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Honey Bee Health Treatment Guide
(for Manitoba Beekeepers)

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IMPORTANT:

1. **A veterinarian prescription will be required to use oxytetracycline hydrochloride and tylosin tartrate in honey bee colonies.**

2. **All antibiotics and acaricides should only be administered to honey bee colonies according to recommended rates on the products label or according to veterinarian prescription. Never administer antibiotics and acaricides while honey supers are on the hives unless explicitly stated as safe to do so on the label.**

AFB & EFB MANAGEMENT ** ANTIBIOTICS **

Antibiotics are NOT a cure for American Foulbrood (AFB) or European Foulbrood (EFB) since viable bacterial spores may still be present in the hive after treatment. Combs with visible signs of AFB of EFB should therefore be removed from the hive and destroyed by fire. Furthermore, it is recommended that boxes associated with infected hives be decontaminated (see below "Empty Super Disinfection), or burned with the infected frames. Following removal of the diseased combs and in consultation with a veterinarian, antibiotic treatment may be needed to manage the spread of disease to non-infected hives.

In the hive, AFB that is resistant to antibiotic (rAFB) looks the same as AFB that is susceptible to the antibiotic. Fresh rAFB, "ropey brood" and old rAFB scale may appear on the same frame. Determination of resistance to antibiotics requires culturing of the bacteria in a laboratory; therefore, please submit any suspected AFB frames for testing to the Provincial Apiculture office in Winnipeg or to your Veterinarian.

OXYTETRACYCLINE Application
Active ingredient: Oxytetracycline (Oxytetracycline hydrochloride)
Examples of Brands Available: **Oxytet-25® (DIN 02231111), Oxysol 62.5® (DIN 00560189)**

Oxytet-25® and Oxysol 62.5® require mixing with powdered sugar prior to application. Follow the product label directions for feeding these products to honey bees (see below for Oxytet-25®). Foul Brood Mix® is a ready-to-feed mix containing oxytetracycline, soy flour, brewer's yeast and sucrose. Follow the **product label** for Oxytet-25® (DIN 02231111), Oxysol 62.5® (DIN 00560189) or veterinarian directions for feeding this product to bees.

The following feeding recommendations for oxytetracycline are based on formulations containing 25 g of active ingredient per 454 g of product, ex: Oxytet-25®: **Refer to product labels or Veterinarian instructions on specific product use.** According to the label, prepare by mixing 454 g of Oxytet-25® with 3.5 kg of icing sugar (1:8 ratio by weight). Place the mixture across the frame top bars at the front or back of the hive (i.e. over the end bars). DO NOT put the oxytetracycline/icing sugar mixture over the center of the hive as it may fall down between the frames and kill unsealed brood.

The first oxytetracycline application would typically occur within 4 days of installing a package of bees, nuclear hive or unpacking a wintered colony. One 454 g package of Oxytet-25® will provide enough antibiotic to treat 90 spring package colonies or 45 wintered colonies. Spring packages or small colonies should receive 14 g (1 tablespoon) of the oxytetracycline/icing sugar

mixture, per colony per application, for a total 42 g per colony (i.e. 3 applications of 14 g, 4-5 days apart).
Wintered colonies should receive 28 g (2 tablespoons) of the oxytetracycline/icing sugar mixture, per colony per application, for a total of 84 g per colony (i.e. 3 x 28 g, 4-5 days apart).

In order to prevent possible contamination of marketable honey, all oxytetracycline treatments in spring or fall must occur outside the honey production season and stop at least 4 WEEKS before the start of honey production. Honey stored in the colony during the antibiotic treatment period should not be used for human consumption!

Other methods of administering Oxytetracycline:

a) Oxytetracycline and sugar syrup – Oxytetracycline breaks down in sugar syrup, especially when exposed to ultra-violet rays (i.e. sunlight). Feeding outside in glass jars is NOT the preferred method of feeding syrup treated with antibiotics.

b) Oxytetracycline Extender Patties – This method involves incorporating oxytetracycline into a soft patty made of shortening (ex: Crisco®) and sugar. In this preparation, the antibiotic remains stable over a long period. This method of administering oxytetracycline is therefore NOT RECOMMENDED for the following reasons:
   i. weak honey bee colonies often will not consume the extender patty and therefore will not benefit from the antibiotic treatment
   ii. leaving extender patties on colonies during the nectar flow may result in antibiotics being found in extracted honey
   iii. may facilitate the development of antibiotic resistance in the bacteria

TYLAN® SOLUBLE Application
***Active ingredient: Tylosin tartrate* (DIN 00103616)**

Tylan® Soluble is highly stable in hive food stores and <u>must only</u> be considered for use in consultation with a Veterinarian. Tylan Soluble has traditionally only been recommended for use in honey bee operations that have <u>TESTED</u> positive for American Foulbrood disease. Please note that the information below is based on the current recommendations found on the Tylan® Soluble label (DIN 00103616) (200 mg/20g confectionary sugar)

Colonies identified for treatment should receive 3 treatments administered as a dust in confectioners/powdered sugar. The 200 mg dose is applied (dusted) over the top bars of the brood chamber once weekly for 3 weeks. To avoid residues in honey, Tylan® Soluble should **<u>NOT</u>** be used in the spring (i.e. **<u>Fall Treatment Only</u>**). Residue problems can also occur if the feed (honey or syrup) stored in the colony during fall treatments is **<u>NOT</u>** consumed by the bees before honey production begins. Honey from brood nest areas of colonies treated with Tylan® Soluble must **<u>NOT</u>** be harvested for human consumption.

Tylan® Soluble is a granulated powder, which is easily soluble in water. Tylan® Soluble is available in a jar size with 100g tylosin tartrate. If you have any questions about Tylan® Soluble or any other ELANCO products, please contact ELANCO at 1-800-773-7603 or talk to your veterinarian.

NOSEMA DISEASE MANAGEMENT **ANTIBIOTICS**

The following recommendations are for treating Nosema disease caused by Nosema apis; however, another species of Nosema, (N. ceranae) has also been found in Manitoba. Current research suggests that both species of Nosema respond to antibiotic treatment but that more information is needed to determine if modifications to the Fumagilin-B® label will be required for the effective control of both species. Please note that the information below is based on the current recommendations found on the Fumagilin-B® label (DIN 02231180) (21 mg/g).

