

LOUISIANA CITRUS SPRAY SCHEDULE

Note: Selection of proper materials and timing of application are of prime importance for effective control of insects and diseases of citrus.

***The rate of pesticide product per 100 gals. used in this guide is based on a volume of 400 gals/acre diluted spray.**

Time	Crop	Pesticide and formulation	Rate of product/acre	Amount to use for: 100 gals.* 1 gal.		Pest(s) to control	Remarks
Pre-bloom: Jan. 15 - Feb. 15	Satsuma	Kelthane MF: Trees less than 10 ft tall:	4-6 pts/acre	1-1½ pts	1-1½ tsps	Spider mites	PHI=7 days; begin applications when mite populations are low before they increase rapidly. Some resistance of rust mites to Kelthane is reported in Louisiana. Limit Kelthane applications to 1 per growing season. If 2 applications are made in 1 year, then no applications should be made the following year. See footnotes for important mite-resistance management plans.
	Grapefruit						
	Temple	Trees greater than 10 ft tall: + Tangelo	6 pts/acre	1½ pts	1½ tsps		
	Valencia						
	Lemon	Latron CS 7		1 qt			
		or					
		Nexter 75WP	6.6 ozs/acre (=1 water-soluble packet/acre)			Spider mites Rust mites	PHI=7 days; do not make more than 2 applications per year. Allow 30 days between treatments at lowest labeled rate. Higher rates require longer intervals. Highly toxic to bees, fish and aquatic invertebrates. Read label.
		or					
		Micromite 80WGS + 97% petroleum- based oil	6¼ fl oz/acre (=2 water-soluble packet/acre)			Rust mites	PHI=21 days; do not mix with boron products. Use sufficient water to ensure coverage. Applications may be repeated no less than 90 days apart. Active on eggs and nymphal stages but not on adult rust mites. Results visible 3-10 days after application.
		or					
		Sulfur				Rust mites	Limit sulfur applications to 1 per season where supplemental rust mite control is needed. Do not mix with oils and/or do not apply within 3 weeks of oil applications to avoid fruit burn. Some sulfur formulations should not be combined with spreader stickers. Follow labeled rate. Do not use more than 6 lbs/100 gals. Sulfur may cause irritation to eyes. Avoid contact with eyes, skin and clothing. To avoid foliage/fruit burn, do not apply sulfur products when hot temperatures (above 90°F) are expected within 3 days of spraying. NOTE: Lime sulfur use: Do not use this material on tangerine trees during late winter and early spring.

Time	Crop	Pesticide and formulation	Rate of product/acre	Amount to use for:		Pest(s) to control	Remarks
				100 gals.*	1 gal.		
Post bloom: Satsumas-when 75% petals have fallen; other oranges: when pea size	All citrus	Malathion 57EC	5-7½ pts/acre	1¾ pts	2 tsps	Scales Thrips	PHI=7 days; Malathion is highly toxic to honeybees. Do not apply during full bloom. Nutritional mixtures should not be used in combination with oil sprays.
		or Malathion 8F	6 pts/acre	1½ pts	1½ tsps	Aphids	
		or Lorsban 4E	2-7 pts/acre	1-1¾ pt	1-2 tsps	Aphids Scales Mealybugs Thrips	REI=5 days; PHI=21 days; Lorsban applications may increase spider mite activity. A miticide may be needed after using this product. Do not make more than 2 Lorsban applications (or more than 15 pts of 4E formulation)/acre/year. Use 30-day interval between applications. Do not use Lorsban when temperature is above 95°F. To avoid excessive ridging of the fruit, do not apply Lorsban from December until 10 % bloom. Lorsban is toxic to birds and wildlife, highly toxic to honey bees, and extremely toxic to fish. Do not use where shrimp or crawfish would be affected. Do not apply during full bloom. To improve control of aphids, mealybugs, scale insects, and thrips. A petroleum spray oil recommended for use on citrus trees may be added to spray mixtures at up to 1.8 gals/100 gals of spray.
		or Supracide 2E		½-2 pts	½-2 tsps	Scales Mealybugs	
				1-2 pts	1-2 tsps	Whitefly	PHI=14 days; make no more than 2 applications/season. Allow 45-day intervals between sprays. Highly toxic to bees. Do not apply during full bloom. In lemons, do not apply more than once if tank-mixed with oil.

