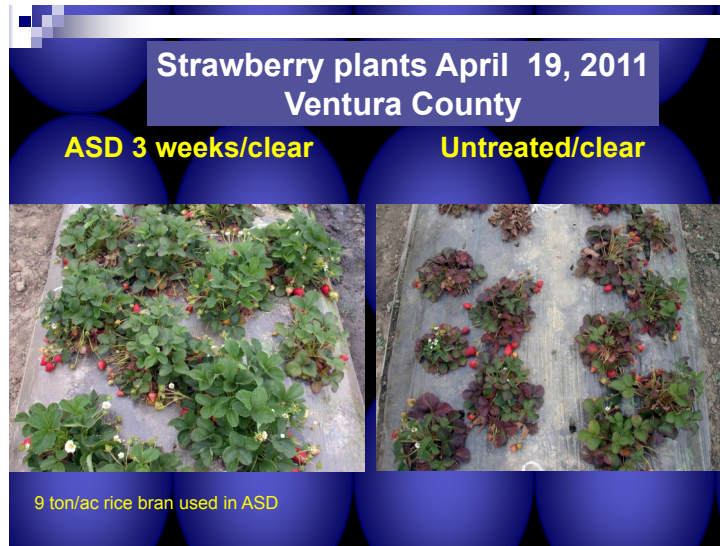


Anaerobic Soil Disinfestation (ASD)

- ◆ With ASD we consistently get an 80-100% reduction of *Verticillium dahliae* microsclerotia in soil using 9 ton/ac of rice bran as a carbon source.
- ◆ Yields under ASD generally equivalent or better than fumigant controls.
- ◆ Initial data suggest it is an economically viable option.
- ◆ Currently testing its effectiveness against other key pathogens.
- ◆ Also now testing at a larger field scale.



For more information please contact:

Dr. Carol Shennan cshennan@ucsc.edu
831 345 7594

Dr. Joji Muramoto joji@ucsc.edu
831 247 3804

History of ASD

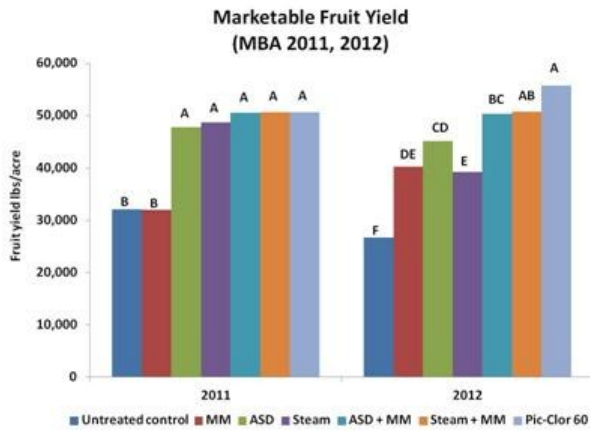
- ◆ ASD was developed as an alternative to soil fumigation in the Netherlands and Japan, and is currently used extensively in greenhouse production in Japan.
- ◆ It has been found to be effective at suppressing many soil borne diseases, as well as nematodes for a range of crops.
- ◆ When combined with solarization, where temperatures are high enough, it may also control weeds.

How to do ASD

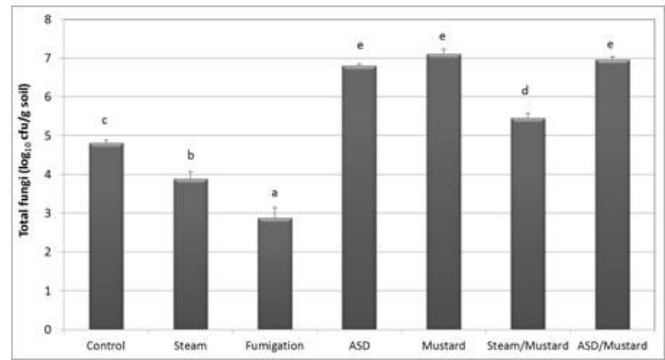
1. Spread carbon source such as rice bran
2. Incorporate in soil
3. Form beds and lay drip tape
4. Cover with plastic tarp
5. Irrigate and keep at field capacity
6. Leave for 3 weeks
7. Punch holes in plastic
8. Transplant strawberries a few days later



Non-fumigant Trial, Watsonville 2010/11, 2011/12



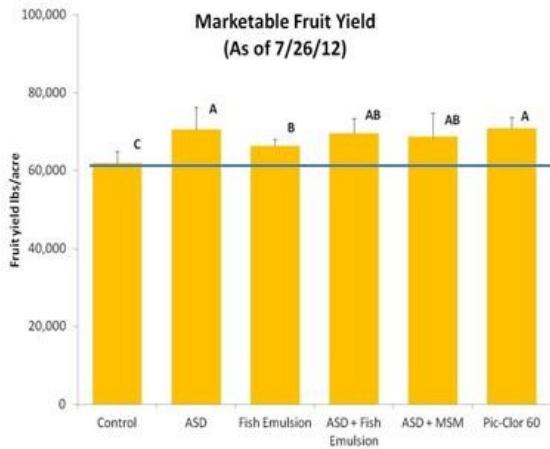
MBA, Post-treatment Total fungi: November 2011



All ASD and mustard-based treatments stimulated total fungal densities, likely inducing an elevated competitive environment.

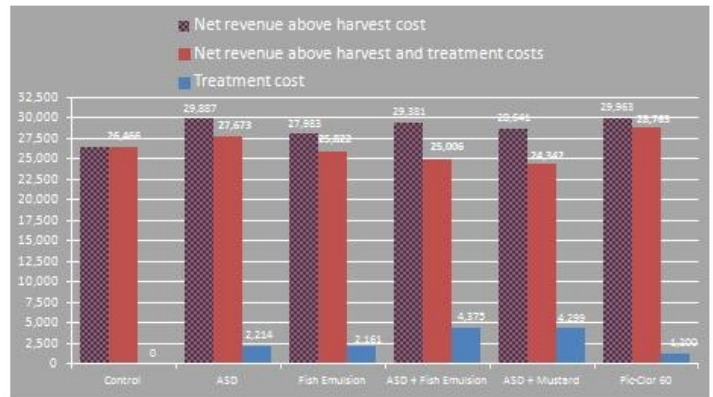
Watsonville 2011/12

Santa Maria 2011/12



Santa Maria 2012

Partial Costs and Net Returns (\$ per Acre)

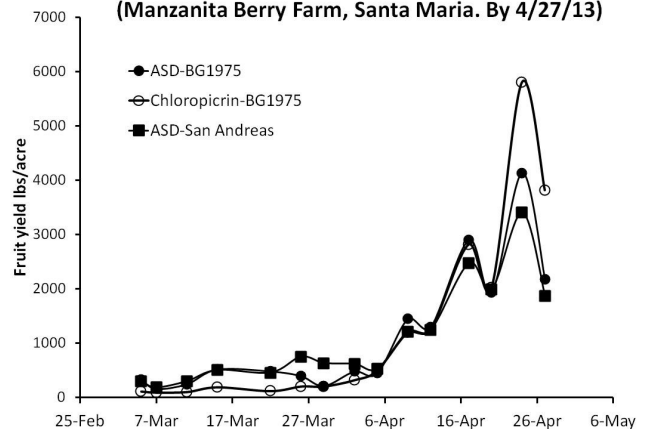


Santa Maria 2011/12



Injecting molasses

Marketable Fruit Yield (Each Harvest) (Manzanita Berry Farm, Santa Maria. By 4/27/13)



Santa Maria 2012/13

MSM or MM: Mustard seed meal.