FUMAGILIN-B® Application
***Active ingredient: "Fumagillin" (Bicyclohexylammonium fumagillin) (*DIN 02231180)**
Fumagillin is available in a variety of container sizes, depending on the brand name; therefore always follow the product's label recommendations. As a general guideline, 1.0 g of fumagillin will provide enough antibiotic for treatment of approximately 10 spring package colonies or 5 wintered colonies. **Refer to product labels for instructions on specific product use.**
Important: Medicated syrup is best prepared at a concentration of 25 mg Fumagillin base per liter of syrup, usually 2:1 syrup (two parts of sugar to one part of water). The water may be warm (20-50°C).

Colonies infected with NOSEMA should be treated with Fumagilin-B® in sugar syrup, according to time of year and colony size/type, as follows:

FALL TREATMENT:

After all honey supers have been removed, feed medicated syrup at the following rates

Fumagilin-B® Preparation by Bottle Size	Will Provide One Treatment For:
Mix 0.5 g (small bottle) in 20 L of syrup	6 spring packages or 3 wintered colonies
Mix 2.0 g (medium bottle) in 80 L of syrup	21 spring packages or 11 wintered colonies
Mix 9.5 g (large bottle) in 380 L of syrup	100 spring packages or 50 wintered colonies

(see above for Fumagillin Preparation):

- For each 2 chamber colony (approx. 30,000 bees): 7-8 L treated syrup (approx. 2 gal)
- For each 1 chamber colony (approx. 18,000 bees): 4 L treated syrup (approx. 1 gal)
- For each 5 frame colony (approx. 12,000 bees): 3 L treated syrup (approx. ¾ gal)

SPRING TREATMENT:

In the spring, when colonies are stressed due to inclement weather conditions; mite infestation, other disease factors, or intensive spring management, feed medicated syrup at the following rates (see above for Fumagillin Preparation):

- For each 2 chamber colony (approx. 20,000 bees): 3-4 L treated syrup (approx. 1 gal)
- For each 1 chamber colony (approx.12,000 bees): 2 L treated syrup (approx. ½ gal)
- For each 5 frame colony (approx. 8,000 bees): 1-2 L treated syrup (approx. ½ gal)
- For each package colony: 1-2 L treated syrup (approx. ½ gal)

Treatment with Fumagilin-B®, which may be necessary in the **LATE WINTER** (February-March), should follow the regime for **SPRING TREATMENT** (as described above). Prior to fall feeding of

colonies, it may be advisable to have combs 2, 5, 7 and 9 empty in the second brood chamber for storage of the medicated syrup.

Research has shown that oxytetracycline & fumagillin may be administered safely at the same time, provided the dosages do not exceed the recommended rates. For further information about antibiotic treatment and possible interactions, please contact your veterinarian.

VARROA MITE DETECTION & MANAGEMENT **ACARICIDES**

Rotating Treatments & Integrated Pest Management (IPM) Strategy Comments:
It is recommended that beekeepers monitor for Varroa mites (*Varroa destructor*) and rotate acaricides to decrease the risk of treatment-resistance and contamination of wax and honey by high-residual acaricides. The following acaricides: Apistan®, Apivar®, Bayvarol® CheckMite+™, Formic Acid products, HopGuard®II, Oxalic Acid and Thymovar™ are available for varroa mite control and should be used according to instructions on their packaging. In order to minimize the risk of developing treatment-resistant mites, it is important that beekeepers try to avoid consecutive treatments (ex: spring & fall) using the same product or products with similar chemistries (i.e. Apistan® and Bayvarol®).

Placement of a screen (3 mm x 3 mm mesh, or "No. 8 mesh") over the bottom-board, to separate fallen mites from bees and reduce mite re-entry into the colony, may help reduce varroa infestation. "Screen bottom-boards", as they are often called**, do not significantly reduce varroa populations on their own**; however, in combination with acaricides or genetically resistant (ex: hygienic) bees, have been found to be of some benefit. **Cultural control methods, as well as genetically resistant bees, help control varroa year-round not just during spring and fall.** A screen-bottomboard can also facilitate the detection of varroa in a hive (see below) although an alcohol varroa-wash of bees from the brood area is more consistently accurate. It is important to note that having a screen over the bottomboard that restricts honey bee access can result in a buildup of wax and pollen debris on the bottomboard. If the debris is not removed by the beekeeper on a regular basis, scavenger pests such as wax moth that feed on this debris may become more of a problem.

Honey bee colonies should be monitored for varroa on a regular basis, preferably in the spring and fall, to determine infestation levels relative to economic thresholds, and to ensure that previous control procedures have been effective. In the spring build up period, it is recommended varroa levels should be maintained below 1% (i.e. 1 mite per 100 adult bees). In the fall period, it is recommended varroa levels should be maintained at 1-3% or less with significant brood present (ex: early fall), and less than 10% when there is little brood (ex: late fall). The decrease in brood and subsequent movement of mites onto adult bees accounts for the higher threshold in the fall period. **Note that this varroa threshold information assumes honey bee tracheal mite levels are at or near zero, and that colony health is dependent on more than just mite levels. Mite levels may increase due to the development of resistance to control products, improper application of treatment, or re-infestation from a neighboring apiary.** To discuss specific recommendations regarding combinations of varroa mite, honey bee tracheal mite and possibly other honey bee disease, please contact the Apiculture office. A video on **how to monitor for varroa mite** can be viewed on the website of the Manitoba Beekeepers' Association (MBA) at www.manitobabee.org (videos).

In-Field Detection & Sampling of Varroa:
Sampling for varroa from 5 hives in a bee yard of 30 hives should give a good idea of varroa infestation in that yard but sampling more hives will strengthen results.

Varroa-wash:

Scoop 200-300 bees from brood area frames into a container with windshield washing fluid (blue) or soapy water and shake the container in for several minutes to dislodge the mites from the bees. Separate the bees and fluid with the mites using a sieve or screened lid. Sampling from the brood area is important! It helps to ensure accuracy, consistency and to reduce variability. To calculate approximate percent infestation level, count the number of dislodged mites, divide by the number of bees in the cup, and multiply by 100.

Natural drop:

Using a screen bottom-board, place a sticky board (sticky side up) into the space between the screen and floor of the bottomboard. Commercial sticky boards are available or they can be made using a sticky spreadable substance, such as a thin layer of Tanglefoot on white cardboard, plastic or similar media. As a general guideline, natural varroa mite drop of 1 varroa mite per 24-hr suggests an infestation level of at least 1%. Whereas, natural mite drop of 30-40 mites per 24-hr period suggests an infestation level of approximately 5%. Note: natural varroa mite drop is affected by a number of factors including weather and genetics, so sampling over several days can help to minimize these influences when calculating estimated average mite fall.

