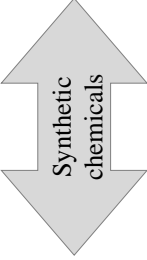
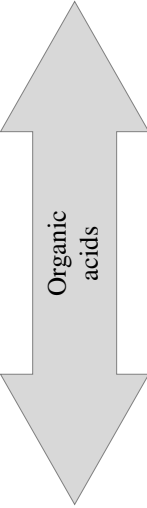
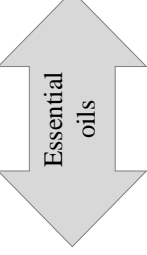




2022 Wisconsin Honey Bee Pest Management Options

The application instructions listed below are only short summaries. **Read the product label thoroughly before applying any treatments and follow label instructions precisely.** The pesticide label is the law. Any listed medications require a Veterinary Feed Directive (VFD) Order or a prescription from a veterinarian. This list may not be complete, and is subject to change. Information in this document does not imply endorsement by the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP), and is provided strictly as an additional resource for honey bee pest management.

Name of Pest	Registered Treatment (Active Ingredient)	Registration Number	Applications	App. Season & Temps.
 Varroa mite <i>Varroa</i>	*Apistan (Tau-fluvalinate)	EPA Reg. No. 2724-406-79671	6-8 weeks, apply in spring and fall. No more than 2 strips per brood box. Do NOT use when honey supers are in place, see label.	spring, fall; temps >50°F
	*CheckMite+ (Coumaphos)	EPA Reg. No. 11556-138	6 week – 45 days, max., apply in spring and fall. Do NOT leave the strips in hive for more than 45 days. Do NOT treat more 2 times per year. Only 2 strips per brood box. Treat all infested colonies within the yard. Can be used during honey flow, see label.	spring, fall
	*Widespread resistance of Varroa mites to above products. NOT recommended for Varroa mite control in Wisconsin.			
 HopGuard III (Hop Beta Acids Resin)	Apivar Strips (Amitraz)	EPA Reg. No. 87243-1	Use 2 strips per brood box (or 1 strip per 5 frames of bees), hang each in bee cluster with 2 frames between strips. Leave strips inside hive for 42-56 days, max., then remove. 2 treatments per year, max. Can be used as part of an Integrated Pest Management (IPM) program. Remove strips 2 weeks before honey flow. Do NOT use when honey supers are in place, see label.	spring, fall
	Formic Pro (Formic Acid)	EPA Reg. No. 75710-3	Use 2 strips (staggered) for 14 days (allow a minimum of 1 month between applications); –OR– 1 st strip for 10 days, remove and replace with 2 nd strip for additional 10 days. Lay flat across the top of lower brood box. Do NOT disturb hive. Close screen bottom board, open entrance fully. Can be used as part of an IPM program. Can be used during honey flow, see label.	spring, summer, fall; temps 50°F-85°F
	Mite Away Quick Strip (MAQS) (Formic Acid)	EPA Reg. No. 75710-2	Place 2 strips (staggered) on top of the bottom brood box for 7 days (allow a min. of 1 month between applications); –OR– Apply 1 st strip on day 1, then apply 2 nd strip on day 14, for a total of 21 days. Do NOT disturb hive. Close screen bottom board, open entrance fully. Can be used as part of an IPM program. Can be used during honey flow, see label.	spring, summer, fall; temps 50°F-85°F
	Api-Bioxal (Oxalic Acid Dihydrate)	EPA Reg. No. 91266-1-73291	See label for application instructions. Ensure bees are clustered before applying treatment. Trickle solution or vaporize in the hive late fall or early spring when little or no brood is present. Treat broodless packages/swarms. Can be used as part of an IPM program. Can be used when honey supers are in place. Respirator required, see label.	spring, fall; temps > 37°F
 ApiGuard (Thymol)	ApiGuard (Thymol)	EPA Reg. No. 79671-1	Combine weak colonies before treatment. See label for instructions. Place 1 50g tray facing upwards on the top of brood frames. After 2 weeks, remove and add 2 nd tray for 2-4 weeks (4-6 weeks total for entire treatment). Best used late summer/ fall. Use 25mg dose if temps above 77°F. Do not enter or allow others to enter into treated areas for 48 hours after treatment. Do NOT use when honey supers are in place, see label.	late summer after honey harvest (preferred), fall, spring; temps 60°F-105°F
	Api Life Var (Thymol, Oil of eucalyptus, Menthol)	EPA Reg. No. 73291-1	Break 1 tablet into 4 pieces and place near 4 corners of brood nest. Leave the 1 st tablet 7-10 days. Place 2 nd tablet for an additional 7-10 days. Place 3 rd tablet for 12 days. Close off screen bottom boards. 2 applications per year max. Best if used in fall. Remove from hive at least 30 days before harvesting honey. Do NOT use when honey supers are in place, see label.	fall (preferred), spring; temps 64°F-95°F

Mite products discontinued for use in Wisconsin include: Zocon Apistan with Anti-Varroa Mite Strip, Sucroicide, Hivastan, and Mite-Away II.

MAQS, ApiLife Var and Apiguard also show some control of **tracheal mites**. Apivar and oxalic acid do not.

Mite Resistant Stock: Queens and packages bred for mite resistance are available for order from many producers including Russian, SMR, VSH, MN Hygienic, and Purdue “Ankle-Biter”.

Integrated Pest Management (IPM) – Varroa Mite: No single treatment option is 100% effective. **Check mite levels frequently.** Use a combination of mite resistant stock, drone brood trapping and removal, screen bottom boards, brood interruption, and re-queening when needed. Rotate “hard” and “soft” controls, and keep records of each treatment type and date. See the [Honey Bee Health Coalition’s Varroa mite mgmt. document](#) for more information.

