

Damping-off of Sweetgum by *Pythium sylvaticum*

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During the spring of 1964, pre- and postemergence damping-off killed many sweetgum (*Liquidambar styraciflua* L.) seedlings in a nursery at Stoneville, Miss. *Fusarium solani* (Mart.) Appel & Wr., *Sclerotium rolfsii* Sacc., *Talaromyces spiculisporem* Benjamin, and *Pythium sylvaticum* Campbell & F.F.Hendrix were isolated from the diseased seedlings. At soil temperatures similar to those prevailing when damping-off occurred—at or slightly below 20 C—only *P. sylvaticum* appeared to be virulent in preliminary tests. Therefore, its pathogenicity on sweetgum was evaluated.

MATERIALS AND METHODS.—Twelve pairs of 36 × 51-cm metal flats containing soil 10 cm deep were autoclaved at 121 C. Five hundred sweetgum seeds were then sown in rows in each flat, and 7.5 g of inoculum were introduced into one flat in each pair. The other served as a check.

Inoculum was prepared by growing a pure culture of *P. sylvaticum* on sterilized oat seeds for 1 month. It was mixed with the soil in the rows of planted sweetgum seeds at 2.5-cm intervals. Sterile oats were distributed in the check flats.

In March, August, and September 1965, pairs of flats were placed in a greenhouse where temperatures varied from 17 C at night to 40 C in the daytime. Relative humidity varied from 40 to 100%. In September, an additional two pairs of flats were placed in a growth chamber maintained at 20 C. Twelve hr of light/day at 800 ft-c were provided. In all, there were 12 replications (pairs of flats).

After 21 days in the growth chamber or greenhouse, the surviving seedlings were counted. Survival was expressed as a percentage of the number of seeds sown. Reisolations of the fungus from tissues of dead seedlings were attempted.

RESULTS AND DISCUSSION.—*P. sylvaticum* caused damping-off in the seedlings. Over all the tests, survival averaged 33% in flats inoculated with the fungus and 66% in the check flats. The difference was significant ($P = < .05$). The original fungus was consistently isolated from diseased tissues of dead seedlings.

This is the first report of pathogenicity for the recently named heterothallic species of *Pythium* (1).

LITERATURE CITED

1. CAMPBELL, W. A., and F. F. HENDRIX, JR. 1967. A new heterothallic *Pythium* from southern United States. *Mycologia* 59:274-278.