It is for this reason that monitoring should occur over several days (i.e. 2-3 days) and that the average daily mite drop be calculated by dividing the number of mites by the number of days the sticky boards have been in the hive.

ACARICIDES

Api Life VAR (Impregnated Tablet)) Application ***New Treatment***
Active ingredient: Thymol, Eucalyptus oil, Racemic camphor, l-menthol, **(Reg# 33821)**
Please note that the information below is based on the current recommendations found on the Api Life VAR label (Reg# 33821), which can also be found by searching the PMRA online label database at: http://pr-rp.hc-sc.gc.ca/ls-re/index-eng.php (search "Api Life VAR")

Precautions: KEEP OUT OF REACH OF CHILDREN! Combustible! Do not use or store near heat or open flames. Do not store above 30° C. To prevent contamination, store this product away from food or feed. Store in a dry area, inaccessible to children. Store in original container only. Keep container closed when not in use.

Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during application and clean-up. In addition, wear protective eyewear (goggles or face shield) during application and clean-up. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Users should remove clothing/personal protective equipment (PPE) immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE after the completion of operations that include handling this product. As soon as possible, wash thoroughly and change into clean clothing

Timing: Spring or fall treatment of varroa mite: Api Life VAR is formulated as a tablet impregnated with essential oils. These essential oils evaporate from the tablet and the resulting

vapours spread throughout the hive. One bag contains 2 tablets. One treatment consists of 3 applications of 1 tablet per hive. Tablets are sealed in multilayer bags (polyester-aluminium-paper-polythene), closed by heat sealing. When used as directed Api Life VAR provides suppression of varroa mite in colonies of honey bees.

To treat a hive, remove 1 tablet from the bag and break the tablet into 4 pieces. Open the hive and place the 4 pieces on top of the top bars near the corners of the brood box, and away from the brood in the middle of the hive. After 7 to 10 days, remove the pieces and replace with a second fresh tablet broken into 4 pieces as above. Repeat the procedure again with a third tablet, 7 to 10 days later. Leave the last tablet in the hive for 12 days, then remove the tablet pieces from the hive.

Applications of Api Life VAR may be made in any season (spring/summer/fall/winter) in which all applicable restrictions, precautions and directions for use must be followed. Do not use when honey supers are in place to prevent excessive residues in marketable honey or wax. Use when daytime highs are between 18° and 35°C. The use of Api Life VAR at average daily temperatures below 18° C may result in reduced control of varroa mites. The use of Api Life VAR at higher than recommended temperatures over (35°C) may increase the potential for brood or bee mortality. Closely adhering to the label directions will minimize adverse effects. Do not use Api Life VAR at temperatures above 35° C Remove Api Life VAR tablets from hive at least 1 month (30 days) prior to harvesting honey (i.e. Pre-harvest interval (PHI)).

Use of Api Life VAR is most effective when less sealed brood is present. Application of Api Life VAR may cause some reduction in the amount of sealed brood during the application period. At higher concentrations, thymol residues may impart off-flavours to honey. The potential for off-flavours can be further reduced by increasing the PHI and/or by delaying the replacement of surplus honey supers after the treatment is completed. The benefits of varroa mite control will usually greatly exceed the effects of limited mortality. However, since not every possible combination of colony and environmental conditions has been replicated in experimental trials, beekeepers should follow all directions and monitor colonies for unusual conditions or signs of colony stress. For best results, the colony should be as compact as possible during treatment. Combine weak colonies before treatment. Apply Api Life VAR during the coolest time of the day either in the early morning or evening. Close up screened bottom boards and make hives as tight as possible by reducing entrances and any other openings that exist. Do not apply the treatment when bees are robbing.

Disposal: Do not re-use tablet pieces or empty packages. Make the empty package unsuitable for future use. Dispose of the package and used tablets pieces in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency

APISTAN® (Apistan® anti-Varroa mite strips) Application
Active ingredient: 10% Fluvalinate (fluvalinate-tau) **(Reg# 23023)**
Please note that the information below is based on the current recommendations found on the Apistan® label (Reg# 23023), which can also be found by searching the PMRA online label database at: http://pr-rp.hc-sc.gc.ca/ls-re/index-eng.php (search “apistan”)

At this time, varroa resistance to Apistan® is widespread in the province; so control using this product may produce variable results, therefore monitoring efficacy is critical.

Precautions: KEEP OUT OF REACH OF CHILDREN! Wear chemical resistant gloves when handling strips. Wash hands thoroughly with soap and water after removing gloves. Harmful if swallowed. Do not expose honey intended for human consumption directly to APISTAN STRIPS. Do not re-use strips. After treatment, do not use beeswax for human consumption. Fluvalinate-tau is toxic to fish. Do not contaminate aquatic systems with fluvalinate-tau by storage or disposal of Apistan Anti-Varroa Mite Strips in the apiary/beeyard. Just before application; remove the required number of strips from the pouch. Unused strips should remain in the original package. Refer to product labels for instructions on specific product use.

Timing: Spring or fall treatment of varroa mite: Use 1 strip for each 5 combs of bees in each brood chamber (Langstroth deep frames or equivalent in other sizes). Hang the strips in separate spaces between the combs as near to the center of the bee/brood cluster as possible. If two brood chambers are used for the brood nest, hang the strips in both the top and bottom brood chambers. For best chemical distribution, use the strips when daytime temperature-highs are at least 10°C. Hives may be treated in the spring before the honey flow and/or in the fall after the honey flow. Do not treat when honey supers are on the hives. Place the strips in the hives for up to 42 days (6 weeks). According to the label, honey supers may be placed on colonies after the strips have been removed.

Disposal: Do not re-use strips or empty packages. Make the empty package unsuitable for future use. Dispose of the package and used strips in accordance with provincial requirements. Open burning of Apistan Anti-Varroa Mite Strips is prohibited. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency.

APIVAR® Application
***Active ingredient: 3.3% Amitraz* (Reg# 29092)**
Please note that the information below is based on the current recommendations found on the Apivar® label (Reg# 29092), which can also be found by searching the PMRA online label database at: http://pr-rp.hc-sc.gc.ca/ls-re/index-eng.php (search “apivar”)

Precautions: KEEP OUT OF REACH OF CHILDREN! Keep strips in original, unopened packaging, away from foodstuffs. Avoid inhalation of product vapour when opening the sealed packet of strips. Avoid contact with skin and eyes and wear chemical resistant gloves when handling the strips. Wash hands thoroughly with soap and water after use, as product may be harmful if absorbed through the skin or inhaled. Very toxic to fish and other aquatic organisms!

