

Diagnosing Target Spot of Cotton

Jason Brock

Department of Plant Pathology

The University of Georgia

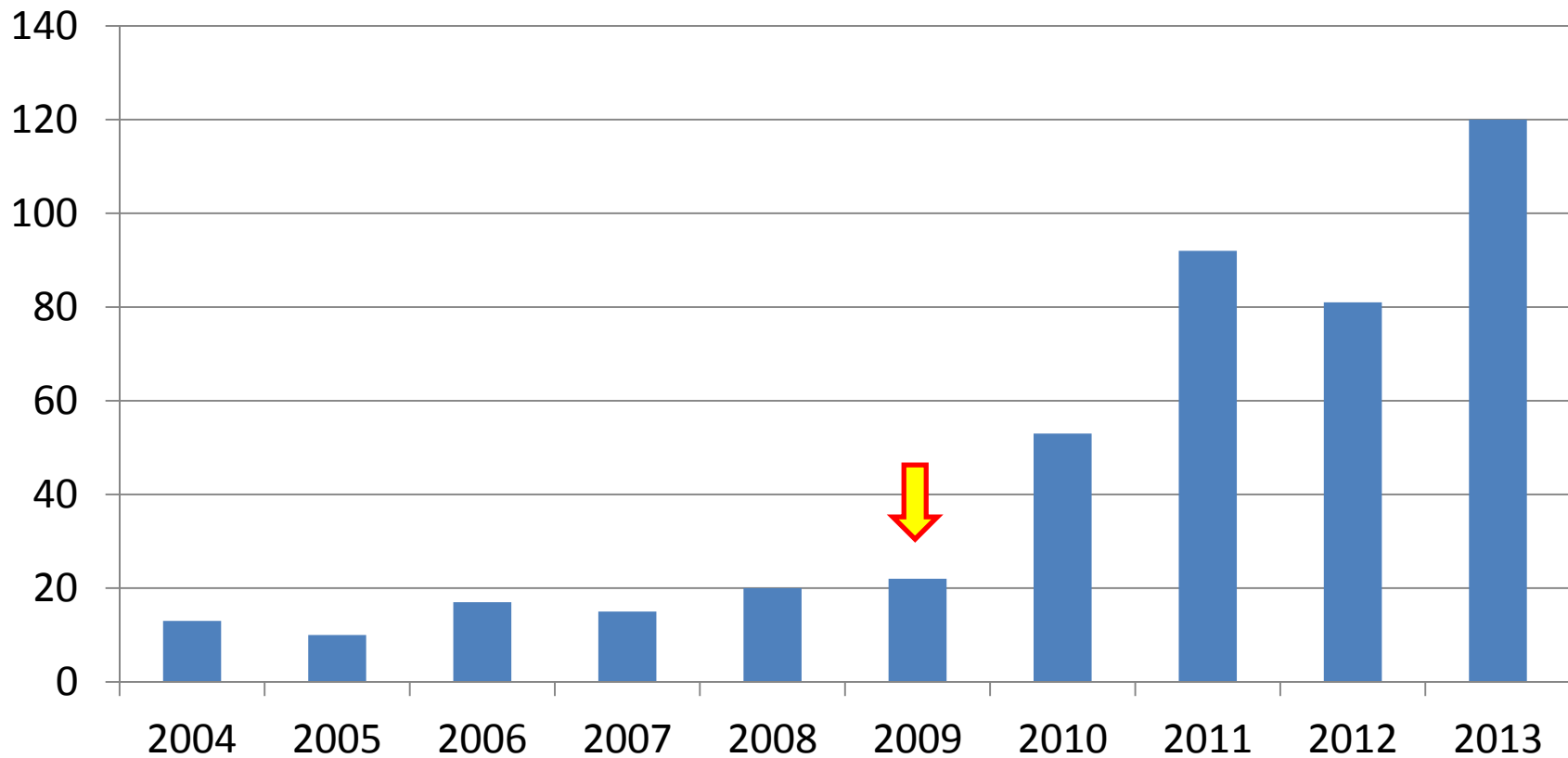
Foliar Diseases

- Leaf spot caused by *Stemphylium* spp. are most common
 - not a serious problem in GA or FLA
 - primarily a problem in potassium-deficient cotton
- Fungi associated with other minor leaf spots



