

More About Chrysanthemum Ray Blight

A. W. Dimock

Department of Plant Pathology

Cornell University

In a note in the October 1958 issue of the New York State Flower Growers' Bulletin we promised to follow up with a little more about the fungicide program for control of *Ascochyta* ray blight, caused by the fungus now known as *Mycosphaerella ligulicola*. We will assume that a very thorough clean-up job has been done in the cloth-house or field-planting area, possibly including sterilization of the soil. Even so, if the disease was present last year these sanitary measures should be supplemented by a fungicide program.

Timing of treatments. The purpose of the program is to maintain a protective coating of fungicide on the developing buds and opening blooms. We suggest making the first application when the buds are quite small—about $\frac{3}{16}$ -inch diameter—then repeating the treatment at intervals until nearly time to cut. The interval between treatments depends on the weather. During prolonged dry weather, treatment every 7 to 10 days is adequate, but if rains are frequent it may be necessary to make applications 2 or 3 times a week. The wetter the season, the more frequent the treatments. Because the disease progresses very rapidly it is necessary to keep ahead of it, not wait until trouble can be seen.

Materials to use. Both zineb (Parzate, Dithane Z78) and captan (Orthocide, Captan Fungicide) have proved effective. We suggest using 1 lb. to $1\frac{1}{2}$ lb. per 100 gal. water for the first application, then cutting down to $\frac{3}{4}$ lb. or even $\frac{1}{2}$ lb. for later treatments if applications are being made frequently. In Florida many growers are alternating

between zineb (or maneb, i.e., Manzate or Dithane M22) and captan. Just enough wetting agent should be added to give good spreading of the spray droplets. Dusts containing about 8 to 10 per cent of the fungicide are fairly effective, though perhaps a bit less so than the sprays. Sometimes they may be applied more quickly than sprays or at times when spraying is difficult.

How to treat. The ray blight sprays are intended only for protection of the buds and blossoms. They are best applied with a multiple-nozzle boom or brush, using fairly high pressure so that the buds and blossoms can be covered by a rapid pass of the applicator over the tops of the beds. With a properly constructed boom the job can be done very rapidly.

Leafspot sprays are also needed. The ray blight sprays are in addition to the long-recommended sprays for Septoria leafspot. For prevention of leafspot we still recommend thorough spraying of the young plants with ferbam (Fermate, etc.) at 1 lb. per 100 gal. These treatments should be made weekly until the plants are about 12 to 16 inches tall. The ray blight sprays start after the buds are visible.

Insecticides such as malathion, DDT, and others, are compatible with ferbam, zineb, maneb, and captan, so that combination insecticide-fungicide sprays may be used. And for foliar nematode prevention a series of 2 or 3 sprays containing parathion ($1\frac{1}{2}$ lbs. 15% w.p. per 100 gal.) should be employed in late July or August. These should be thorough foliage applications.