Use 2 Apivar® strips per brood chamber (i.e. 1 strip per 5 Frames of Bees).

Number of Frames of Bees:	≤5	6-10	11-15	≥16
Number of Strips to Use:	1	2	3	4

Refer to product labels for instructions on specific product use. To control varroa mite, remove honey supers before application of Apivar®. Use 2 Apivar® strips per brood chamber. Separate the double strip and hang each strip between two comb frames inside the brood area or the bee cluster, with a minimum distance of 2 frames between strips. Suspend Apivar® strips in the brood chamber in such a way that the bees can walk on both sides of the strips. **Using a nail**

or toothpick to hang the strips may facilitate this. Leave strips inside the hive for 42 days, and then remove. In case of movement inside the beehive far from the strips, it is very important to reposition the strips into the bee cluster, and leave the strips in place for 14 more days before removal. Strips must be removed after a maximum of 56 days. **DO NOT** re-use the strips. Do not handle more than 200 strips (100 pairs) per person per day and always wear chemical resistant gloves (e.g. nitrile) when handling the strips, including used strips.

Timing: Hang Apivar® strips in the hives in spring before the first honey flow if varroa mite infestations have reached treatment threshold. **DO NOT USE APIVAR® STRIPS WHEN HONEY SUPERS ARE PRESENT**. If mite infestation is severe, colonies are to be treated in the fall after all surplus honey has been removed from the hive. Remove honey supers before use of Apivar® strips. Consult provincial guidelines for more information on varroa control. Withholding period for honey collection: DO NOT use while honey supers are present and wait 14 days after removing strips before placing honey supers on hive(s).

Disposal: Dispose of packaging and used strips in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean up of spills. Shelf life: when stored appropriately, this product should show no significant degradation for two years from date of manufacture.

BAYVAROL® (Bayvarol® Beehive Pest Control Strip) Application
***Active ingredient: Flumethrin sum of the trans-Z isomers ……3.6 mg per strip* (Reg# 32503)**
Please note that the information below is based on the current recommendations found on the Bayvarol® label (Reg# 32503), which can also be found by searching the PMRA online label database at: http://pr-rp.hc-sc.gc.ca/ls-re/index-eng.php (search "Bayvarol")

Since both Bayvarol® (flumethrin) and Apistan® (fluvalinate-tau) are Group 3A insecticides, it is therefore probable that cross-resistance to flumethrin is present in Canada, and could limit the performance and utility of Bayvarol®. However, the potential for reversion of resistance suggests that despite the probability of cross-resistance, Bayvarol® may be successfully used in areas with Group 3A-resistant varroa mite populations <u>when used in rotation with non-Group 3A insecticides.</u>

Precautions: KEEP OUT OF REACH OF CHILDREN! Wear long-sleeved shirt, long pants, chemical-resistant gloves (e.g., nitrile gloves), socks and shoes when handling the strips. Leather beekeeping gloves must not be worn when handling this product. Wash hands thoroughly with soap and warm water after removing gloves. Do not expose honey intended for human consumption directly to Bayvarol Strips. After treatment, do not use beeswax for human consumption. Flumethrin is toxic to fish. Do not contaminate aquatic systems by storage or disposal of Bayvarol strips.
Just before application, remove the required number of strips from the pouch. Unused strips should remain in the original package.

Timing: Nucleus colonies, packages and newly collected swarms receive two strips. Wintered singles or double receive a maximum of four strips per brood chamber. Strips are suspended between frames in the central brood rearing area in such a way that the bees will contact the

strips on both sides. When using the tabs on the strips have them bent outward in the same direction at the marked fold lines and hook them over the top edge of the frame. For large colonies occupying more than one brood chamber, strips can be joined together end-to-end, which enables their insertion into and removal from the bee spaces without having to separate the brood chambers. For best chemical distribution, use the strips when daytime temperature-highs are at least 10°C. Place the strips in the hives for up to 42 days (6 weeks). Best efficacy is to be expected when Bayvarol Strips are used in late summer after the honey harvest. To ensure effective treatment, varroa mites should be monitored for resistance prior to applying Bayvarol strips. **Do not use strips while honey supers are present on the hives!**

Disposal: Do not reuse the strips or empty packaging. Dispose of packaging (foil wrap) and the used strips in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean up of spills.

CHECKMITE+™ (CheckMite+™ Beehive Pest Control Strip) Application
***Active ingredient: 10% Coumaphos (*Reg# 27147)**
Please note that the information below is based on the current recommendations found on the CheckMite+TM label (Reg# 27147), which can also be found by searching the PMRA online label database at: http://pr-rp.hc-sc.gc.ca/ls-re/index-eng.php (search “checkmite). At this time, varroa resistance to CheckMite+™ is widespread in the province; therefore, when using this product, control may be inadequate or variable, and close monitoring is critical.

Precautions: KEEP OUT OF REACH OF CHILDREN! Wear long-sleeved shirt, long pants, chemical-resistant gloves (e.g., nitrile gloves), socks and shoes when handling the strips. Leather beekeeping gloves must not be worn when handling this product. Wash hands thoroughly with soap and warm water after removing gloves. Do not expose honey intended for human consumption directly to CheckMite+ Strips. After treatment, do not use beeswax for human consumption. Coumaphos is toxic to birds and aquatic organisms. DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by disposal of used strips and packaging. Just before application, remove the required number of strips from the pouch. Unused strips should remain in the original package.

Timing: Hives may be treated in the spring before the honey flow and/or in the fall after the honey flow. Treatment must be **removed at least 2 WEEKS before the honey flow.** Place the strips in the hives for 42 days (6 weeks) **up to a maximum of 45 days. It is not recommended to use coumaphos more than once a year; preferably, after efficacy testing has indicated that it is still effective at controlling mites.**

*****It is IMPORTANT to not leave coumaphos strips in hives beyond the recommended treatment period as damage to colonies may occur.*****

Use 1 strip for each 5 combs of bees in each brood chamber (Langstroth deep frames or equivalent in other sizes). Hang the strips in separate spaces between the combs as near the center of the bee/brood cluster as possible. If two brood chambers are used for the brood nest, hang the strips in both the top and bottom brood chambers. For best chemical distribution, use the strips when daytime, temperature-highs are at least 10°C.

