

# Honey Bee Laboratory Services

## Veterinary Diagnostic Services



Laboratory tests for several major bee diseases are now available in Manitoba (see below for tests and fees). This service is a joint initiative involving three groups within Manitoba Agriculture and Resource Development: Veterinary Diagnostic Services (VDS), the Provincial Apiculture Program and the Crop Diagnostic Centre. Implementation of this testing was supported by assistance from the National Bee Diagnostic Centre (Grande Prairie Regional College), the University of Manitoba Department of Entomology and the University of Guelph Animal Health Laboratory.

## Contact Us

- Phone: 204-945-8220 in Winnipeg
- Email: [vetlab@gov.mb.ca](mailto:vetlab@gov.mb.ca)
- Website: [manitoba.ca/agriculture/vds](http://manitoba.ca/agriculture/vds)

## Location

VDS is located in the Agricultural Services Complex on the University of Manitoba Fort Garry Campus at 545 University Crescent.

## Billing Information

We strongly encourage beekeepers to work with a licensed veterinarian in order to access all of these services. If you are only interested in diagnostic services for Varroa mite counts or Nosema disease identification and spore counts, then working through a veterinarian is not required. Beekeepers wanting to submit samples directly to VDS must make an appointment prior to dropping off the samples. Payment for diagnostic services must be done at the same time as sample submission. Payment by cheque is the only payment option at this time.

If you submit your samples through a veterinary clinic, please discuss this with your veterinarian beforehand, as some clinics may use couriers that will not ship live bees. If you are working with a veterinarian, VDS will bill the veterinary clinics for lab services and the clinic will bill the beekeeper. This is the billing approach used by VDS for all animal industries. For a list of available veterinarians please visit:

[manitobabee.org/hive/2551/list-of-veterinarians-willing-to-work-with-honey-bees/](http://manitobabee.org/hive/2551/list-of-veterinarians-willing-to-work-with-honey-bees/).

Copies of lab reports will be sent to the beekeeping client, Provincial Apiarist and veterinary clinic, if you are working with a veterinarian.

## Tests and Fees

The following tests will be available for adult bee and brood samples. See the sampling guide for each test's required sample type. The diagnostic service associated with testing honey bee samples for disease and pests is subsidized by the Manitoba government. Fees for service are intended for partial cost recovery, not profit. The prices below do not include taxes. At the time of the appointment, a draft invoice of fees and taxes will be provided to you. At this time, only cheques payable to the "Minister of Finance" will be accepted as onsite pre-payment for diagnostic services. Otherwise, you would have to go through a veterinary clinic in order to be billed for these services.

**Varroa Mite Count \$20.00**

**Nosema Count \$20.00**

**Nosema Detection & Identification:** PCR\* assay for *Nosema apis* and *Nosema ceranae* **\$42.40**

**American foulbrood (AFB):** bacterial culture for *Paenibacillus larvae*, includes antibiotic susceptibility testing **\$40.00** *Note: access to antimicrobial treatment is only available through a veterinary clinic*

**European foulbrood (EFB):** PCR assay for *Melissococcus plutonius* **\$23.32** *Note: access to antimicrobial treatment is only available through a veterinary clinic*

### **Honey Bee Virus Tests (PCR assays)\*\***

**Acute Paralysis Panel** – includes tests for **Acute bee paralysis virus (ABPV)**, **Israeli acute paralysis virus (IAPV)** and **Kashmir bee virus (KBV)** **\$42.40**

**Deformed wing virus (DWV)** **\$23.32**

**Sacbrood virus (SBV)** **\$23.32**

**Black queen cell virus (BQCV)** **\$23.32**

### **Additional Notes about PCR Assays**

**\*PCR:** Polymerase Chain Reaction, a molecular genetics method used to detect a microorganism by amplifying and detecting a targeted section of DNA or RNA.

**\*\*Some of the bee virus tests are still in development (validation, etc.). We may forward samples to a reference laboratory for duplicate testing while we complete this process. This will not affect the fees given above.**

## Sampling Guide

### **Varroa Count**

- At least 300 adult bees (1/2 cup) from brood frame; live or in 70% ethanol.

**Nosema Testing** (count and PCR)

- At least 120 adult bees, ideally older bees from the entrance or honey frames. Live or recently dead. Do not submit bees in ethanol. Keep dead bees frozen if not submitting to the lab on the day of collection. Dead bees can be placed in a screw-top plastic container or Ziploc bag.

**AFB culture and EFB PCR**

- Diseased brood frame, or a 10 x 10 cm portion with at least 15 diseased cells. Wrap in brown shipping paper or newspaper and place in a cardboard box. Do not use plastic bags.
- At least 200 adult bees – live or recently dead. Keep dead bees frozen if not submitting to the lab on the day of collection. Do not submit bees in ethanol. Dead bees can be placed in a screw-top plastic container or Ziploc bag.

**Viruses** (any number of PCR tests)

- At least 100 live adult bees, or freshly dead frozen adult bees and/or samples of diseased brood. Do not submit bees in ethanol.

**Sample Containers**

Containers must be labeled with:

- Owner or Apiary Name
- Colony I.D.
- Sample Type (e.g. adult bees or brood)