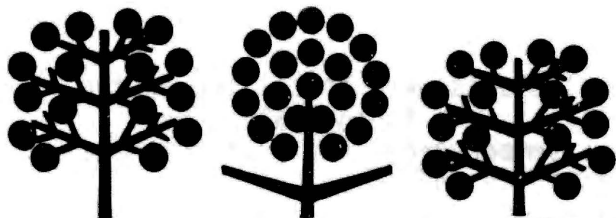


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Florist & Nurseryman Notebook

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BLACK ROOT ROT OF JAPANESE HOLLY

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Japanese holly (*Ilex crenata* Thunb.) is an important evergreen shrub grown in nurseries in Virginia. Many of the shrubs are grown for landscaping. Recently, a new disease, black root rot, was detected in containers of Japanese holly. This disease, incited by the fungus *Thielaviopsis basicola* (Berk. & Br.) Ferraris, was first reported in 1976 on Japanese holly in Virginia (3). Black root rot has been detected in numerous landscape plantings in Virginia (1).

SYMPTOMS: Black lesions commonly occur on the tips of infected roots but may occur elsewhere on the roots. The foliage of infected container-grown Japanese holly exhibits chlorosis, and the roots are stunted (Fig. 1). Stems and leaves have not been observed to be colonized by *T. basicola*. Roots of Japanese holly colonized by *T. basicola* bear conidia and chlamydospores on the surface and in the root tissues. Other fungi such as *Rhizoctonia solani* Kuhn and *Pythium* spp. may be associated with roots colonized by *T. basicola*.

HOST RANGE: Black root rot has been listed on numerous herbaceous ornamentals by Pirone (5). *Thielaviopsis basicola* has caused the failure of scion-root-stock grafts in several woody ornamentals (2). Six cultivars of Japanese holly are reported to be highly susceptible while *I. vomitoria* Ait. and *I. opaca* Ait. are moderately resistant and *I. aquifolium* L. and *I. cornuta* Lindl. are highly resistant (4).



Fig. 1. *Thielaviopsis basicola* on *Ilex crenata*. Diseased and discolored roots on plant on left, healthy plant in center, and severe loss of roots caused by numerous root infections on plant on right.

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When various ornamental and non-ornamental plants were inoculated in the greenhouse with T. basicola from Japanese holly, it was found that pansy (Viola tricolor L.) and English boxwood (Buxus sempervirens var. suffruticosa L.) were susceptible (6). Vegetables susceptible to infection included tomato (Lycopersicon esculentum Mill.), eggplant (Solanum melongena L.), bean (Phaseolus vulgaris L.), and cowpea (Vigna sinensis (Toner) Savi). Field crops found to be susceptible include soybean (Glycine max L.), peanut (Arachis hypogaea L.), alfalfa (Medicago falcata L.), and tobacco (Nicotiana tabacum L.).

CONTROL: Only cuttings from healthy plants should be rooted on raised benches so as to avoid pathogen contamination from the soil. Rooting and growing media that contain soil, flats or containers, and benches should be free of the fungus. Pasteurization with aerated steam or fumigation with a chemical such as Vapam will eradicate conidia and chlamydospores in the growing medium. Refer to the Virginia Pest Management Guide 10, Chemical Control of Diseases, Insects and Weeds in Nursery Ornamentals.

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2. Keep pesticides in the containers in which you bought them. Put them where children or animals cannot get to them, preferably under lock and away from food, feed, seed, or other material that may become harmful if contaminated.
3. Dispose of empty containers in the manner specified on the label.

SEE YOUR DOCTOR IF SYMPTOMS OF ILLNESS OCCUR DURING OR AFTER USE OF PESTICIDES.

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