

MINT WEED CONTROL

Preemergence or Postemergence Herbicides

Herbicide	Rate/Acre	Comments/Restrictions
New and Established Plantings		
ASSURE II	6-10 fl oz + 0.5 gal HSOC-COC ¹ /100 gal	POST. Apply at recommended rates and timings for control of annual and perennial grasses. PHI 30 days.
COMMAND 3ME	1.3 pt	PRE. Apply to soil surface prior to initiation of new mint growth. See vegetable disclaimer on label. PHI 84 days.
SECTION THREE	4-10.67 fl oz	POST. PHI is 21 days. Maintain 14 day interval for repeat applications. Use 1 pt/A of HSOC-COC or HSOC-MSO ¹ , WC+NIS ² or 8.5-17 lb/100 gallons of AMS.
SELECT 2 EC/CLEANSE	6-16 fl oz + 1 qt HSOC-COC ¹ /100 gal	POST. For control of actively growing annual and perennial grasses. Use a minimum of 10 fl oz/A for control of volunteer wheat in western production areas. PHI 21 days.
SELECT MAX	9-32 fl oz + 1 qt NIS/100 gal	POST. For established mint, use at least 20 fl oz/A. PHI 21 days.
SINBAR WDG	1-2 lb	PRE. Apply a single application before mint emerges. Timing: Midwest - In spring just after last cultivation. PNW (west of Cascade Mountains) - Apply in spring or FALL after last cultivation. PNW (east of Cascade Mountains) - Apply any time after the first settling rain in the fall, but not when ground is frozen. Moisture is required for activation. See label restrictions - particularly on soil preparation requirements.
SINBAR WDG	1-1.5 lb + 0.5-1 pt NIS/25 gal	POST. Apply before weeds are 2 inches tall or across and grasses are 1 inch tall. If a pre-treatment has not been applied, a second postemergence application may be applied but do not exceed 2 lb/A/season. PHI 60 days.
SPARTAN 4F	4.5-10 oz: coarse 6-12 oz: medium 8-12 oz: fine	PRE. Apply to dormant established mint on PRE to new plantings.
STINGER	0.5-1 pt	POST applications for broadleaf weed control. Treated mint may only be used for oil extraction. 45 day PHI. See label for precautions.
TARGA	4-12 fl oz + 0.5 gal HSOC-COC ¹ /100 gal	POST. Apply at recommended rates and timings for control of annual and perennial grasses. PHI 30 days.

¹ Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

² Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.

MINT WEED CONTROL

Preemergence or Postemergence Herbicides (continued)