Disposal: Dispose of packaging (foil wrap) and the used strips in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency.

FORMIC ACID (65%) Application:
Refer to Formic Acid 65% label (Reg# 30324) for instructions on specific product use or search the PMRA online label database at http://pr-rp.hc-sc.gc.ca/ls-re/index-eng.php (search "formic")

Precautions: KEEP OUT OF REACH OF CHILDREN! DO NOT get in eyes, on skin or on clothing. Avoid inhaling vapour. Work outdoors, stay upwind, and wear cotton coveralls, chemical resistant gloves and chemical safety goggles when handling, applying, cleaning up and removing pads. Formic acid vapours may result in colony damage, especially at high temperatures.

Formic Acid 65% is used for treatment against varroa mites and tracheal mites in honey bee colonies as part of an IPM program to manage both varroa and tracheal mite populations.

Application Precautions: For all Formic Acid 65% applications, all holes in the hive should be sealed except the bottom hive entrance, which should be fully open for the entire duration of treatments, even for applications in the late fall. It is important to remove entrance reducers to prevent excessive buildup of formic acid vapours on the colonies. All bee colonies in the apiary should be treated at the same time to prevent cross-infestation of colonies. Efficacy of formic acid is affected by ambient weather conditions (ex: low temperatures, high humidity). It is important to follow the directions specific to the season of use. Formic acid is corrosive to metal. Metallic materials inside the hive or in direct contact with formic acid may corrode. Do not place formic acid treatments on metallic hive covers!

Do not use Formic Acid 65% during honey flow. To minimize residues and contamination of marketable honey, carefully follow all label instructions. Pre-Harvest Interval: waiting at least 2 weeks from the end of the treatment to put on honey supers will help prevent contamination of marketable honey and any off-flavour taste in honey.

For Control of Tracheal and Varroa Mites: To control varroa and tracheal mites, Formic Acid 65% is to be applied onto an absorbent material (ex: an absorbent paper pad) placed on the bottom board or the hive top bars, at rates of 30 to 40 ml per two-story colony or 15 to 20 ml per one-story colony. Use when outside temperatures are between 10°C and 30°C, and leave hive entrances fully open. The treatment is to be repeated up to six times at 1 to 10-day intervals. Repetition of treatment at least 4 times is recommended if used as a stand-alone treatment, but fewer can be used if part of an IPM program.

Slow Release Method: This application method uses 250 ml of Formic Acid 65% per hive. Formic acid slow-release pads are made by placing a piece of absorbent material (ex: fiberboard, felt) in a perforated re-sealable plastic vegetable storage bag (3.8 L size). The piece of absorbent material must be of sufficient size to absorb 250 ml of Formic Acid 65%. Allow sufficient time for the 250 ml of Formic Acid 65% to soak into the absorbent material. The perforated bag containing the Formic Acid 65% soaked absorbent material **must** be sealed in an un-perforated plastic bag for storage and/or transport. At the site while wearing acid-resistant gloves, remove the outer plastic bag, but not the perforated bag before placement on the top bars of the hive. A spacer rim may be required on the top of the brood chamber to allow sufficient space to

accommodate the pad. Leave the slow-release application in place for 21-30 days. To reduce the chance of hive injury, this application method should only be used when the varroa mite economic threshold has been exceeded; and temperatures are not above 30°C. Treated colonies may have temporary suppression of population growth, from which the hive will recover following treatment.

Application Directions Specific to Season of Use:
Spring and Early Fall Treatments: Use Formic Acid 65% for single or double brood-chamber honey bee colonies (bees covering 6 – 20 frames) in standard Langstroth equipment. Outside, daytime, temperature-highs should be between 10 - 26ºC at the time of application. Temperatures above 30ºC during the application period may cause excessive damage to the colonies. When using the slow release method, it is highly recommended to remove the pads from the hives if temperatures above 30ºC occur (ex: when daily temperatures exceed 28ºC for several days) within the first 7 days of treatment, the period during which most of the formic acid is released. Resume treatment by replacing the treatment on the hives after the end of the period of high ambient temperatures. Failure to remove formic acid from colonies during a heat wave may cause excessive brood mortality and absconding. Up to 14 days of brood mortality may occur in the initial stage of treatment, with single brood chamber colonies being more susceptible to damage than double brood-chamber colonies. Overall colony health should not be affected, and brood rearing should recover by the end of the treatment period. Treatment of colonies with fewer frames of bees than recommended may result in excessive brood mortality and even in colony mortality.

Late Fall, Early Winter Treatments (post-feeding, brood rearing minimal with less than half a frame of brood): Formic Acid 65% can be used to treat single brood-chamber colonies with bees covering 5 – 10 frames in standard Langstroth equipment. Treatment of smaller hives than recommended (less than 5 frames of bees) may result in excessive colony damage, leading to overwintering mortality. Due to slower diffusion of formic acid, Formic Acid 65% is not effective on larger than single-story hives in cooler temperatures. Outside, daytime, temperature-highs should be above 4ºC at the time of application. When using the slow release method, for temperature highs below 15ºC, cut a single slit across the center of the perforated plastic vegetable storage bag, when applying the slow-release treatment to the hive. This slit, which should face upward after the pad is applied to the hive, allows the release of formic acid from the pads in the cooler, shorter daylight conditions. Do not cut a slit if temperature highs are above 15ºC.

Disposal: For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean up of spills.

Other Formic Acid 65% Applications:
Please visit the MiteGone™ label (Reg# 31315) or visit the MiteGone™ manufacture's website: http://www.mitegone.com/

FORMIC PRO™ Application:
Active ingredient: 42.25% Formic Acid
Refer to FORMIC PRO™ label (Reg# 33321) for instructions on specific product use or search the PMRA online label database at http://pr-rp.hc-sc.gc.ca/ls-re/index-eng.php (search "formic pro).

