

A photograph of a strawberry field with rows of plants. The plants have green, serrated leaves and small white flowers. Several ripe, red strawberries are visible among the foliage. The background is a dark, possibly black, plastic mulch.

Strawberry Diseases – Pre-plant Considerations

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Overview of this Presentation:

- **Pre-plant -- strategies to avoid disease**
- **Fumigant and weather effects at planting time**
- **Strawberry crown diseases**

<https://smallfruits.org/files/2022/01/2022-Strawberry-IPM-Guide.pdf>



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2022

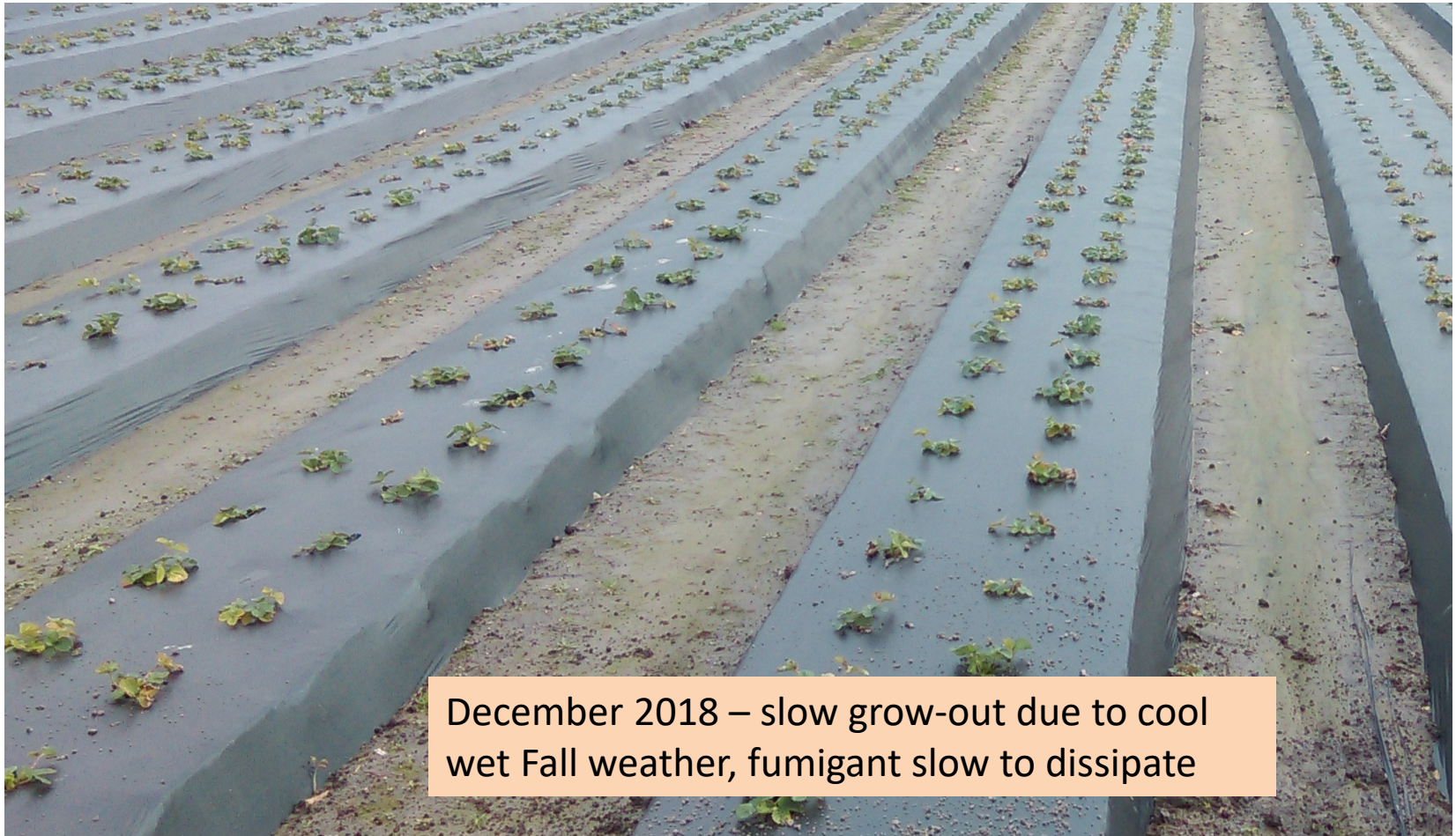
Southeast Regional Strawberry

INTEGRATED PEST MANAGEMENT GUIDE FOR
PLASTICULTURE PRODUCTION



<https://smallfruits.org/files/2022/01/2022-Strawberry-IPM-Guide.pdf>

Pre-planting: Disease, Nematode, and Weed Management		
Pest/Problem	Activity	Effectiveness*