Time	Crop	Pesticide and formulation	Rate of product/acre	Amount to use for: 100 gals.* 1 gal.		Pest(s) to control	Remarks	
“(...cont. from previous page)”								
Post bloom: Satsumas- when 75% petals have fallen; other oranges: when pea size		or	Esteem 0.86 EC +	16 fl ozs/acre			Scale insects Whitefly Citrus blackfly Spider mites	PHI=1 day; use sufficient water to ensure enough coverage. Apply when scales are at crawler (young) stage. Maximum 2 applications per season. Allow 21 days between sprays. To manage citrus blackfly- apply with ground application in 200-1,500 gals/acre. Apply in sufficient water volume for tree size. Thorough coverage is critical for control. It is essential to use adequate water volume to ensure thorough coverage. Apply when pests are just beginning to build and before infestation has occurred. Thorough coverage is essential for good control.
		or	Kelthane MF: Trees less than 10 ft tall: Trees greater than 10 ft tall: +	4-6 pts/acre	1-1½ pt	1-1½ tsp		
				6 pts/acre	1½ pt	1½ tsp		
		Latron CS 7		1 qt			PHI=7 days; begin applications when mite populations are low before they increase rapidly. Some resistance of rust mites to Kelthane is reported in Louisiana. Limit Kelthane applications to 1 per growing season. If 2 applications are made in 1 year, then no applications should be made the following year. See footnotes for important mite-resistance management plans.	
		or	Nexter 75WP	6.6 ozs/acre (1 water-soluble packet/acre)			Spider mites Rust mites	PHI=7 days; do not make more than 2 applications/year. Allow 30 days between treatments at lowest labeled rate. Higher rates require longer intervals. Highly toxic to bees, fish, and aquatic invertebrates. Read label.
		or	SpinTor 2SC	4-10 fl. ozs/acre			Thrips	PHI=1 day; do not spray more than 29 fl. ozs/acre/crop or more than 2 applications/year. For best results, add emulsified crop oil (follow label).

Time	Crop	Pesticide and formulation	Rate of product/acre	Amount to use for:		Pest(s) to control	Remarks
				100 gals.*	1 gal.		
“(...cont. from previous page)”							
80% petal fall		Agri-mek 0.15EC	5-20 fl. ozs/acre	1¼-5 ozs.	¼ tsp	Rust mites Broad mites Bud mites Two-spotted spider mites Leafminers Citrus thrips	PHI=7 days; always apply with a minimum of 0.20% horticultural (not dormant) spray oil. Allow 30 days between treatments. Do not apply more than 40 fl. ozs/acre/season. Highly toxic to honeybees. For best results, use a minimum of 500 gals/acre of spray and no less than 0.5% oil for citrus bud mites; 100-150 gals/acre spray for citrus leafminers; 100-250 gals/acre spray for citrus thrips and adjust the rate of product/acre accordingly. Use caution when applying oils, read the label, do not spray when temperatures exceed 85 °F.
			10-20 fl. ozs/acre	2½-5 ozs.	¼ tsp		
		+					
		Ultra Fine Oil					
		or Admire 2F (soil-applied systemic)	16-32 fl. ozs/acre (or 1/8 fl. oz/tree)			Leafminers Aphids Whiteflies Scales Citrus Blackfly Mealybugs	PHI=0 days; intended for containerized trees and trees less than (8 ft. in height). Apply as soil drench. For best results apply prior to the onset of infestations. See label for soil-application options.
		or Assail 70WP	2 ozs/acre			Leafminers	PHI=7 days; toxic to honeybees; exposed to direct treatment.
		or Micromite 80WGS + 97% petroleum-based oil	6¼ fl ozs/acre (=2 water-soluble packet/acre)			Rust mites Leafminers	PHI=21 days; do not mix with boron products. Use sufficient water to ensure coverage. Applications may be repeated no less than 90 days apart. Active on eggs and nymphal stages but not on adult rust mites. Results visible 3-10 days after application. For leafminer control, apply when oviposition begins.
		or Spintor 2SC	4-10 fl ozs/acre			Thrips Leafminers	PHI=1 day; Do not spray more than 29 fl. ozs/acre/crop or more than 2 applications/year. For best results, add emulsified crop oil (follow label).

