

Ascochyta Blight and Sclerotinia White Mold of Garbanzos

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Garbanzo Meeting

UC West Side Research & Extension Center

Three major diseases of Garbs in CA

- Ascochyta
- Sclerotinia *aka* White Mold
- Virus Complex

Three major diseases of Garbs in CA

- Ascochyta
- Sclerotinia *aka* White Mold
- Virus Complex
 - Several viruses from numerous hosts
 - Aphid borne by various aphids
 - Usually lethal

Ascochyta Blight



Ascochyta Blight

- World wide problem in garbs
- Caused by the fungus *Ascochyta rabiei*
- Thrives in cool wet weather
- Fungus is known for overcoming resistant varieties

Ascochyta Blight

How does it get started?

- Infected/infested seed
- Spores from residue of infected plants
 - Asexual, spores from pycnidia
 - ?? Airborne spores from sexual stage ??
- Spores from infected volunteer garbs

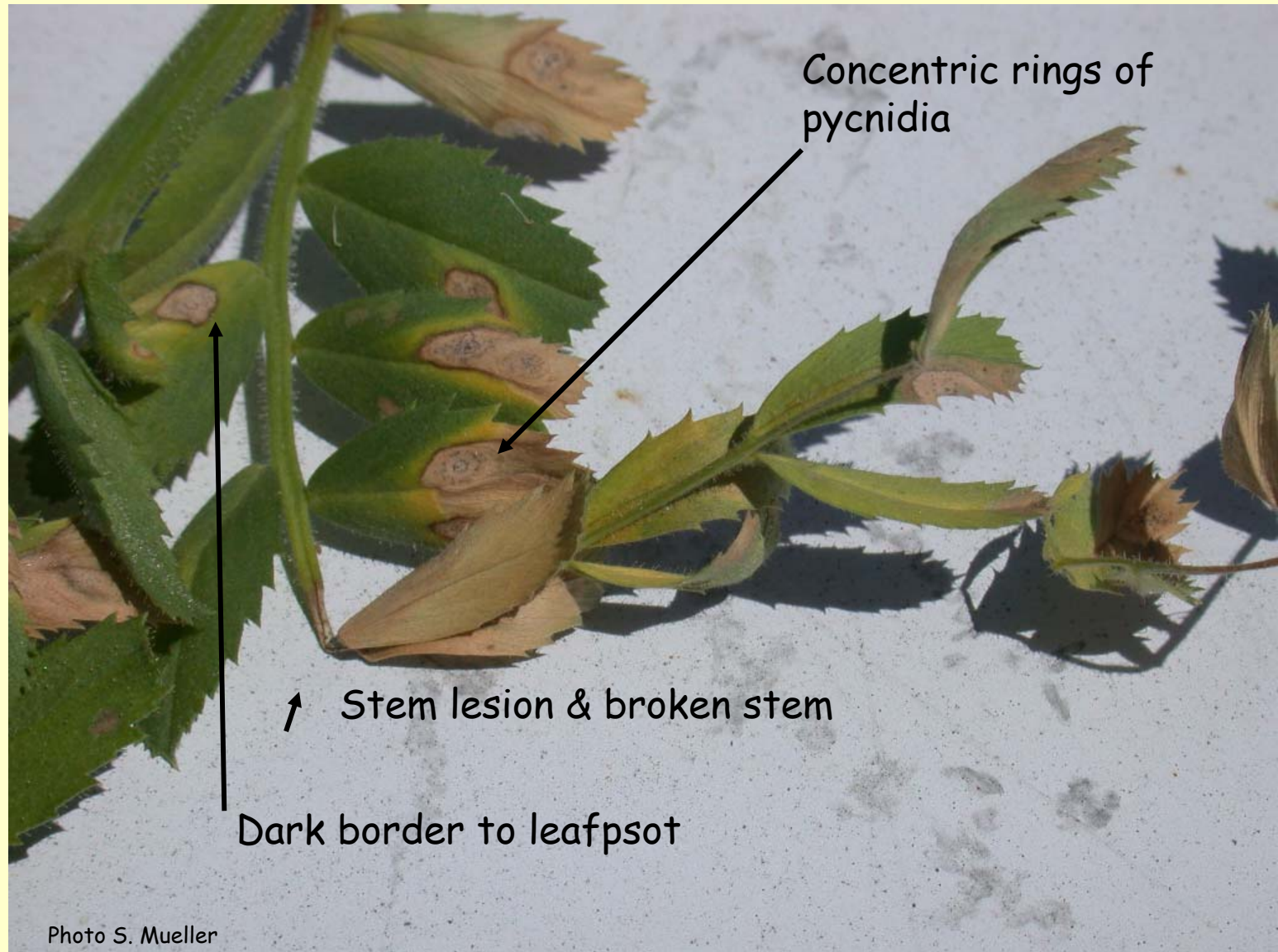
Ascochyta Blight

What does it look like?



Ascochyta Blight

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Ascochyta Blight

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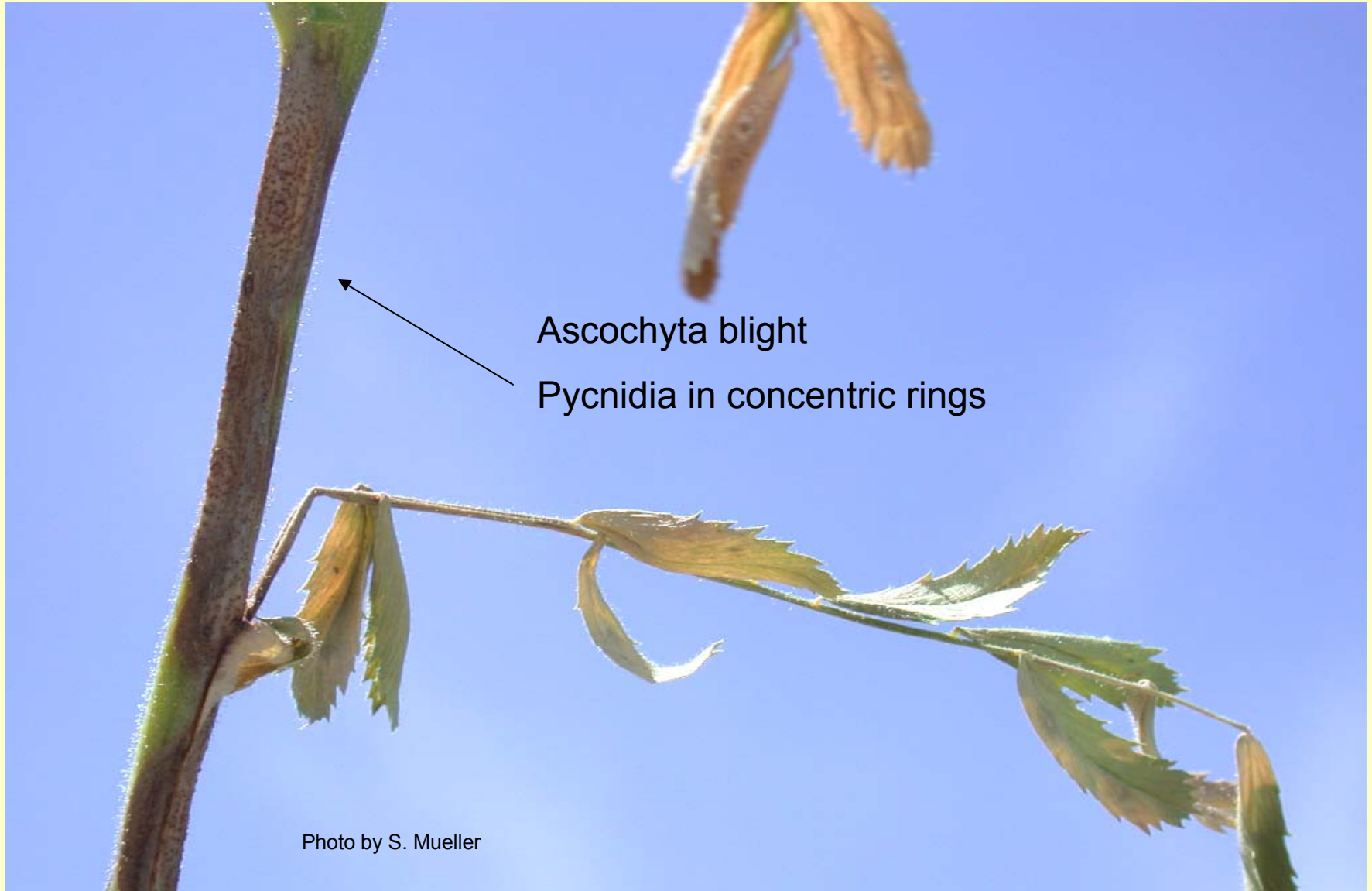


