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ACTINOPELTE LEAF SPOT OF OAK

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One of the most widely distributed leaf spots on oak (Quercus spp.) is caused by the fungus Actinopelte dryina (Sacc.) Hoehn. This disease can reach epidemic proportions and cause major blighting under conditions favorable for the fungus (2). The oaks and other plant species attacked by A. dryina in Florida are: red maple (Acer rubrum L.), red-box gum (Eucalyptus polyanthemos Schauer), sweetgum (Liquidambar styraciflua L.). red oak (Quercus falcata, Michx.), turkey oak (Q. laevis Walt.) laurel oak (Q. laurifolia Michx.), chinquapin oak (Q. muehlenbergii Engelm.), water oak (Q. nigra L.), pin oak (Q. palustris Murach.), willow oak (Q. phellos L.), live oak (Q. virginiana Mill.), sassafras (Sassafras albidum (Nutt.) Nees), and Chinese elm (Ulmus pavrifolia Jacq.) (1). Additional hosts reported from other states include: redbud (Cercis canadensis L.), white ash (Fraxinus americana L.), apple (Malus sylvestris Mill.) ,black tupelo (Nyssa sylvatica Marsh), white oak (Q. alba L.), black jack oak (Q. marilandica Muenchh.), swamp chestnut oak (Q. michauxii Nutt.), post oak (Q. stellata Wangenh.), black oak (Q. velutina Lam.), poison ivy (Rhus toxicodendron L.), and winged elm (Ulmus alata Michx.) (3, 4). Although these susceptible plants occur in Florida, there are no records of Actinopelte leaf spot (1,5).

SYMPTOMS. Leaf spots are circular to irregular, uniformly tan to brown, and measure from 1 to 5 mm in diameter. Under warm, wet conditions favorable for disease development, the spots may coalesce and result in a blighted appearance (Fig. 1). Pycnidia (fruiting bodies) are borne superficially on the leaf surface and produce spores which are disseminated by splashing water.

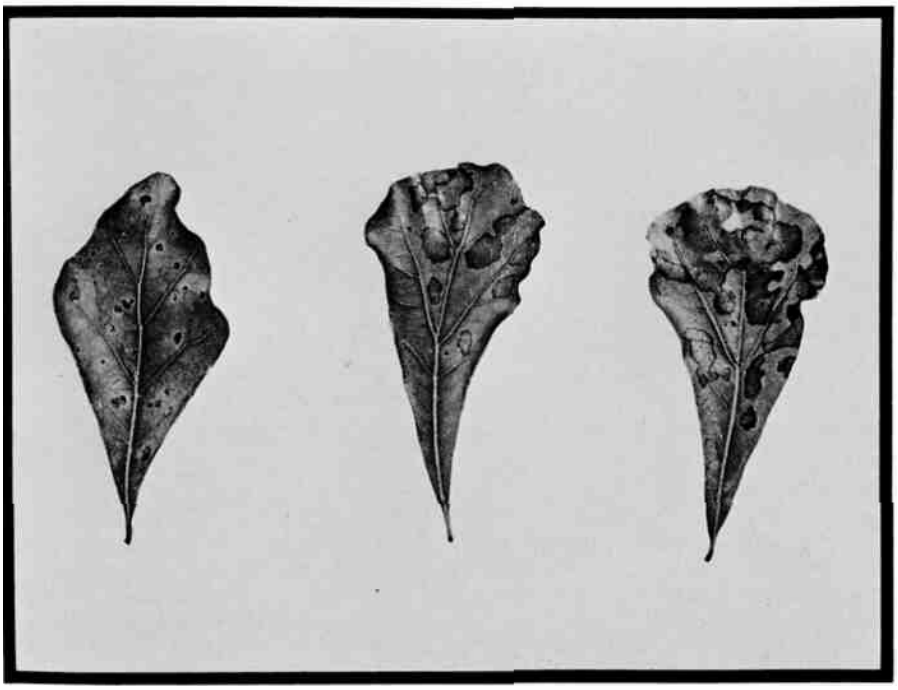

Fig. 1. Actinopelte leaf spot on Quercus nigra with symptoms ranging from small leaf spots to a blighted appearance.

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DISEASE DEVELOPMENT. The bacterial spot organism may be carried as a contaminant on tomato seed (6). It may also overwinter on alternate hosts such as black nightshade, Solanum nigrum L., on volunteer tomato plants in abandoned fields, and on infected soil debris (3,5). Moist weather and splattering rain are favorable for dissemination of the bacteria (6). Wounds, such as those caused on leaves and fruit by epidermal hair breakage, sandblasting or insect punctures, greatly increase disease incidence (5,6). Water-soaking of the leaves, such as by a high-pressure spray, also enhances bacterial spot infection (5).

CONTROL. Use disease-free seed such as that grown in western states or seed that has been hot-water treated (1). Do not locate seedbeds on ground where bacterial spot occurred in the previous year (4). Volunteer tomato plants and weeds such as black nightshade should be eradicated since they can serve as a source of the bacteria. For chemical control of bacterial leaf spot, a mixture of 4 lbs basic copper plus 1 ½ lbs maneb, Dithane M-45, or Manzate 200 in 100 gal water may be used. If the disease is prevalent during periods of rainy weather, sprays should begin 4 to 5 days after emergence and continue on a 5 to 7 day schedule (4).

Literature Cited

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