

Suggested Use Pattern of Injectable Antimicrobials for Huanglongbing (HLB) Management (February 2023)

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This document is a suggested use pattern of injectable antimicrobials in Florida citrus. This is not an official University of Florida recommendation. Information is based on FIFRA Section 24(c) Special Local Need Label for ReMedium TI[®] (10/28/2022) and Rectify[™] (01/30/2023).

Antibacterial Product Application Schedule

Application schedule should be adjusted based on expected harvest time and flowering. The red boxes indicate possible timing of injection. Note that only one application per year is recommended, although non-bearing trees are allowed to be injected up to twice annually with a 4-month interval.

Citrus Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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.
Color scale from most desirable (dark) to least desirable (light)

Application

- DO NOT apply during bloom.
- Recommended use after harvest and during spring.
- Recommended to apply when leaves are fully expanded for efficient uptake and distribution within tree.
- Phytotoxicity can occur in the hottest months of the year.
- ONLY inject once product is fully dissolved.
- ONLY use freshly prepared solution and protect solution from sunlight.

Injection Sites

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



Trunk damage from injections

Considerations

- Injection into the trunk can cause significant damage to the tree.
- In all trees, it is best to minimize hole diameter.
- Trees with a trunk diameter of less than 2.5 inches are best not injected.
- Minimizing the hole size will minimize tree damage.

THE LABEL IS THE LAW!

Refer to the label for additional information.
This guide does not supersede the label.

**ANTIBACTERIAL PROGRAMS DO NOT
REPLACE ASIAN CITRUS PSYLLID
MANAGEMENT PROGRAMS.**

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ReMedium TI® (EPA # SLN FL220005) Rectify™ (EPA # SLN FL230001)		
Pre-harvest Interval (days)		180
Bearing trees	Max. Number of Applications per Calendar Year	1
	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 Interval (hours)		12
Maximum amount of product per tree per year		1.65 g
FRAC Group		41

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
¹ Mixers and injection device fillers	
² Applicators	
³ At least a particulate respirator with any N,R, or P filter, NIOSH approval prefix TC-84-A	

ReMedium TI® or Rectify™ Dose per Tree by Trunk Diameter					
Volume	Bearing			Non-bearing ¹	
	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	–	–
¹ can be injected twice per year but may cause more harm than benefit					

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 acidified solution may cause trunk damage with long-term effects not yet established.

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