



EFFICACY AGAINST SPECIFIC CITRUS PESTS

(+++ = excellent control; ++ = good control; + = some help; Blank = not determined)





IMPORTANT: READ ALL PESTICIDE LABELS CAREFULLY



PESTICIDE BRAND NAME	ACTIVE INGREDIENT (IRAC-MOA)	RATE/ ACRE	REI (hr)	PHI (d)	MAXIMUM RATE/YR	RUST & BUD MITES	SPIDER MITES (Red & TX citrus)	ARMORED SCALES	SOFT SCALES	CITRUS LEAF-MINER	CITRUS PSYLLID	BLACK/ WHITE FLIES	THRIPS	ROOT WEEVILS	APHIDS	MEALY - BUG	LEAF-HOPPER S/ SHARP-	NEMATODE	Effects on Natural Enemies	
					Amount															
ADMIRE PRO	Imidacloprid (4A) Soil Foliar	7 -14 oz	12	0	14 oz				++	+++	+++	+++	+++	++	++	++	+++	++	++	Low
		3.5-7 oz	12	0	14 oz															
ACTARA	Thiamethoxam (4A)	3 – 5.5 oz	12	0	11 oz				+++	+++	+++	+++	+++	++	++	+++	+++	++		Moderate
AGRI-FLEX	Abamectin/Thiamethoxam (6, 4A)	5.5 – 8.5 oz	12	7	17 oz (3)	+++	+++	+++	+++	+++	+++	++	++	++	++	++	++	++		Moderate
AGRIMEK SC	Abamectin (6)	1 – 4.25 oz	12	7	8.5 oz (3)	+++	+++			++	++		++							Moderate
APTA	Tolfenpyrad (21A)	14 - 27 oz	12	3	27 oz (1)	+++	++		+++		+++									Moderate
ASSAIL 30SG	Acetamiprid (4A)	2.5 – 10.3	12	7	29.3 oz			++	+	++			++		++	++	++			Moderate
BAYTHROID XL	Beta-Cyfluthrin (3)	1.6 – 6.4 oz	12	0	6.4 oz (2)						+++		++	+++						High
BELEAF 50 SG	Flonicamid (29)	2.8 – 5.7 oz	12	0	8.4 oz (3)						+++				+++					Low
CENTAUR WDG	Buprofezin (16)	34.5 - 46 oz	12	3	92 oz (2)			+++	+++		+++	+++				+++	+++			Moderate
CLOSER	Sulfoxaflor (4C)	1.5 – 5.75	12	1	17 oz (4)			++	+++		+++	+++	+++		+++	+++				Moderate
DANITOL 2.4 EC	Fenpropathrin (3)	16 – 21-1/3	24	1	42-2/3 oz	++	++				+++	++	+++	++				++		High
DELEGATE WG	Spinoteram (5)	3 - 6 oz	4	1	12 oz (3)				+++	+++	++		+++							Low
DIMETHOATE 4E	Dimethoate (1B)	½ - 2 pt	240	15	2 pts		+++	+++	++		+++	+++	+++		+++					High
ENVIDOR 2 SC	Spirodiclofen (23)	12 - 20 oz	12	7	20 oz (1)	+++	+++													Low
ESTEEM 0.86 EC	Pyriproxyfen (7C)	10 - 16 oz	12	1	26 oz			+++	+++	++		+++								Moderate
KANEMITE	Acequinocyl (20B)	21 – 31 oz	12	7	62 oz (2)	++	+++													Low
LORSBAN ADVANCED	Chlorpyrifos (1B)	2 - 12 pt	120	21-35	16 pt (2)	++		+++	+++	+	+++	+	++		+++	+++				High
MALATHION 57 EC	Malathion (1B)	2.4 - 7.2 pt	12	7	7.2 (1-3)			+	++		+	+	+		+	+	+			High
MICROMITE 80 WGS	Diflubenzuron (15)	6.25 oz	12	21	18.75 oz	++				++	++			++						Low
MINECTO PRO	Abamectin(6) / Cyantraniliprole(28)	8-12 oz	12	7	24 oz	+++	+++			+++	+++				++					Moderate
MOVENTO	Spirotetramat (23)	8 –10 oz	24	1	20 oz	++		++	+++	++	++	++	++		++	+++				Low
MUSTANG	Zeta-cypermethrin (3)	4.3 oz	12	1	17.2 oz					+	++	++	+	++			+			High
NEALTA	Cyflumetofen (25)	13.7 oz	12	14	27.4 oz(2)	++	+++													LOW
NEXTER 75 W	Pyridaben (21)	4.3-10.67	12	7	21.34 oz	+++	++				+	+		+	++		+			High
ONAGER	Hexythiazox	12 – 24 oz	12	28	24 oz	++	+++													Moderate
PLATINUM 75 SG*	Thiametoxam (4) (SOIL)	1.83 - 3.67	12	0	3.67 oz			++	++	+++	+++	++	+	+	++	++	++	++		Low
PORTAL	Fenpyroximate (21A)	2-4 pt	12	3	4 pt (2)	+++	+++				+++									Moderate
REQUIEM 25 EC	Extract of <i>Chenopodium ambrosioides</i>	2 – 4 qts	4	0	10	++	++			++										Low
SEFINA Inscalis	Afidopyropen (9D)	3 – 14 oz	12	0	28 oz			++	++		+++	++			+++					Low
SENSTAR	Spirotetramat(23)/Pyriproxyfen(7C)	16 – 20 oz	24	1	40 oz (2)	++		+++	+++	+++	+++	+++	+++		+++	+++				Moderate
SEVIN SL	Carbaryl (1A)	2 – 5 qts	12	5	20 (8)	++		+++	+++	+				++	+					High
SIVANTO PRIME	Flupyradifurone (4D) Foliar Soil	7 - 14 oz (F)	4	1	28 oz			+	++	++	+++	+++	++		+++	+++				Low
		21 - 28 oz	4	30	28 oz							+++	+++		+++	+++				Low
SPINTOR 2 SC	Spinosad (5)	4 - 10 oz	4	1	29 oz (2)					++	+		++							Low
SULFUR / SULFORIX	Sulfur (NR)		12	0		+++	+													High
VENDEX 50 WP	Fenbutatin-oxide (12B)	2 - 3 lb	48	7	6 lbs (2)	+++	+++													Low
VOLIAM Flexi	Thiamethoxam(4A)/Chlorantraniliprole (28)	4 – 7 oz	12	1	14 Oz			++	++	++	++	++	+	++	++	++	+			Moderate
VERIMARK	Cyantraniliprole (28) (SOL)	15-30 oz	4	1	30 oz (2)					+++	+++				++					Moderate
VYDATE L	Oxamyl (1A)	0.5 - 4 pt	48	7	24 pts (6)	+++	+++			++	+		+++		++		++	++	++ See label	High

