

## High Tunnel Solarization FAQ

What is soil solarization?

- Covering soil in clear plastic to trap solar heat

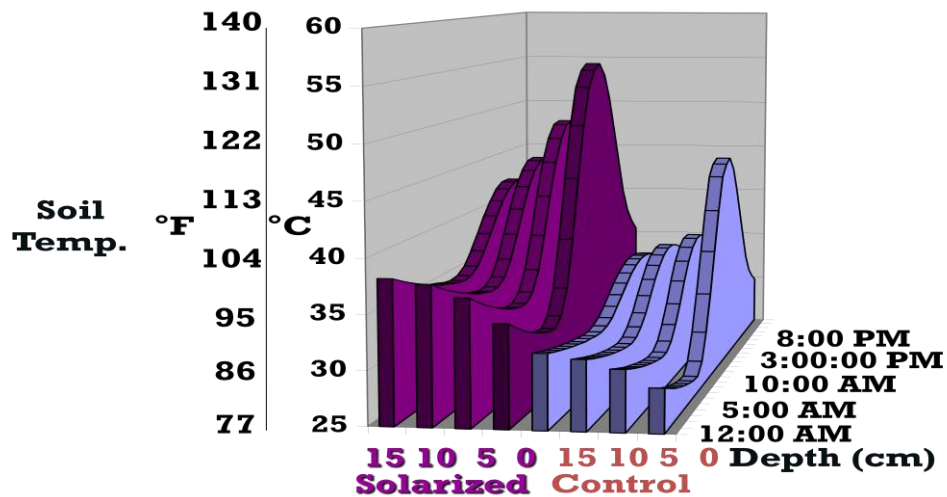
Why solarize?

- Kill weed seeds in the soil seedbank
- Kill soil-borne diseases

Why solarize in a high tunnel?

- Small, high-value growing space
- Most useful for off-season production... grow outdoors in the heat of summer
- Protected from wind... possible to achieve higher temperatures than outdoors
- Some soil-borne diseases are more common in high tunnels than outdoors
  - e.g. white mold, caused by the fungus *Sclerotinia sclerotiorum*

How hot does the soil get?



(Data collected at Au Naturel Farms, Smiths Grove, KY, August 2008.  
Temperatures show average day, based on a month of monitoring.)

Should the soil be wet or dry?

- Soil should be wet during solarization to create hot and humid conditions

Does solarization kill beneficial soil organisms?

- Saprophytic fungi tend to be more heat tolerant than parasitic fungi
- Beneficial microbes, like *Trichoderma*, recolonize quickly. *Trichoderma* numbers can increase after steam treatment
- Inoculation with beneficial microbes after solarization may help

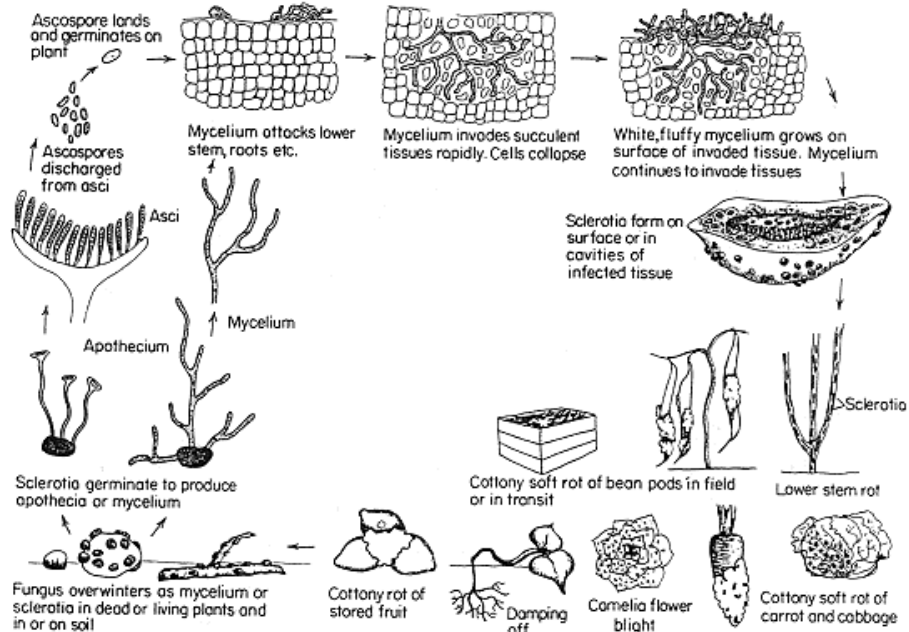


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How does solarization control white mold?

- Solarization destroys white mold sclerotia, which are hard, heat-resistant structures that sit in the soil until conditions favor germination



Development and symptoms of diseases of vegetables and flowers caused by *Sclerotinia sclerotiorum*. From Agrios, 1988.

Number of surviving Sclerotia (out of 40) six weeks after treatment began