Photo by S. Mueller

Ascochyta Blight

How does it spread?

- Within the field, spores produced in pycnidia are splashed by rain or sprinkler irrigation to neighboring leaves and plants. Wind helps too.

Ascochyta Blight

How to Control It?

- Select a variety with more tolerance
- Plant clean or treated seed
- Do not plant garbs in field that had garbs within the last 2 years at least
- Destroy volunteer garbs & crop residue
- Monitor for disease
- Apply fungicides if necessary

Ascochyta Blight

What fungicides?

- Bravo Weather Stik
- Headline (strobilurin)
- Quadris (strobilurin)

Ascochyta Blight

Questions ?

White Mold Sclerotinia



Photo by C. Frate

White Mold

- Worldwide problem on many crops - in beans, usually thought of as a problem at bloom - not so here!
- We still have a lot to learn about what is going on under our conditions

White Mold

- Fungus:
 - *Sclerotinia sclerotiorum*
 - *Sclerotinia trifoliorum*

Which one
or both?

Sclerotinia Fungi make 2 Structures



Sclerotinia Fungi make 2 Structures



Formed by mycelium on dead and dying plants

Survive in soil during summer

Germinate as mycelium and infect plant roots (?)

Don't know for sure how important this "direct germination" is in garbs with the Sclerotinia we have here.