Tifton Plant Disease Clinic

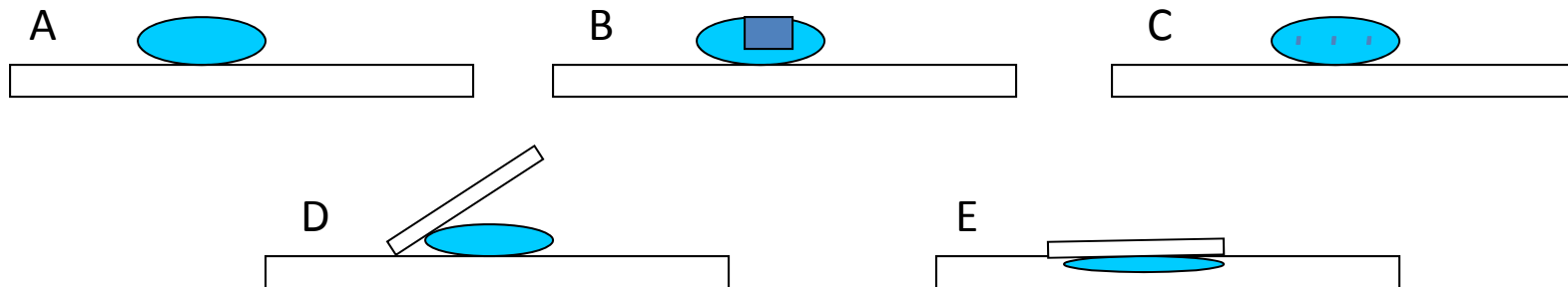
Number of Cotton Samples



	Stemphylium	Alternaria	Cercospora	Ascochyta	Corynespora
2004	3	0	3	1	0
2005	0	1	0	1	0
2006	3	1	2	0	0
2007	6	2	1	0	0
2008	8	2	4	0	0
2009	9	0	6	0	8
2010	15	2	8	1	8
2011	27	8	9	1	16
2012	18	7	7	1	15
2013	7	2	28	8	68

Wet Mount Slide

- A. Place a drop of H₂O on a slide.**
- B. Place a small section of plant tissue in the H₂O.**
- c. Chop, chop the sample.**
- D. Lower a cover slip over the droplet.**
- E. Gently apply pressure to the top of the cover slip.**



Tape Mount Slide

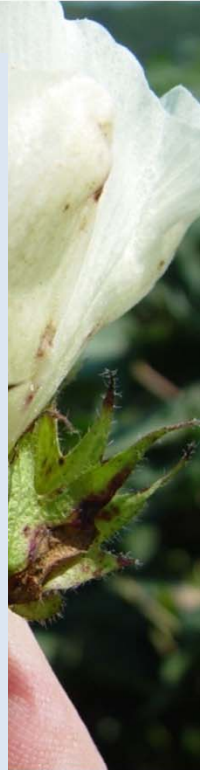
- **Useful for examining objects on the surface of the plant.**
- **Use clear tape.**
- **Preserves the spore arrangement.**



Target spot

Target spot, *Corynespora cassiicola*

- Chocolate brown spots on a leaf that frequently demonstrate a pattern of concentric rings
- Leaves typically retain their green or green-yellow color.
- Lesions are also found on the boll bracts and possibly on the bolls themselves.



