

Syllabus of Examination for Proficiency in Apiculture: Intermediate Examination Practical paper

Although the following is a comprehensive outline of the syllabus, the student is also expected to be up to date with modern ideas on the honeybee, particularly where these ideas are dealt with in newer textbooks or in lectures that (s)he has attended.

Natural History of the Honeybee

The student will be able to:

- describe the function of each caste in the life of the colony,
- detect a drone laying queen and give a simple description of the causes for this type of queen failure,
- detect laying workers and give an elementary description of the circumstances which allows them to occur in a colony,
- give a simple description of the work of the worker honeybees including comb building and repair, feeding the brood and queen, defence, ventilation and temperature control,
- give a simple description of the annual population cycle of the honeybee colony using a graph,
- describe the influence of the local flora and weather on the variation in the size of the population of the colony,
- give a simple description of queen substance and its influence on the production of queen cells,
- give a simple description of food sharing in the colony.

Nectar and Honey

The student will be able to give:

- an account of the way nectar is collected and conveyed back to the colony and its conversion to honey,
- an account of the use of nectar, honey and water by the honeybee colony,
- an account of how pollen is collected, carried and stored,
- an account of the collection and use of propolis by the honeybee.

Honeybee Forage, Plants and Pollination

The student will be able to give:

- an account of the main nectar and pollen producing plants of Ireland and their flowering periods,
- an account of the honeybee as a pollinating insect and of its usefulness to farmers and growers

Diseases, Pests and Pathogens

The student will be able to give:

- an account of the signs of Varroosis, how it spreads, methods of detection, monitoring and treatment,
- an account of the signs of Small Hive Beetle infestation, how it spreads, methods of detection, monitoring and treatment,
- an account of the diagnosis of American Foul Brood (AFB) and European Foul Brood (EFB) and a tabulation of the differences between the signs of these two diseases,
- an account of the ways in which foul brood infections can spread from colony to colony,
- an account of the action necessary to take when AFB or EFB is found, including treatments and sterilisation of equipment,
- an account of the major provisions of the statutory regulations relating to Foul Brood, and their implementation in Ireland,
- an account of the signs and treatment of chalkbrood disease,
- an account of the signs of, and the recommended treatment for adult bee diseases Nosema and Acarine,
- an account of colony starvation and possible remedial actions,
- describe the Bailey frame change,
- describe the Shook swarm,
- an account of the expert services available to the beekeeper,

Note recommended answers on diseases should include causative agents, signs, symptoms, effect on colony, spread and treatment/prevention.

Apiary and Honeybee Management

The student will be able to give:

- describe one of the various types of hive at present in use in Ireland,
- describe the various frames used in a hive with which the student is familiar,
- define and describe the concept of the “bee space”,
- describe the purpose of wax foundation within the moveable frame hive,
- describe the various common methods of maintaining the spacing of frames in hives and give the measurements of two recognised spacings,
- give a detailed account of how to commence beekeeping, including the acquisition of bees, sources of equipment, costs, and any precautions necessary when acquiring bees or equipment,
- describe the criteria to be observed when moving colonies of bees from one place to another (including optimum distance, vibration, temperature, ventilation, water supply),
- describe the factors to be considered when setting up an apiary,
- give an account of the year’s work in the apiary,
- describe the principles of feeding a colony of honeybees,
- describe the most common types of feeder in use,
- describe the principles of supering,
- describe the importance of supering as a factor in swarm control,
- give an account of the use of the queen excluder and describe the types in common use,

- give a detailed account of the artificial swarm as a method of swarm control and prevention,
- describe a method of taking and hiving a swarm,
- describe in detail a method of making nuclei,
- give an account of the various uses to which nuclei can be put,
- give an account of a method of uniting colonies,
- give an account of the methods of dealing with laying workers,
- describe a simple method of rearing a replacement queen,
- describe the symptoms of queenlessness and how this may be confirmed,
- describe a method of queen introduction and the precautions to be taken,
- describe the problem of robbing and methods used to avoid it, or to terminate it once it has started,
- describe a method of clearing of bees from supers,
- describe how to prepare colonies for the winter period,
- describe the damage to colonies caused by mice and how to exclude them from the hives in winter,
- describe how to provide a suitable water supply for bees within the apiary,
- describe the principles of honey extractors, both tangential and radial,
- describe methods of storing comb with particular reference to prevention of wax moth damage,
- describe wax moth damage to stored comb,
- describe small scale methods of recovering beeswax from both comb and cappings.

Honeybee Products and Their Preparation for Show and for Sale

The student will be able to:

- give an account of the main requirements of the statutory regulations affecting the handling, preparation for sale, composition and labelling of packs of honey,
- give an account of a method used to decap honey combs, and of separating the cappings from the honey,
- give an account of the extraction of honey, including heather honey, from combs and the various types of extractor used,
- give an account of the straining and settling of honey after extraction,
- give an account of the storage of honey including the underlying principles of storage,
- give an account of the preparation and bottling of extracted honey for sale,
- give an account of the preparation of sections and cut comb honey for sale,
- give an account of the bottling of chunk honey for sale,
- give an account of the methods of recovering beeswax,
- give an account of the uses for beeswax,
- give an account of the uses of other bee products such as pollen, royal jelly, venom and propolis,
- give an account of the preparation of honey for the show bench.
- give an account of the preparation of beeswax for the show bench.

Note this syllabus is indicative not exhaustive (look on both scientific and practical for completeness)