

## TREATING FOR VARROA MITES

### Timing is everything

Management options for varroa are more effective when less brood is present. Consider treatment during winter /early spring, when splits are made, or packages hived.

Follow label instructions to ensure treatments are effective and safe. The information on a pesticide label ALWAYS takes precedence over other information available.



JANUARY/FEBRUARY

**Oxalic acid**



SEPTEMBER/OCTOBER

**Synthetic Acaricides**  
**Thymol\* & Hop Acids**  
**Formic Acids\***

MARCH/APRIL/MAY



**Synthetic Acaricides**  
**Thymol\* & Hop Acids\***  
**Formic Acids\***

NOVEMBER/DECEMBER



**Oxalic acid**



JUNE/JULY/AUGUST

**HopGuard II**  
**Formic Pro\***  
**Mite Away Quick Strips\***

**Wear gloves & appropriate PPE when applying acaricides. Consult each label for more information including proper disposal & first aid.**

# SYNTHETIC ACARICIDES

These are plastic strips impregnated with an acaricide and left in the colony for multiple brood cycles. A resistance test may be carried out prior to using synthetic acaricides to determine whether they will provide good control.



Product	Description	Application	Timing	Honey Flow?	Resistance
Apivar®	Plastic strip for the control of mites (varroaosis) on honey bees  Amitraz - 3.3 % Group 19 insecticide	Use 2 Apivar® strips per brood chamber (ie 1 strip per 5 frames of bees). 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.	Leave strips inside the beehive for 42 days and then remove. In case of movement inside the beehive away from the strips, a repositioning of the strips should be done into the bee cluster, and the strips left in place for 14 days before removal. Strips must be removed before a maximum of 56 days.	All Apivar® strips should be removed 2 weeks before the honey flow starts. DO NOT USE APIVAR STRIPS WHEN HONEY SUPERS ARE PRESENT. If mite infestation reaches treatment thresholds in autumn, remove surplus honey supers before using Apivar	No documented varroa resistance to Apivar in Canada, but there is in the USA
Apistan®	Varroa control strips Kills Varroa, not the Honey Bee  Fluvalinate-tau - 10.25% Group 3A insecticide	Use one strip for each 5 frames or less of bees, in each brood chamber. For example, hang one strip between frames 3 and 4 and the second strip between frames 7 and 8, in a ten frame colony. APISTAN STRIPS must be in contact with brood nest at all times.	For best chemical distribution, use APISTAN STRIPS when daytime high temperatures are at least 10° C.  For Control: Remove honey supers, place APISTAN STRIPS in hives, and remove strips after a 42-day treatment period.	Honey supers may be replaced after the APISTAN STRIPS have been removed. Hives are only to be treated in the spring before the first honey flow and in the fall after the last honey flow.	There are populations of varroa mites with documented resistance to Apistan® in
Bayvarol®	Bayvarol strips are intended for in-hive use for control of parasitic mites (Varroa destructor) on honey bees. Flumethrin 3.6 mg per strip	Normally developed colonies receive a maximum of four strips per brood chamber. Nuclei and young colonies and newly collected swarms receive two strips. Strips are suspended into the spaces between frames in the central brood rearing area in such a way that they can be occupied by bees on both sides.	Remove Bayvarol Strips from the colonies after a six week (42-day) treatment period.	Strips are not to be used during honey flow periods. Best efficacy is to be expected when Bayvarol Strips are used in late summer after the honey harvest.	Bayvarol likely has cross-resistance with Apistan® as they are both Group 3
Checkmite+™	Beehive pest control strip for control of Varroa Mites and Small Hive Beetle in Honey Bee colonies. Impregnated fabric Coumaphos 10% Group 1B insecticide	"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 2 deep brood chambers are used for the brood nest, hang the CheckMite+ Strips in both the top and bottom brood chambers."	"Effective control may be achieved by treating hives in the spring before the first honey flow and in the fall after the last honey flow. Leave the strips in the hive for a minimum of 42 days and a maximum of 45 days. Do not treat the same colony more than twice a year."	"To control varroa mite, remove honey supers before application of CheckMite+ Strips and DO NOT REPLACE UNTIL 14 DAYS AFTER THE STRIPS ARE	There are varroa populations with documented Checkmite+ resistance in Canada.



# ORGANIC ACID ACARICIDES

These are organic options and resistance is unlikely as they are found naturally at low concentrations in honey.