Wisconsin Department of Agriculture, Trade and Consumer Protection

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Name of Pest	Registered Treatment (Active Ingredient)	Registration Number	Applications	App. Season & Temps.
The following medications require a Veterinary Feed Directive (VFD) Order or a prescription from a veterinarian. Labels and formulations vary. Consult with your veterinarian. See the DATCP Veterinary Feed Directives webpage for more information.				
American Foulbrood (AFB) <i>Paenibacillus larvae</i>	Terramycin, Tetroxy, Oxytetracycline HCl (Oxytetracycline hydrochloride)	<i>FDA Reg. No.</i> NADA 008-622 ANADA 200-026 ANADA 200-146 ANADA 200-247	Dusting or feed in syrup, 3 applications, 5-7 days apart, in spring or fall. Remove 6 weeks prior to honey flow.	spring, fall, or as needed
European Foulbrood (EFB) <i>Melissococcus pluton</i>				
AFB and EFB	Terramycin, OXTC (Oxytetracycline dihydrate)	<i>FDA Reg. No.</i> NADA 095-143	Dusting or feed in syrup, 3 applications, 5-7 days apart, in spring or fall. Remove 6 weeks prior to honey flow.	spring, fall, or as needed
AFB and EFB	Pennox (Oxytetracycline)	<i>FDA Reg. No.</i> NADA 138-938	Contact manufacturer for specific dosages and timings. Dusting or feed in syrup. Remove 6 weeks prior to honey flow.	spring, fall, or as needed
AFB (NOT effective for EFB)	Tylan, BiloVet, Tylovet (Tylosin Tartrate)	<i>FDA Reg. No.</i> NADA 013-076 ANADA 200-455 , ANADA 200-473	Read directions carefully. Dusting only. 200mg dose in 20g powdered sugar applied weekly for 3 weeks. Complete treatment 4 weeks prior to main honey flow.	spring, fall, or as needed
AFB (NOT effective for EFB)	Lincomix (Lincomycin Hydrochloride)	<i>FDA Reg. No.</i> NADA 111-636	Prescription only. Dusting only. Mix with powdered sugar applied once weekly for 3 weeks. Complete treatment 4 weeks prior to main honey flow.	spring, fall, or as needed

IPM – American Foulbrood (AFB): Inspect hives for symptoms of AFB. If hive(s) are suspected of having AFB, contact DATCP at (608) 224-4629. **Do not use antibiotics on hives positive for AFB. Destroy bees and burn frames with AFB or with AFB symptoms!** Burn or scorch the insides of boxes. Start with new frames and foundation. Treat all other hives in the yard. Quarantine and monitor yard closely for 12-18 months. See the [Honey Bee Health Coalition's Foulbrood mgmt. document](#) for more information.

Name of Pest	Registered Treatment (Active Ingredient)	Registration Number	Applications	App. Season & Temps.
Sacbrood virus (SBV) disease <i>Morator aetatulas</i> virus	No treatment available	N/A	Usually goes away by mid-June. If not, power wash equipment and re-queen hive.	N/A
Chalkbrood <i>Ascospaera apis</i> fungus	No treatment available	N/A	Maintain strong colony health. Re-queen with a queen bred for hygienic behavior.	N/A
Nosema <i>Nosema apis</i> <i>(Treatment not shown to be effective for N. ceranae)</i>	Fumagilin-B (Fumagillin)	N/A	Add to feeding syrup in spring and fall, especially to packages. Dissolve 1 rounded teaspoon in 2 oz. warm water (not hot) and add mixture to 1 gallon of sugar syrup. Feed 2 gallons medicated 1:1 sugar/water in spring and 2 gallons medicated 2:1 sugar/water in fall. Feed additional un-medicated syrup if necessary but do not dilute the medicated syrup.	N/A
Wax moth <i>Achroia grisella</i> , <i>Galleria mellonella</i>	Para-Moth Insecticide (Paradichlorobenzene)	<i>EPA Reg. No.</i> 61671-2	Use on extracted, stored equipment only. Stack supers on several layers of newspaper, as tightly as possible. No more than 5 deeps or 10 shallow supers per stack. Kills adult wax moth and immature stages, but not eggs. Combs or equipment that have been treated must be thoroughly aired out before use, otherwise bees will be killed, see label.	N/A
Small hive beetle (SHB) <i>Aethina tumida</i>	GardStar 40% EC (Permethrin)	<i>EPA Reg. No.</i> 39039-8	Treats the SHB larval stage. Soil drench only. See label for detailed instructions. Apply 24-48 hours prior to placement of hive support(s) (e.g. pallet(s)). Cut grass prior to application. Highly toxic to bees. Follow label directions carefully.	N/A

IPM – Small hive beetle (SHB): Trap beetles anytime you notice them in the hive. Trap options include: West SHB, Hood, Beetle Blaster, Freeman bottom board, Beetle Jail, Beetle Bee-Gone sheets, etc. Hives located in deep shade are more susceptible to SHB. See the [Honey Bee Health Coalition's Hive Health Best Management Practices](#) for more information. This resource includes information about SHB and many other honey bee pests.

SHB and wax moth in the honey house: Keep the honey house extremely clean. Extract every 2-3 days or weekly. Do not store supers with brood. Increase airflow with fans, lower humidity with dehumidifiers. Freeze supers if needed; 10°F for 24 hours kills all life stages of small hive beetle.