Anthracnose Angular leaf spot Phytophthora crown rot Fusarium wilt Viruses	Use disease-free plants	Importance: E Efficacy: E
Phytophthora crown rot	Site selection, preparation, and water management	Importance: E Efficacy: E
Botrytis (gray mold)	Remove flowers and dead tissue present on transplants	Importance: ND Efficacy: ND
Nematodes	Sample soil for nematode analysis	Importance: G
Nematodes Soilborne pathogens (<i>Pythium</i> , <i>Phytophthora</i> , <i>Fusarium</i> , <i>Rhizoctonia</i>)	Practice crop rotation	Importance: G Efficacy: G
Weeds Root and crown rot disorders (black root rot; <i>Phytophthora</i> crown rot) Nematodes	Pre-plant fumigation and laying down plastic mulch	Efficacy: E



December 2018 – slow grow-out due to cool wet Fall weather, fumigant slow to dissipate

Anthracnose Crown Rot (ACR)

Small circular spots on leaves of plug plants indicating the presence of the anthracnose crown rot pathogen





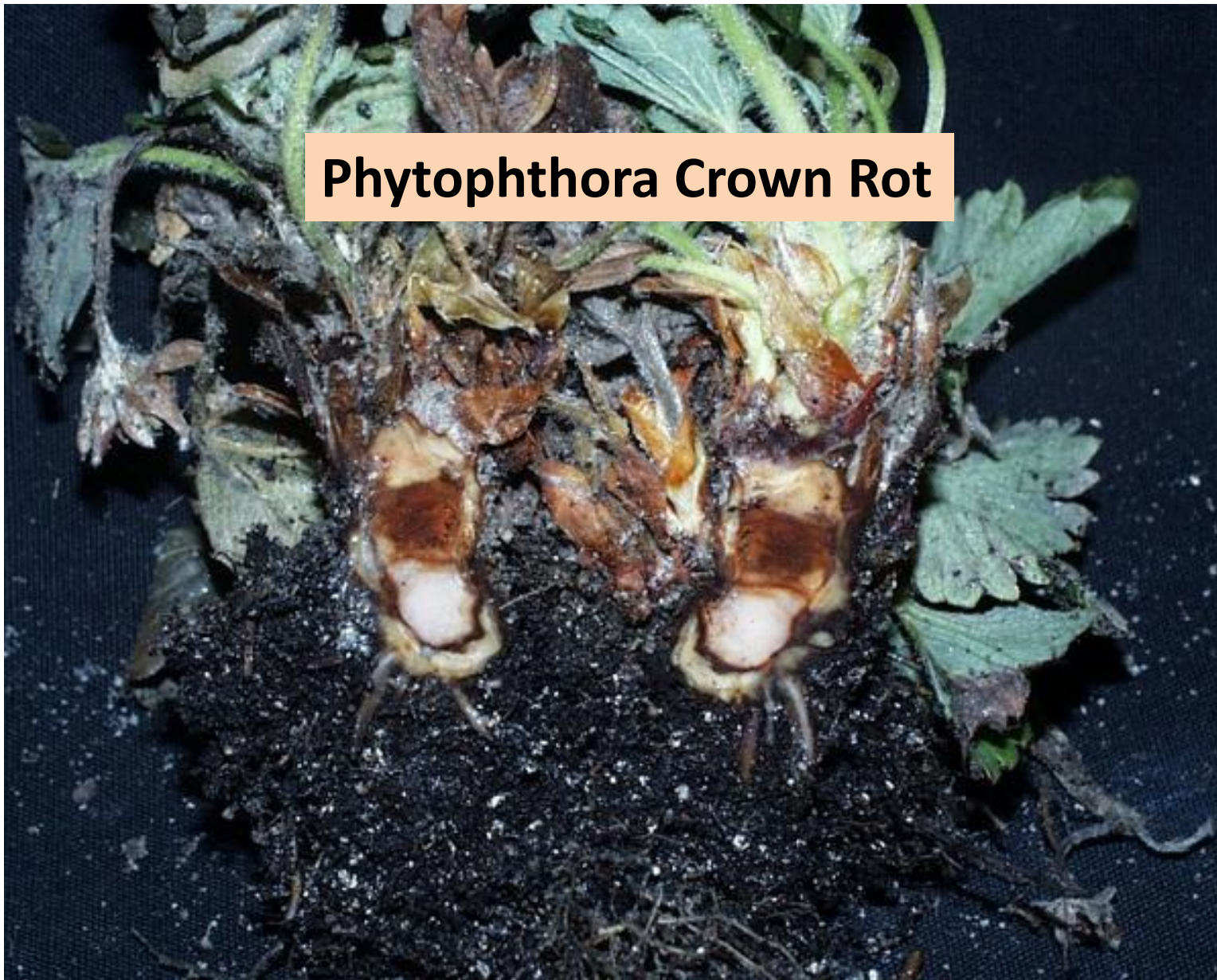
Anthraxnose Crown Rot (ACR)