IRAC-MOA = Insecticide Resistance Action Committee - Mode Of Action. For resistance management and good pesticide stewardship, growers should not only rely on a single pesticide class for pest control. Please read label and make sure pesticide is legally registered before using it.

FORMULATION OF ORGANIC PESTICIDE	Mite Pests		Greasy spots	Melanose	POST-BLOOM FRUIT DROP	Phytophthora	SCAB	CANKER	ALTER-NARIA	NEMATODE
	Citrus rust mite	Spider mites								
Sulfur Products: Kumulus DF, Microthiol 80 DF, Sulfur DF, Sulfur 6F, Sulfur 6L, Sulfur 90 W, Micronized sulfur, 80% Thiospere, Wettable sulfur, etc.	++	+								
Copper: Cu hydroxide, Cu oxychloride, Cu sulfate, cuprous oxide			+++	+++	+++	+	+++	+++	++	
Oils Petroleum-based*: Suffoil-X, Superior spray oil, Organic JMS Stylet oil, TriTek, TresOil, PureSpray, Saf-T-Side, Plant-based: Azatrol, Aza-Direct, AzaGuard, Ecotrol, Oil Pharm, Neemix, Oroboost, Prevam, Trilogy, Soybean oil, Cottonseed oil, Limonene, Garlic, Ecotrol, Sesame oil	++	++	+++	++	+		+		+	
Pyrethrins and pyrethrin-based: Evergreen EC 60-6, Pyganic 1.4 & Pyganic 5.0	++	++								
Insecticidal soaps: Potassium salt of fatty acids: Des-X, P-Pede	+	+								
Biological Antagonists: <i>Bacillus</i> spp., <i>Trichoderma</i> spp. <i>Pasteuria</i> spp.						++				++
Other products: Entrust (Spinosad), Sil-Matrix, Entrust, Agree, Garlic extract, Hot pepper wax, Sucroicide, SucraShield, PFR-97, Diatomaceous earth, Veteran D (Sabadilla alkaloids), organic amendments, sticky traps and barriers	See label	See label	See label	See label	See label	See label	See label	See label	See label	See label

