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Course Outline

Sustainable Urban Beekeeping Certificate | Coordinator: Peggy Harowitz

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Integrated Pest Management for Beekeepers (BEEP1003)

Instructor Brian Campbell

Hours 6 Hours – 3 hours in class, 3 Field Experience hours

Grading Pass/Fail

Course Description

Integrated Pest Management for beekeepers presents in a logical and systematic way the most important organic methods for controlling and managing pests and diseases within a honeybee colony. You'll learn the essentials of what IPM is and how to apply it to your own operation. Because of the destructive nature of the Varroa mite and how this one pest creates many other problems within the hive special emphasis will be given to how best to manage the Varroa while maintaining honeybee health and vigour.

Prerequisites: Getting Started in Beekeeping and Spring management courses, or approval of the instructor if you have experience in beekeeping

Learning Outcomes

Upon successful completion of this course, the student should be able to:

- Describe the steps in using Integrated Pest Management (IPM)
- Explain the different options in managing pests and diseases
- Write an outline of an IPM plan (which can be built over time and with experience)
- Using monitoring jar to assess the percentage of Varroa mites within a colony
- Demonstrate how to apply IMP principles on the Varroa mite and Nosema disease
- Recognize signs of Varroasis
- Describe the life cycle of the Varroa mite
- Demonstrate how to take a sample of bees for assessing Varroa mite levels
- Use a microscope for estimating Nosema spore concentrations within a hive

Detailed Course Content,
Topics and Sequence Covered:

Principles of IPM; goals, steps, the pathogen pyramid

Step One: Prevention

Siting the hive, forage, getting the beekeeper out of the way, rearing the best queens possible, and breeding a locally adapted and Varroa resistant bee

Step Two: Identification

Learning to correctly identify bee pathogens, understand their lifecycles and how to interrupt them

Step Three: Monitoring

Techniques and tools, record keeping

Step Four: Establishing an action level

Step Five: Treatment Options

Cultural
Biological
Mechanical
Chemical

Step Six: Evaluation

Hands On: Using microscopes and live samples

- In depth exploration of the Varroa mite;
- Biology, lifecycle, the problems it's caused, approaches to managing it
- In depth exploration of Nosema:
- Biology, lifecycle, detection, diagnosis, and treatment options

PRACTICUM:

- Take bee samples for Nosema examination
- Dissect the bees and prepare them for Nosema examination under a microscope
- Follow standardized procedures for calculating Nosema infection
- Use a monitoring jar to sample bees for Varroa levels
- Follow a seasonally appropriate action plan for managing the bees for Varroa infestation
- Do a follow up visit to evaluate the effectiveness of the treatment

Method of Delivery

In class and in the field

Evaluation Criteria
And Grading

Evaluation for this course is on a pass/fail basis.

Field Experience – 50%
Participation - 50%

Reading

Honey Bee Diseases and Pests, 3rd Edition. Canadian Assoc. of Professional Apiculturalists

Instructor Profile

Brian Campbell, the lead instructor, is the founder of Blessed Bee Apiaries and the Bee School. He became immersed in the rich and amazing world of bees while he and his four sons spent many a glorious day observing the curious activities of bees, noticing the bees' consistent patterns, collective activities, and the surprising comparisons to our own human patterns and behaviours. He is a Certified Beemaster and beekeeper, and heavily involved in food security issues in Richmond and the Lower Mainland.

Brian guest lectures for UBC Farm's Practicum in Sustainable Agriculture, for adult education at VanDusen Botanical Gardens in Vancouver, for Kwantlen's Richmond Farm School and teaches young people in the city about honeybees as well as native types. He is a former president of the Richmond Beekeepers Association, a member of the Master Gardener Association of BC, Sustainable Gardening and Bee Master to West Coast Seeds, and offers classes in grafting fruit trees, food preserving and other farm skills.