



# Advanced Certificate in Beekeeping Husbandry

## PROSPECTUS

Applicable from January 2020

### Aims

Candidates for this assessment will be experienced beekeepers who will be able to:

- give informative lectures to the public and other beekeepers on a wide range of practical beekeeping topics;
- carry out adult bee disease diagnosis by dissection of suitable samples of honey bees, examining the preparations under the microscope and recognising the presence of the pathogens associated with Amoeba disease, Nosema and Acarine;
- safely and competently demonstrate to others how to manipulate colonies of honey bees in order to control swarming, rear queens, make increase, examine for disease, detect and solve other potential problems;
- provide advice to individuals on a range of beekeeping topics.

### Conditions of entry

- The candidate shall have been awarded the BBKA General Certificate in Beekeeping Husbandry or an equivalent certificate acceptable to the Board. The date when this certificate was awarded shall be entered on the application form to enable verification.
- **Normally the candidate should wait at least 18 months after passing the General Husbandry, before taking this assessment.-**
- The secretary to the Board shall have received a completed Application Form and fee by the 28th February in the year the candidate wishes to be assessed for this award. Application forms can be obtained from the BBKA National Beekeeping Centre.

### Assessment

- The assessment will be carried out during the active beekeeping season, normally at the BBKA National Beekeeping Centre at Stoneleigh, by assessors appointed by the Board on a day determined by the Board. The Board reserves the right to use alternative venues if the situation requires it.
- The candidate will be asked to complete a series of tasks. The order in which the tasks are undertaken will be determined by the assessors.
- The candidate will be expected to pass all tasks.

### Task 1: A presentation/ lecture of about 10 to 12 minutes duration plus questions

- This activity will test candidates' ability to communicate to an audience.
- The topic for the presentation will be of a practical beekeeping nature chosen by the candidate from options -provided by the Board. These options will be forwarded to the candidates at least six weeks prior to the assessment. The Candidate must advise the Examination Board Secretary within three weeks of receipt of their chosen option. The quality and relevance of the presentation will form part of the assessment.
- Facilities for presentations will be provided by BBKA. Candidates must notify their precise

requirements two weeks beforehand.

- The audience will include the assessors and other invited beekeepers. The candidate will be expected to answer relevant questions on their topic asked by members of the audience. The candidate's ability in answering these questions will form part of the assessment.

### **Task 2: Adult bee disease diagnosis - 30 - 45 minutes**

(Candidates awarded the BBKA Microscopy Certificate will be exempt from this task)

Candidates will provide microscopes (and associated equipment) and a suitable sample of freshly killed honey bees. They will be expected to demonstrate skills in:

- setting up and using a dissecting and a compound microscope;
- dissecting honey bees to enable the detection of the Acarine mite;
- preparing microscope slides for detection of nosema and amoeba;
- recognising the presence of the organisms responsible for adult bee diseases and/or describing what they would expect to see under the microscope;

The candidate will also be expected to answer questions about:

- how the samples were obtained, killed and the significance of sample size;
- the use of the microscopes and their component parts;
- the action a beekeeper can take if any of the adult bee diseases are confirmed.

### **Task 3: Manipulation of colonies of honey bees - 40 minutes plus preparation**

Colonies of honey bees and all necessary equipment, except protective clothing, will be provided by the Board.

**An understanding of the need to carry out a risk assessment for public demonstrations of beekeeping will be required.**

All manipulations will be carried out with due consideration for the safety of the bees and the audience. The candidate will manipulate one or more colonies of honey bees. -The candidate will assess and interpret the state of the colony and provide a running commentary as if demonstrating to an audience of beekeepers of varying experience.

The candidate will carry out two of the following manipulations:

- a brood disease inspection;
- a swarm prevention or control method using the equipment provided;
- preparing a colony for moving to another site;
- make up a nucleus suitable for the purpose requested by the Assessor;
- unite two or more colonies together. These colonies may vary in size;
- perform a shook swarm;
- perform a Bailey comb change for **either** a weak and strong colony;
- requeen a **large aggressive**, colony with a queen from a better strain in a nucleus colony;
- setting up an observation hive;

**Some tasks will require the candidate to put the queen, in a place of safety.**

During these manipulations the candidate will be expected to answer questions from the Assessors

and the audience on any of the listed tasks.

**Task 4 : Practical aspects of queen rearing - 45 minutes**

Colonies of honey bees and all necessary equipment will be provided by the Board

The candidate will be expected to:-

- demonstrate the selection of suitable larvae and their grafting into prepared queen cups;
- answer questions on Section 4 of the Syllabus.

**Task 5: Interview - 40 minutes**

Attend assessors to answer a series of questions and discuss a range of beekeeping topics.

