

# Ascochyta Ray Blight Of Chrysanthemums Now Established In New York

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Two years ago a single case of *Ascochyta* ray blight was observed on Long Island, causing considerable loss in several varieties of field-grown pompons. Previously it had not been reported north of Maryland, although it has for years been extremely serious in the south. This year a great many bonafide reports have come in, both on standards (particularly Indianapolis White and Indianapolis Yellow) and on pompons. How the disease became so wide-spread we do not know, but it is here and measures should be taken to minimize its continued spread and development.

## What it looks like

Symptoms which differentiate this flower blight from *Botrytis* blight include the following: (a) A high proportion of the diseased flowers show a one-sided attack, a group of the petals turning *dark brown or black* and sticking together (see figure 1, page 1). (b) The rot may progress from  $\frac{1}{2}$  inch to several inches downward into the flower stalk or pedicel. (c) The rot progresses across the receptacle at the base of the petals so that they fall off in



Figure 1. Typical *ascochyta* ray blight on pompon chrysanthemums—natural infection.

(Continued on page 4)

## Ascochyta Ray Blight

(Continued from page 1)

a shower when the blossom is shaken. This is one of the most characteristic symptoms of the blight on standards and often occurs with little outward evidence of infection. This phase of the disease may develop *after* the blooms are cut and shipped to market. There are other symptoms, such as the rotting of individual leaves and the blighting of unopened buds, but the above best differentiate Ascochyta ray blight from other diseases.

### Where it comes from.

So far as we know, the Ascochyta ray blight fungus (properly known as *Mycosphaerella ligulicola*) does not attack plants other than chrysanthemums, although no intensive survey or inoculation study has ever been made. Introduction of the fungus into a new area, then, would have to be either on chrysanthemum plant parts, such as cut flowers or propagative material, brought in from an area where the disease was present, or else by direct mechanical transfer of spores on the hands or clothing of people moving from one area to another, or on shipping boxes, or the like.

Once in a new area, the fungus persists over winter or other unfavorable period in old infected plant parts in the field or in refuse piles. Airborne spores are produced on the old infected material and are carried by air currents to newly developing buds or blooms, causing the initial infections. Spores of a second type, which are spread by splashing or by mechanical transport of the wet spores, are formed by the millions on the newly-infected tissues. These spores may be spread by direct splashing, by spraying with non-fungicidal insecticides, by transport on the hands or clothing of workmen or on the black cloth as it is pulled back and forth twice daily, or by other mechanical means. Spread of the fungus thus may occur very rapidly, and entire beds of susceptible varieties may be lost within a few days.

### What to do.

It probably is too late now (October) to do much about the present crop, but the foregoing discussion has been given in order to emphasize the potential seriousness of the disease and the importance of eliminating all currently infected material. Any method which can be employed to destroy the material *in place in the field is to be encouraged*. Plowing the refuse under in the fall, so that no chrysanthemum tissue survives should be helpful. "Sterilization" of the area with steam, chloropicrin, or methyl bromide (at 3 to 4 lbs. per 100 square ft.) should help eliminate surviving infected material in the surface layers of soil. If at all possible it would be advisable to leave infected fields idle for a year or two, preferably keeping them fallow so that no volunteer chrysanthemums or other possible hosts will keep the fungus going.

If Ascochyta ray blight has been present in a field it is most important that no plants be saved from that area for

stock plants. Propagative material taken from an infected field almost certainly would carry the disease along.

It must be acknowledged that the writer is pessimistic about the chances of completely eliminating *Ascochyta* ray blight once it has been introduced, but all measures which will reduce the carry-over of infective material should be taken. If the disease has been present this season, however, a specific ray blight spray program should become part of the routine in future years. This will be discussed in an article in the N. Y. State Flower Grower's Bulletin in the spring.