PESTICIDE DISTRIBUTORS IN SOUTH TEXAS	LABEL RECOMMENDATIONS FOR FUNGICIDES							CITRUS DISEASE						NEMATODE	
	FUNGICIDE	ACTIVE INGREDIENT	MODE OF ACTION	RATE/Ac	REI (hr)	PHI (d)	Maximum Rate/Yr	GREASY SPOT	MELANOSE	PHYTOPH-THORA ^x	SCAB	POST-BLOOM FRUIT DROP	ALTER-NARIA		CANKER**
<p>TAMUK Citrus Center is an Equal Opportunity Institution authorized to provide research, educational information and other services. Mention of pesticides and distributors are for guidance only and do not constitute an endorsement by TAMUK</p> <p> 501 E Monte Cristo Rd, Edinburg, TX 78541, Tel 956-383-7451</p> <p> 3809 W Monte Cristo Rd, Edinburg, TX 78539, Tel 956-383-8433</p> <p> Border Rd, Alamo, TX 78516, Tel 956-464-4411</p> <p> 24203 E. Port Rd, Harlingen, TX 78550, Tel 956-428-0575</p> <p>For questions, please call Dr. Mamoudou Sétamou at 956-447-3370 or email at mamoudou.setamou@tamuk.edu</p>	ABOUND 2.08 F	Azoxystrobin	11	12 - 15 oz	4	0	92.3 fl oz	+++	+++		+++	+++	+++		
	ALLETTE WDG	Aluminum tris	33	2 ½ - 5 lb	12	30	20 lbs (4)			+++		++	++		
	COPPER FUNGICIDE	Cu hydroxide, Cu oxychloride, Cu sulfate, cuprous oxide	M1	See label	24	See label	None	+++	+++		+++	++		+++	
	ENABLE 2F	Fenbuconazole	3	8 oz	12	0	24 fl oz (3)	+++	+++		++				
	FLINT EXTRA	Trifloxystrobin	11	2 – 3.8 oz	12	7	15.2 fl oz (4)	+++	+++		+++	+++	+++		
	HEADLINE	Pyraclostrobin	11	9 -15 oz	12	0	54 fl oz	+++	+++		+++	+++	+++		
	LUNA SENSATION	Fluopyram, Trifloxystrobin	7, 11	7.6 oz	12	7	27.2 fl oz	+++	+++		+++	+++	+++		
	PRESIDIO	Fluopicolide	43	4 oz	12	30	4 fl oz (1)			+++					
	PRISTINE	Pyraclostrobin, Boscalid	11, 7	16 -18.5 oz	12	0	74 fl oz	+++	+++		+++	+++	+++		
	QUADRIS TOP	Azoxystrobin Difenconazole	11,3	10-15.4 oz	12	0	61.5 oz	+++	+++		+++	+++	+++		
	RIDOMIL GOLD SL	Mefenoxam	4	1 - 3 qts	48	21	6 qts			+++					
	SPRAY OILS (Narrow Range)	Oil Midpoint boiling range of 412°F - 455 °F	NR	2 -10 gal	12	0	None	+++	++			++			
	VELUM	Fluopyram	7	6.5 - 6.84 oz	12	7	13.7 oz	++	++					+++	+++

Most pesticides required the use of a spray adjuvant (surfactant, oils) for enhanced performance. Narrow range oils, Non-ionic surfactants, Wetcit, and Vintre are recommended for citrus pest control. Make sure to read the label and ensure compatibility before tank mixing pesticides. For instance, do not tank mix sulfur and oil; M-Pede or Des-X and sulfur, or any penetrator, spreader sticker, activator, calcium nitrate, diatomaceous earth, Aliette fungicide or metallic ions (Mn, Mg, Fe or Zn). ** Citrus Canker suppression is also provided by pesticides such as Imidacloprid and Flupyradifurone. For more information on pesticide current registration status in Texas, visit http://npirspublic.ceris.purdue.edu/state/state_menu.aspx?state=TX. Other effective preplant nematicides include Metam Sodium (e.g. Vapam HL, Sectagon 42), 1,3-Dichloropropene/Chloropicrin (Telone C35) and 1,3-Dichloropropene (Telone II). Please read appropriate labels.