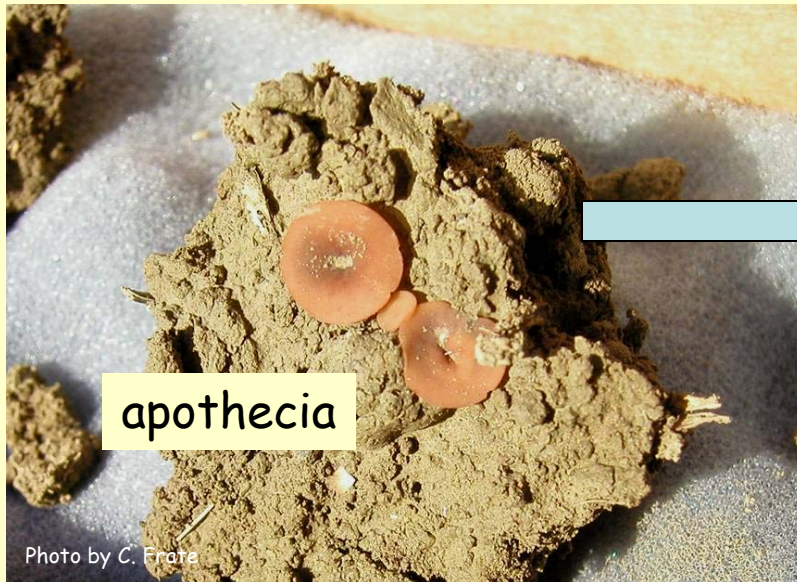
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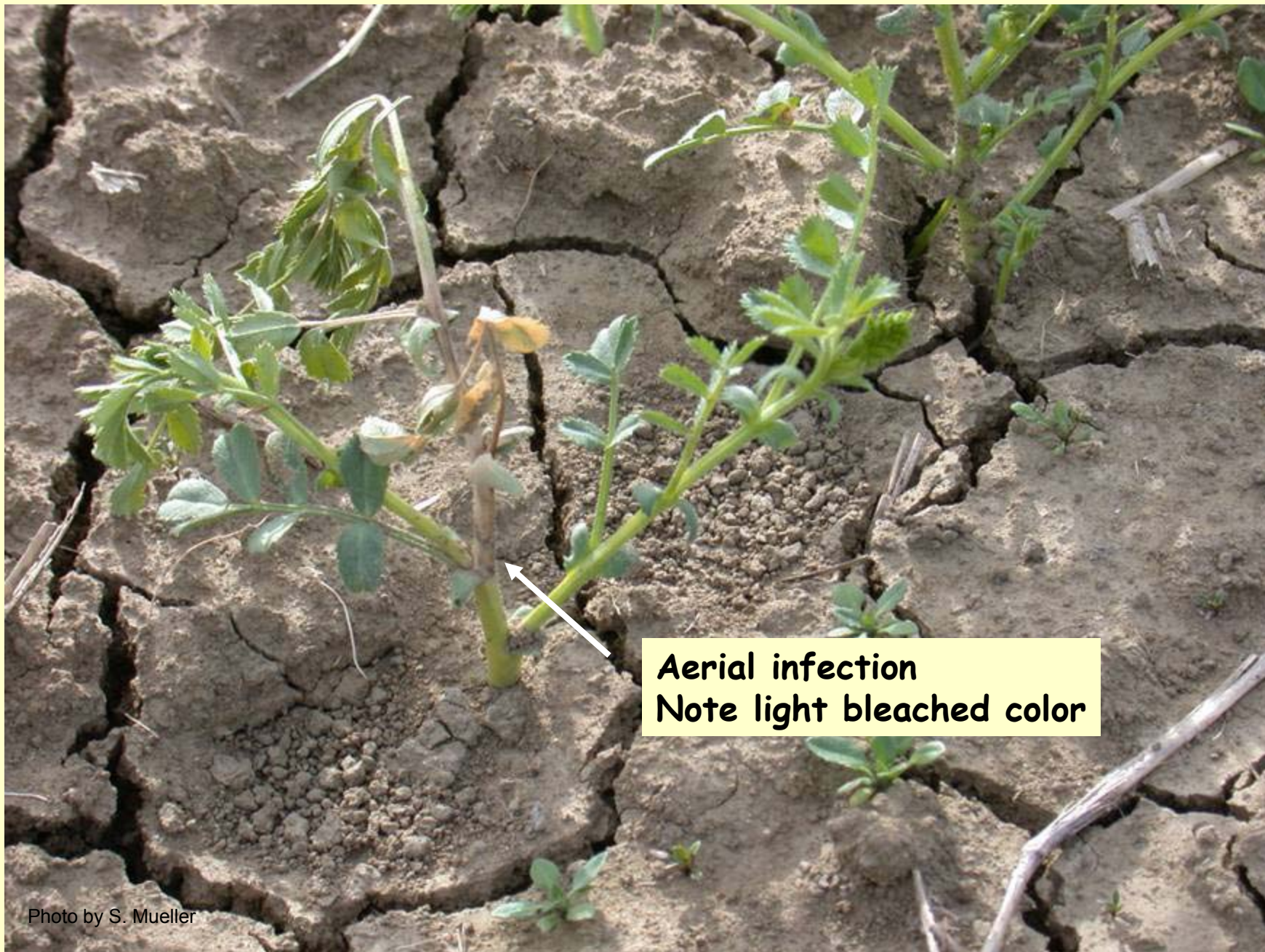


Germinate from sclerotia when soil temps are cool and soil is wet

Short lived

Produce air borne spores that can cause infection (?)