Time	Crop	Pesticide and formulation	Rate of product/acre	Amount to use for:		Pest(s) to control	Remarks
				100 gals.*	1 gal.		
“(...cont. from previous page)”							
	80% petal fall (cont'd)	or Provado	10-20 fl. ozs/acre	3½-5 ozs	¼ tsp	Citrus thrips Citrus blackfly	PHI=0 days; do not apply during bloom or 10 days prior to bloom. Limit to 20 ozs/acre/application and 40 ozs/acre/year. Allow at least 10 days between applications.
April		Extinguish IGR	1-1½ lb/acre	3-5 TBS/mound		Fire ants	Apply when ants are actively foraging.
June 15 – July 15	All citrus	SpinTor 2SC	4-10 fl. ozs/acre			Thrips Leafminers	PHI=1 day; do not spray more than 29 fl. ozs/acre/crop or more than 2 applications/year. For best results, add emulsified crop oil (follow label).
		or Agri-mek 0.15EC	5-20 fl. ozs/acre 10-20 fl. ozs/acre	1¼-5 ozs 2½-5 ozs	¼ tsp ¼ tsp	Rust mites Broad mites Bud mites Two-spotted spider mites Leafminers Citrus thrips	See above preceding remarks on Agri-mek.
		+					
		Ultra Fine Oil					Always use caution when spraying oil and oil combinations. Read the label. Do not apply when temperatures exceed 85 °F. See footnotes.
		or Micromite 80WGS	6¼ fl. ozs/acre (=2 water-soluble packet/acre)			Rust mites Leafminers	PHI=21 days; do not mix with boron products. Use Sufficient water to ensure coverage. Applications may be repeated no less than 90 days apart. Active on eggs and nymphal stages but not on adult rust mites. Results visible 3-10 days after application. For leafminer control, apply when oviposition begins.
		+	97% petroleum-based oil				
		or Sun Spray Ultra Fine Oil		1¼-1¾ gals	3-4½ TBS	Mites Spider mites	
		or Summer Oil		1 -1½ gals	2½ -4 TBS	Whiteflies Mealybugs Scales	
		+					
		Malathion 57EC	5-7½ pts/acre	1¾ pts	2 tsps	Aphids	See above for Malathion remarks.