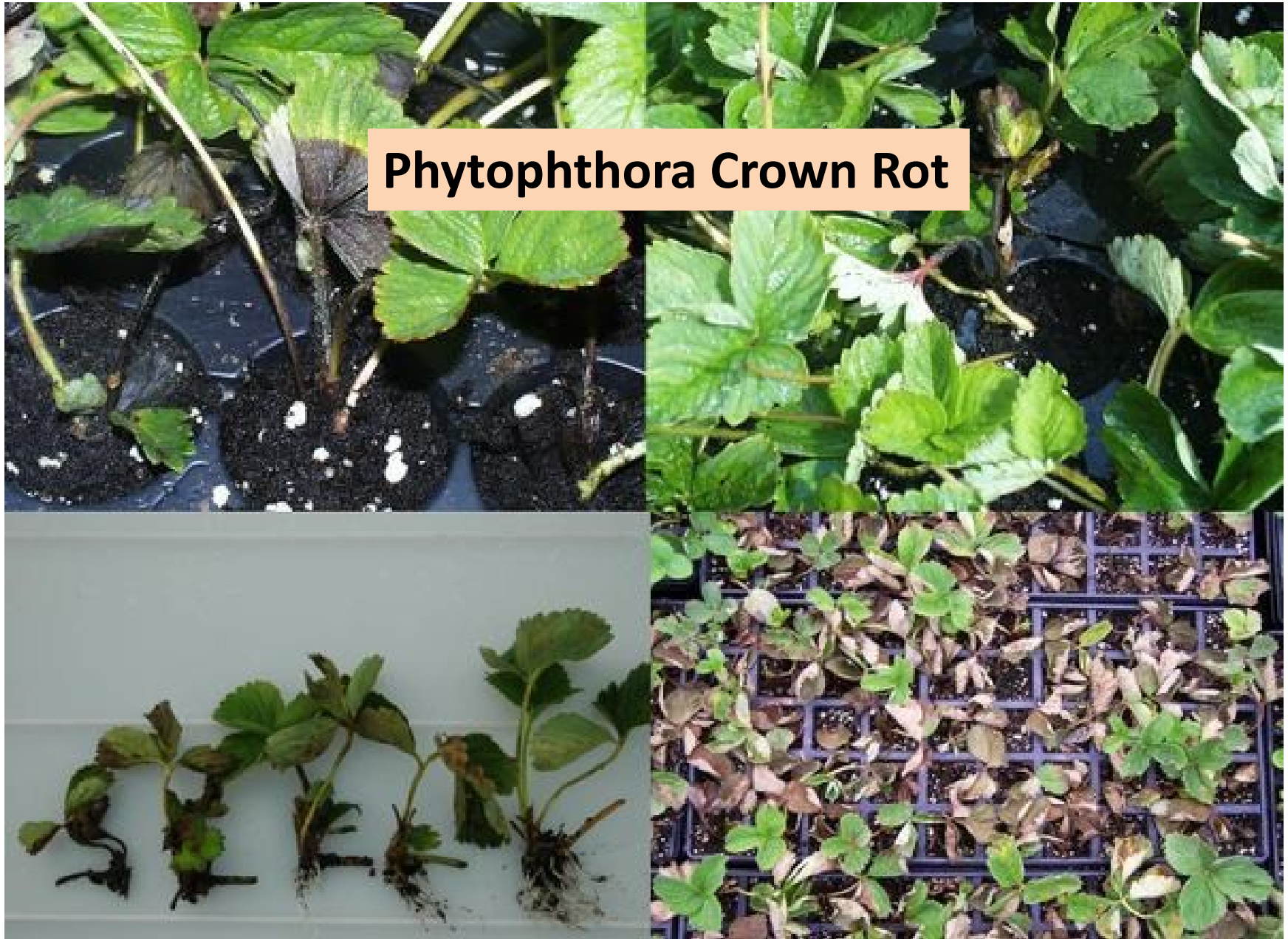
Managing anthracnose crown rot

- **Use disease-free plants. Resistance is not available.**
- **Monitor fields and remove infected plants to avoid spread.**
- **Cyprodinil + Fludioxonil (Switch) can be used as a plant dip where infected plug plants are suspected. Plant immediately after dipping to avoid stunting of plants.**
- **Abound is also labeled for plant dip treatment.**

