



Pistachio Foliar Fungal Diseases

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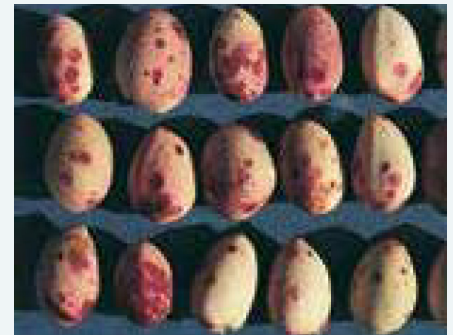
SEPTORIA LEAF AND FRUIT BLIGHT



Brown necrotic spots



Spots on both sides of leaf



Brown spots on fruit



Severe defoliation at harvest



Complete defoliation of tree canopy

SCIENTIFIC NAME: *Septoria pistaciarum* (teleomorph: *Mycosphaerella pistaciarum*)

LEAF SYMPTOMS: Angular brown necrotic lesions. 1-2 mm in diameter and limited by the smaller veinlets of the leaf; black pycnidia formed in the center of the spots; disease in tree canopy progresses from top downwards. Badly affected leaves fall off earlier in season.

FRUIT SYMPTOMS: Distinct grayish to brown lesions 1-4 mm in diameter appear in mature fruit surrounded by a distinct reddish halo.

WHEN SYMPTOMS APPEAR: The rainy season (July to September).

DISEASE CYCLE: The fungus overwinters in leaves on the orchard floor. The pycnidia, or spore-producing structures of *Septoria*, are spread by rain or sprinkler water.

CONTROL : Preventive fungicide sprays slightly before or during rainy season from late June to August. Products include azoxystrobin (Abound), Fluopyram and tebuconazole (Luna Experience), chlorothalonil (Bravo), copper fungicides (Kocide).

ALTERNARIA LATE BLIGHT



Initial Alternaria lesion



Leaf lesions with sporulation



Lesions with reddish halo



Black lesions on fruit



Alternaria colony on media



Conidia spores of Alternaria

SCIENTIFIC NAME: *Alternaria alternata*

LEAF SYMPTOMS: Initial small brown spots that develop yellow halos. Lesions expand into circular or irregular shapes that can cover a large portion of the leaves. Badly affected leaves fall off.

FRUIT SYMPTOMS: On green nuts, small black lesions with size of about 1-mm in diameter. On mature nuts, black lesions of varying size surrounded by reddish margins. Badly affected fruit will drop. Shell staining and mold in the kernel at harvest.

WHEN SYMPTOMS APPEAR: The rainy season or lower areas in a micro sprinkler- or flood- irrigated orchard with high relative humidity and dew formation.

DISEASE CYCLE: Alternaria is a common saprophyte and can easily survive on crop debris and senescing leaves of weeds. Spores are dispersed by air currents or splashed by water drops.

CONTROL : Irrigation management and preventive fungicide spray includes Abound, Luna Experience, pyraclostrobin (Pristine). Monitor for strobilurin fungicide resistance.



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