Time	Crop	Pesticide and formulation	Rate of product/acre	Amount to use for: 100 gals.* 1 gal.		Pest(s) to control	Remarks
“(...Cont. from previous page)”							
June 15 – July 15		or Provado	10-20 fl. ozs/acre	3½-5 ozs	¼ tsp	Citrus thrips	PHI=0 days; do not apply during bloom or 10 days prior to bloom. Limit to 20 ozs/acre/application and 40 ozs/acre/year. Allow at least 10 days between applications.
		or Lorsban 4E	4-7 pts/acre	1-1¾ pt	1-2 tsps	Aphids Scales Mealybugs	Lorsban may increase spider mite activity. A miticide may be needed after using this product. See remarks above.
		or Supracide 2E		½-2 pts 1-2 pts	½-2 tsps 1-2 tsps	Scales Mealybugs Whitefly Citrus blackfly Black scales	PHI=14 days; make no more than 2 applications/season. Allow 45-day intervals between sprays; highly toxic to bees. Do not apply during full bloom. In lemons, do not apply more than once if tank-mixed with oil.
Aug. 14 - Sept. 15	All citrus	or Lorsban 4E	4-7 pts/acre	1-1¾ pt	1-2 tsps	Aphids	Avoid copper applications during this time to avoid increasing mite populations. Lorsban may increase spider mite activity. A miticide may be needed after using this product. See remarks above.
		or Baythroid 2	2-2.4 fl ozs/acre			Leaf-footed bugs	PHI=0 days; throughout coverage of foliage and fruits is necessary for optimal results. Use 2-3 gals. of spray per tree. If multiple applications are needed, may make a first spray at 2.4 fl. ozs/acre and 2 additional sprays of 2 fl. ozs/acre at a minimum of 7-day intervals. Maximum amount per season is 6.4 fl. ozs/acre (or 0.10 lbs active ingredient/acre/season).
		or Malathion 57EC	5-7½ pts/acre	1¾ pt	2 tsps	Scale insects	See above for remarks on Malathion.
		or Provado	10-20 fl. ozs/acre	3½-5 ozs.	¼ tsp	Aphids Mealybugs Citrus blackfly Whitefly	PHI=0 days; do not apply during bloom or 10 days prior to bloom. Limit to 20 ozs/acre/application and 40 ozs/acre/year. Allow at least 10 days between applications.

Time	Crop	Pesticide and formulation	Rate of product/acre	Amount to use for: 100 gals.* 1 gal.		Pest(s) to control	Remarks
“...Cont. from previous page”							
Aug. 14 - Sept. 15		or Ultra Fine Oils		1½ gal	4 TBS		Oils may be used with all materials particularly against whiteflies, mites, and scales. However, read footnotes for important information.
		or Supracide 2E		½-2 pts	½-2 tsps	Aphids Mealybugs Citrus blackfly Whitefly	PHI=14 days; make no more than 2 applications/season. Allow 45-day intervals between sprays; highly toxic to bees. Do not apply during full bloom. In lemons, do not apply more than once if tank-mixed with oil.
		or Kelthane MF: Trees less than 10 ft tall: Trees greater than 10 ft tall: + Latron CS 7	4-6 pts/acre 6 pts/acre	1-1½ pt 1½ pt	1-1½ tsp 1½ tsp	Spider mites	See above for limitations on Kelthane. Some resistance of rust mites to Kelthane is reported in Louisiana. See footnotes for important mite-resistance management plans.
		or Nexter 75WP	6.6 ozs/acre (1 water-soluble packet/acre)			Spider mites Rust mites	See preceding limitations.
Oct. 15- Nov. 15	All citrus	Sulfur				Rust mites	Apply post-harvest only if supplemental rust mite control is needed. See preceding remarks for oil and temperature restrictions.
		or SpinTor 2SC	4-10 fl. ozs/acre			Leafminers	PHI=1 day; do not spray more than 29 fl. ozs/acre/crop or more than 2 applications/year. For best results, add emulsified crop oil (follow label).
		or Provado	10-20 fl. ozs/acre	3½-5 ozs	¼ tsp	Citrus Blackfly	PHI=0 days; do not apply during bloom or 10 days prior to bloom. Limit to 20 ozs/acre/application, and 40 ozs/acre/year. Allow at least 10 days between applications.

Time	Crop	Pesticide and formulation	Rate of product/acre	Amount to use for: 100 gals.*	1 gal.	Pest(s) to control	Remarks
“(...Cont. from previous page)”							
		or Agri-mek 0.15EC	5-20 fl. ozs/acre	1¼-5 ozs	¼ tsp	Rust mites	
		or Baythroid 2	2-2.4 fl. ozs/acre			Leaf-footed bugs	See preceding remarks on Baythroid 2.
		or Extinguish IGR	1-1½ lb/acre	3-5 TBS/mound		Fire ants	

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Note: Add a spreader sticker or liquid soap to spray mixture to obtain better coverage especially when emulsifiable concentrates are used. If rust mite control is poor, reduce speed or increase gallonage/acre if using a speed sprayer.

