Cumbria Bee Times

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(Views expressed in this newsletter are those of the editor and do not necessarily represent those of the CBKA)
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NOSEMA AND DYSENTERY Glyn Flowerdew

Dysentery is the manifestation of the over-wintering bees defaecating in the hives on a gross scale. But it is the end of the scale. Defaecation in the hive can occur without causing dysentery; the bees will often clear up the mess and remove the evidence. We all know that dysentery is associated with the inappropriate feeding of the bees, but it is also known that Nosema infection in a colony can exacerbate the conditions resulting in dysentery.

When a honeybee becomes infected with Nosema the organism multiplies in the gut lining of the bee at a remarkable rate and within days millions of the Nosema spores can be found in the gut and the lining cells in which the Nosema multiplies are heavily infected.

Nosema sp. infections cause a reduction in the life expectancy of the worker bee of 30% or more and this results in heavy over-wintering losses and weak colonies emerging in the spring. Surviving colonies are weakened. The worker bees which do survive have a reduced (ie. protracted) rate of behavioural development so that the normal transitions from comb cleaning to larval feeding and then wax production etc. are delayed. This slowing in behavioural development presumably reflects the reduced availability of the necessary products of digestion from the bees' guts, particularly the products of protein digestion. Nosema has long been known to be associated with Black Queen Cell virus and Kashmiri virus infections.

More recently it has become suspected that the infection of the worker bees' gut by Nosema predisposes to the gut lining becoming a portal of entry for other viruses. Therefore it is not surprising that Nosema infection is associated with colonies dying during the winter.

The queen, being an over-wintering bee, is also usually infected and the infection causes her to lay fewer eggs and the eggs which she does lay to have reduced viability. She will also be suffering from reduced availability of royal jelly from the diseased worker bees. What with one thing and another it is not surprising that Nosema is associated with poor colony build-up in the Spring in addition to winter losses.

The effect of the Nosema infection on the digestive and absorptive functions of the bee's gut predisposes to infected bees having to defaecate in the hive when they are confined there during the winter months. Whether dysentery occurs is a matter of degree and the result of multiple factors. However, one thing is certain, infected worker bees shed Nosema spores when they defaecate and uninfected workers become infected when they clear up the mess in the hive. That is how Nosema cross-infection occurs!

Prof. Fries' recent DNA studies seem to indicate that Nosema ceranae, although now present in Northern European countries including the UK, is a more important pathogen in the Mediterranean countries. Nosema apis, in his opinion remains the dominant form in the Northern countries. Nosema is a very nasty and complicated bee disease but its presence in a colony is identifiable and beekeepers must make sure that they carefully look for it in their bees and treat it effectively when they find it.

For people buying bees, and this applies particularly to beginners and the relatively inexperienced, please make sure the bees you buy are certificated by the vendor as being healthy and have been examined for Varroa, brood diseases and adult bee diseases which will, of course, include Nosema. Bees are now very expensive. Certification is no more than is now recommended by FERA and the National Bee Unit and this policy is supported by the BBKA.

With thanks to Notts newsletter Aug 11 for this article.

Microscopy Day September 17th Lamplugh Village Hall

Whitehaven Branch will be running another Microscopy Day for Beekeepers this year. The focus will be on Bee Anatomy in the morning, and diagnosis of Nosema in the afternoon. There will also be the opportunity to look at pollens, or to dissect bees for Acarine disease. Places on the course are limited to 30. The cost is £25.00 and details can be accessed through the CBKA web-site or from the Secretary V. Sullivan.

What help and advice can you give ?

Friday 8th July 2011 8.30 am, a mass exodus of bees from my hive. It was a new nuc just 2 months ago with an unmarked unclipped queen. The bees were acting quite confused, landing on cars and fences and eventually settled on the front of the hive and then went back in! No loss of bees or honey. The hive had been checked exactly 10 days before and there were no queen cells and although busy, the hive still had plenty of space. Checking the hive, there were several immature queen cells, larvae but no eggs. I removed all but two good queen cells, one of which was thinning. Monday 11th 2pm, another mass exodus from the hive but this time I was convinced that this was a swarm. A cluster developed in a nearby tree and a friend arrived in the hope of photographing and collecting the swarm. However, by this time, they had all returned to the hive. No loss of bees and no honey removed. We checked the hive, but could not spot the queen, we even checked the supers in case she was there. Does anyone have any idea what is happening? I have put a bait hive below the tree where the bees clustered for a brief period today. I am slightly concerned about a repeat performance tomorrow as I live on a residential estate!!! Maggie Hopkins W&DBK

Whitehaven & D. Branch Apiary

After the first steps in the depths of the winter when the committee spent a lot of time looking at sites, approaching land-owners and trying to decide which option to go for we at last have a Branch Apiary. The search for funding has taken up a lot of time. The W&DBK bank balance is small however we have been lucky enough to be the beneficiaries of a large donation (donor wishes to remain anonymous but our sincere thanks go to him). We have also secured a grant from the Big Lottery Fund. Two years ago a grant from Neighbourhood Forums meant that we could buy bee-suits for all ages and sizes and these are our first equipment to go into the Apiary Shed. The shed was put up by a small band of dedicated helpers including one non-beekeeper (who will receive the first jar of honey from the Apiary) The first four hives are ready after two evening sessions, mainly for Beginners, constructing the flat packs and putting the frames together. Bees are sourced and two colonies have already been homed with two more to be installed shortly. We plan to invite the Seasonal Bee Inspector over as soon as all the colonies are moved in to look at them and give us his advice. Later on there will be a "Grand Opening Ceremony" and at last we will have a place to call home!

Branches and Secretaries

The Cumbria Beekeepers Association currently has five branches. Details can be found on the Web-site www.cumbriabeekeepers.co.uk and in back issues of Cumbria Bee Times

A Beekeeper won a jackpot of £5M in the National Lottery. A journalist from the local newspaper came out to interview him about his big win. At the end, she asked the bee keeper if he would now retire from beekeeping.
He sighed and replied that he would not retire but continue beekeeping until all the money was spent. Eoghan Clare EKE July 11