What we Will Look at Today

- Biopesticides for Disease Suppression
- Biotimululents for crop production.
BioSafe Systems TerraClean 5.0 Trials in Conventional Strawberries. 2014 and 2015
BioSafe Systems TerraClean 5.0

• OMRI Listed
• Registered on most cropping systems
• Applied twice a month in season at 1.5 to 2 gallons per acre.
• Overlaid onto the growers pre-plant application of 400 pounds per acre chloropicrin flat fumed.
• Ground known to be infected with Charcoal Rot (*Macrophomina phaseolina*)
Photo 1: 11-20-13. First application Day
Photo 2: 12-23-13. Beds with Orange Flags Treated with TerraClean
Photo 2: 1-20-14.
Photo 4: 5-5-14. End of Season Macrophomina Disease Development
Photo 5: 5-15-14. End of Season Macrophomina Disease Development

TerraClean Treated Bed
Plant Mortality at End of Season – June 6, 2014

• Grower Standard (Preplant Chloropicrin Fumigation) – 24.9% dead plants
• Grower Standard (Preplant Chloropicrin Fumigation) plus multiple applications of Terra Clean 5.0 – 10.7% dead plants
2013-14 Production Results

Chart 2: BioSafe in Strawberries - Ventura County, Fall/Winter 2013-2014 - Cumulative Marketable Production by Pick Day

431 flat/ac increase
2013-14 Production Results

Chart 7: Biosafe in Strawberries - Ventura County, Fall/Winter 2013-2014 - Cumulative Differential from Grower Standard Return

Dollars per Acre - Gross (does not include cost of program)

Pick Day

- GS/Terra-Clean 5.0
2014-15 Production Results To Date

Chart 2: BioSafe in Strawberries - Ventura County, Winter-Spring
2015- Cumulative Marketable Production by Pick Day

Trays per Acre (10 lb. equivalent)

Pick Day
Grower Standard
GS/Terra-Clean 5.0

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2014-15 Production Results To Date

Chart 7: BioSafe in Strawberries - Ventura County, Winter-Spring 2015 - Cumulative Differential from Grower Standard Return

Dollars per Acre - Gross (does not include cost of program)

Pick Day

GS/Terra-Clean 5.0
Results from other BioPesticides

• All applied in fields known to have issues with Macrophomina and varieties susceptible to that disease.
 Holden Research and Consulting Biofungicides on Strawberries for 2014 through the tape on Ground that had been Fumigated with 400 lbs/ac Chloropicrin Percent Increase in Yield over the Grower Standard. Macrophomina phaseolina present in the field.
Average Dollar Increase in 2014

Holden Research and Consulting Biofungicides on Strawberries for 2014 through the tape on Ground that had been Fumigated with 400 lbs/ac Chloropicrin, Net Dollar Increase per Acre (after pick cost, but not extracting cost of Materials in Yield over the Gr

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Biostimulant Trials in Conventional Strawberries.

2007 to Current
Details

• Most applications were in the tape, not foliar
• Most trials involved natural chemically based products (seaweeds, CPPA, humics), but one was also a bacterial based product.
Seven Years of Yield Data for Strawberries Treated with Biostimulants

Holden Research and Consulting Biostimulants on Strawberries from 2007 to 2014 Percent Difference in Production for Harvest Days Tracked over the Grower Standard

18.7% Average for all
Holden Research and Consulting Biostimulants on Strawberries from 2007 to 2014 Net Dollars per Acre Difference in Production for Harvest Days Tracked over the Grower Standard

$1358/ac Average for all
Thank you

David Holden
www.holdenresearch.com