



February 17, 2014

Insecticide/miticide reference sheet for insect and mite pests of Hops

References to pesticide products in this publication are for your convenience and are not an endorsement or criticism of one product over other similar products. You are responsible for using pesticides according to the manufacturer's current label directions. Follow label directions to protect the environment and people from pesticide exposure. Failure to do so violates the law.

Note: this publication is not a complete list of all insecticides/miticides labels for hops and that pesticide labels are quickly out of date. For current label information please search online at in the Crop Data Management System at <http://www.cdms.net/LabelsMsds/LMDefault.aspx?t>

Integrated Pest Management (IPM) Statement: always use preventive pest management approaches as a first line of defense for insects, mites and other pests. Use insecticides as a last resort.

Active Ingredient	Trade Name(s)	Restricted use Pesticide¹ (Yes/No)	Chemical Family (Insecticide Resistance Action Committee Code)	Application type/placement (Foliar, soil, drench)	Application Rate(s)	Target Pests	Pre-harvest restriction (PHI)
Abamectin	Abacus Abba 0.15 EC Agri-Mek 0.15 EC Epimek 0.15 EC Nufarm Abamcetin 0.15 EC Reaper 0.15 EC Reaper Advance Temprano Zoro	Yes	Avermectrins (6)	Foliar	8.0 - 16.0 fl. oz./A	Twospotted spider mites	28 days
Abamectin	Abba Ultra	Yes	Avermectrins (6)	Foliar	4.0 – 8.0 fl. oz./A	Twospotted spider mite	28 days
acequinocyl	Kanemite 15 SC	No	Acequinocyl (20B)	Foliar	31 fl. oz./A	Twospotted spider mite	7 days
Azadirachtin (Botanical insecticide)	Aza-Direct	No	Unknown	Foliar, soil	1 - 3.5 pts./A	Aphids, Beetles, Borers, True bugs, Caterpillars, Flies, Leafhoppers, Leafminers, Whiteflies, Mealybugs, Mites, Psyllids, Weevils, Scales, Thrips,	0 days

Active Ingredient	Trade Name(s)	Restricted use Pesticide¹ (Yes/No)	Chemical Family (Insecticide Resistance Action Committee Code)	Application type/placement (Foliar, soil, drench)	Application Rate(s)	Target Pests	Pre-harvest restriction (PHI)
Azadirachtin (Botanical insecticide)	Azatin XL	No	Unknown	Foliar, soil	Up to 21 fl. oz./A	Aphids, Armyworms, Bagworms, Beetles, Bugs, Cankerworms, Caterpillar, loopers, Cutworms, Flies, Leaf tiers, Leafhoppers, Leafminers, Leafrollers, Mealybugs, Psyllids, Sawflies, Thrips, webworms, whiteflies	0 days
Azadirachtin	Ecozin 1.2% ME	No	Unknown	Foliar	15 - 30 oz./A	Aphids, beetles, borers, bugs, caterpillars, flies, leafhoppers, leafminers, mealybugs, psyllids, sawflies, scales, thrips, weevils, whiteflies	0 days
Azadirachtin (botanical insecticide)	Molt-X	No	Unknown	Soil and Foliar	8 - 15 fl. oz./A	Whiteflies, leafminers. Scales, mealy bugs, thrips, aphids, psyllids, leafhoppers, bugs, flies, sawflies, caterpillars, beetles, weevils, borers, crickets, moles	None listed
Azadirachtin, Pyrethins (Botanical insecticides)	Azera	No	Unknown Pyrethrin, 3A	Foliar, soil	1 - 3.5 pt/A	Aphids, Whiteflies Leafminers, caterpillars	None listed

Active Ingredient	Trade Name(s)	Restricted use Pesticide¹ (Yes/No)	Chemical Family (Insecticide Resistance Action Committee Code)	Application type/placement (Foliar, soil, drench)	Application Rate(s)	Target Pests	Pre-harvest restriction (PHI)
Bacillus thuringiensis	Biobit HP Dipel DF	No	Bacillus thuringiensis (11)	Foliar	½ - 2 lb./A	Loopers, armyworms	0 days
Bacillus thuringiensis	Deliver	no	Bacillus thuringiensis (11)	Foliar	0.5 – 1.5 lbs./A	Caterpillars	0 days
Bacillus thuringiensis	Dipel ES	No	Bacillus thuringiensis (11)	Foliar	1 - 4 pts./A	Loopers, armyworm	0 days
Bacillus thuringiensis	Javelin WG	No	Bacillus thuringiensis (11)	Foliar	0.25 - 1.0 lbs./A	Lepidopterous (moth and butterfly) caterpillars	0 days
Beta-cyfluthrin	Baythroid XL	Yes	Pyrethroids (3A)	Foliar	3.2 fl. oz./A	Hop aphid, hop flea beetle, hop loopers, hop plant bug	7 days
Bifenazate	Acramite 50WS	No	unknown	Foliar	0.75 - 1.5 lbs./A	Twospotted spider mites	14 days
Bifenthrin	Bifenture Brigade 2EC Discipline 2EC Fanfare 2 EC Sniper Tailgunner Tundra EC	Yes	Pyrethroids (3A)	Foliar	3.2 – 6.4 fl. oz./A	Aphids, armyworms, cutworms, leafrollers, loopers, root weevils, Twospotted spider mite	14 days
Bifenthrin	Brigade WSB	Yes	Pyrethroids (3A)	Foliar	8.0 – 16.0 oz./A	Aphids, armyworms, cutworms, leafrollers, loopers, root weevils, twospotted spider mite	14 days