The range will be limited to those topics in the syllabus.

# Advanced Certificate in Beekeeping Husbandry

## SYLLABUS

### 1. Practical Beekeeping

The candidate shall be able to answer questions on and discuss:

- 1.1 how to begin beekeeping, including the acquisition of honey bees, sources of equipment, costs and any precautions necessary;
- 1.2 the criteria used in the selection of apiaries and the siting of colonies within them at home and in out-apiaries;
- 1.3 good apiary hygiene;
- 1.4 the drifting of honey bees, the dangers caused and arrangements made to minimise the problem;
- 1.5 the value of honey and pollen to the honey bee colony;
- 1.6 the production and use of pollen supplement and substitutes;
- 1.7 the assessment of the quality of a colony for honey production;
- 1.8 the management needed to cope with different districts, weather conditions and the timing of the flowering of the major forage plants;
- 1.9 management of honey bee colonies for honey production from oil seed rape and ling heather;
- 1.10 the management of colonies for the production of comb honey (sections and cut comb);
- 1.11 the management of colonies used for migratory beekeeping for both honey production and pollination services;
- 1.12 the use of honey bees as pollinators in orchards and fields of seed crops including arrangements to be made with the farmer/grower;
- 1.13 moving colonies and the difficulties and dangers involved;
- 1.14 the methods of making nuclei and the uses to which nuclei can be put;
- 1.15 the setting up, and management throughout the season, of an observation hive, and the uses to which it can be put;
- 1.16 the conditions leading to swarming;
- 1.17 summer management including methods of prevention, detection and control of swarming suitable for use in small and large beekeeping enterprises;
- 1.18 methods of taking and hiving swarms;
- 1.19 how swarms and nuclei can be turned into productive colonies;
- 1.20 the conditions leading to supersedure;
- 1.21 the methods used to unite colonies of honey bees, the underlying principles of these methods and any precautions that should be taken;
- 1.22 how colonies are prepared for the winter period and the principles underlying this preparation;

- 1.23 the variable temperament of honey bees in relation to management and public relations;
- 1.24 the actions which can be taken to avoid bad-tempered honey bees causing a nuisance to members of the public;
- 1.25 the effect of honey bee stings and recommended first aid;
- 1.26 the causes of drone laying queens and laying workers and ways to recognise the presence of these in a colony;
- 1.27 ways of dealing with colonies with laying workers and drone laying queens;
- 1.28 the signs of queenlessness and how this may be confirmed;
- 1.29 methods of marking and clipping queens and the advantages and disadvantages of these practices;
- 1.30 how to distinguish between queen cells produced under emergency, supersedure and swarm impulses;
- 1.31 robbing by honey bees and wasps and its associated dangers, including prevention and curtailment.

## **2. Products of the Hive**

The candidate shall be able to answer questions on and discuss:

- 2.1 the main requirements of the current UK statutory regulations affecting the handling, preparation for sale, composition, labelling and weight of packs of honey;
- 2.2 the techniques involved in overcoming problems associated with the extraction of ling heather honey and oil-seed rape honey;
- 2.3 the preparation and bottling of liquid honey including ling heather honey;
- 2.4 the preparation and bottling of naturally granulated, soft set and seeded honey;
- 2.5 the process of granulation in honey including factors that affect its speed, crystal size and the texture of the final product;
- 2.6 the preparation of section, cut-comb and chunk honey for sale;
- 2.7 methods of determining the moisture content of honey;
- 2.8 the properties of honey including relative density (specific gravity), refractive index, viscosity, hygroscopicity, reactions to heat and ageing;
- 2.9 the spoilage of honey particularly by fermentation (including the effect of water content, storage temperature and the presence of yeasts);
- 2.10 the major nectar and/or pollen producing plants of the United Kingdom and their flowering periods;
- 2.11 floral sources of undesirable nectar;
- 2.12 the factors affecting nectar secretion and the variations in its composition in different plant species and differing weather conditions;
- 2.13 the origins of honeydew with a brief description of the characteristics of honeydew honey.

