

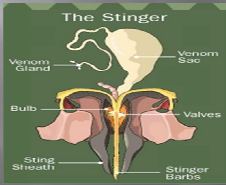
INTRODUCTION TO BEEKEEPING

Honeybee problems
stings
pests & diseases

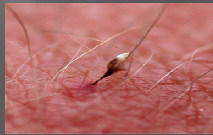
Stings

Speed of removal most important.

- ❑ If a bee does get inside your suit squash it before it stings you if possible.
- ❑ Walk away from the apiary to safety before removing it.
- ❑ Bees fly towards the light, so get to a shady area if possible.



Scrape it out



Pests

- ❑ Wax moth
- ❑ Mice
- ❑ Woodpeckers
- ❑ Livestock
- ❑ Humans
- ❑ Wasps





Asian Hornet


Key features:

- ▣ Almost entirely dark abdomen, except for the 4th segment which is yellow
- ▣ Bright yellow tips to legs
- ▣ Entirely brown or black thorax
- ▣ Workers can be up to 25mm in length.




Whatever stock you keep,
they must be healthy and
pest free

Know how a healthy colony should look; it is then relatively easy to see disease.



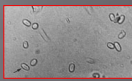
Healthy Bees

- Good hygiene
 - Clean apiary
 - Clean bee suit
- Secure hive
 - Minimise robbing
 - Minimise draughts
- Gentle handling
 - Reduce stress
- Apiary site
 - Good forage



Adult Bee Diseases

- **Nosema**
 - Lethargic bees
 - Diarrhoea
 - Slow build up
- **Acarine**
 - Lethargic bees
 - Crawling bees
 - 'Black bees'
- **Poisoning**
 - Many dead bees outside hive
- **Viruses**
 - Many different symptoms
 - Colony fails to build up



Current dangers to honey bees

- *Varroa destructor*
- *Nosema ceranae*
- Viruses
 - Paralysis viruses
 - Deformed wing
 - Queen cell
- **Outcome**
 - CCD
 - Marie Celeste
 - Colony loss



Small Hive Beetle

- ❑ Adult beetles
- ❑ size: 5-7 mm
- ❑ colour: black
- ❑ behaviour: hides from the light
- ❑ clubbed antennae
- ❑ short wing cases



Varroa Treatment

- ❑ Monitor mite drop
- ❑ Use the DEIRA varroa calculator to find number of mites in the colony
- ❑ When excessive treat the colony (>1000)
- ❑ Control mite numbers by removing drone larvae & dust with icing sugar
- ❑ Can use Apiguard & oxalic acid!



Environment

- Entrance Brush
See https://www.youtube.com/watch?v=HGfIALu_kc
- Varroa Heat treatment – Solar, etc.,

Chemical

Hard chemicals [⚡]
Apistan with
Tau F, Amitraz,
Flumethrin

‘Soft’ chemicals
Apiguard
Thymol based
Formic, Oxalic,
Lactic acids

Do Nothing

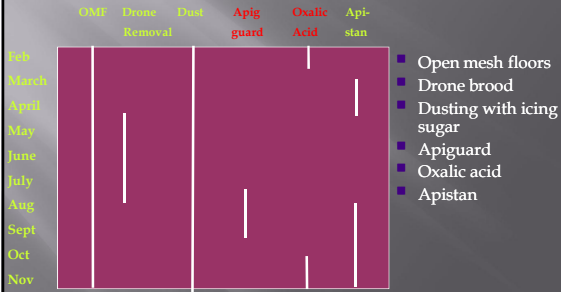
Natural Selection
Hygienic bees

Manipulation

- Removing drone brood
- Brood Break
See <https://www.youtube.com/watch?v=taJjzccQWAg>
- Artificial swarms – reducing brood

[⚡]/ Bee Unit advises already some resistance to these chemicals in the UK

Integrated Pest Management



Inspecting a comb

- If you need spectacles to see eggs, wear them!
- Have the sun shine over your shoulder into cell bottoms.
- Hold the comb vertically at eye level (the picture is not correct!)



Photo: Ivor Davis

Healthy brood



Healthy brood

Eggs and larvae



Healthy
Brood



Problem Brood

Brood Diseases

- **AFB – Notifiable**
 - Pepper pot look
 - Ropy deposit
- **EFB – Notifiable**
 - Dead larvae in cells
 - Uneven brood pattern
- **Chalk Brood**
 - White 'mummies' in cells
- **Chilled Brood**
 - Dead larvae near edge of brood



Statutory requirements

- ❑ Notifiable diseases
 - Must inform Bee Inspector
 - AFB, EFB, SHB
- ❑ Treatment
 - Destruction (AFB & EFB)
 - Antibiotics (EFB)
 - Shook Swarm (EFB)
 - Insurance
- ❑ Importation of bees!



The National Bee Unit

- ❑ A part of the government's Food and Environment Research Agency and Defra.
- ❑ Because pollination is so important, it exists to help beekeepers fight bee pests and disease at no cost to us!
- ❑ **Use it or lose it!**
- ❑ In particular, sign up for BeeBase and obtain copies of their free advisory leaflets [and read them](#).
