

## Laboratory 6 Study Guide (video: 48 minutes)

**Errata:** A series of slides of *Botrytis* are included in this laboratory. This fungus, not mentioned here, is discussed in detail under post-harvest diseases instead. Also, The third *Alternaria* slide erroneously describes bean "pods" instead of leaves.

### Study Questions

1. *Alternaria* often induces zonate lesions. What causes the zonation? Why might this be useful to know?
2. The southern corn leaf blight was especially severe in the 1970s. Why? What steps had to be taken to control it?
3. What plant disease caused the highest human mortality in modern times? What caused such a high human death toll?
4. Many of the leaf spotting fungi produce rather distinctive spores. How can this be helpful in disease forecasting? Provide of an example.
5. Whereas *Bipolaris* and *Helminthosporium* are anamorphic genera, what are their teliomorphic equivalents?
6. Whereas *Cercospora* species commonly infect monocots or dicots, what plant family is most susceptible to species of *Helminthosporium* and/or *Bipolaris*?
7. What specific plant function provided by leaves is compromised by leaf spotting fungi? What effect might fungal toxins have on plants infected with certain leaf spotting fungi?
8. Based on the slides of *Bipolaris* and *Guignardia* you have seen, are leaf spotting fungi strictly confined to leaf tissue?

### Key Words

*Alternaria*  
Ascus (-i)  
Ascospore (including filamentous ones)  
Bengal famine of 1942-1943  
*Bipolaris maydis*  
Black rot of grape (slides only)  
Blight symptoms  
Brown spot of rice  
*Cercospora*  
*Cochliobolus heterostrophus*

Conidium (-ia; multicellular)  
Disease forecasting  
Genetic recombination  
*Guignardia bidwellii* (slides only)  
*Helminthosporium*  
*Helminthosporium oryzae*  
Monoculture  
Perithecium (-ia)  
Shothole symptoms  
Southern corn leaf blight (epidemic of 1970s)  
Spot symptoms  
toxins  
Ultraviolet light (and sporulation)