

CONTROL OF PHOMA STEM BLIGHT OF PERIWINKLE BY CUTTING DIPS - Progress Report

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Phoma blight of periwinkle (*Vinca minor* L.) results from infection by the fungus *Phoma exigua* Desm. var. *exigua* Maas (1). Infected stems turn dark brown or black. In California, the disease is most prevalent during the winter months when temperatures are low and rainfall is abundant. Fungus spores, which are produced in pycnidia formed on infected stems, are spread in splashing water. The disease can be severe in the winter under mist propagation, with the result that diseased plants are used in landscaping. In landscape plantings, Phoma blight has been controlled by the fungicides benomyl and thiabendazole (2).

To determine if cutting dips would help control the disease, a trial was conducted using cuttings from infected field-grown plants. Cuttings of the cultivar *Vinca minor* 'Alba' were soaked for 10 minutes in a suspension of fungicides in water that initially was 100° F. After the cuttings were dipped, the water temperature dropped to 97° F. Benlate® (50% benomyl) was used at 1 pound per 100 gallons water; Mertect® 140-F (42.8% thiabendazole), at 30 fluid ounces per 100 gallons; and Topsin®-M (70% thiophanate-methyl), at 2 pounds per 100 gallons.

The treated cuttings were inserted in a sand-peat potting mixture in plastic containers, each of which held 13 cuttings. Two containers for each treatment constituted a replication; each treatment was replicated 14 times. The cuttings were treated and struck on December 14, 1972, rated on February 14, 1973, and rated again on March 14, 1973. Table 1 gives the averages of the ratings.

TABLE 1. The Effect of Cutting Dips on the Control of Phoma Blight of *Vinca minor*.

| Treatment | Ratings ¹ | |
|--------------------|----------------------|----------|
| | February 14 | March 14 |
| benomyl | 3.7 | 3.7 |
| thiabendazole | 4.5 | 4.3 |
| thiophanate-methyl | 3.1 | 3.4 |
| check | 1.1 | 1.2 |

¹ Average ratings on a scale of 1 to 5, where 1 = poor growth, disease present, and 5 = good growth, no disease.

All three fungicides gave good control of the disease from the time of treatment and insertion in the growing medium until the plants were large enough for sale—a period of 3 months. Thiabendazole appeared to be the best treatment, followed by benomyl and thiophanate-methyl.

None of the fungicides is currently registered for use as a cutting dip. However, Benlate® and Mertect® are registered as bulb dips and registration of Topsin®-M for use on ornamental plants is anticipated.

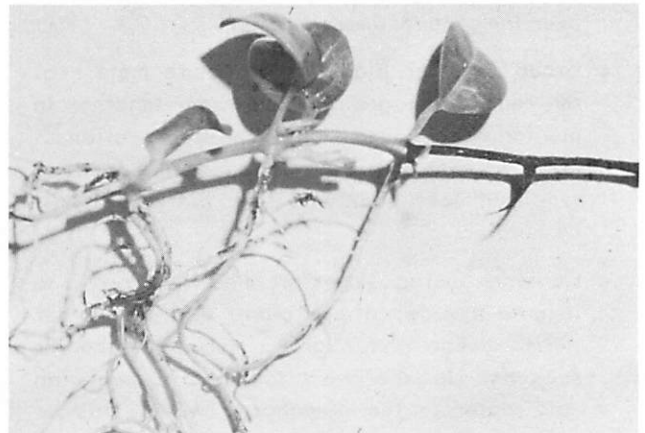


Figure 1. Rooted periwinkle cutting. The fungus has blighted the cutting's terminal growth.

LITERATURE CITED

1. Paulson, Gerald A., and Donald F. Schoeneweiss. 1971. "Epidemiology of stem blight of *Vinca minor* incited by *Phoma exigua* var. *exigua*." *Phytopathology* 61:959-963.
2. Schoeneweiss, D. F. 1972. "Control of stem blight of *Vinca minor*." *Plant Dis. Repr.* 56:238-241.

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To simplify information, trade names of products have been used. No endorsement of named products is intended, nor is criticism implied of similar products which are not mentioned.

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