

Control Of Ray Blight On Chrysanthemums

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Ray Blight, caused by *Asochyta chrysanthemi*, is a chrysanthemum disease which was discovered in North Carolina. The disease is a serious problem in southern states and is now becoming one in the north as well. Both pompons and standards are susceptible.

Ray Blight primarily affects chrysanthemum buds and petals just at the time when the crop is ready to be harvested. This fungus also infects foliage, but the symptoms are less distinctive than those of either Septoria leaf spot or foliar nematode. Some growers fail to recognize this disease on the foliage and then have losses ranging from 2% to 100%. Unfortunately, each year a few more northern growers become aware of the effects of this disease.

Control For Ray Blight

The disease can be prevented or the losses minimized by a thorough program of sanitation, soil sterilization and fungicide application.

Sanitation is an important step in preventing or controlling this disease. If the disease was a problem last

year, a thorough clean-up last fall of outdoor pompon frames and a re-check this spring would have reduced the source of infection for this growing season. All plant stems, leaves, etc. from last year should have been destroyed and the growing areas plowed or roto-tilled.

Soil sterilization. The beds should be treated with steam, methyl bromide, Vapam (VPM) or chloropicrin. Even with thorough sanitation and soil sterilization, if you had the Ray Blight problem last year, you should be sure to follow a good spraying program.

Spray Applications

Insecticide Application:—A short discussion of the insecticides used is included as growers commonly use a combination of both insecticides and fungicides. The fungicides and insecticides mentioned in this article are compatible and may be used in combination.

Outdoor pompon growers should be employing a regular spray program, using DDT and Parathion. Para-

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RAY BLIGHT CONTROL

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thion is necessary up until July 15th on Long Island to insure full control of the Foliar Nematode, which occasionally may be a problem, although this pest was more pronounced three or four years ago.

As the mum plants progress and are in the bud stage the insecticides are oftentimes reduced or eliminated. The grower, nevertheless, should check daily for mites, thrips and other insects. Immediate spot treatment is often all that is necessary.

Fungicide Application: The fungicide program is important while the plants are young to control Septoria leaf spot and then the emphasis shifts to Ray Blight Control.

When the Plants are Young: (less than 12 to 16 inches tall), the grower should use Ferbam (Trade names: Fermate, Karbam Black, etc.) and Zineb (Trade names: Parzate, Di-thane Z-78, etc.) in alternate spray applications. Spray upper and lower leaf surfaces every 7 days.

When the plants are over 12 to 16 inches high, the grower should still make weekly sprays with the insecticides and fungicides and substitute Captan for the Ferbam so as to alternate with Zineb and Captan.

Late Controls. After the flower buds have formed and reached $\frac{3}{16}$ of an inch in size, the amount of Captan or Zineb can be decreased. Use $\frac{1}{2}$ lb. of either Zineb, Captan or Maneb in 100 gallons of water plus 3 to 4 ounces of Drest or some other soap or detergent. Mist over the top, covering the buds thoroughly three times a week, especially during damp weather or periods of high humidity or abundant condensation.

Some growers have used as much as 1 lb. of one of these fungicides, per 100 gallons of water without a sticker-spreader and report no burn of either buds or blooms. This was true even when they used the material daily in cloudy weather and on every second day when the weather was sunny. However, except in the case of emergency, this concentration is not recommended, as it leaves a white residue.

Spray Boom

The fungicide mists are intended only for the protection of the buds and blossoms. They are best applied with a multi-nozzle boom, using fairly high pressure so that the buds and blossoms can be covered by a rapid pass of the mist over the tops of the plants. A properly constructed boom will do the job quickly.

Low gallonage spray nozzles are available that give a 4-foot wide cone. One such nozzle is the T-jet nozzle #1 $\frac{1}{4}$ TP-12 W., which will cover a 4-foot bed, when held about 12 to 18" above the tops of the plants. Other nozzles may also be adjusted to fit similar purposes.

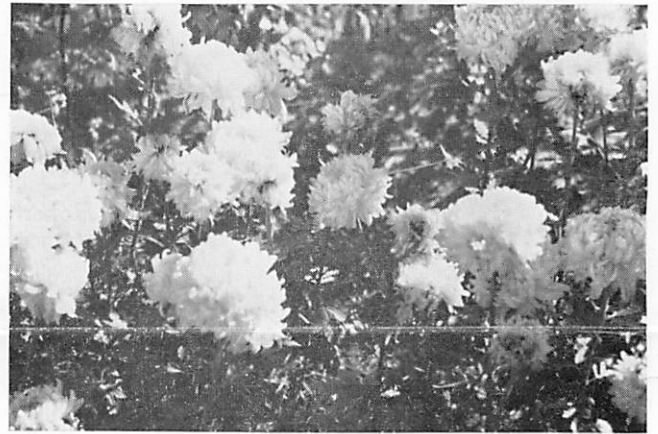
One successful Long Island flower grower uses two level teaspoons of Dithane Z-78 or one level tablespoon of Parzate plus one level tablespoon of 50% wettable Dieldrin per gallon of water in the first mist. Then, in the following mist sprays, he uses one-half the amount of the fungicide or one level teaspoon of Dithane Z-78 or one-half level tablespoon of Parzate plus one-half level tablespoon of the 50% Dieldrin wettable powder per gallon of water. In some cases, the insecticide or Dieldrin is eliminated, especially if thrips have not been a problem.



This is what the final results of Ray Blight looks like on pompon petals just at the time when some growers were ready to harvest their crops last year. A thorough program of sanitation, soil sterilization and fungicide application could have prevented or at least minimized the losses.



Some advanced cases of Ray Blight on standards, showing the brown petals and the brown calyx.



Advanced cases of Ray Blight on standards.

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YOUR EDITOR,

Bob Laughans