Phytophthora Crown Rot

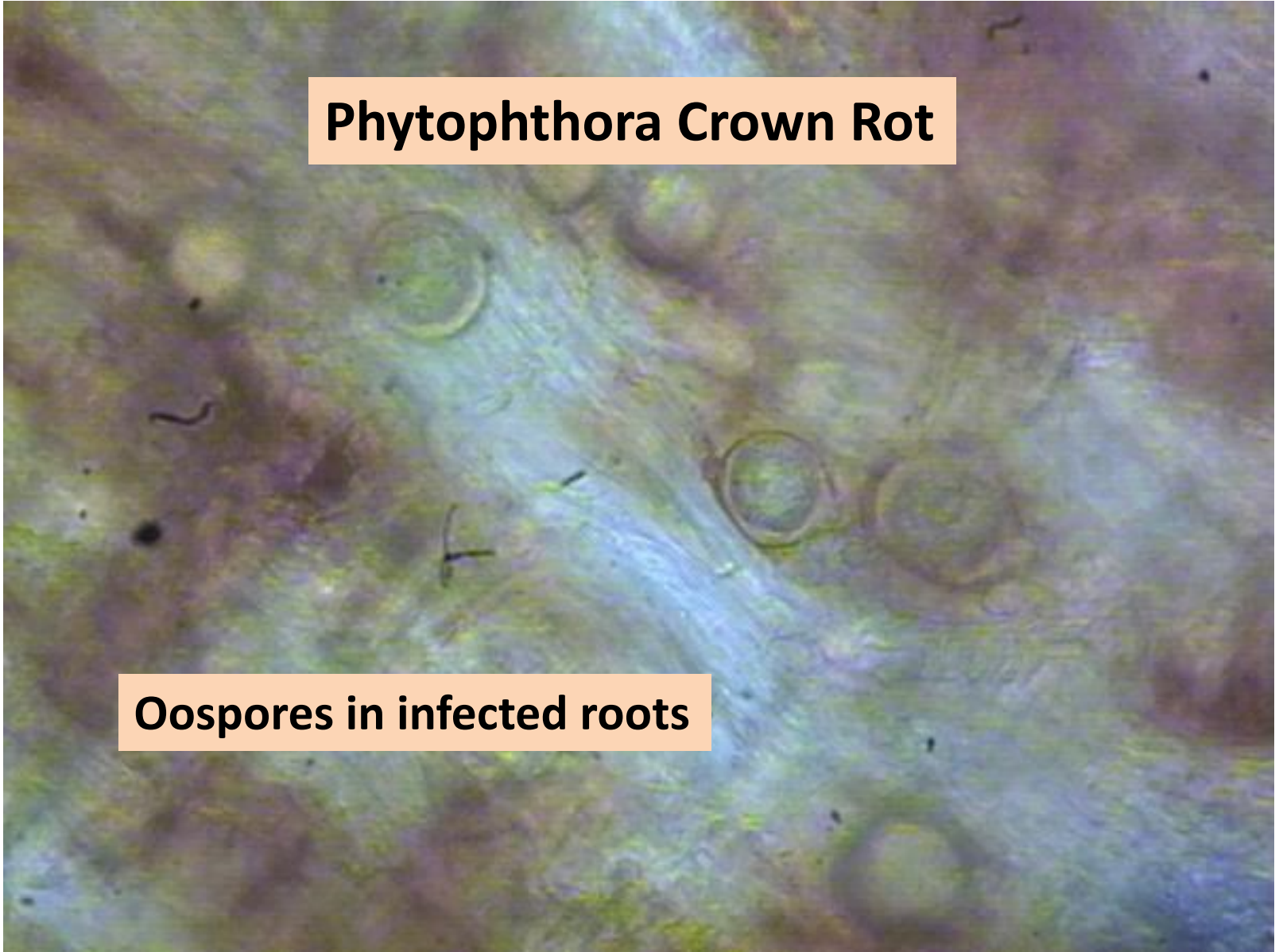


Phytophthora Crown Rot



Phytophthora Crown Rot

Oospores in infected roots



Managing Phytophthora crown rot

- **Use clean plants – often introduced on infected plants**
- **Site selection and preparation – avoid poorly drained soils**
- **Monitor and conserve irrigation. This pathogen is water-borne and can spread plant-to-plant in saturated soil**
- **Mefenoxam (Ridomil Gold) and metalaxyl (various formulations) can be effective when applied in Fall and Spring**



***Pestalotia* (syn. *Pestalotiopsis*) is often detected as a weak pathogen or secondary invader on many plant species**



A *Neopestalotiopsis* sp. Has been reported causing crown disease, leaf spots and fruit rot in FL and GA



- Thought to be introduced on planting stock
- Not visibly distinguishable from other “weak” *Pestalotia*-like fungi
- Know your plant source
- Severe problems in GA in 2022

Summary

pre-plant disease strategies

- **Avoidance -- use clean plants – disease often introduced on infected plants**
- **Site selection and preparation – avoid poorly drained soils and sites with history of disease**
- **ROTATE site to avoid planting in the same field year after year**
