

Suggested Use Pattern of Injectable Antimicrobials for Huanglongbing (HLB) Management (April 2024)

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This document is a suggested use pattern of injectable antimicrobials in Florida citrus. This is <u>not</u> an official University of Florida recommendation.

Information is based on FIFRA Section 24(c) Special Local Need Label for ReMedium TI $^{\circ}$ (10/28/2022) and Rectify † (01/30/2023).

Antibacterial Product Application Schedule

The application schedule should be adjusted based on expected harvest time and flowering. The red boxes indicate the possible timing of injection. Only one application per year is allowed for bearing trees, but non-bearing trees can be injected twice annually with a 4-month interval.

<u>Citrus Type</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	May	<u>Jun</u>	<u>Jul</u>	Aug	<u>Sep</u>	<u>Oct</u>	Nov	<u>Dec</u>
Early Season Varieties (Ex. Hamlin, Navel, Fallglo)												
Mid Season Varieties (Ex. Murcott, Pineapple, Midsweet)												
Late Season Varieties (Ex. Valencia)												
Grapefruit (Ex. Ray Ruby, Flame, Ruby Red)												

The latest possible injection application should be determined based on the 180-day PHI from the expected harvest date. The colors indicate the most desirable (dark red) and less desirable (light red) injection time.

Application

- DO NOT apply during bloom.
- DO NOT apply during leaf flushing.
- Recommended to apply when leaves are fully expanded for efficient uptake and distribution.
- Trees should be well-watered before and at the time of application.
- DO NOT apply during drought conditions.
- Leaf yellowing (phytotoxicity) may occur on the side of injection.
- ONLY inject once the product is fully dissolved.
- ONLY use freshly prepared solution.

THE LABEL IS THE LAW!

Refer to the label for additional information.

This guide does not supersede the label.

Injection Sites

- Do not re-use injection sites.
- The rootstock is the recommended location for injection, but scion injections are also effective.
- Subsequent injections should be above or below the initial site by 2 inches and on the opposite side, or to the right or left by 2 to 3 inches.
- Do **NOT** use any post-wounding treatments as these may interfere with wound healing.

ANTIBACTERIAL PROGRAMS DO NOT REPLACE ASIAN CITRUS PSYLLID MANAGEMENT PROGRAMS.



Other considerations

- Injection into the trunk can cause significant damage to the tree.
- Trees with a trunk diameter of less than 2.5 inches are prone to more damage.
- Minimizing the hole size will minimize tree damage.

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ReMedium TI® (EPA # SLN FL220005) Rectify™ (EPA # SLN FL230001)					
Pre-harvest I	180				
Bearing	Max. Number of Applications per Calendar Year	1			
trees	Min. Re-treatment Interval (days)	365			
Non- bearing trees	Max. Number of Applications per Calendar Year	2			
	Min. Re-treatment Interval (days)	120			
Re-entry Inte	12				
Maximum an	1.65 g				
FRAC Group	41				

ReMedium	TI®	or	Rectifv™	Dose	per	Tree b	V	Trunk D	Diameter
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		<u>Bearing</u>	Non-bearing ¹			
Volume	Trunk Diameter	5,500 ppm	11,100 ppm	Trunk Diameter	1,100 ppm	
25 ml	2.15" – 3"	0.138 g	0.275 g	1.25" – 1.75"	0.0275 g ¹	
50 ml	3" – 4.25"	0.275 g	0.55 g	1.75" – 2.125"	0.055 g ¹	
100 ml	4.25" – 6"	0.55 g	1.1 g	-	-	
150 ml	> 6.0"	0.825 g	1.65 g	-	-	

¹can be injected twice per year but may cause more harm than benefit

ReMedium TI® and Rectify™ Personal Protective Equipment (PPE) for Applicators and Handlers

Coveralls over short sleeved shirt and shorts	Yes ¹
Long sleeve shirt and pants	Yes ²
Chemical-resistant gloves	Yes ^{1,2}
Shoes and socks	Yes ^{1,2}
Protective eyewear	Yes ^{1,2}
Respirator	Yes ^{1,3}
Application Method	Injection

¹Mixers and injection device fillers

Crop Type

Citrus (group 10-10): Grapefruit, lemon, lime, orange, tangelo, tangerine, citron, kumquat, pummelo, and hybrids of these.

DANGER

Muriatic acid is highly corrosive and can cause severe skin burns and eye damage. Do not inhale fumes.

CAUTION

Injection of oxytetracycline dissolved in an acidified solution may cause trunk damage with long-term effects that are not yet established.

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²Applicators

³At least a particulate respirator with any N,R, or P filter, NIOSH approval prefix TC-84-A