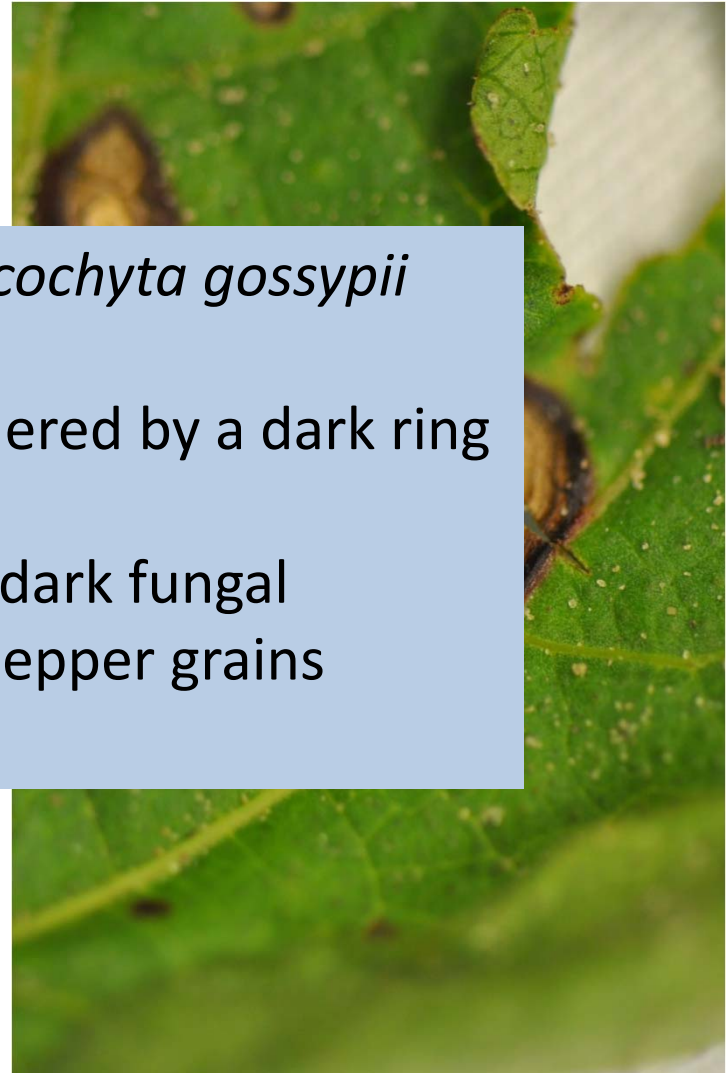
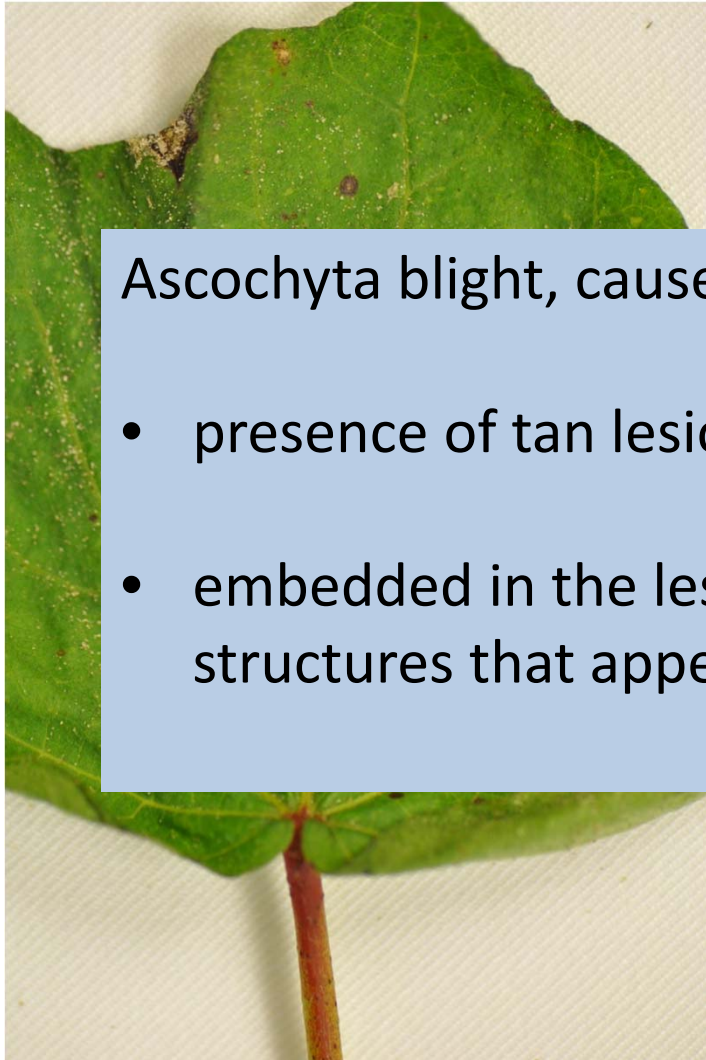
Target spot



