

FIELD STUDY • AGRICULTURE • CITRUS (HLB)

ROS Effective Against *Xylella Fastidiosa*

A Florida field study shows DZ 9966 mineral oxychloride revived citrus trees stricken by huanglongbing (HLB) by destroying the protective biofilm and inactivating the bacteria.

+750 mVOXIDIZED IRRIGATION SOLUTION
(25 mg/L)**<10 sec***E. COLI* & *SALMONELLA*
INACTIVATION**2×**

OXIDATIVE POTENCY VS. CHLORINE

In a recent study, our new mineral oxychloride disinfectant was tested on flying vectors that impact fruit trees in Florida.

For four years, an experimental disinfectant was tested to control huanglongbing (HLB). During the first 90 days, the citrus orchard was flood-irrigated at the root system three times per week with a +750 mV solution (25 mg/L of DZ 9966), and the trees were fogged twice weekly in the evening (3 oz to 1 gal of water). By the end of three weeks, the trees in the controlled study were developing new leaves, and fruit was beginning to form on the once-stricken trees.

— How it works

Xylella fastidiosa and huanglongbing attack the xylem of the host plant by creating a biofilm that limits the movement of water and nutrients. To treat both bacteria, you must first destroy the biofilm, then inactivate the bacteria. DZ 9966 generates the hydroxyl radical ion that attacks the extra-polymeric substance (EPS) — the sticky protective film around the bacteria. Once the EPS is destroyed, other oxidative species rapidly attack the DNA of the bacterial nucleus to inactivate it and prevent reproduction or mutation. DZ 9966 is not an insecticide, but a highly water-soluble oxidant easily transported from the root system to stems, leaves, and branches with enough energy to oxidize *Xylella fastidiosa*.

DZ 9966 is a mineral oxychloride oxidant that generates a high concentration of reactive oxygen species (ROS) — including ozone, hydrogen peroxide, hydroxyl radical ions, and singlet oxygen ions. It specifically generates a high concentration of hydroxyl radical ions, whose oxidative energy is roughly twice as potent as chlorine (hypo- and hyper-). This means hydroxyl radical ions work faster than chlorine and ozone to oxidize organic and inorganic contaminants. Studies at a university post-harvest research program indicated that using DZ 9966 at an ORP above +700 mV inactivated *E. coli* and *Salmonella* in less than 10 seconds.

REQUEST THE DATA

For a copy of the Florida Study, contact us at deepak@dz-worldwide.com.