Herbicide	Rate/Acre	Comments/Restrictions
Established Plantings		
ASSURE II	6-10 fl oz + 0.5 gal HSOC-COC ¹ /100 gal	POST. Apply at recommended rates and timings for control of annual and perennial grasses. PHI 30 days.
BASAGRAN/ BASAGRAN 5L	1-2/0.8-1.6 pt + 1 pt HSOC-COC ¹	POST. Apply by ground to actively growing weeds. Rate and timing is species specific. See label. Through coverage is required for good control. Use a minimum of 20 gal/A and a minimum 40 psi. Some leaf burn may occur but plants generally outgrow in 10 days.
DEVIRINOL 10G or 50DF	40 lb 10G 8 lb 50DF	PRE. PNW only. For furrow-irrigated mint, for best results apply late in the FALL to allow winter rain to carry herbicide into the soil. In sprinkler-irrigated mint, apply anytime before weeds emerge. Best results when mechanically incorporated within 24 hours after application regardless of time of year applied.
GOAL 2XL	See label for rates for specific areas + 1 qt NIS/100 gal	POST. Apply only to established dormant mint before weeds exceed 2-4" in diameter or height. West of the Cascade Mountains, treatments in Dec. through Feb. generally provide best results. In other areas, apply from Dec. through Mar. Serious injury can occur if spring growth has begun before application. Crop injury may occur on non-rotovated mint. Goal 2XL should only be applied to strong, healthy mint. Will control annual bluegrass, Italian ryegrass and wild oat, if applied before emergence.
GOALTENDER	2-3 pt	PRE or POST. Apply in OR, WA (East of Cascades), CA, MT, ID, NV, SD, and UT from December through March when mint is dormant. Apply to muck soils in IN, MI, MT, ND, SD, and WI prior to emergence of new spring growth. Use 1-1.5 pt PRE for western Oregon Willamette Valley from November through February to dormant peppermint. Include NIS for emerged weeds.
GRAMOXONE SL/SL 2.0	2-3 pt + 1 pt NIS/100 gal	POST. Apply to dormant mint from Nov. through mid-Feb. Maximum of 3 pt/A/season. Can tank mix with Sinbar.
KARMEX DF	3 lb	PRE. Peppermint only. Apply before peppermint has appeared, after the ground is worked in the early spring. Postemergence applications often cause injury. Use lower rates on sandy loam soils and higher rates on heavier textured soils. Do not use if soil organic matter is less than 2%. See label for other restrictions.
MOXY	1-1.5 pt	POST. Apply lower rates to established mint (harvested at least once) in the early spring. During the FALL there is more crop safety and applications can be made to spring-planted or established mint. Applications to mint that have been previously treated with Sinbar WDG may result in unacceptable crop injury. Applications when temperatures are expected to exceed 70° F during the 5 days following treatment may result in unacceptable crop injury. Treat before broadleaf weeds exceed the 4-leaf stage, 2 inches in height or 1 inch in diameter, whichever occurs first. PHI 70 days.
POAST	1-1.5 pt + 1 pt HSOC-COC ¹	POST. Apply to actively growing annual and perennial grasses as labeled. PHI 20 days.
TARGA	4-12 fl oz + 0.5 gal HSOC-COC ¹ /100 gal	POST. Apply at recommended rates and timings for control of annual and perennial grasses. PHI 30 days.

¹ Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

² Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.

MINT INSECT CONTROL

Labeled Insecticides

MINT INSECT*	INSECTICIDE	Actara	Agri-Mek SC 0.15 EC	Bracket 97/Orthene 97	Comite	Confirm 2F	Coragen	Entrust SC	Intrepid	Lannate SP/LV	Lorsban Advanced	Malathion 5/5EC	Malathion 8 Flowable	Mocap E or 15G	MSR	Omite 6E	Onager	Radiant SC	Telone II	Vapam HL	Voliam Flexi	Vydate L	Xentari/Dipel DF	Yuma	Zeal
Alfalfa Looper				●	●					●								●							
Aphid		●	●									●			●						●				
Armyworm						●		●	●									●					●		
Cutworm				●			●	●	●			●						●			●			●	
Flea Beetle		●								●		●	●								●				
Garden Symphylan											●			●										●	
Hornworm																									
Looper				●			●	●	●	●								●			●		●		
Mint Root Borer							●				●			●							●			●	
Mite												●		●											
Nematode-Mint														●								●			
Nematode-Root Knot														●					●	●					
Nematode-Root Lesion														●					●			●			
Two-Spotted Spider Mite			●	●								●			●		● ¹								●
Variagated Cutworm										●															

* Many other diseases may be controlled, see label.

S-suppression.

¹24c, 2ee or Supplemental label.

☀ See Insecticide Resistance Management in the TECHNICAL INFORMATION section.

BEE ALERT

☀ See Insecticide Classification in the Technical Section for information on insecticide toxicity to bees.

Insect Treatment Guidelines

Insecticide	Rate/Acre	PHI	G/F	Comments/Restrictions
ALFALFA LOOPER				
BRACKET 97/ORTHENE 97	1 lb	14	NO	Apply when eggs or insects first appear. Good coverage and canopy penetration are critical.
CONFIRM 2F	6-16 fl oz	14	NL	6-8 fl oz/A early season to young crop/small plants; 8-16 fl oz/A adjusted to infestations and to obtain good coverage.
CORAGEN	3.5-5 fl oz	3	–	Note 1.
ENTRUST SC	4-10 fl oz	7	–	Spearmint and peppermint. Target small larva and egg masses.
INTREPID	10-16 fl oz	14	–	Spearmint and peppermint. Target small larva and egg masses.
LANNATE SP or LV	1 lb or 3 pt	14	14	Apply when insects first appear. Continue at 5-7 day intervals. Note 1.
RADIANT SC	4-12 fl oz	7	–	Target small larva and egg masses. Note 1.
VOLIAM FLEXI	4-5 oz	7	–	
XENTARI/DIPEL DF	0.5-1.5 lb	0	–	Bt. Apply to 1-2 instar. Note 1.
APHID				
ACTARA	1.5-3 fl oz	7	–	Use higher rates for heavy infestations. Do not exceed 8 oz/A/growing season. Allow at least 14 days between applications. Apply by ground only in ≥ 10 GPA.
BRACKET 97/ORTHENE 97	1 lb	14	NO	Apply when eggs or insects first appear. Good coverage and canopy penetration are critical.
MALATHION 5/5EC	1.5 pt	7	NL	Spearmint and peppermint. Maximum of 3 applications/year. 7-day minimum retreatment interval.
MSR	3 pt	14	–	For established infestations, make 2 applications 10-14 days apart.
VOLIAM FLEXI	2-4 oz	7	–	
ARMYWORM				
ENTRUST SC	4-10 fl oz	7	–	Spearmint and peppermint. Target small larva and egg masses.
INTREPID	10-16 fl oz	14	–	Spearmint and peppermint. Target small larva and egg masses.
RADIANT SC	4-12 fl oz	7	–	Note 1.
XENTARI/DIPEL DF	0.5-2 lb/1-2 lb	0	–	Bt. Apply at 1-2 instar. Note 1.

PHI – preharvest interval days.

G/F – grazing and feeding interval days.

MINT INSECT CONTROL

Insect Treatment Guidelines (continued)

Insecticide	Rate/Acre	PHI	G/F	Comments/Restrictions
CUTWORM				
BRACKET 97/ORTHENE 97	1 lb	14	NO	Apply when eggs or insects first appear. Good coverage and canopy penetration are critical.
CORAGEN	3.5-5 fl oz	3	–	Note 1.
ENTRUST SC	4-10 fl oz	7	–	Spearmint and peppermint. Target small larva and egg masses.
INTREPID	10-16 fl oz	14	–	Spearmint and peppermint. Target small larva and egg masses.
LANNATE SP or LV	1 lb or 3 pt	14	14	For variegated cutworm. Note 1.
LORSBAN ADVANCED	2-4 pt	90	–	Treat in May and June when field count indicates damaging populations. Use 2 pt/A for larvae <0.75" length. Note 1.
RADIANT SC	4-12 fl oz	7	–	Note 1.
VOLIAM FLEXI	4-5 oz	7	0	
YUMA	2-4 pt	90	–	Treat in May and June when field count indicates damaging populations. Use 2 pt/A rate for larvae <0.75" length. Note 1.
FLEA BEETLE				
ACTARA	1.5-3 fl oz	7	–	Use higher rates for heavy infestations. Do not exceed 8 oz/A/growing season. Allow at least 14 days between applications. Apply by ground only in ≥ 10 GPA.
LANNATE SP or LV	0.75-1 lb or 2.25-3 pt	14	14	Repeat applications as needed. Note 1.
MALATHION 5/SEC	1.5 pt	7	NL	Spearmint and peppermint. Adult beetles. Maximum of 3 applications/year. 7-day minimum retreatment interval.
MALATHION 8 FLOWABLE	0.94 pt	7	NL	Spearmint and peppermint. Adult beetles. Maximum of 3 applications/year. 7-day minimum retreatment interval.
VOLIAM FLEXI	2-4 oz	7	0	
MINT ROOT BORER				
CORAGEN	3.5-5 fl oz	3	–	Note 1.
LORSBAN ADVANCED	4 pt	90	–	Apply post-harvest. Follow with 1 acre inch of water to incorporate. Note 1.
MOCAP EC	2 qt	225	–	Ethoprop. Make only one application per growing season (preplant or after last harvest). Broadcast spray with ground equipment in 20-30 GPA of water. Incorporate to at least 2-4", during or immediately following application by mechanical means or by immediate application of 1-2" of overhead irrigation. Repeat irrigation before soil dries.
MOCAP 15G	20 lb	225	–	Ethoprop. Make only one application per growing season (preplant or after last harvest). Broadcast and incorporate to at least 2-4", during or immediately following application by mechanical means or by immediate application of 1-2" of overhead irrigation. Repeat irrigation before soil dries.
VOLIAM FLEXI	4-5 oz	7	0	Foliar feeding.
YUMA	4 pt	90	–	Apply post-harvest. Follow with 1 acre inch of water to incorporate. Note 1.
MITES, TWO-SPOTTED				
AGRI-MEK SC, 0.15 EC	1.75-2.5, 8-12 fl oz	28	–	Treat when mites first appear. Add NIS or organosilicone surfactant for best results.
COMITE	32-40 fl oz	14	–	Not for CA.
MALATHION 5/SEC	1.5 pt	7	NL	Spearmint and peppermint. Maximum of 3 applications/year. 7-day minimum retreatment interval.
OMITE 6E	32-44 fl oz	14	–	Two applications per year permitted.
ONAGER	12-20 oz	30	NL	24c ID (exp. date 12/2019), MT (exp. date not given), and NV, UT, WA (exp. 12/2018) in spearmint and peppermint.
ZEAL	2-4 oz	7	–	Predominately an ovicide/larvicide. Apply when populations are low.

