

PRODUCT NEWS

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SAFE CHEMICAL HANDLING IMPROVES BOTTOM LINE IN CONTROLLING PHYTOPHTHORA ROOT ROT

Rancho Rodoro, is a 40 acre avocado and lemon tree farm located in the Santa Clara River Valley of California. Owner Randall Axell divides his time between soil and pest management and improving crop production. Rancho Rodoro uses integrated practices which help to reduce Phytophthora Root Rot (PPR) spread.

Until recently, Axell has been using trunk injection of phosphoric acid just prior to the initiation of new root growth in May and August which is standard application methods for phosphites. Using PhosGrow™ by International Chemical Group which is registered in California as a fertilizer he recovered 6 acres of moderately diseased trees since 2004 and has a thriving avocado grove. While this method is very appropriate for moderate to severely diseased trees, it is overkill for control and disinfection of slightly diseased areas of the orchard.

Wanting to apply the phosphites via his existing irrigation system, Axell had trouble finding a transfer pump which would hold up to the acid and provide a safe solution for eliminate leaks and spills when moving the acid to the fertilizer tanks. He tried several pumps, none of which worked out. Finally he found GoatThroat Pumps.

"The GoatThroat pumps have adapters to fit all of my different containers," states Axell. "We simply open up the tap and dispense a cup, a quart or a gallon depending on our need. This tool has improved the safety of our workers and helped us to be more compliant with local regulations. Because we have control of the amount of acid which is dispensed at one time, we are able to meet our HASSP requirements more easily. And our crop production is up 10 - 20% since 2004."

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AWARD WINNING PUMPS AND ACCESSORIES



Phytophthora root rot (PPR) is considered to be the most deleterious (noxious) disease in avocado production today. In California alone, PPR is estimated to affect 60-75% of the orchards and causes losses in excess of \$50 million annually. Major hosts include avocado, pineapple, chestnut, sycamore, peach, pear and many ornamentals. Soil moisture is the primary environmental factor influencing PPR development. High soil moisture stimulates the development of sporangia and improves conditions for zoospore release and movement in the soil. However, stress from low moisture and excess salt can also injure roots causing them to exude substances which attract zoospores and incite infection. PPR represents a continuing threat to avocado production world wide because the margin for error is quite narrow. During the summer months, even a single mistake in irrigation which allows the tree to become severely stressed can cause tree growth to halt and risk increased PPR infection.

Many farmers use integrated practices which help to reduce PPR spread include using resistant rootstock, using certified disease-free and clonal nursery stock, providing favorable soil conditions, proper hygiene and sanitation, preventing soil or water movement from infested areas, providing appropriate nutrition, careful irrigation and chemical control.

In the last 15 years, growers have found that phosphite applications can markedly improve trees' ability to tolerate, resist or recover from infection by PPR. Phosphite cannot eradicate PPR from a grove and the disease requires ongoing management throughout the life of the trees.

Control of moderate PPR infection in a grove using phosphorous acid can be effected by either foliar application of or by injection into the irrigation system for soil application. While both are effective, Axell wanted to apply the phosphorous acid via his existing irrigation system to control costs and to reduce excessive water use. Axell had trouble finding a transfer pump which would hold up to the acid and provide a safe solution for eliminate leaks and spills when moving the acid to the fertilizer tanks. He tried several pumps, none of which worked out. Finally he found GoatThroat Pumps in his Gemplers Catalogue.

"The previous pump which we used lasted only a few days before it began to fail. We had to throw it away because it was too much trouble to fix it. It never fit on the drum correctly anyway. The GoatThroat pumps have adapters to fit all of my different containers," states Axell. "We simply open up the tap and dispense a cup, a quart or a gallon depending on our need. These pumps have eliminated VOCs from the phosphorous acid drum except when we are dispensing it. This tool has improved the safety of our workers and helped us to be more compliant with local regulations. Because we have control of the amount of acid which is dispensed at one time, we are able to meet our HASSP requirements more easily. We are now able to focus on improving crop production instead of managing chemical spills."

REFERENCES

"Phytophthora Root Rot", Lawrence J. Marais, John A Menge, Gary S Bender, Ben Faber, California Avocado Commission

"UC Pest Management Guidelines – Avocado Root Rot" UC IPM Online, Statewide Integrated Pest Management Program, January 2007

Phytophthora Root Rot of Avocado – An Integrated Approach to Control in California", Michael. D Coffey, California Avocado Society 1987 Yearbook 71:121-137