



The Focus of this FSGA funded project:

- Compare and contrast 10 different soil fumigants for nematode and disease control efficacy
- Evaluate and validate the effectiveness of Shank and Drip applied Paladin (DMDS-dimethyl disulfide), alone and in combination with chloropicrin, along with KPam and Dominus for nematode, disease, and weed control
- Using supplemental fumigation strategies of either Deep Shank or Deep Drip treatments of Telone II, Continue to demonstrate the importance of vertical management zones for nematode management.
- In collaboration with Dr. Natalia Peres, evaluate the efficacy of the various drip and shank applied fumigant treatments against endemic soil densities of *Macrophomina phaseolina*, causal agent of Charcoal Root Rot on strawberry yield and plant stand losses. In particular, to determine the impact of increasing rates of Chloropicrin for nematode and disease control, integrated with and utilizing a vertical management zone approach.



Probinators: Simple, hydraulic soil coring systems to 48" soil depth. Probinator has allowed us to study:

1. Changes in soil color, texture, composition, bulk density
2. Seasonal depth distribution of nematodes
3. Depth distribution of fumigant gases and impacts of traffic pan
4. Assess efficacy of Vertical Management zone approach



Deep Shank / Deep Drip Fumigation Rig. :

1. Winged shank to apply 2 streams / bed 15-16" depth
2. Resettable Shanks
3. With special Shoe, capable of installing subsurface irrigation line to 15-16" soil depth.
4. Successfully used to demonstrate value of Vertical Management zone approach



Deep Soil - Broadcast TURN PLOW Fumigation Rig.

1. Broadcast vs. In-row system
2. Inverts soil to bury pest propagules and destroy traffic pan which so limits fumigant movement
3. Creating uniform soil tilth to enhance fumigant diffusion.
4. Successfully used to demonstrate value of Vertical Management zone approach