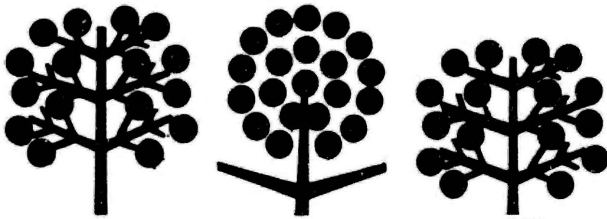


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Florist & Nurseryman Notebook

ENTOMOSPORIUM LEAF SPOT OF PHOTINIA

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Photinia, a shrub in the family Rosaceae, is widely grown in nurseries in the eastern United States. Several species, *Photinia serrulata* Lindl., *P. glabra* (Thunb.) Maxim., and a hybrid, *P. X fraseri* Dress are grown for landscaping. *Photinia X fraseri* is especially desirable because of its bright red, immature foliage and is the most popular species grown. All of these ornamentals are susceptible to leaf spotting caused by the fungus *Entomosporium maculatum* Lev., which has the perfect stage *Fabrae maculata* (Lev.) Atk. (= *Diplocarpon maculatum* [Atk. Jorstad] (10)). *Entomosporium* leaf spot of *Photinia* was first reported in Louisiana in 1957 (5) and has since appeared in Florida (1) and Virginia. Other ornamentals reported to be hosts include Juneberry (*Amelanchier* spp.), flowering quince (*Chaenomeles* spp.), loquat (*Eriobotrya japonica* (Thunb.) Lindl.), firethorn (*Pyracantha coccinea* Roem. var. *formosana*), Indian hawthorn (*Raphiolepis indica* Lindl.), and mountain ash (*Sorbus sitchensis* Roem.) (1,4,6,8).

SYMPTOMS: Leaf spots on *Photinia* are at first minute, slightly raised dots on either surface of the leaf. Older spots have a slightly depressed center with raised margins (Fig. 1). On the juvenile red-colored foliage of *P. X fraseri*, the young minute leaf spots (more or less circular) are a darker red than the surrounding healthy tissue, whereas older necrotic spots (up to 3-4 mm in diameter) have ashen gray centers and dark purple margins surrounded by an indefinite lighter purplish halo. The centers of the necrotic spots on both surfaces are dotted with minute black specks, covered by a hyaline membrane which are the spore structures (acervuli) of the fungus. The spots are discrete in light infections, but in heavy infections they often coalesce to form large lesions and premature defoliation. Infection is mostly limited to the leaf blade, and occasionally a few spots may occur on petioles and tender young shoots.

DISEASE DEVELOPMENT: In the spring, infection first appears on new growth of the lowest branches and spreads gradually upward. Overwintering mycelia in fallen infected leaves from the previous year produce conidia which are dispersed by splashing water (3).

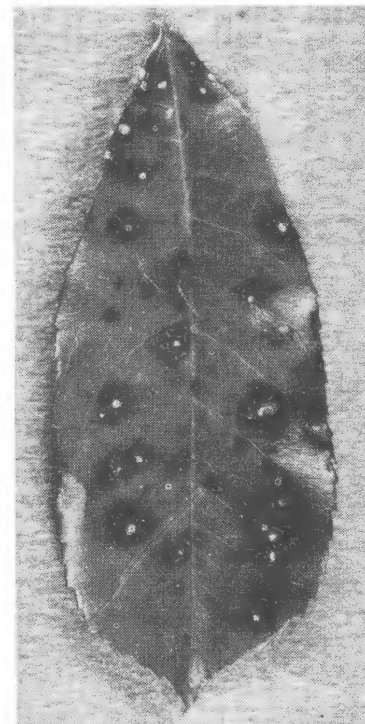


Figure 1.

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Evidence that physiologic races of the *Entomosporium* fungus exist was first presented by Stathis et al. (7). Isolates from pear, (*Pyrus* spp.), and quince (*Cydonia oblonga* Mill.), were highly virulent to pear and loquat but nonpathogenic to *Photinia* spp. In contrast, the isolates from *Photinia* spp. were highly virulent to *Photinia*, pear, and loquat. However, the isolates from loquat were weakly virulent to *Photinia*. Stathis postulated that the race on *Photinia* arose from the loquat by mutation. No evidence has been presented concerning the relationship of isolates from *Rhaphiolepis* spp. to isolates from other hosts.

CONTROL: Fallen leaves should be collected in the winter before the new growth appears in the spring to reduce sources of the fungus. Plants pruned in late summer may suffer infections on resultant new growth into the fall.

Fungicides applied to pear in Georgia after the first leaves are fully expanded gave good protection (2). On quince there were more infections in a wet spring and summer than during a dry season (10). Under nursery production in Virginia summer rains provide adequate moisture for disease development in container-grown *Photinia* spp. See Pest Management Guide 10, Chemical Control of Diseases, Insects and Weeds in Nursery Crops.

LITERATURE CITED

1. Alfieri, S. A., Jr. 1969. *Entomosporium* leaf spot of loquat. Fla. Dept. Agric. & Consumer Serv., Div. Plant Ind., Plant Pathol. Circ. No. 82.
2. Chandler, W. A. 1967. Fungicidal control of *Fabraea* leafspot of pear. *Plant Dis. Repr.* 51(4):257-261.
3. Plakidas, A. G. 1941. The mode of over-wintering of *Entomosporium maculatum* in Louisiana. *Phytopathology* 31:17 (Abstr.).
4. _____. 1941. *Fabrae maculata* (Lev.) Atk. on pyracantha. *Plant Dis. Repr.* 27:274-275.
5. _____. 1957. New or unusual plant diseases in Louisiana. *Plant Dis. Repr.* 41:643-645.
6. Raabe, R. D. and H. N. Hansen. 1955. *Entomosporium* leaf spot of *Rhaphiolepis*. *Phytopathology* 45:55.
7. Stathis, P. D. and A. G. Plakidis. 1959. *Entomosporium* leaf spot of *Photinia glabra* and *P. serrulata*. *Phytopathology* 49(6):361-365.
8. Stevens, F. L. 1966. The fungi which cause plant disease. McMillan Co., New York, NY. 754 pp.
9. Stowell, E. A. and M. P. Backus. 1966. Morphology and cytology of *Diplocarpon maculatum* on *Crateagus*. I. The *Entomosporium* stage. *Mycologia* 58:949-960.
10. Vonica, I., M. Olangiu, Andriana Vonica, and Victoria Sevcenco. 1971. Brown spot of quince and pear leaves caused by *Fabrae maculata* Lev. *Rev. Hort. Viticultura* 29(7):58-62.