Mite-Resistance Management Plan: Repeated use of the same miticide is documented to result in rapid buildup of miticide-resistant strains of mites. To reduce the potential risk of developing resistant mite populations, miticides should be alternated as part of a mite-resistance management plan. If more than one application is needed to control heavy and prolonged mite infestations, always alternate to products with different mode of action. Observe the minimum required spray intervals and restrictions on amount of product and numbers of applications/area/ season. Closely monitor mite populations to determine species, infestation levels, and presence of predatory organisms. Use miticide sprays only when needed.

Caution: Oil emulsion sprays should not be applied to drought-stricken trees when temperature is above 85°F and humidity less. Oil emulsion sprays applied after August 15 may inhibit solid formation, retard coloring of fruit, and reduce the tolerance trees to cold. Follow specific instructions on the label of all pesticides.

Warning: Always wear appropriate Personal Protective Equipment when handling and spraying pesticides.

Warning: Re-entry times for workers entering groves and/or treated fields should be strictly observed. Be sure to check the label for this information.

“(Next page: Louisiana Citrus Spray Schedule for Home Gardens)”

LOUISIANA SIMPLIFIED CITRUS SPRAY SCHEDULE FOR HOME GARDENS

The three spray applications suggested should control most pests and provide the homeowner with quality fruit.

Time	Pesticide and Formulation	Amount to Use for:		Pest to Control	Limitations
		50 gal.	1 gal.		
Post bloom spray: When 75% of petals have fallen	Malathion 57EC	1 pt	2 tsps	Scales Whiteflies	Do not apply Malathion, Kelthane, and Vendex fewer than 7 days before harvest. Do not apply Malathion to plants in full bloom.
	or				
	Kelthane MF: Trees less than 10 ft tall:	½-¾ pt	1-1½ tsps	Spider mites	Limit Kelthane applications to 1/year to reduce the development of resistance in mite populations. If two applications are made in one year, then no applications should be made the following year.
	Trees greater than 10 ft tall:	¾ pt	1½ tsp		
or	Spinosad	4 -6 ozs	1 tsp	Thrips Leafminers	Allow minimum of 7 days between last application and harvest. Several formulations available for home gardens (i.e. Spinosad, Success, Conserve, and Naturalyte, etc.). Follow label recommendations.
Summer spray: July 15-Aug. 15	Sun Spray Ultra Fine Oil	½-1 gal	2½-4 TBS		Use caution when applying oils. Read the label. Do not spray when temperatures exceed 85°F. Read footnotes.
	or				
	Summer Oil Emulsion	½ gal	5 TBS	Scales Whiteflies	Use caution when applying oils. Read the label. Do not spray when temperatures exceed 85°F. Read footnotes.
	or	Spinosad	4-6 ozs	1 tsp	Thrips Leafminers
or	Malathion 57EC	1 pt	2 tsps	Scales Whiteflies	Same as above.
Fall spray: October 15-November 15	Malathion 57EC	1 pt	2 tsps	Scales Whiteflies	Same as above.
	or				
	Kelthane MF: Trees less than 10 ft tall:	½ - ¾ pt	1-1½ tsp	Spider mites	Same as above.
	Trees greater than 10 ft tall:	¾ pt	1½ tsp		
or	Spinosad			Thrips Leafminers	See limitations above. Read the label.

Caution: Read the pesticide label and follow safety recommendations of the manufacturer.

Caution: Oil emulsion sprays should not be applied to drought-stricken trees when temperature is above 85°F and humidity less. Oil emulsion sprays applied after August 15 may inhibit solid formation, retard coloring of fruit, and reduce the tolerance trees to cold. Follow specific instructions on the label of all pesticides.

“(End of table)”