Precautions: KEEP OUT OF REACH OF CHILDREN! Corrosive to eyes and skin by direct contact or by exposure to vapours. Harmful or fatal if swallowed. Potential skin sensitizer. Do not get in eyes, on skin or on clothing. Do not breathe vapours. May cause respiratory irritation. Fatal if inhaled. Handle product in a well-ventilated area. Wear chemically resistant gloves, a long-sleeved shirt and long pants or coveralls, and boots. Work outdoors, and always stand upwind of the use location. If a strong vinegar odour is encountered, area should be evacuated until vapours have dissipated. While using, do not eat, drink, or smoke. Wash skin thoroughly with soap and water after handling. Store and wash contaminated clothing separately from household laundry. Do not contaminate water supply, ponds, lakes or streams with this product. Vapours may disturb colony activities and may result in queen rejection or a slight increase in observed bee mortality, especially at temperatures above 33ºC early in the treatment. Avoid contact with surfaces or objects made of metal

Timing: It is highly recommended to monitor phoretic mite levels monthly during periods of brood rearing and treat when local thresholds are reached. Treat during the population-increase phase to protect the bees going into the honey flow. Treat during the colony decrease phase to protect the bees that will make up the winter cluster. In warmer climates, additional treatments may be necessary due to longer brood rearing time. Missed treatments can lead to excessive varroa loads and may require more than one treatment. Pre-Harvest Interval: Zero Days

Application: There are two options for applying the product. Select preferred treatment option after reading the Options section below. Outside daytime highs should be between 10 – 29.5°C on day of application. Hot temperatures (≥33°C during the first 3 days) may lead to excessive bee, brood and queen loss. Prior to treatment, colonies should have good food reserves so they do not need feed during treatment. Do not disturb brood chamber frames during the application process. For hives with single or double brood chambers, place treatment on the top bars of the frames of the lower brood chamber. The colony should be a minimum of 10,000 bees, covering approximately six 23 cm deep frames. An entrance must be provided that is the full width of the hive, typically the bottom board entrance, minimum height 1.3 cm. The bottom entrance must be fully open for the entire duration of treatment. Any restriction on the entrance into the brood chamber (e.g. reducer or mouse guard) must be removed to prevent excessive damage to the colonies. Screen bottom boards should be closed off during treatment to prevent formic acid vapour loss. Screen bottom boards should not be considered a source of fresh air because bees do not move sufficient air up through the screen.

Once the hive is prepared, carefully remove the strips from the sachet and separate the two strips. **DO NOT REMOVE THE ECO-PAPER WRAP - IT ACTS AS A WICK**.

Option One - 14-day treatment: lay two strips, staggering them so they lay flat and across the full width of the lower brood chamber, in the heart of the brood rearing zone, with approximately 5 cm between strips and 10 cm between the ends of the brood chamber and the outer edges of the strips. Add a honey super with frames at time of application if necessary to provide adequate space for strong colonies to expand, or if a honey flow is expected. It is acceptable to have queen excluders in place. Allow a minimum of one month between applications. Do not mix with other miticides.

Option Two - 20-day treatment: on Day 0, lay one strip across the frames in the center of the lower brood chamber, in the heart of the brood rearing zone. Add a honey super with frames at

time of application if necessary to provide adequate space for strong colonies to expand, or if a honey flow is expected. It is acceptable to have queen excluders in place. On Day 10, remove and replace with a second single strip. The application of the second strip may be delayed if weather conditions at Day 10 do not allow for treatment. The second strip must be applied as soon as weather conditions permit to complete treatment.

Post Application: Do not disturb the colony during the treatment period (exception: removing and replacing strip at Day 10 as outlined in Option 2. Colonies are expected to expand the cluster as part of controlling vapour concentration during the first 3 days after product application. Bearding behavior may be observed. Natural honey bee emergence and mortality rate is approximately 1,500 bees per day. A one-day equivalent of natural mortality (i.e. 1,200 to 1,500 bees or up to 2.5 cups) may be observed at the hive entrance during the treatment. Treatment may trigger supersedure of fragile queens, regardless of age. Risk of supersedure in the fall may be mitigated by timing fall treatments so that colonies may be requeened if necessary following treatment. Check to ensure colonies are queenright one full month after application. Spent strips do not need to be removed at the end of the treatment period. When removed, dispose of by composting when allowed by local regulations.

Disposal: Always follow applicable disposal regulations. **DO NOT** reuse the empty containers. Dispose in household garbage. Unused or partially used products should be disposed at provincially or municipally designated hazardous waste disposal sites.

HOPGUARD®II Application
***Active ingredient: Hop Beta Acids (4 g per strip)* (Reg# 33571)**
Refer to HopGuard®II label (Reg# 33571) for instructions on specific product use or search the PMRA online label database at: http://pr-rp.hc-sc.gc.ca/ls-re/index-eng.php (search "hop)

Precautions: KEEP OUT OF REACH OF CHILDREN! CORROSIVE to the eyes, wear protective eyewear (goggles or face shield) during application and clean up. Wear chemically resistant gloves, long-sleeve shirt, pants, shoes, and socks whenever handling Thymovar and when performing clean up and maintenance activities. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Directions: Strips must be applied as per the table below for the number of standard frames covered with bees in each brood chamber. DO NOT apply more than 2 strips per brood chamber.

Number of Frames of Bees:	≤5	6-10	11-15	≥16
Number of Strips to Use:	1	2	3	4

Strips are only placed in the brood chamber (not in the honey super). Folded strips must be opened and hung over one of the center brood combs near the middle of the comb with one-half of the strip on each side of the comb. If using a second strip, apply the strips in the brood chamber in the center of the cluster, with a minimum distance of 2 combs between the strips. Suspend the strips in the brood chamber in a way that the bees can walk on both sides of the strips. Do not lay the strips on top of the combs.

Timing: Leave strips in the colony for a 10-15 day interval. Two applications, applied at 10-15 day intervals, may be required to provide control of varroa mite. Treat up to twice a year as monitoring indicates is necessary: one or two applications when hive population is increasing in spring and one or two applications when hive population is decreasing in late summer and fall. Remove strips from hives after 15 days. Do not use HopGuard® II more than 4 times per year. This limit includes all applications to a bee colony (usually during spring, late summer, and fall). Application of strips should be based on levels of varroa mite observed in the colony. Users must not harvest honey and wax from the brood chambers, only from the honey supers. For optimal results, apply HopGuard® II when little to no brood is present in the hive. Presence of too much brood will reduce efficacy. HopGuard II may cause injury to brood directly adjacent to strips. Wear chemical resistant gloves (e.g. nitrile) when handling the strips. DO NOT re-use the strips.

Warning: HopGuard® II has potential to cause brood injury. Do not use excess HopGuard material left in the HopGuard® II pouch on bees. Adding HopGuard® II liquid directly on bees might cause excessive damage to bees, brood and queens.