Product	Description	Application	Timing	Honey Flow?
Formic Acid 65	For treatment of honey bee colonies infested with varroa or tracheal mites  Formic Acid - 65%			
FORMIC PRO™	FORMIC PRO™ causes mortality to both male and female varroa under the brood cap as well as to the varroa on the adult bees. Slow release generator  Formic Acid - 42.25%	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.  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. 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.	Outside daytime highs should be between 10 – 29.5°C on day of application. Hot temperatures ( $\geq 33^\circ\text{C}$ during the first 3 days) may lead to excessive bee, brood and queen loss.	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. in the fall after the last honey flow.
Mite Away Quick Strips®	For treatment of honeybees infested with varroa mites or Tracheal mites  Formic Acid - 46.7%	OPTION 1: 7-DAY TREATMENT: Lay two strips, staggering them so they lay flat and across the full width of the brood chamber, with approximately 5 cm between strips and 10 cm between the ends of the brood chamber and the outer edges of the strips.  OPTION 2: Half dose (1 strip). Apply a single Mite Away Quick Strip every two to six weeks as necessary throughout the beekeeping season. The half dose application rate may reduce the level of mite control.	Allow a minimum of one month between applications. Outside daytime highs should be between 10 - 29.5°C on day of application. Hot temperatures ( $\geq 30^\circ\text{C}$ during the first 3 days) may lead to excessive bee, brood and queen loss.	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.
Oxalic Acid Dihydrate	Varroa Mite Control Product Oxalic Acid Dihydrate - 99.65%  Group 1B insecticide	Solution Method: Dissolve 35 g of Oxalic Acid Dihydrate in 1 liter of 1:1 sugar:water. 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. The maximum dose is 50 ml per colony whether bees are in nucs, single, or multiple brood chambers. 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. Place 2.0 g Oxalic Acid Dihydrate powder into vaporizer. Follow the vaporizer manufacturer's directions for use. Insert the vaporizer apparatus through the bottom entrance. Apply heat until all Oxalic Acid has sublimated.	Use only in late fall or early spring when little or no brood is present. Apply only when monitoring indicates treatment is required. Consult provincial guidelines and local extension experts for monitoring protocols and thresholds for treatment.	Do not use when honey supers are in place to prevent contamination of marketable honey.





# HOP ACID AND THYMOL ACARICIDES

These are organic options and no varroa resistance has been reported for thymol or hop acid acaricides.

Product	Description	Application	Timing	Honey Flow?
Hopguard® II	For use in bee hives to control varroa mites (Varroa destructor) on honey bees. Impregnated fabric Hop Beta Acids - 4 g per strip	Strips must be applied as per the table below for the number of standard Langstroth combs covered with bees in each brood chamber.  Frames of bees # of strips    ≤ 5    6-10    11-15    ≥ 16 1        2        3        4  Folded strips must be opened & 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 min. distance of 2 combs between strips. Suspend strips in the brood chamber in a way that the bees can walk on both sides of the strips.	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 bee hive population is increasing in spring, and one or two applications when bee hive population is decreasing in late summer and fall. Remove strips from bee hives after 15 days. Do not use HopGuard® II more than 4 times per year.	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. Strips are only placed in the brood chamber (not in the honey super).
Thymovar®	For the control of varroa mites on bees. Impregnated fabric. Thymol - 15 g per wafer	For control of varroa mite (Varroa destructor) in honeybee 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. Do not place Thymovar wafer(s) directly over open or sealed brood. Wafer(s) should be placed at a distance of at least 4 cm from the brood.	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) is also left in the hive for 3-4 weeks. 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.	Prior to Thymovar treatment, remove all honey supers. Do not use Thymovar during honey flows. At higher concentrations, thymol residue may impart off-flavours to honey. 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 in the fall after the last honey flow.
Api Life VAR	Acaricide for the suppression of varroa mites in honey bee colonies. Impregnated tablet Thymol - 8.0 g/tablet Eucalyptus oil-1.72 g/tablet Racemic camphor - 0.39 g/tablet l-menthol - 0.39 g/tablet	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 & replace with a second fresh tablet broken into 4 pieces. 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. Use when daytime highs are between 18° & 35°C. Do not use Api Life VAR at temperatures above 35° C. Two treatments consisting of 3 tablets each may be made per year (max. 6 tablets/ hive/year)	Do not use when honey supers are in place to prevent excessive residues in marketable honey or wax. Remove Api Life VAR tablets from hive at least 1 month (30 days) prior to harvesting honey. At higher concentrations, thymol residues may impart off-flavours to honey.

THIS INFORMATION IS COMPILED FROM THE LABELS OF THE SELECTED ACARICIDES AS SUBMITTED TO HEALTH CANADA AND IS CURRENT TO MARCH 2021. ALL PESTICIDE LABELS USED IN CANADA CAN BE SEARCHED AT [HTTPS://PR-RP.HC-SC.GC.CA](https://pr-rp.hc-sc.gc.ca).

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