The Effect of Nutrition on Oranges Trees with Citrus Greening: The 21th Century Plant Crisis

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The importance of this project was to find organic or natural ways to help plants with citrus greening, where there is no known cure. This is a public health problem because citrus greening, in addition to affecting citrus trees and organic citrus industries, can also affect human health because of the pesticides used to attack the vector, the Asian Citrus Psyllid. These methods are very dangerous and are related to carcinogens, therefore, harmful to humans (Shade, J. (2014, June 24). This project involves how the effect of natural nutrients affect the growth and development of these plants infected with Candidatus Liberibacter spp. in its vascular system. The purpose is to demonstrate if the application of natural nutrients through foliar treatment A (iron, zinc and phosphorous); and foliar treatment B (potassium, manganese and phosphorous) will improve the infected plant's tissue appearance such as plant's height, stem thickness, leaf diameter and plant's leaf color. This has been done by examining and measuring these parameters before and after the foliar treatments. In this study, there were statistical significant differences within the same foliar treatments (foliar treatment A in plant height means ($p<0.05$) and foliar treatment B in stem thickness means (borderline $p=0.073$)), but not between the different types of treatments. Other plant parameters observed, suggest an overall improvement, but there were no statistical significant differences. The findings of this project can be useful to continue future studies with innovative organic ideas that prevent scarcity of citruses, economic crisis thus conserving human health.

Awards Won: