

National Bee Unit

FAQ 26



The Food and Environment
Research Agency

EFB Control

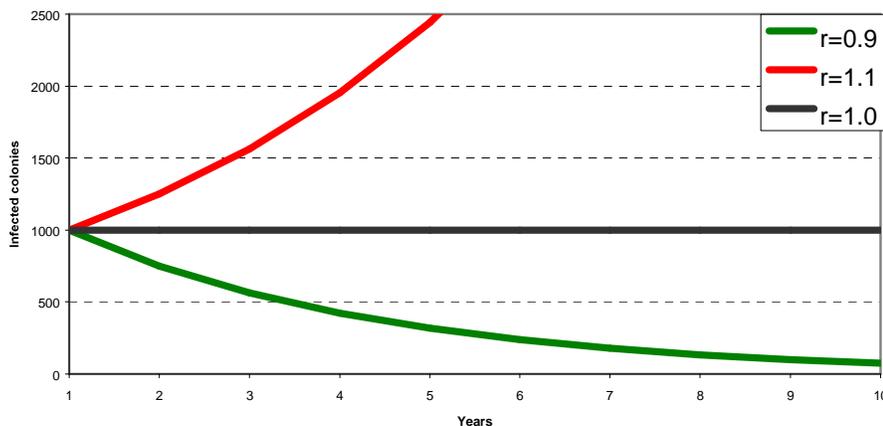
European Foul Brood is currently a disease that if beekeepers suspect their colonies are infected then they are legally required to inform the National Bee Unit. An authorised bee inspector will examine the colonies and assist the beekeeper in disease control measures. However beekeepers should develop the skills to detect and control this disease by their own measures.

It is currently considered that removing old brood combs from colonies, thus reducing the greater proportion of disease pathogens, can control EFB. Transference of combs between colonies is known to be a major risk spreading this and other diseases if the beekeeper is unaware of their presence.

At the time of writing an authorised bee inspector can treat infected bees using a prescribed antibiotic otherwise there are no treatments lawfully available to the beekeeper. However it is preferable to use management techniques because of residue risks in honey crops posed by antibiotic use. In the future biological control may be available. Badly infected colonies should be destroyed as a matter of course as they have little or no economic value and it has the long-term benefit of removing susceptible strains of bee.

If beekeepers can improve their husbandry skills it could result in a decline of the number of cases of this disease. A reduction of EFB cases by 1 in 10 per year would cause a significant decrease in total cases but a 1 in 10 increase per year would be devastating. The graph below indicates the changes expected at these rates. The horizontal line ($r=1$) represents no change from 1,000 cases, the upward curve ($r=1.1$) shows the predicted consequence of a 1 in 10 increase in infection rate and the declining curve ($r=0.9$) the predicted outcome of a 1 in 10 decrease.

Influence of new infection rate on changes in disease levels



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EFB Control Measures.

Various control plans are listed in stages that are related to EFB risk. In areas where EFB is not found beekeepers should maintain Stage 2 at the very least, and maintain Stage 5 where there are repeated disease outbreaks.

Stage 0.

- ❖ Carry on without change.

Stage 1.

- ❖ Check colonies for disease signs once a year.
- ❖ Change two brood combs in each colony. +
- ❖ Basic apiary hygiene. #

Stage 2.

- ❖ Check colonies for disease signs twice a year.
- ❖ Change three or four broods comb in each colony. +
- ❖ Basic apiary hygiene. #
- ❖ Quarantine supers, brood and excluders at apiary level.

Stage 3.

- ❖ Check colonies for disease signs three times a year.
- ❖ Change all brood combs every two years. + ~
- ❖ Strict apiary hygiene. #
- ❖ Quarantine supers and excluders at colony level.
- ❖ Shook Swarm EFB infected colonies.

Stage 4.

- ❖ Check colonies for disease signs four times a year.
- ❖ Change all brood combs every year. + ~
- ❖ Very strict apiary hygiene. #
- ❖ Quarantine supers, brood and excluders at colony level.
- ❖ 'Shook Swarm'* EFB infected colonies.
- ❖ Destroy heavily infected EFB colonies.
- ❖ Maintain an hospital apiary.

Stage 5.

- ❖ Check colonies for disease signs at every apiary visit.
- ❖ Very strict apiary hygiene. #
- ❖ Quarantine supers, brood and excluders at colony level.
- ❖ Quarantine other equipment at apiary level.
- ❖ 'Shook Swarm'* all colonies each year.
- ❖ Destroy all colonies showing signs of EFB.

Some of these regimes may seem a little extreme but they can be selected to suit the needs of the individual and the local situation. If beekeepers do nothing and EFB escalates it could cause a huge impact with lost honey production, pollination and beekeeper numbers. If husbandry and recognition skills are improved EFB should become a less common disease problem, honey production and pollination increasing significantly.

Further information on these procedures can be found in various leaflets, textbooks and these fact sheets.

+ FAQ no. 5 Replacing Comb
~ FAQ no. 13 'Celle' Rotation.

FAQ no. 6 Apiary Hygiene.
* FAQ no. 16 Shook Swarm.

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