We don't know the relative importance of airborne spores to mycelium infection



Aerial infection
Note light bleached color



Photo by S. Mueller

White Mold (Sclerotinia)



Photo by C. Frate

Once a plant is infected, adjacent plants tend to become infected too

White Mold (Sclerotinia)



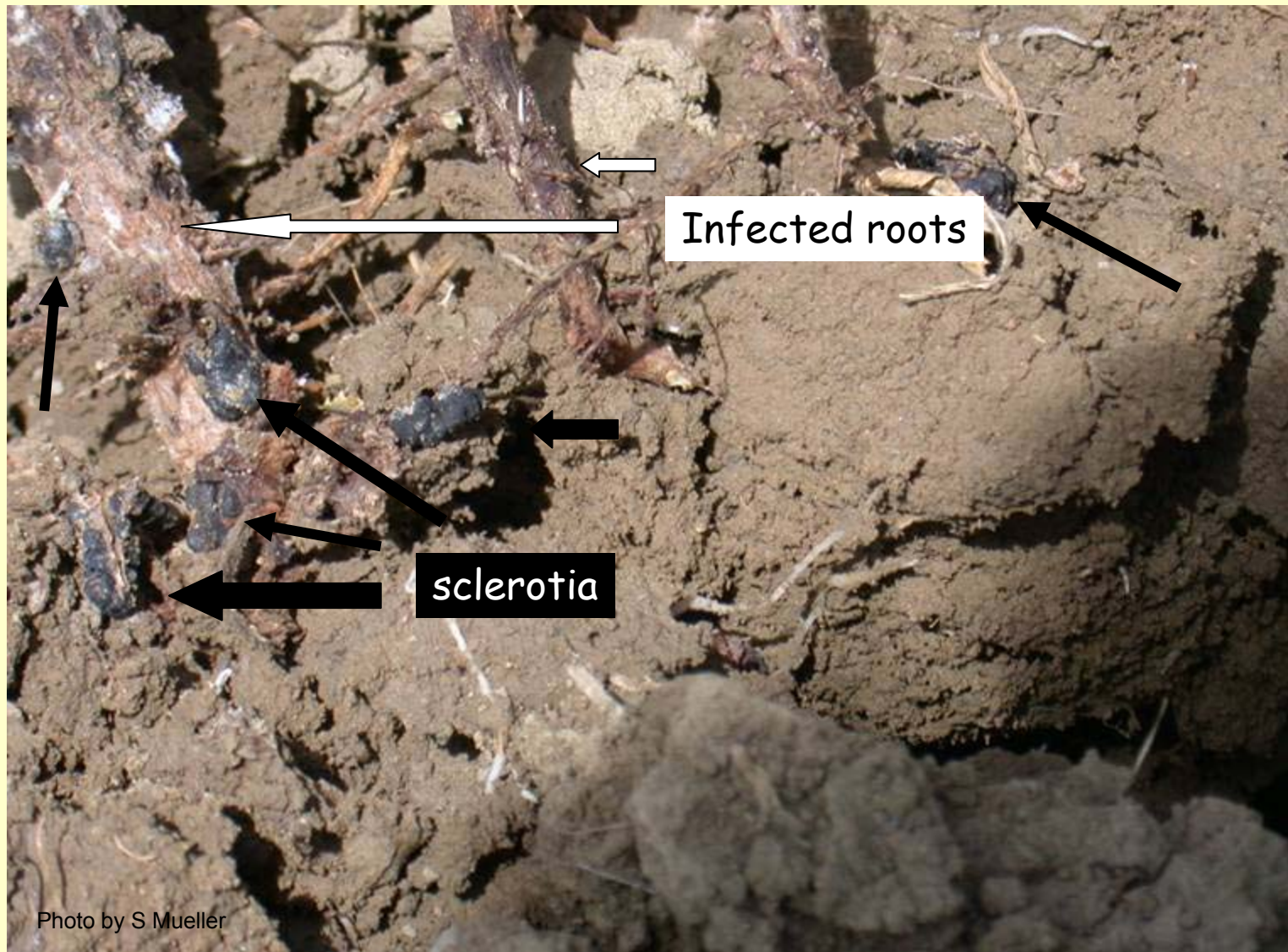
Photo by C. Frate

White Mold (Sclerotinia)




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White Mold (Sclerotinia)



Controlling White Mold (Sclerotinia)

- Rotate Fields
 - Deep plow to bury sclerotia
 - Biocontrol ?
- Differences in varieties ?
- Seed treatments ?
- Fungicides ? 

That is what our field trial
that we will see today is
trying to determine!

White Mold (Sclerotinia)

Questions ?