“IMPROVING SOIL HEALTH TO REDUCE SOIL BORNE DISEASES”
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Notes: Alan Gibson- ovpg seminar (3-15-08)

A) Soil Diseases: fusarium, phythium, phytophthora and rhizoctonia
B) Factors influencing severity of soil diseases:
   - high disease pressure  -too much water  -high or low temperatures
   - compaction  - low organic matter  - flooding  - contaminated irrigation water
C) Good quality compost
   - finished compost: carbon: nitrogen ratio should be approx. 12:1
   - takes 120 days
   - temperature of 130-170 degrees F for 15+ days
   - turn pile to assure all compost reaches the above temperature (kills harmful fungi, bacteria and weed seeds)
D) Bottom line:
   1) 4 year rotation
   2) increase organic matter (cover crops, manure and composts
      - apply in fall  - mixed hay (legumes/grasses) is good cover
   3) destroy and remove vines (postseason)
   4) remove dead/diseased plants during the season
   5) clean tools and equipment (pressure wash- bleach)
   6) pruning knives- 91% isopropyl alcohol
   7) use beneficial mycorrhizae + Rootshield (trichoderma) +
      pesticides to fight disease pathogens
   8) reduce compaction (walking boards)
   9) improve drainage- raised beds ,4” drain tile + pea gravel,
      subsoiler
   10) use clean irrigation water (city or well)
      - pond water should be chlorinated in a holding tank or run through ultra
      - violet light system
   11) good site selection (avoid low spots)
   12) transplanting
      - avoid cold, wet soils
      - Subdue (Ridomil)
      - Avoid overwatering

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“Building Soils for Better Crops”- Fred Magdoff and Harold van Es