Corynespora



Ascochyta wet weather blight



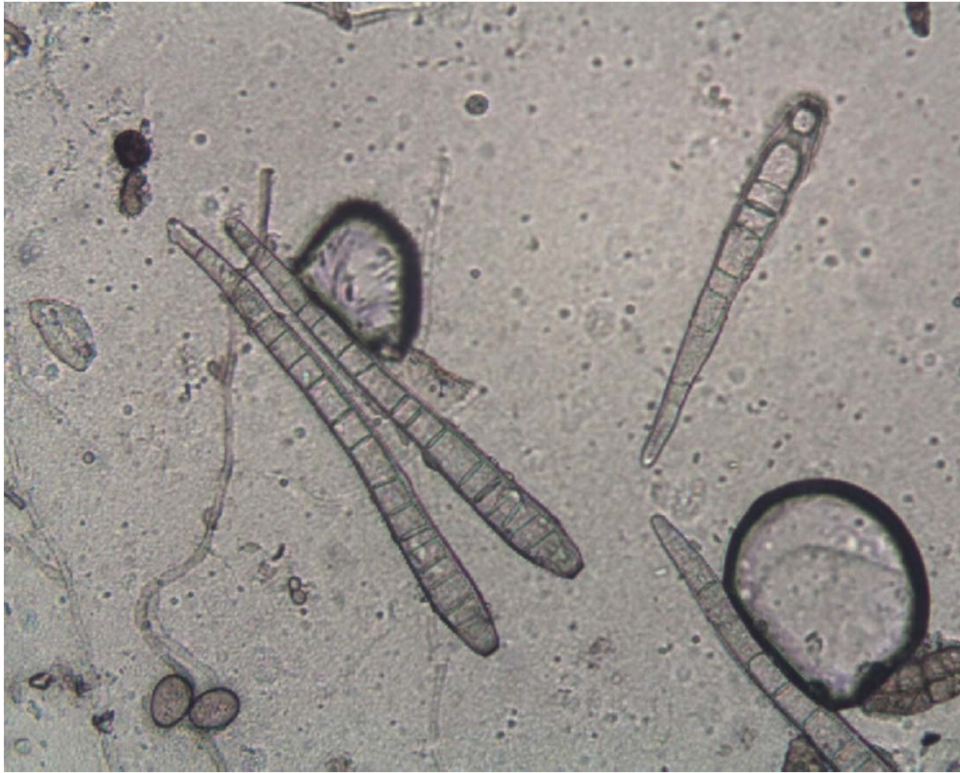
Ascochyta blight, caused by *Ascochyta gossypii*

- presence of tan lesions bordered by a dark ring
- embedded in the lesion are dark fungal structures that appear like pepper grains

