Canadian Food Inspection Agency
Agence canadienne d'inspection des aliments

Animal Biosecurity

Alfalfa Leafcutting Bee Biosecurity Checklist

Growing Forward
A federal-provincial-territorial initiative

Canada

Section 1: Bee Health Management

1.1 Bee Sources

- [ ] The Canadian Loose Bee Cell Management System is followed

When purchasing bees

- [ ] purchase loose bee cells
- [ ] avoid purchasing filled nest blocks and incubated or adult bees
- [ ] purchase from trusted suppliers that can provide test results from the Canadian Cocoon Testing Centre (CCTC)
- [ ] establish lots, if suitable for your operation

Lots are based on

- [ ] source
- [ ] nest box type/year purchased
- [ ] crop
- [ ] client
- [ ] percentage of nest block fill
- [ ] processing date
- [ ] treatments
- [ ] incubation groups
- [ ] lots are sampled following recommended practice in a repeatable and consistent manner
- [ ] samples are tested either by a trained producer or the CCTC

1.2 Prevention: Minimizing Susceptibility to Pests

Storage and incubation facilities control:

- ☐ temperature
- ☐ humidity
- ☐ air circulation/ventilation
- ☐ nest boxes are stored/stacked off the floor
- ☐ loose bee cells are stored in containers that limit conditions that encourage the development of pests
- ☐ nests and shelters are constructed and maintained in a state that limits access to pests
- ☐ bees are located in areas that minimize the impact of irrigation where applicable

1.3 Prevention: Minimizing Exposure

Exposure to pests is minimized during storage and incubation:

- ☐ preventative treatments and methods are used
- ☐ temperature, humidity, and air circulation is monitored and maintained
- ☐ light is limited
- ☐ known infected/infested lots and cells are stored and incubated separately from healthy ones
- ☐ emerged bee cells and trays are removed from shelters and disposed of in an acceptable way

Precautions are taken to minimize bee drifting and intermixing:

- ☐ visual cues are used for shelters and nests
- ☐ exposure to other bee species is avoided
- ☐ recommended alfalfa leafcutting bee pollination stocking rates are followed
- ☐ shelter distance to bees of other sources is maximized where possible
- ☐ known or suspect bee lots are treated separately
- ☐ bee release is timed to coincide with nectar and pollen flow
- ☐ nest boxes are monitored for percent filled tunnels
- ☐ full nests are removed and empty nests are added as required
- ☐ bee cells are effectively dried, processed and conditioned

Minimize exposure to pests during transport:

- ☐ cover or enclose trays
- ☐ use screened trays

1.4 Diagnosis and Monitoring

Principles include:

- ☐ thorough sampling methods
- ☐ involvement with inspection programs where applicable
- ☐ establishing and acting on thresholds
- ☐ monitoring
- ☐ training
- ☐ treatment efficacy
- ☐ record keeping

1.5 Standard Response Plan

- ☐ treatment thresholds are followed
- ☐ all treatment label directions are read and followed
- ☐ recommended products are used
- ☐ treatments are thorough and consistent
- ☐ treatment is timed
- ☐ cultural and biosecurity methods are incorporated

1.6 Elevated Response Plan

- ☐ communication with staff, provincial apiarists, associations, suppliers, clients, government and other growers
- ☐ suspected and confirmed threat protocols are in place and are implemented if an elevated response is triggered (may include suspension of hive movement, restricted access, heightened monitoring and sampling)
- ☐ personal, equipment, and visitor biosecurity protocols are followed
- ☐ records are kept and maintained

Section 2: Operations Management

2.1 Obtaining Production Inputs

- ☐ production inputs are purchased from recommended and trusted suppliers
- ☐ production treatments are approved for use with alfalfa leafcutting bees and in good condition

2.2 Handling and Disposal of Production Inputs

- ☐ chemical treatments are stored according to product labels
- ☐ a "first in/first out" inventory system is used
- ☐ label instructions are followed for disposal of excess or expired products

2.3 Obtaining Bee Equipment

Considerations for purchasing bee equipment:

- ☐ new equipment is purchased
- ☐ reliable and trusted suppliers are used
- ☐ the purchase of bee cells in nest blocks is avoided
- ☐ equipment is inspected

Considerations for purchasing used bee equipment:

- ☐ used equipment is avoided
- ☐ if necessary, used equipment with known disease history is purchased
- ☐ used equipment is cleaned and disinfected in a segregated area
- ☐ alfalfa leafcutting bee equipment is not imported

2.4 Handling and Disposal of Bee Equipment

- ☐ inspection for condition and damage is conducted at least once a year
- ☐ damaged nest backing material is culled
- ☐ damaged trays and shelters are culled or repaired
- ☐ a nest block and nest back filler replacement system is used
- ☐ debris is removed before equipment is cleaned and disinfected
- ☐ a designated cleaning area is used where possible
- ☐ culled material is stored in a separate area away from other operations
- ☐ materials and equipment are disposed of appropriately
- ☐ all reused equipment is cleaned and disinfected once a year

2.5 Personal Sanitation

- ☐ bees and equipment that have been cleaned and disinfected are handled before dirty or contaminated bees and equipment
- ☐ healthy bees are attended before suspect or diseased bees

Hands are washed where appropriate:

- ☐ after handling infected equipment or bee cells and subsequently handling clean bees
- ☐ if extra precautions are required in an operation due to persistently high levels of pathogens
- ☐ soiled reusable gloves are washed and disinfected before reuse where appropriate
- ☐ coveralls and clothing are washed regularly

2.6 Design of Facilities

- ☐ roadways and pathways are graded and drained
- ☐ facility exteriors are kept free from vegetation and debris

Interiors and exteriors of facilities are constructed and maintained to reduce exposure to pests:

- ☐ cleaning and disinfection is considered in the design
- ☐ temperature control is adequate
- ☐ humidity control is adequate
- ☐ air circulation/ventilation control is adequate
- ☐ access by rodents, insects and birds is limited
- ☐ dust is controlled
- ☐ lighting is limited
- ☐ water supplies are adequate

Separate facilities exist for:

- ☐ bee cell processing
- ☐ repairing and preparing nest blocks
- ☐ incubation
- ☐ filled nests and bee cell storage

2.7 Maintenance of Premises, Buildings, Vehicles and Other Equipment

- ☐ filled nest blocks and bee cell storage, and bee cell processing and incubation facilities are cleaned thoroughly once per year
- ☐ all equipment used for handling infected material is cleaned
- ☐ bee cell processing area is cleaned once a day to remove dust

Building and equipment disinfection considers:

- ☐ contact with infected bee cells or equipment
- ☐ cleaning (removal of debris and dust)
- ☐ disinfection with an appropriate product

Buildings are maintained in optimal condition:

- ☐ rodent and nuisance pest checks occur annually
- ☐ environmental (temperature, humidity, and ventilation) monitoring is undertaken
- ☐ environmental alarm systems are used, if possible
- ☐ regular physical observation and monitoring occurs
- ☐ vehicles and portable equipment are cleaned at designated cleaning areas
- ☐ used water is contained or drained

2.8 Control of Weeds and Nuisance Pests

Regular monitoring occurs for:

- ☐ damage
- ☐ theft or vandalism
- ☐ presence of weeds
- ☐ unused or broken equipment
- ☐ garbage
- ☐ other attractants

Weed control includes:

- ☐ mowing
- ☐ weeding
- ☐ herbicides

Rodent control includes:

- ☐ traps
- ☐ cats and dogs
- ☐ recommended poison
- ☐ building maintenance
- ☐ monitoring

2.9 Training and Education

- ☐ a training/education program is implemented.