

“IMPROVING SOIL HEALTH TO REDUCE SOIL BORNE DISEASES”

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Notes: Alan Gibson- ovpgg 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

C. Wayne Ellet Plant and Pest Diagnostic Clinic (OSU- Columbus) *diseases and pests

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