Active Ingredient	Trade Name(s)	Restricted use Pesticide¹ (Yes/No)	Chemical Family (Insecticide Resistance Action Committee Code)	Application type/placement (Foliar, soil, drench)	Application Rate(s)	Target Pests	Pre-harvest restriction (PHI)
Bifenthrin	Swagger	Yes	Pyrethroids (3A)	Foliar	7.6 – 25.6 fl. oz./A	Aphids, leafhoppers, armyworm, cutworm, leafrollers, loopers, root weevils, Twospotted spider mite	28 days
Bifenthrin Avermectin	Athena	Yes	Pyrethroids (3A) Avermectrins (6)	Foliar	8.5 - 17 fl. oz./A	Twospotted spider mite, Aphid, Armyworm, Cutworm, leafroller, Looper, Root weevil	28 days
Bifenthrin Imidacloprid	Brigadier	Yes	Pyrethroids (3A) Neonicotinoids (4A)	Foliar	3.8 - 12.8 fl. oz./A	Aphids, leafhoppers, armyworms, cutworm, leafrollers, looper, root weevil, Twospotted spider mite	28 days
chlorantraniliprole	Coragen	No	Diamides (28)	Foliar	3.5 - 5.0 fl. oz./A	Western striped armyworm	0 days
Chromobacterium subtsugae	Grandevo	No	Chromobacterium subtsugae (11)	Foliar	1-3 lbs./A	Armyworms, loopers, hop aphid, mites, thrips, whiteflies	0 days
Cyfluthrin	Renounce 20WP	Yes	Pyrethroids (3A)	Foliar	4.0 oz./A	Hop aphid, Hop flea beetle, Hop looper, Hop plant bug	7 days
Cyfluthrin	Tombstone Tombstone Helios	Yes	Pyrethroids (3A)	Foliar	3.2 fl. oz./A	Hop aphid, Hop flea beetle, Hop Looper, Hop plant bug	7 days

Active Ingredient	Trade Name(s)	Restricted use Pesticide ¹ (Yes/No)	Chemical Family (Insecticide Resistance Action Committee Code)	Application type/placement (Foliar, soil, drench)	Application Rate(s)	Target Pests	Pre-harvest restriction (PHI)
Dicofol	Dicofol 4E	No	Unknown	Foliar	2 – 2 1/3 pints/A	Twospotted spider mites	7 days
Etoxazole	Zeal	No	Etoxazole (10B)	Foliar	3.0 – 4.0 fl. oz./A	Twospotted spider mite	7 days
Fenpyroximate	Portal	No	Fenazaquin (21A)	Foliar	2.0 - 3.0 pts./A	Mites	15 days
Flonicamid	Beleaf 50 SG	No	Flonicamid(9C)	Foliar	1.7 – 2.8 fl. Oz./A	Hop Aphid	10 days
Hexythiazox	Savey 50 DF	No	Hexythiazox (10A)	Foliar	4 - 6 fl. oz./A	Twospotted spider mites	Apply up to Burr Formation
Imidacloprid	Admire Pro	No	Neonicotinoids (4A)	Soil	2.8 - 8.4 fl. oz./A soil application	Aphids	60 days
Imidacloprid	Advise 2 FL AmTide Couraze 2F Macho 2.0 FL Montana 2F	No	Neonicotinoids (4A)	Soil and Foliar	19.2 fl. oz/a soil applied 6.4 fl. oz/a Foliar application	aphids	60 days for soil application 28 for Foliar appl.
Imidacloprid	Couraze 4F Macho 4.0 Mana Alias 4F Montana 4F Wrangler	No	Neonicotinoids (4A)	Foliar and Soil	3.2 fl. oz./A Foliar 9.6 fl. oz./A soil	aphids	28 days Foliar 60 days soil

Active Ingredient	Trade Name(s)	Restricted use Pesticide ¹ (Yes/No)	Chemical Family (Insecticide Resistance Action Committee Code)	Application type/placement (Foliar, soil, drench)	Application Rate(s)	Target Pests	Pre-harvest restriction (PHI)
Imidacloprid	Malice 75 WSP	No	Neonicotinoids (4A)	Foliar	2.1 fl. oz./A	aphids	28 days
Imidacloprid	Nuprid 4.6	No	Neonicotinoids (4A)	Soil	2.8 - 8.4 fl. oz./A	Aphids	60 days
Imidacloprid	Pasada 1.6 F Prey 1.6 Provado 1.6 Sherpa	No	Neonicotinoids (4A)	Foliar	8.0 fl. oz./A	Aphids	28 days
Imidacloprid	Malice 2F Widow	No	Neonicotinoids (4A)	Soil	19.2 fl. oz./A	Aphids	60 days
Imidacloprid Cyfluthrin	Leverage 2.7	Yes	Neonicotinoids (4A) Pyrethroids (3A)	Foliar	5.8 fl. oz./A	Aphids	28 days
Imidacloprid Cyfluthrin	Leverage 360	Yes	Neonicotinoids (4A) Pyrethroids (3A)	Foliar	3.2 fl. oz./A	Hop aphid, hop flea beetle, hop looper, hop plant bug	28
Malathion	Cheminova Malathion Malathion 5 EC	No	Organophosphates (1B)	Foliar	1 pt./A	Aphids, spider mites	10 days
Mineral oil	Purespray Green	No	Unknown	Foliar	1 - 2 gallons/A in a minimum 50 gallons of water	Mites,	0 days
Mineral Oil	Suffoil-X	No	Unknown	Foliar	1 - 2 gallons/100 gallons water	Aphids, leafroller, mites, scales, whiteflies	0 days

Active Ingredient	Trade Name(s)	Restricted use Pesticide ¹ (Yes/No)	Chemical Family (Insecticide Resistance Action Committee Code)	Application type/placement (Foliar, soil, drench)	Application Rate(s)	Target Pests	Pre-harvest restriction (PHI)
Petroleum oil	Purespray Spray Oil 10E	No	Unknown	Foliar	1 - 2 gallons of oil/100 gallons water	mites	0 days
Potassium salts of fatty acids	M-Pede	No	Unknown	Foliar	1 - 2% Volume/volume solution	Aphids, leafhoppers, mealybugs, spider mites, plant bugs, scales, exposed thrips and whiteflies	0 days
Propargite	Omite 6E	No	Propargite (12C)	Basal	32 fl. oz./A	Twospotted spider mites	14 days
Pymetrozine	Fulfill	No	Pymetrozine (9B)	Foliar	4.0 - 6.0 oz./A	Hop aphid	14 days
Pyrethrins	Pyganic 1.4 EC	no	Pyrethroids (3A)	Foliar	1 pt to 2 qts./A	See label	Not listed
Pyrethrins	PyGanic 5.0 EC	No	Pyrethroids (3A)	Foliar	4.5 - 18 fl. oz./A	See label	Not listed
Spinosad	Entrust	No	Spinosyns (5)	Foliar	1.25 - 2.0 oz./A	Armyworms, loopers, thrips (suppression)	1 day
Spinosad	Entrust SC SpinTor	No	Spinosyns (5)	Foliar	4 - 6 fl. oz./A	Armyworms, loopers, thrips (suppression)	1 day
spiroadiclofen	Envidor 2 SC	no	Tetronic and tetramic acid derivatives (23)	Foliar	18.0 - 24.7 fl. oz./A	Twospotted spider mite	14 days

Active Ingredient	Trade Name(s)	Restricted use Pesticide ¹ (Yes/No)	Chemical Family (Insecticide Resistance Action Committee Code)	Application type/placement (Foliar, soil, drench)	Application Rate(s)	Target Pests	Pre-harvest restriction (PHI)
Spirotetramat	Movento	No	Tetronic and tetramic acid derivatives (23)	Foliar	5.0 - 6.0 fl. oz./A	Hop aphid	7 days
Spinetoram	Delegate WG	No	Spinosyns (5)	Foliar	2.5 - 4 oz./A	Armyworm, cutworms, leaf rollers, loopers, thrips	1 day
Thiamethoxam	Platinum	No	Neonicotinoids (4A)	Soil	8.0 fl. oz/A	Garden symphylan, hop aphid, root weevils	65 days
Thiamethoxam	Platinum 75 SG	No	Neonicotinoids (4A)	Soil	2.67 fl. oz/A	Garden symphylan, hop aphid, root weevils	65 days

¹Restricted Use Pesticides are those pesticides which EPA has determined that the benefits of use out weight risk only when trained people use this pesticide. Only certified individuals may mix, load, apply or direct the use of Restricted Use Pesticides.