Disposal: Dispose of packaging and used strips in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency.

MITE AWAY QUICK STRIPS™ (MAQS) Application:
Active ingredient: 46.7% Formic Acid
Refer to MAQS label (Reg# 30324) for instructions on specific product use or search the PMRA online label database at http://pr-rp.hc-sc.gc.ca/ls-re/index-eng.php (search “miteaway).

Precautions: KEEP OUT OF REACH OF CHILDREN! DO NOT get in eyes, on skin or on clothing. Avoid inhaling vapour. Wear goggles, chemically resistant gloves, long sleeves and full-length pants or coveralls, and boots when handling formic acid. Work outdoors, and always stand upwind of the use location. Formic acid vapours may disturb colony activities and may result in queen rejection or a slight increase in bee mortality, especially at temperatures above 33ºC. Avoid contact with surfaces or objects made of metal.

Timing: To minimize residues and contamination of marketable honey, carefully follow all label instructions. The pre-harvest interval for honey production is at least 2 weeks from the end of the treatment. Use Mite-Away Quick Strips™ as part of an Integrated Pest Management (IPM) program. Treat only if treatment thresholds are exceeded. Treatment period is 7 days.

When treatment levels are reached, use Mite-Away Quick Strips™ for single or double brood-chamber honey bee hives, and honey bee colony cluster covering a minimum of 6 brood frames. Outside, daytime-temperature highs should be between 10 - 29ºC on day of application. Excessive temperatures (> 29ºC) during the first three days of treatment may cause excessive brood mortality and queen loss. Brood mortality may occur in the initial stage of treatment. Overall colony health is not affected, with brood rearing returning to normal by the end of treatment. Treatment of smaller colonies than those listed on the label will result in excessive brood mortality and even in colony mortality.

Disturb colony activity as little as possible during the application process. An entrance must be provided that is the full width of the hive, typically the bottom board entrance. The bottom hive

entrance needs to be fully open for the entire duration of treatment. Any restriction on the hive entrance (reducer or mouse guard) **MUST** be removed to prevent excessive damage to the colonies. According to the manufacturer if a screen bottom board is used and the screen is not covered to function similar to a traditional bottom board, then efficacy may be reduced. Remove the Mite-Away Quick Strips™ from the outer pouch. Leave the paper wrap intact as it forms a necessary part of the vapour release system.

For hives with single brood chambers lay two strips across the top bars of the frames of the brood chambers, staggering them so they lay flat and across the full width of the hive body, with approximately 5 cm between strips and 10 cm between the ends of the brood chamber and the outer edges of the strips.

For hives with two brood chambers, place the strips as described above (i.e. on the frame top bars of the lower hive body), so the strips are in between the brood chambers. Colonies may break cluster, especially during the first 3 days of treatment. It is perfectly acceptable to have queen excluders in place during treatment. It is important to try not to disturb the treated colony for 7 days! Once the treatment is completed, spent strips need not be removed, but if they are removed, they can be disposed of by composting. Treat all bee colonies in the apiary at the same time. Allow a minimum of one month between applications.

Disposal: **DO NOT** reuse the empty containers. Dispose in household garbage. Unused or partially used products should be disposed at provincially or municipally designated hazardous waste disposal sites.

OXALIC ACID Applications:
***Active ingredient: Oxalic Acid Dihydrate* (Reg# 29575)**
Refer to Oxalic acid label (Reg# 29575) for instructions on specific product use or search the PMRA online label database at http://pr-rp.hc-sc.gc.ca/ls-re/index-eng.php (search "oxalic")

Precautions: KEEP OUT OF REACH OF CHILDREN! Fatal or Poisonous if swallowed. AVOID inhaling/breathing dust or fumes. CORROSIVE to the eyes and skin. DO NOT use in enclosed overwintering areas.

** WEAR goggles, chemical-resistant gloves, protective clothing, and boots when handling oxalic acid dihydrate. WEAR a full-face respirator or a half-face respirator and protective goggles, fitted with organic acid filter, chemically resistant gloves, long-sleeved shirt, pants, shoes, and socks whenever applying oxalic acid dihydrate with a vaporizer. **

Note: NIOSH-approved air-purifying respirator (full or half-face) that comes equipped with a cartridge filter with a rating of P100 will provide protection against both organic vapours (in this case oxalic acid vapour) and particulates. For example, 3M Organic Vapour/Acid Gas Cartridge/Filter 60923 can be attached to its Half and Full Facepieces 6000, 7000 and FF-400 Series equipped with bayonet filter holders. A filter cartridge of a lower rating than P100 attached to a facepiece respirator will not provide sufficient respiratory protection to applicators from vaporized oxalic acid. Most safety equipment, supply stores in Manitoba carry P100 rating filters and associated respirators. The application of Oxalic Acid Dihydrate should be limited to **outdoor use only**. DO NOT use in enclosed overwintering areas.

There are two oxalic acid application methods for varroa control: Syrup Solution and Vaporizer (see below). **CAUTION: Oxalic Acid Dihydrate might damage bee brood.** Oxalic Acid Dihydrate will not control Varroa mites in capped brood. Best results, use only in fall or spring when little or no brood is present. Do not use when honey supers are in place, to prevent contamination of marketable honey.

1. Syrup Solution Method:

Preparation:

- Prepare 50% sugar syrup (1:1 sugar and water (weight or volume)) (ex: 1 kg of sugar in 1L of water).
- Add 35 g of oxalic acid dihydrate crystals to each 1L of sugar syrup.
- Stir the solution very well. The crystals dissolve best if the sugar solution is warm. All of the crystals must be dissolved.
- Make the solution within days of treating the colonies and keep refrigerated until use.

NOTE: 1L oxalic acid solution will treat 20 colonies (calculate: 1000mL / 50mL per colony)
Do not store leftover oxalic acid treatment solution. The oxalic acid changes in composition and becomes toxic to the bees. The crystalline powder should be stored at room temperature in an airtight container. This will prevent absorption of moisture, which causes the powder to solidify. Oxalic acid is odourless in all forms.

Application:
Smoke bees down from the top bars. With a syringe or an applicator, trickle 5 ml of this solution directly onto the bees in each occupied bee space in each brood box. Penetration of the solution into the clustering bees is best done when the cluster is not too tight, which is typically when outside temperatures are between 12°C - 14°C. The maximum dose is 50 ml per colony whether bees are in nucs, single, or multiple brood chambers. Under certain unfavorable conditions (ex: weak colonies, unfavorable overwintering conditions), this application method may cause some bee mortality or overwintering bee loss.

