Effects of Oxytetracycline Trunk Injections in 18-year-old 'Hamlin' and 'Valencia' Trees

OTC rate	Juice color	Brix	Brix/acid	Lbs. solids/box
Control	36.8 b	8.4 c	11.4 c	4.4 c
0.55 g/tree*	37.1 ab	9.0 b	12.5 b	4.7 b
0.825 g/tree*	37.1 ab	9.2 b	13.0 b	4.8 b
1.1 g/tree*	37.1 ab	9.2 b	13.1 b	4.8 b
1.65 g/tree**	37.3 a	9.8 a	14.1 a	5.1 a

Different letters within columns indicate significant (p<0.05) differences among means.

Not injected

1.65g OTC/tree

Researchers: Ute Albrecht, Gabriel Pugina, Caroline Tardivo

Contact: Ute Albrecht, **ualbrecht@ufl.edu**

UF/IFAS SWFREC

Summary: Numerous field studies are in progress to evaluate best rates, best time of injection, and other factors to optimize oxytetracycline (OTC) injections. In 2023, we initiated two field trials to compare the efficacy of different rates of OTC in 18-year-old 'Hamlin' on Kuharske trees and 18-year-old 'Valencia' Swingle trees. The rates used were 0.55 g, 0.825 g, 1.1 g, and 1.65 g per tree. The highest rate was administered using two injectors, and the other rates were administered using one injector. All injections were performed in the scion trunk. 'Hamlin' trees were injected in June 2023 and harvested in December 2023. 'Valencia' trees were injected in June or in September 2023 and harvested in March 2024. In the 'Hamlin' trial, the yield increased by 26% on average, but there was no significant difference among the different rates. The juice quality was increased in all injected trees, but increases were most pronounced with the highest rate. Using 1.65 g OTC/tree, we measured 4.9 pounds solids/box, compared to 4.3 for the non-injected trees and 4.4-4.6 for the other rates. In the 'Valencia' trial, the yield increased by 34% on average but there was no significant difference among the different rates. Here too, the juice quality was improved more when more OTC was injected.

Using 1.65 g/tree, we measured 5.1 pounds solids/box, compared to 4.4 for the non-injected trees and 4.7-4.8 for the other rates. We also found that September injections improved the juice quality more than June injections, but yields were not significantly different.

Take Home Message:

- Oxytetracycline injections can improve fruit yield and juice quality in older trees.
- The juice quality was improved more when using a higher OTC rate.
- September injections improved the juice quality more than the June injection.