### 3. Hygiene, Honey bee Diseases, Pests and Poisoning

The candidate shall be able to answer questions on and discuss:

- 3.1 methods of monitoring and maintaining the health of colonies;
- 3.2 the concept of Integrated Pest Management in relation to beekeeping;
- 3.3 the field diagnosis of American Foul brood (AFB) and European Foul Brood (EFB) and the signs of these two diseases;
- 3.4 the development of AFB and EFB within a colony and the ways in which AFB and EFB are spread from one colony to another;
- 3.5 the treatment of colonies infected with EFB and AFB including methods of destruction of colonies and the sterilisation of equipment;
- 3.6 the statutory requirements relating to notifiable diseases and pests in the United Kingdom;
- 3.7 the life cycle and natural history of *Varroa destructor* including its development within the honey bee colony and its spread to other colonies;
- 3.8 the signs of varroosis, describing methods of detection and ways of monitoring the presence of the varroa mite in honey bee colonies;
- 3.9 methods of treatment and control of varroosis currently available in the United Kingdom;
- 3.10 the detection and control of resistant varroa;
- 3.11 the cause, signs and recommended treatment (if any) of the following brood diseases and conditions: chalk brood, sac brood, chilled brood, bald brood, neglected drone brood and stone brood;
- 3.12 the cause, signs and treatment (if any) of adult bee diseases currently found in the UK;
- 3.13 the life cycles of the causative organisms of adult honey bee diseases;
- 3.14 the fumigation of combs including the safety precautions to be taken;
- 3.15 the effects of viruses affecting honey bees including their association with other bee diseases where applicable;
- 3.16 the signs-of poisoning by natural substances, pesticides, herbicides and other chemicals to which honey bees may be exposed;
- 3.17 the action to be taken when spray damage is suspected;
- 3.18 the damage caused to colonies and equipment pests and ways of preventing this;
- 3.19 other honey bee pests and diseases that may enter the United Kingdom.

The candidate will be expected to know the scientific names of the causative organisms associated with diseases and pests of honey bees.

## **4. Queen rearing**

The candidate shall be able to answer questions and discuss:

- 4.1 the criteria used to select breeder queens and drones;
- 4.2 systems of record keeping used in the assessment of queens and their progeny;
- 4.3 methods of queen rearing suitable for a beekeeper with five to ten colonies and methods more suitable for larger scale queen rearing operations;
- 4.4 a method (in outline) of instrumental insemination and assess the role this technique could play in honey bee breeding;
- 4.5 alternative methods of queen introduction; the principles underlying the processes involved; the precautions to be taken; and the attendant difficulties in relation to different strains of bee and colony condition;
- 4.6 the setting up of mating nuclei and precautions that need to be taken;
- 4.7 the races and strains of honey bee commonly used by beekeepers in Europe with particular reference to their appearance and behavioural characteristics;
- 4.8 the genetic basis of sex determination in the honey bee including parthenogenesis;
- 4.9 the mating behaviour of honey bee queens and drones including the roles of pheromones and drone congregation areas.

## **Typical Examples of Lecture Topics**

**Candidates will be sent a choice of two topics.**

- 1) Swarm control.
- 2) Compare and contrast AFB and EFB.
- 3) The spring management of honey bee colonies.
- 4) Autumn management.
- 5) Clearing honey bees.
- 6) The effects of stings and suitable first aid treatment.
- 7) The regulations for handling, packing and selling honey.
- 8) The management of honey bees for the production of oil seed rape honey.
- 9) The management of honey bees for the production of ling heather honey.
- 10) The extraction and bottling of oilseed rape or heather honeys.
- 11) **Drone congregation Areas**
- 12) The storage of honey.
- 13) Preparation of soft set and liquid honey.
- 14) Management for comb production.
- 15) Fumigation of combs.
- 16) The control and treatment of varroa.
- 17) The control and treatment of nosema.
- 18) The detection of laying workers and drone laying queens and how to deal with them.
- 19) **Record Keeping**
- 20) **Pheromones**
- 21) Chalkbrood impacts
- 22) Top bar beekeeping
- 23) Polystyrene hives
- 24) **Colony** medications
- 25) Feeding bees
- 26) Managing mini nucs
- 27) Wax moths
- 28) Pollen
- 29) Swarm Prevention
- 30) **Queen Substance**



## **APPLICATION TO ENTER**

### **Application to Enter**

Should be made through the Local Examination Secretary of the County Beekeeping Association or directly to the BBKA Examinations Board Secretary at the Address given below. Applications are required not later than 28<sup>th</sup> February in the year the assessment is to be taken.

### **Application Form**

Any application must be accompanied by a completed Application Form together with the Assessment Fee. Cheques should be made payable to BBKA. The dates when relevant certificates were obtained must be entered on the Application Form. Certificates should not be sent.

### **Assessment Fee**

Details of the current fee for the Assessment may be obtained from the Local Examination Secretary or the Board Secretary.

## **AUTHORITY**

The above is issued by the BBKA Examinations Board and all communications in respect of this Assessment should be addressed to:

The Secretary,  
BBKA Examinations Board,  
The British Beekeepers' Association,  
National Agricultural Centre,  
Stoneleigh Park,  
Kenilworth,  
Warwickshire.  
CV8 2LG

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