

Diagnostic Features of *Corynespora cassiicola* and its Associated Diseases

Identifying *C. cassiicola* as a causal agent is complicated by variability of symptoms, inconsistencies in the fungus's sporulation and morphology, and ability to grow competitively as a saprophyte. It is primarily a foliar pathogen; however, it will spread to stems and fruits as in the case of papaya and tomato. On most hosts, lesions are discrete small spots less than 10 mm in diameter; however, marginal non-discrete lesions do occur. Field samples often do not reveal conidiophores or spores until incubated in a moisture chamber for 24 to 48 hours. Longer incubation periods often give rise to saprophytic isolates. To avoid misidentification with other fungal pathogens such as species of *Cercospora* and *Helminthosporium* key diagnostic features should be noted. *Corynespora* spores germinate from terminal cells, whereas *Cercospora* spores germinate from every cell. Additional diagnostic features include pseudo-septation, sporulation in chains, and percurrent proliferation of conidiophores. Its widespread occurrence during a 2003-2006 survey of various Pacific Islands and Florida corroborates recent literature indicating the *C. cassiicola* is increasing in importance as a pathogen on cucumber, papaya, soybean, and tomato. We believe that misdiagnosis has resulted in an underestimation of economic losses associated with this fungus.

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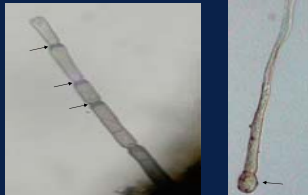


Characteristics of the genus *Corynespora*:

1. Tretic spore proliferation



2. Indeterminate conidiophores often with circular basal cells



3. Conidia bud apically, single or in chains



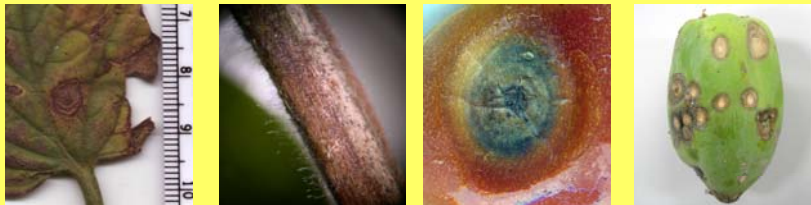
4. Pseudoseptate conidia with basal hilum



5. Conidia germinate from terminal cells



Symptoms:



Tomato leaf

Asystasia stem

Tomato fruit

Papaya fruit

C. cassiicola commonly infects leaves, stems, fruit.

Corynespora leaf spot is often misdiagnosed:



Target leaf spot

Bacterial leaf spot

Cercospora

Helminthosporium

Bacterial spot lesions on tomato are more numerous around leaf veins.

Spores lack a distinct hilum and bud laterally from indeterminate conidiophores.

Spores bud laterally from determinate conidiophores.

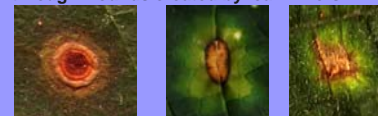
Diagnosing *Corynespora* leaf spot in the field:



Crops susceptible to *Corynespora* leaf spot are often intercropped, such as papaya and pumpkin. Some isolates have the ability to cause disease on many hosts, whereas others, such as those from papaya, are host specific.



C. cassiicola infects some hosts, such as luffa, through wounds created by leaf miners.



bean

papaya

cucumber

A chlorotic halo helps distinguish lesions caused by *C. cassiicola* on certain hosts.