

Citrus Fertilizer for HLB-Affected Citrus Trees

Research shows that using a balanced controlled release fertilizer (CRF), like a 12-4-16 with Ca and Mg, and micronutrients gives the best results for citrus affected with Citrus Greening (HLB). Adding a micronutrient fertilizer that includes manganese and zinc will yield even better results. Controlled release fertilizer comes in many release times and formulations. You can get one that will release over a year or one that will release over 4 months. If you use a 4 month release formulation, in February, June, and September apply about 2 and 1/2 pounds of this type of fertilizer (12% N) plus 1/2 pounds per mature tree of the micronutrients Mn-Zn-Fe-B (6:6:3:1). This may sound like a lot of micronutrients, but four times the previous recommended rate of manganese reduced the amount of Greening bacteria in the tree in research.¹ Apply the fertilizer to the wetted zone of the tree's root system, not just in a single spot or narrow ring around the tree. Micronutrients are the nutrients needed at much lower amounts in plant growth, while macronutrients, the nitrogen, phosphorus and potassium in most fertilizers, are the major nutrients required for plant growth. Take care not to over-apply micronutrients because too much may cause a toxic response. Younger, smaller trees require less fertilizer, so use the table below as a guide to amounts.

If you cannot find a CRF, or prefer not to pay the increased cost of this product, you may use a regular granular fertilizer, but the same total amount of nitrogen will need to be divided up and applied monthly during the period February through September. Others may prefer using a soluble fertilizer and applying even smaller amounts frequently. You should not apply more than 1 pound of N (remember the fertilizer is not pure N) per year per tree unless you have a large old tree.

For best citrus growth, the soil pH should be between 6 and 6.5, with irrigation water pH between 5 and 6. Irrigation water pH is not something most homeowners can control, so be aware that if your water pH is high,

it will cause your soil pH to increase over time and will contribute to poor plant response to any fertilizers. Using a sulfur coated CRF will help to reduce the soil pH.

Tree Age	Lbs of N/tree/ year	Lbs. of 12-4-16/tree/yr
1	0.3	2.5
2	0.6	5
3	0.9	7.5
4	1	8.3
5+	1.6	13.28

Sources:

1. Enhanced CRF root nutrition to maximize HLB tolerance. 2019. Jude Grosser. <https://citrusresearch.ifas.ufl.edu/ongoing-research/>
2. Nutrition Management for Citrus Trees. 2018. K.T. Morgan, D.M. Kadyampakeni, M. Zekri, A.W. Schumann, T. Vashisth and T.A. Obreza. UF/IFAS Florida Citrus Production Guide. <https://crec.ifas.ufl.edu/media/crecifasufledu/>

extension/plant-pathology-/florida-citrus-production-guide/pdf/Nutrition_Mangement.pdf

Produced by Juanita Popenoe, UF/IFAS Extension Lake County. jpopenoe@ufl.edu