Ascochyta wet weather blight



Corynespora vs. Phoma



Stemphylium & Alternaria Leaf Spot

Stemphylium leaf spot, *Stemphylium solani*

Alternaria leaf spot, *Alternaria macrospora*

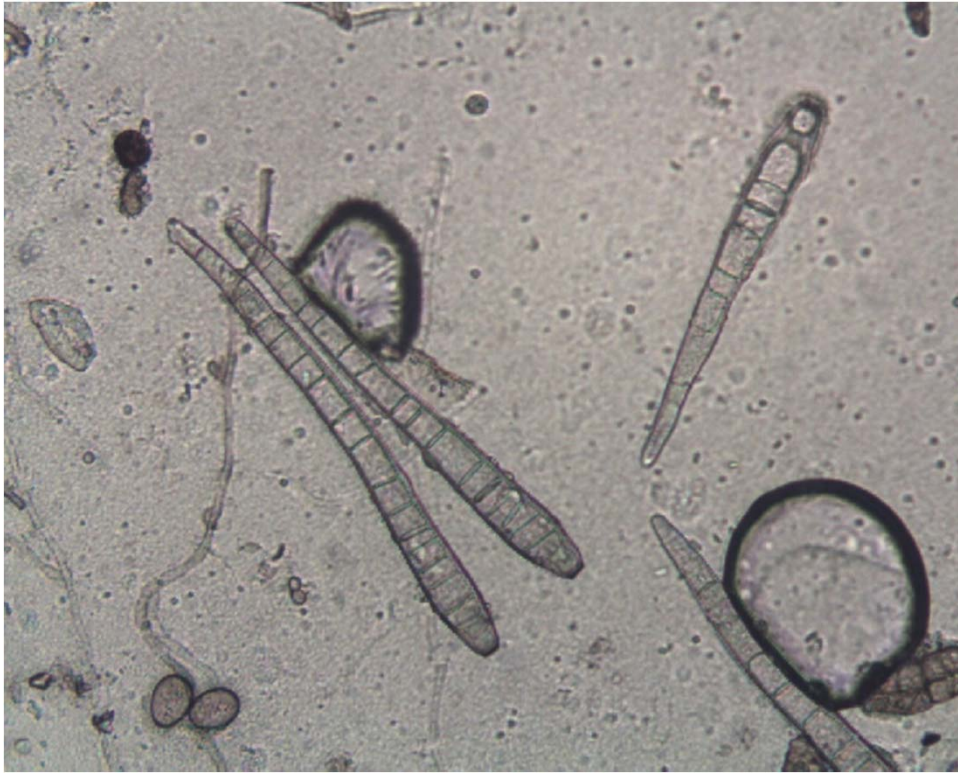
- sudden reddening of the foliage and the rapid appearance of numerous spots
- spots with ashy-gray centers and a dark purple margin
- centers of the spots frequently detach from the leaf giving the leaf a shot-hole appearance
- tend to be smaller than those of target spot; typically do not have concentric rings



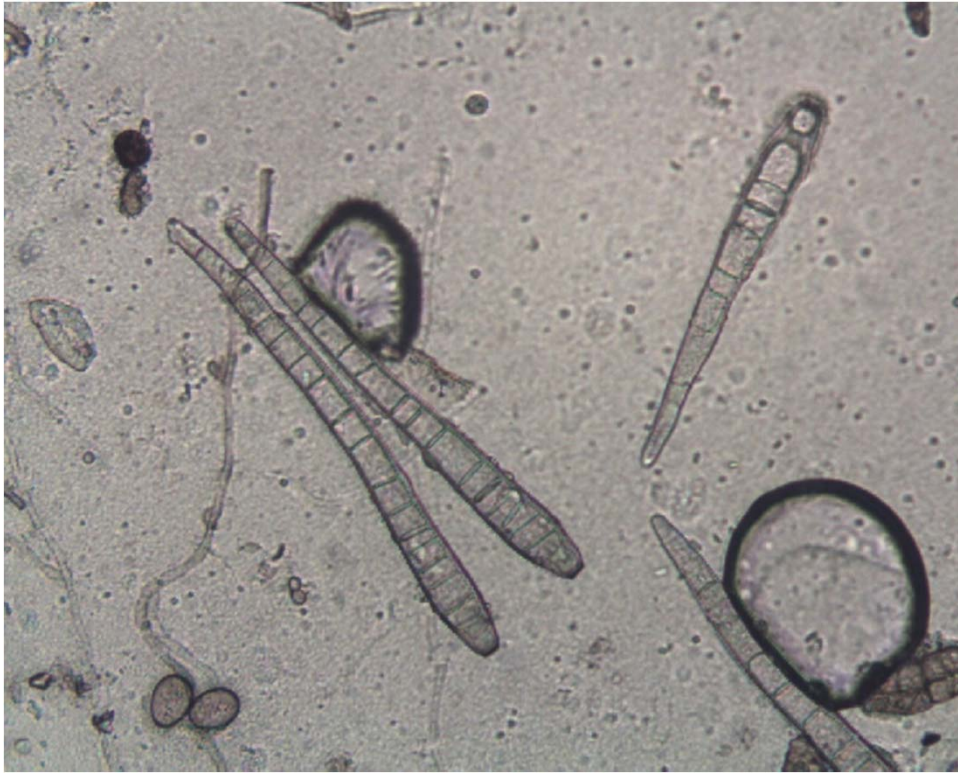
Stemphylium & Alternaria Leaf Spot



Corynespora vs. Alternaria



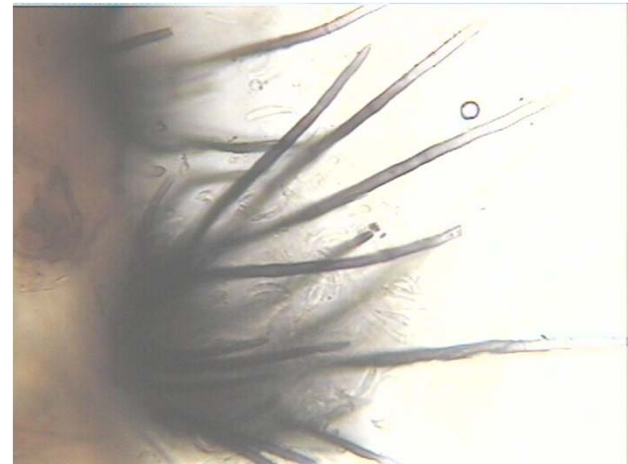
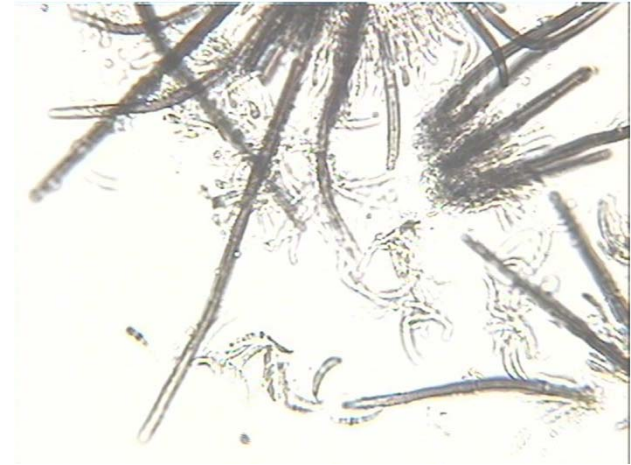
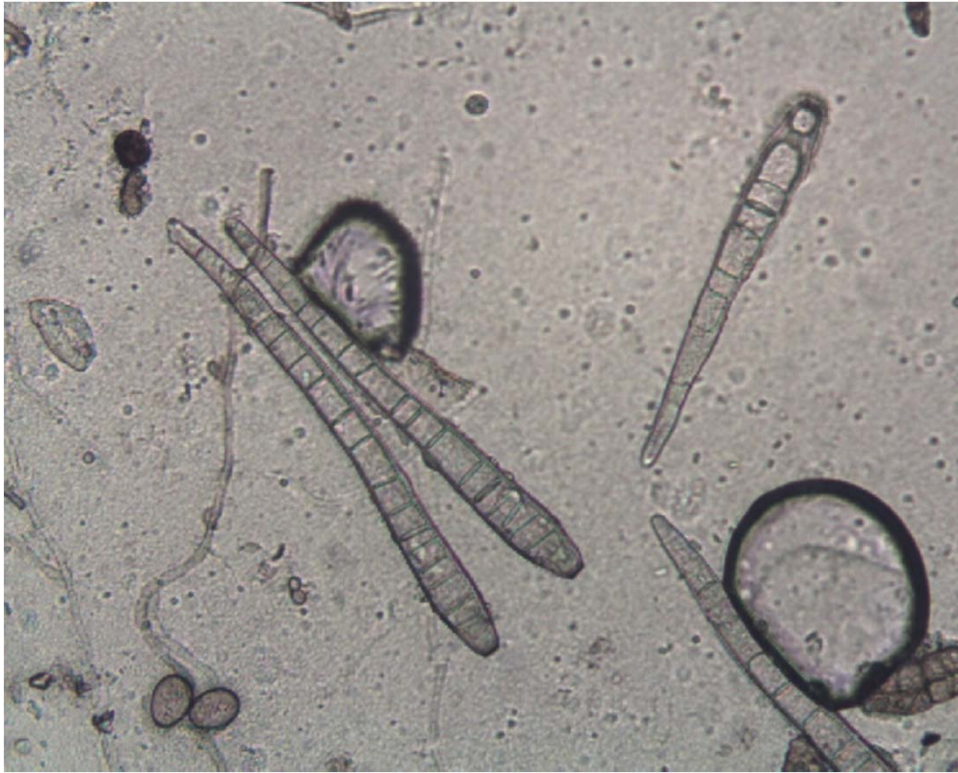
Corynespora vs. Stemphylium



