Module 3 – Section 3 - Questions

Part B Questions

Section 3 Part B Question 1

a) Why is it desirable to monitor the levels of Varroa mite infestation in a colony of honey bees? (1)
b) Describe in detail how a sugar roll can be carried out, to monitor for varroa mites.(11)
c) How can the results be interpreted? (3)

Section 3 Part B Question 2

a) At what stage in the honey bee's development does Varroa enter a cell? (1)
b) State how the mite detects the correct time to enter the cell. (2)
c) Describe a method of trapping a queen to ensure that she can only lay on one frame. (2)
d) Describe in detail how this method may be used to substantially reduce the number of mites in the colony without using chemicals. (9)
e) What would govern the timing of this procedure? (1)

Section 3 Part B Question 3

a) What is understood by the term 'parasitic mite syndrome'? (6)
b) Suggest reasons why this may occur. (4)
c) State various ways in which this condition may be prevented. (5)

Section 3 Part B Question 4

a) Name three ways in which Oxalic acid can be used to treat for varroa? (3)
b) Why is Oxalic acid used in a broodless period? (1)
c) Give two examples of when this might be. (2)
d) Name two authorised oxalic acid products. (1)
e) Describe how powdered Oxalic Acid (for example Api Bioxal) is used for the trickling method including how it is made up from the powder, how it is applied to a colony and what precautions should be taken. (8)

Section 3 Part B Question 5

a) Give 3 methods of monitoring mite levels in a colony other than drone uncapping. (3)
b) Describe how to perform drone uncapping and explain how it is used to monitor varroa levels. (6)
c) Explain the disadvantage of this method of monitoring for mites. (2)
d) The National bee Unit recommend monitoring at least 4 times a year. List these. (4)

Part C Questions

Section 3 Part C Question 1

a) Describe the development of a female Varroa mite(*Varroa destructor)* from the time the egg is laid to when the mature mite is ready to reproduce. Include the time periods at various stages and feeding. (16)

b) How many female varroa mites emerge, on average, from:
1. A worker cell (1)
2. A drone cell (1)

c) What happens to the remainder of the mites produced? (3)

d) State why the phoretic stage is important to:
1. The mite (2)
2. The beekeeper (2)

e) What species of bee was the original host for Varroa and where is it found? How did it transfer to Apis mellifera and move around the world? (5)

Section 3 Part C Question 2

a) Name the two groups of control methods used against varroa. (2)

b) What is the name used when the above two methods are combined? (1)

c) For the 4 acaricides below state the active ingredient: (4)

- Apistan
- MAQS
- Oxuvar
- Apivar

d) Name two varroacides which are not used in the UK because of resistance and give three ways in which a beekeeper might contribute to the build-up of resistance. (4)

e) Name five aspects of an IPM strategy and say at what point in the season each can be used. (6)

f) An artificial swarm/Pagden can be used to reduce varroa levels. Explain how this is done as well as any precautions the beekeeper should take. (13)