- **Diagnosis – if symptoms appear on transplants before or after planting, Identify the pathogen or abiotic cause before treating with fungicides -- treat based on correct diagnosis**
- **Do not plant too soon following fumigation, especially if cool, wet weather conditions occur following fumigation**

Table 6-12C. Relative Efficacy of Currently Registered Fumigants or Fumigant Combinations for Managing Soilborne Nematodes, Diseases, and Weeds in Plasticulture Strawberries¹

Product	Rate per Treated Acre ²		Relative Efficacy ³			
	Volume (gal)	Weight (lb)	Nematodes	Disease	Nutsedge	Weeds: Annual
Telone II (1,3-dichloropropene; 1,3-D)	15 to 27	153 to 275	E	P	P	P
Telone EC ³	9 to 24 ⁵	91 to 242 ⁵	E	P	P	P
Telone C17 (1,3-D + chloropicrin)	32.4 to 42	343 to 445	E	G	P	P
Telone C35 (1,3-D + chloropicrin)	39 to 50	437 to 560	E	E	P	F
InLine (1,3-D + chloropicrin) ³	29 to 57.6 (See Label)	325 to 645 (See Label)	E	E	P	G
Pic-Clor 60 (chloropicrin + 1,3-D)	48.6	588	E	E	P	G
Pic-Clor 60 EC ⁴	42.6	503	E	E	P	G
Pic-Clor 80	34	440	G	E	P	F
Metam potassium ⁶	30 to 62	318 to 657	F	G	P	VG
Metam sodium ⁶ (MS)	37.5 to 75	379 to 758	F	G	P	VG
Chloropicrin + MS ⁶	19.5 to 31.5 + 37.5 to 75	275-444 + 379-758	F	E	F	VG
Chloropicrin	48.6	150 to 350	P	E	ND	ND
Tri-Pic 100EC ⁴	8 to 24	100 to 300	P	E	ND	ND