anthracnose



Corynespora vs. Colletotrichum



Cercospora leaf spot

Cercospora leaf spot, *Cercospora gossypina*

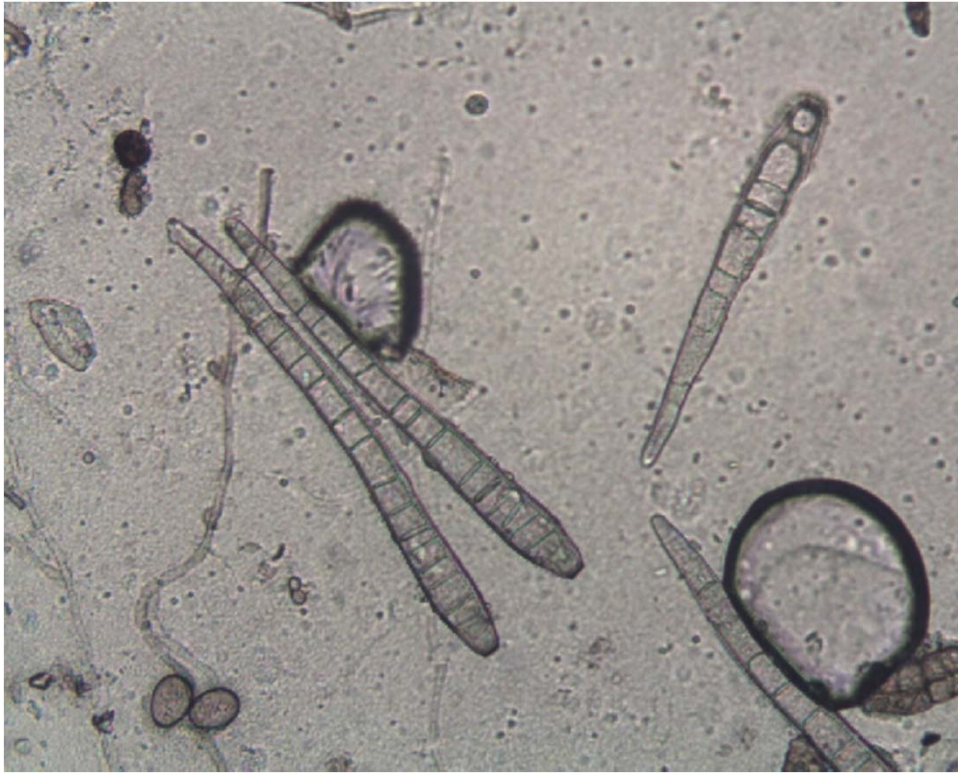
- often linked to a nutrient deficiency and may form a disease complex with *Alternaria macrospora* and *Stemphylium solani*.
- Spots begin as small, reddish lesions that larger circular lesions with light brown centers
- zonation similar to that of target spot may be observed



Cercospora leaf spot



Corynespora vs. Cercospora



Something New & Different

Phomopsis leaf spot



Rhizoctonia leaf spot



