FUCHSIA RUST* IN CONNECTICUT

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A leaf rust on Fuchsia has become prevalent in Connecticut greenhouses. Losses up to 100 percent may occur depending on the relative susceptibility of the cultivars grown. Most serious losses occur during propagation. This is because plants are placed close together under mist allowing little air circulation.

Injury is less noticeable once the rooted cuttings are transplanted into pots. Some defoliation may occur on infected plants, but they eventually recover. No rust infections have been observed on Fuchsias growing out-of-doors.

The first symptom of fuchsia rust usually noted is a pale yellow area on the upper leaf surface. Close examination will disclose pustules of yellow urediospores on the lower leaf surface. Some distortion of the leaf may be evident. Since the leaf symptoms are not always conspicuous, the affected leaf may fall off before the disease is noticed. Heavy defoliation of susceptible varieties is not uncommon.

Observations in several greenhouses indicate that the rust spores produced on infected leaves can reinfect Fuchsia indefinitely. Some test plants in a greenhouse had rust infections continuously for a period of three months. Lower leaves are generally infected first. Spores produced on fallen leaves are splashed up to the lower leaves during watering and distributed by gusts of air.

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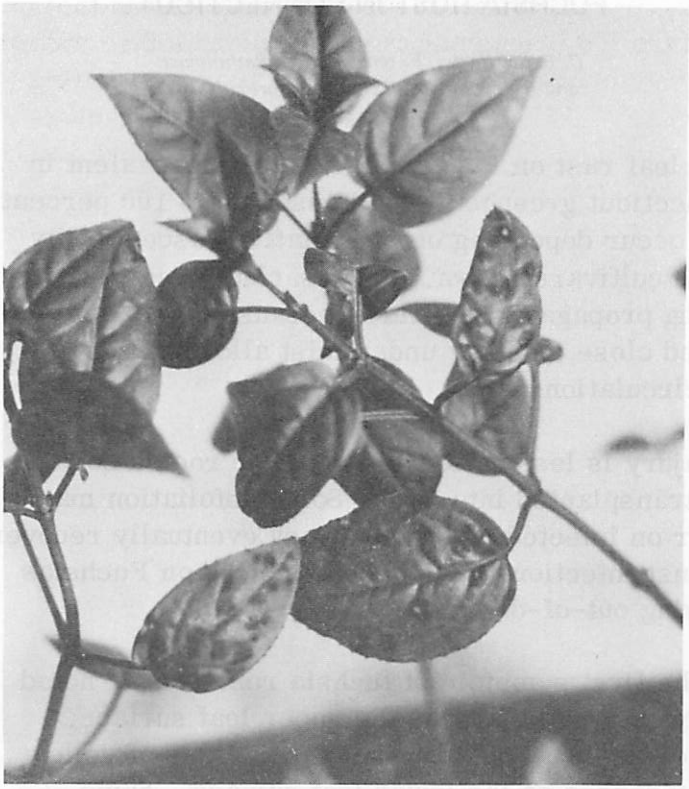
*Pucciniastrum epilobii



Other sources of spores may be a common weed, fireweed (Epilobium spp.) which is occasionally found in and around greenhouses, and various firs (Abies spp.) which are the alternate hosts of the rust pathogen.

One report in the literature indicates that cultivars with light colored flowers are more susceptible to rust. Preliminary pathogenicity tests using different commercially grown cultivars of Fuchsia indicate that Southgate, Dark Eyes, Swanley Yellow, and White Bells are very susceptible. Swingtime, Mrs. Sheehan, Bluebells and Victor Relter appear to be intermediate in susceptibility while orange cultivars appear to be resistent.

Some of the control measures suggested in the literature i.e. removing rusted leaves as they appear, hardly seem practical with present day propagating procedures. Wider spacing of plants which facilitates faster drying of the foliage may help. Infected stock plants or other potted Fuchsias should not be kept near the propagating benches. Strict sanitation is a must if successful control is to be accomplished. Fireweed in or around the greenhouse should be destroyed.

A fungicide such as ferbam or mancozeb applied to plants in the propagating benches will help protect the cuttings.

When more is learned about varietal resistance it may be feasible to control the disease by using resistant cultivars.

NUTRIENT DEFICIENCIES IN REIGER BEGONIAS*

Symptoms for 7 nutrient deficiencies were established for elatior begonia "Schwabenland Red' (Begonia X hiemalis Fotsch.) These are summarized in the form of a key as follows:

a. Chlorosis is a dominant symptom
  b. Chlorosis interveinal
    c. Interveinal chlorosis on older leaves followed by light tan necrotic spots within chlorotic areas which expand until leaf dies. . . . . Mg
    cc. Interveinal chlorosis on younger leaves . . . . . Fe
  bb. Chlorosis not interveinal
    c. Lower leaves uniformly yellow then purplish yellow and finally necrotic. . . N
    cc. Margins of canopy leaves yellow, then murky green-brown, and finally necrotic; all symptoms spread toward the leaf center . . . . . Ca
aa. Chlorosis not a dominant symptom
  b. Necrosis begins along the margin of lower leaves and progresses inward . . K
  bb. Plants stunted but normal green . . . . P
  bbb. Rust color, striations and cracks develop on young leaf petioles and peduncles perpendicular to their axes; internodes shortened and lateral shoots prolific; young leaves brittle crinkled around rust color spots which turn necrotic; chlorosis and necrosis spreading inward from the margin of young leaves . . . . . B

Abstracted from Nelson, P.V., D.M. Krauskopf and N.C. Mingis. Visual symptoms of nutrient deficiencies in Rieger Elatior Begonia. J. Amer. Soc. Hort. Sci. 100(1):65-68. 1977.