PHI – preharvest interval days.

G/F – grazing and feeding interval days.

MINT INSECT CONTROL

Insect Treatment Guidelines

Product	Rate/Acre	PHI	G/F	Comments/Restrictions
NEMATODE				
MOCAP EC	4 qt	225	–	Ethoprop. Make only one application per growing season (preplant or after last harvest). Use 2 qt/A for symphylans or mint root borer and 4 qt/A for nematodes. Broadcast spray with ground equipment in 20-30 GPA of water. Incorporate to at least 2-4" during or immediately following application by mechanical means or by immediate application of 1-2" of overhead irrigation. Repeat irrigation before soil dries.
MOCAP 15G	40 lb	225	–	Ethoprop. Make only one application per growing season (preplant or after last harvest). Broadcast and incorporate to at least 2-4" during or immediately following application by mechanical means or by immediate application of 1-2" of overhead irrigation. Repeat irrigation before soil dries.
TELONE II	25-30 gal: v. wilt 9-18 gal: nematodes	–	–	See label for application information and use precautions. Labeled as "aid to control" for verticillium wilt. Apply in spring or preferably in the fall. See label for root lesion and root knot nematodes.
VYDATE L	0.5-1 gal	21	–	For ID, MI, MT, OR, WA and WI. Apply in minimum of 10 gals water/A. 0.5-1" of water is needed within 3 days to move Vydate into the root zone. Apply as mint breaks winter dormancy and active growth begins. See label for re-crop restrictions.

PHI – preharvest interval days.

G/F – grazing and feeding interval days.

Note 1: May be applied through sprinkler irrigation systems (see label).

MINT DISEASE CONTROL

Labeled Fungicides

DISEASE*	FUNGICIDE	BIO-TAM	Bravo Ultrex/Weather Stik/Praiz	Confine Extra	Headline SC	Heritage	Microthiol Disperss	Quilt/Quilt Xcel	Rally 40WSP	Serenade ASO	Sonata	Telone II	Tetraban	Topaz/Tilt/Propimax	Vapam HL
		Powdery Mildew			●	●	●	●	●	●	●		●		●
Rust			●		●	●		●	●	●	●		●	●	
Septoria Leaf Spot			●		●										
Verticillium Wilt		●										S			S

* Other diseases may be controlled, see label.
S - suppression.