2. Vaporizer Method:

Apply only to outdoor colonies with a restricted lower hive entrance. Seal all upper hive entrances and cracks with tape to avoid escape of Oxalic Acid vapor. When possible, treat while hives are wrapped (e.g. winter wrap) to ensure they are properly sealed. Smoke bees up from the bottom board. Place 2.0 g Oxalic Acid Dihydrate powder into vaporizer to treat a double brood chamber hive. Insert the vaporizer apparatus through the bottom entrance. Apply heat until all Oxalic Acid has sublimated. Smaller hives will require less oxalic acid powder to be used. For example, one brood chamber hives (i.e. singles) only require 1.0 g of Oxalic Acid Dihydrate powder in the vaporizer. Follow the vaporizer manufacturer's directions for use of their specific vaporizer.

Disposal: Do not contaminate irrigation/ drinking water supplies or aquatic habitats by disposal of unused product. Dispose of any unused oxalic acid dihydrate-sugar-water solution immediately after application in accordance with provincial requirements. Dispose of the container in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency.

THYMOVAR® Application
***Active ingredient: Thymol (15 g per wafer)* (Reg# 29747)**

Refer to Thymovar® label (Reg# 29747) for instructions on specific product use or search the PMRA online label database at http://pr-rp.hc-sc.gc.ca/ls-re/index-eng.php (search "thymovar)

Precautions: KEEP OUT OF REACH OF CHILDREN! Wear protective goggles or a face shield and chemically resistant gloves, long-sleeve shirt, pants, shoes, and socks whenever handling Thymovar and when performing clean-up and maintenance activities. CORROSIVE to the eyes and skin, potential skin sensitizer! Harmful or fatal if swallowed! Avoid inhaling the vapour, because failure to do so may cause severe respiratory irritation. Handle Thymovar® in a well-ventilated area.

Refer to product labels for instructions on specific product use. Prior to Thymovar® treatment, remove all honey supers and close or replace open or screened hive floors with solid floors, and reduce the hive entrance to normal size. It is recommended that if bees are fed, that part of the feeding be carried out before treatment with Thymovar®, if varroa infestation levels and temperatures allow.

For control of varroa mite in honey bee hives, apply 2 consecutive applications of Thymovar®. Thymovar® is applied at a rate of ½ wafer for nucleus hives, 1 wafer for single brood chamber hives, or 2 wafers for double brood chamber hives. Thymovar® wafers are left in the hive for a 3-4 week treatment period. Immediately following the first application, remove the used wafer(s) and apply a second application of Thymovar®. The second application of wafer(s) are also left in the hive for 3-4 weeks. All wafers should be used immediately after opening the sealed sachet. Remove all wafer(s) from the hive after each application period.

For 1-wafer applications in single brood chamber hives, cut the wafer in half. For 2-wafer applications in double brood chamber hives, use uncut wafers. The cut or uncut wafer(s) are placed on top of the combs of the top brood chamber on either side of the edge of the brood, close to but not directly over open or sealed brood. Wafers are preferably placed a minimum of 4 cm from brood. Close the hive, leaving a space (about 5 mm) between the wafers and the hive covers, to improve the evaporation of thymol.

Timing: Thymovar® must only be used when honey supers are not present on the hive. Applications may be made in the spring, before honey flow or in the late summer to early autumn, after all surplus honey has been removed. Apply when maximum daily temperatures are above 12°C and below 30°C. Temperatures below 12°C will reduce the effectiveness of the treatment, while temperatures above 30° will cause increased stress and mortality of adult bees and brood.

Application Notes:

- Thymovar® does not control varroa mites in capped cells; therefore, the lethal thymol vapour concentration must be maintained in the hive for several weeks.
- DO NOT use more Thymovar wafers than recommended. To minimize residues, carefully follow all label instructions. At higher concentrations, thymol residue may impart off-flavour to honey.
- Bees may remove food from directly under the Thymovar® wafer(s).
- The application of Thymovar during feeding may reduce acceptance of the feed. Do not place Thymovar® wafer(s) near a sugar feeder as this may reduce feeding. Efficacy of Thymovar® may be reduced if applied during the feeding period, due to increased ventilation by the bees.

- To reduce risk of robbery, all colonies in an apiary should be treated with Thymovar® at the same time.
- Following treatment, monitor mite levels and apply a non-thymol based control if needed.
- DO NOT apply to any body of water.

Disposal: Dispose of used product in household garbage. Unused or partially used should be disposed at provincially or municipally designated hazardous waste disposal sites.

** VOLUNTARY PESTICIDE INCIDENT REPORTING **

Beekeepers can report pesticide incidents that result in observable symptoms or effect on honey bees. Incidents may include in-hive as well as field crop incidents. For general information on how to file a pesticide incident report, feel free to contact the Provincial Apiarist.

Please note that the Pest Management Regulatory Agency (PMRA) is ultimately responsible for investigating and regulating pesticides. The Pesticide Incident Reporting Form (Environmental Incident), which is used to report pesticide impact to bees can be found on the following website: http://www.hc-sc.gc.ca/cps-spc/pest/part/protect-proteger/incident/index-eng.php or contact the Pest Management Information Service Centre: 1-800-267-6315.

** LABORATORY DIAGNOSTIC SERVICES **

Broad-spectrum Honey Bee Disease Diagnostic Services (AFB/EFB/Nosema/Varroa/Viruses):

Veterinary Diagnostic Services (VDS)
545 University Crescent
Winnipeg, Manitoba R3T 5S6
Phone: 204-945-8220
Click the link below for the VDS webpage
https://www.gov.mb.ca/agriculture/animal-health-and-welfare/vds/submission-forms.html

National Bee Diagnostic Centre (NBDC)
P.O. Box 1118, 1 Research Road
Beaverlodge, Alberta T0H 0C0
Phone:780-357-7737 NBDC@gprc.ab.ca
https://www.gprc.ab.ca/research/nbdc/

Veterinary Diagnostic Services is expected to be able to receive and process samples starting in mid-May. The National Bee Diagnostic Centre is able to receive and process samples at any time. For information on how to collect and submit samples, please visit the following website or contact the Provincial Apiarist; Ph: 204-945-4825; Email: Rheal.Lafreniere@gov.mb.ca

Have a Great Beekeeping Year!