

## SUBMITTING BEE SAMPLES FOR DISEASE AND PEST DIAGNOSIS

*Samples should be mailed to*

Bee Disease Diagnosis  
Bee Research Laboratory  
Bldg. 306, Room 318, BARC-East  
10300 Baltimore Blvd.  
Beltsville, MD 20705-2350

**- There is no charge for any of these analyses –**

Beltsville can analyze bacterial, fungal, and microsporidian diseases, as well as *Varroa* mites, tracheal mites, and small hive beetle from samples of adults and comb.

### COLLECTING & PREPARING SAMPLES

#### **Nosema Disease**

1. Collect 100 field bees from hive entrance when bees are flying to the fields.
2. Place bees in plastic bag with enough rubbing alcohol (isopropyl alcohol) to cover the sample. Seal the zip lock bag. Place the bag in another zip lock bag so it will not leak in the mail. Limit the amount of rubbing alcohol shipped in the mail. Use a pencil for any information provided, since the rubbing alcohol that leaks will destroy information written in ink.
3. Mail in a box and not an envelope. The post office runs envelopes through a machine that crushes samples.
4. Include your name and address and what disease or pest you want diagnosed.
5. In addition to *Nosema* disease, the lab will also check these samples for varroa mites and tracheal mites. They will provide a spore count for positive *Nosema* samples, but they do not identify which species of *Nosema* (*apis* v.s. *ceranae*) is present.

**American Foulbrood (AFB)** – can submit larva smear or piece of comb. The lab will report if the sample is positive or negative for American Foulbrood. If the sample is positive for AFB, the lab will report the resistance level to the antibiotic drugs Terramycin and Tylan.

#### **Larva Smear Sample:**

1. Collect dead larva smear out of cell using a toothpick.
2. Wrap the toothpick with the sample smear in paper. Each sample should be kept separate and number each sample, if more than one hive is sampled. E.g., hive number one is 'Sample 1' and hive number two is 'Sample 2'.
3. Wrap sample(s) in paper and place in an envelope. Do not use a plastic bag, wax paper, aluminum foil, or glass, as it will encourage mold to grow on the sample.
4. Include your name and address and what disease you want diagnosed.

#### **Comb Sample:**

1. Cut out 4" x 4" square sample of suspicious-looking comb.
2. Place comb in a box.
3. Mail sample in a box as post office machinery will crush envelopes including the comb sample.
4. Include your name and address and what disease you want diagnosed.