The Use of ENZONE® to Control Soil Insect and Disease Problems

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ENZONE® is an aqueous solution of sodium tetrathiocarbonate that is miscible with water and acts as a contact soil fumigant for management of grape phylloxera, phytopathogenic nematodes and various soil-borne pathogens that cause root rot diseases. The product is delivered to the crop through irrigation water and rapidly breaks down in the soil releasing CS_2 gas. The product is registered for use in preplant, postplant and post harvest situations. Unlike other soil fumigants it is not a restricted use product in California and does not require a Notice Of Intended Use on the day of application.
Treating perennial crops is a continuous management practice and timing of the ENZONE application along with monitoring the pest population is necessary. Maximum effectiveness is achieved by careful timing of ENZONE application to the target pest. Timed applications in spring and fall root flush will control nematodes. Mid to late summer application controls phylloxera. Efficacy of ENZONE is dependent upon maintaining an appropriate concentration of active ingredient within the root zone over a specific time period.

The use of ENZONE has resulted in enhanced plant vigor, yield and product quality in many varieties of grapes, citrus and stone fruits. ENZONE does not persist in the environment. It evaporates and is oxidized to carbonates and sulfates. The rate of degradation depends upon several factors, including water and soil pH, temperature, irrigation volume, soil texture and moisture. The degradation parameters prevent contamination of groundwater by ENZONE and CS_2 concentrations rapidly return to natural background levels.

The presentation will consist of mostly statements by "bullets". Maybe a short 3 or 4 statement paragraph on application techniques. I also will include graphs, probably not any tables, as they take too much time to read and require close analysis. The data I hope to include is:

Efficacy vs. Phylloxera on Grapes
Efficacy vs. Phytophthora and Nematodes on Lemons
Efficacy vs. Phytophthora on Oranges
Efficacy vs. Phytophthora *in vitro*
Efficacy vs. Armillaria on Grapes
Efficacy vs. Nematodes on Grapes
Observations on Bacterial Canker and Plant Vigor with ENZONE applications

Grape yield subsequent to treating Phylloxera
Orange yield and quality subsequent to treating Phytophthora
Grape yield and quality subsequent to treating Nematodes
Grape and Citrus plant vigor ratings