☀ See Fungicide Resistance Management in the TECHNICAL INFORMATION section.

Disease Treatment Guidelines

Fungicide	Rate/Acre	PHI	G/F	Comments /Restrictions
BIO-TAM	2.5-5 lb	–	–	Can be applied in-furrow (1.5-3 oz/1000' row) and banded (2.5-3 lb/A). Broadcast apply at sowing, restart of vegetative growth, and before the infection risk period. Note 2.
BRAVO WEATHER STIK/PRAIZ or BRAVO ULTREX	1.37 pt or 1.2 lb	80	NO	Use in sufficient water to get adequate coverage; normally 20 to 150 gal/A. Begin application when emerging plants are 4-8" high. Repeat applications at 7 to 10 day intervals or as necessary. See label for restrictions. Use on mint in IN, MI and WI only. Note 1.
CONFINE EXTRA	1-4 qt	0	–	Apply 1-3 qt/A foliar in minimum 20 GPA and by aerial in minimum 10 GPA. Apply 2-4 qt/A through irrigation.
HEADLINE SC	9-12 fl oz	14	–	Begin applications prior to disease development and continue on 7-14 day schedule. Do not make more than 2 sequential or 4 total applications. May include adjuvants. Notes 1, 2.
HERITAGE	3.48-7.84 oz	0	–	For fresh mint. Do not make > 2 sequential sprays or 3 applications/crop/year. See resistance management guidelines on the label. Notes 1, 2.
MICROTHIOL DISPERSS	4-6 lb	30	–	Apply when mint is 5-6" tall or when disease appears. Repeat twice at 30 day intervals. Notes 1, 2.
QUILT	14 fl oz	7	–	Begin applications when plants are 2-4" and when conditions are favorable for disease development.
QUILT XCEL	10.5-14 fl oz	7	–	Begin applications when plants are 2-4" and when conditions are favorable for disease development. See ID (exp. 5/2021) to allow for aerial application (in minimum 5 GPA).
RALLY 40WSP	4-5 oz	30	–	Use in ID, MT, NV, OR, UT, WA, or WY. Begin application in early spring when plant breaks dormancy. Continue on a 14-21 day schedule. Do not apply >15 oz/A per season. Notes 1, 2.
SERENADE ASO	2-6 qt	–	–	Bacillus subtilis is a biological fungicide. Begin application soon after emergence and when environmental conditions are conducive to disease development. Repeat on 7- to 10-day interval or as needed. Use higher rates and shorter application intervals under heavy disease pressure.
SONATA	2-4 qt	–	–	Begin soon after emergence and when conditions are conducive for disease development. Repeat 7-14 day intervals.
TETRABAN	6-15.5 fl oz	0,7	–	PHI 0 days for fresh mint, 7 days for processed mint. See label application rates, methods and timing for soilborne vs. foliar diseases.
TOPAZ/TILT/PROPIMAX	4 fl oz	7,30	–	Begin where plants are 2-4" or when conditions are favorable for disease development. Continue applications at 14 day intervals as conditions warrant. Aerial application allowed. Do not apply more than 12 fl/oz/A/season (Tilt) or 8 fl oz/A/season (Propimax or Topaz). PHI 7 days for Tilt and 30 days for Propimax and Topaz.
VAPAM HL	75-100 gal	–	–	Apply preplant broadcast 37.5-75 gal/A for root knot nematode and verticillium dahliae in ID, NV, OR, and WA. Apply when infestation is limited to small spots in a field, spread can be reduced by treating the soil. Applications can be made using an injector blade or thin shank injector spaced 5 inches apart. Sprinkle applied with a minimum of 1" water injected continuously throughout the set. Soil covering technique where Vapam is mechanically incorporated to a depth of 3-6 inches and packed immediately.

PHI – preharvest interval days. G/F – grazing and feeding interval days. NO – not permitted.

NOTE 1: May be applied by air.

NOTE 2: May be applied by chemigation.

