all material is the same colour or paint strip, etc.

Identify each hive in the Apiary



e.g. Apiary A
Hives 1 and 2
Also identify bottom board

Barcodes



This system uses a computer program and scanner, all material is barcoded and the material can be traced to the hive it has been placed on.

A barrier system won't stop a disease such as American Foul Brood (AFB) entering your apiary or apiaries, but will limit the spread to only a few colonies, if the system is managed correctly.

American Foul Brood enters a colony by:

- Bees robbing diseased honey or apiary products.
- You, the beekeeper, placing diseased equipment on healthy colonies.
- Feeding diseased apiary products to colonies.

Advantages of barrier systems

- Leads to less worry and peace of mind because you can, with speed and precision, trace disease outbreaks should they occur.
- Controls the spread of AFB
- Faster and more effective disease trace back due to the precision of your records.
- Spare supers are on hand for each barrier group.

Disadvantages of barrier systems

- It may take longer to work hives.
- Extra equipment is required.
- Extra storage space required.
- More wax moth control.
- Record keeping, although it is effective, can be time consuming.

Considerations

- You must be disciplined and keep accurate records.
- The system you choose must suit your management practices, effective in limiting disease spread and able to track equipment movements.
- You will require extra supers and combs.
- That will require storage space and wax moth control.
- Harvesting only full boxes of combs.
- Extracting so the frames go back into the same boxes.
- Wash down extracting plant after each extraction.
- All new or added hives and/or material must be disease free and identified.
- Identification marks must be permanent. Marks could be made up of letters, numbers, symbols or colours and/or combinations of these.
- Should AFB be detected all hives within that barrier (recorded group) must be inspected.
- Identify extracted honey so it can be traced to its barrier group.

Barrier System with colour coding and numbering.

Plate 1



Plate 2



Instruction

▶▶ GO TO –

the B-QUAL Approved Supplier Manual, section 2.5, and complete this task.

SELF CHECK

Have you:

- **Read and implemented the “Biosecurity or Disease Risk Mitigation Strategy For the Australian Honey Bee Industry” at Section 2.5 (it is the Ref. 04);**
- **Sign and date this section to indicate that you have read and understood the Plan;**
- **Complete Work Instruction 10 (Section 2.3);**
- **Ticked those areas of the Standard that you comply with; or implemented corrective action to bring your enterprise in line with the Standards.**

If you have ticked all points; you have completed this section.

▶▶ GO TO – UNIT 2, Exercise 1