

MODULE 8

HONEYBEE MANAGEMENT AND HISTORY

8. The Candidate is expected to have a broad based knowledge of beekeeping.

The Candidate shall be able to give a detailed account of:–

- 8.1 the assessment of the quality of a colony for honey production;
- 8.2 the management of colonies for the production of oil seed rape (*Brassica spp.*) and ling heather (*Calluna vulgaris*) honey, the techniques involved in overcoming problems associated with extracting these honeys;
- 8.3 the management of colonies for the production of comb honey (sections and cut-comb) and its preparation and presentation for sale;
- 8.4 the properties of honey including specific gravity, refractive index, viscosity, hygroscopicity, electrical conductivity, reactions to heat and ageing;
- 8.5 the process of honey crystallization including factors that affect its speed, crystal size, and the texture of the final product;
- 8.6 the preparation and bottling of liquid honey and set honey, including the requirement of the current UK statutory regulations relating to hygiene, handling, bottling, composition. labelling and weights of packs of honey;
- 8.7 the identification of pollen grains by their colour, size, specific shape and structure, using named examples, and an outline of the technique of melissopalynology to determine the floral source(s) and geographic origin of honey samples;
- 8.8 the nutritional value of honey to the honeybee colony;
- 8.9 the main constituents and physical properties of beeswax and propolis;
- 8.10 the commercial manufacture of wax foundation;
- 8.11 the production and use of pollen supplement and pollen substitutes;
- 8.12 the assessment of the qualities of a queen and her colony and their subsequent management for queen rearing;
- 8.13 the structure and changes in function of the exocrine glands throughout the life of the castes of a honeybee colony, and the implications this has for the management of a honeybee colony;
- 8.14 the management of colonies used for migratory beekeeping for both honey production and pollination services;
- 8.15 the use of honeybees as pollinators in orchards and fields of seed crops including arrangements to be made with the farmer/grower;
- 8.16 the management needed to cope with geographic localities, weather conditions and the timing of the flowering of forage plants;
- 8.17 methods of swarms control suitable for use in small and large beekeeping enterprises;
- 8.18 the setting up and management throughout the season, of an observation hive, and the uses to which it can be put;
- 8.19 the preparation of a risk assessment and safety policy relating to the handling, demonstrating and showing of live honeybees;
- 8.20 methods of monitoring and seasonal management of the health of colonies;
- 8.21 the signs of disease and pest infestations of honeybees; the potential impact on bee health, the economic effect and how these diseases and pest infestations impact on the management of the colony;

- 8.22 procedures related to good hygiene practices on matters of personal clothing, manipulations and equipment to prevent the spread of diseases between colonies and between apiaries;
- 8.23 the development of hives and beekeeping equipment used in the United Kingdom (refer to list in Appendix);
- 8.24 the life histories of one selected species of each of the following found in the United Kingdom: solitary bee, social bee (other than *Apis mellifera*), solitary wasp and social wasp, and their interaction with honeybees.

The Candidate will be able to give an outline account of:–

- 8.25 the history of beekeeping through leading contributors (listed in Appendix) to the knowledge of honeybees and beekeeping practices.

APPENDIX TO MODULE 8

A guide to help candidates prepare for 8.23 and 8.26.

History of beekeeping

Hives	Names
Collateral hive	Rev Stephen White 1756, Thomas Nutt 1832
Leaf hive	Huber (Switz)
Stewarton	Robert Kerr 1819
First movable frame hive in UK	T. W. Woodbury 1862
First Double walled hive	T. W. Cowan
WBC	W. B. Carr 1890
Langstroth and bee space	Rev L. Langstroth 1851
Dadant	Dadant
Commercial (16×10)	Simmins
Smith	Smith
Catenary	Bill Bielby
British National and Modified National	Evolved from various sources

Introduction of Beekeeping Equipment	Names
Queen excluder	Abbé Colin (Fr)
Smoker	Moses Quinby, T. F. Bingham
Bee escape	E. C. Porter 1891 (US)
Frame spacing	W. B. Carr (metal ends), Hoffmann, Manley
Wax foundation	J. Mehring 1857 (Germany), E. B. Weed 1896 (US)
Wired frames	Capt. Hetherington
Extractor	Major Von Hruschka, T. W. Cowan
Feeder	Miller, Ashforth
Queen introduction cage	Dr. Colin Butler
Swarm control board	Snelgrove

Introduction of bee strains to the UK	Names
Intro of Italian bees	T. W. Woodbury 1859
Intro of Carniolan	W. C. Cotton 1870
Intro of Cyprian	T. B. Blow 1887
Development of Buckfast strain	Br. Adam

Development of beekeeping methods	Names
Swarm control	Snelgrove, Taranov, Pagden
Queen rearing	Miller, Doolittle
Two queen system	G. Wells 1894
Bailey comb change	Dr. L. Bailey
Moveable bar combs	George Wheeler (introduced idea from Greece)
Bee space	Rev. L. Langstroth

Founding of important organisations	Name
Founding of BBKA	T. W. Cowan, C. N. Abbott
Founding of Scottish Beekeepers' Association	G. W. Avery 1912
Founding of the Moir Library (Scotland)	John Moir 1912
Founding of BBJ	W. B. Carr, T. W. Cowan, C. N. Abbott
Founding of E. H. Taylor Ltd	T. B. Blow
Founding of I.B.R.A.	Dr Eva Crane
Founding of BIBBA	Beowulf Cooper

Research areas	Names
Swarming, spring feeding Bee behaviour Mating outside hive Parthenogenesis Pheromones	J. Simpson Ribbands, Rosch, Von Frisch, Lindauer, Gould Huber, J. Janscha, Beowulf Cooper J. Dzierzon Dr. C. Butler, Dr. J. Free

Influential authors	Texts
Rev. Charles Butler Rev. W. C. Cotton 1842 F. R. Cheshire 1886 Dr. T. W. Cowan 1881 W. Herrod-Hempsal A. I. Root (US) 1977 Rev. L. Langstroth Dr. J. Free Brother Adam Dr. Eva Crane E. B. Wedmore R. O. B. Manley Ted Hooper Dr. M. Winston K. von Frisch M. Lindauer J. Gould and C. Gould	The Feminine Monarchie My Bee Book Bees And Beekeeping British Beekeeping Guidebook British Beekeeping Guidebook + other texts ABC of Bee Culture The Hive and the Honeybee Several texts In Search Of The Best Strains Of The Honeybee + other texts Several Major Texts A Manual of Beekeeping Honey Farming Guide to Bees and Honey, Encyclopedia The Biology of the Honeybee The Dance Language and Orientation of Bees Communication Among Social Bees The Honeybee