

## POINSETTIA DISEASES AND THEIR CONTROL

The results of diagnosis from previous years shows that the diseases of the poinsettia have been completely confined to the roots and lower stems. The big three diseases causing root rots are:- Rhizoctonia solani, Pythium sp. and Thielaviopsis basicola. Also, these three diseases may occur at all phases of production:-

1. Stock plants
2. Propagation
3. Panning
4. Finishing off period

A few characteristic symptoms for the "Big Three Diseases"

Rhizoctonia Symptoms

1. Destruction of roots.
2. Stem canker at soil line sharply defined, which may progress to involve most of the stem tissues causing a girdling.
3. Leaves wilt, sometimes becoming chlorotic.
4. Leaves curl upward at the edges, gradually turn yellow.
5. Falling of yellowed leaves beginning with oldest foliage.

### Pythium Symptoms

1. Destruction of the fibrous root system back to the stem.
2. Few remaining rootlets are dark brown in color.
3. Dark brown stem lesions extend several inches above the soil line.
4. Leaves wilt, often becoming chlorotic.
5. Falling of leaves as stem canker advances upward.
6. Stunting of plants.
7. Stem tissues become distorted and constricted. This phase is not too common in the greenhouse but may occur in the cutting bench.

### Thielaviopsis Symptoms

1. Damage to young root primarily.
2. Older roots under normal growing conditions continue to form new roots which in turn are attacked which results in stunting plants.
3. Plants are not killed quickly.
4. Longitudinal black cracks in the base of the stem below the soil line.
5. Early symptoms on lower leaves appear as a slight inward curling of edges followed by yellowing.
6. Later symptoms, the leaves are completely yellow and drop quickly, and within several weeks all the leaves may be gone.

These specific symptoms prove a point that similar symptoms can be found for all three organisms and makes diagnosis by observation rather tricky business. To be sure cultures should be made and this requires at least a week or 10 days. So the question arises - what to do when diseases occur on the crop of poinsettias?

1. A strict sanitation program. Keep all leaves picked up and watch your watering. Don't keep them too wet.
2. If using a steam sterilizing program, you must use it all the way and use every precaution against recontamination, remembering that all pots, benches, rooting media and growing areas must be sterilized.
3. Treatments for poinsettia diseases - If a disease is noted at any stage of production, we suggest that a combination treatment (Captan or Phaltan for Pythium and PCNB (Terraclor for Rhizoctonia) be applied. The reasoning for this suggestion is that the diagnosis by inspection for the specific organism is not always positive and there would be a loss of valuable time (10 days) to culture out the disease. At the present time no chemical is reported to be effective against the organism Thielaviopsis.

Treatments as soil drench or high volume spray over the plant:-

Captan - or Phaltan 2 lbs. to 100 gallons for Pythium  
combined with PCNB (Terraclor) 1 lb. to 100  
gals. for Rhizoctonia

This treatment can be used for cuttings, small potted plants (2 1/4)  
and for after panning.

Other suggested formulations for control of poinsettia diseases:-

1. Oxyquinoline sulfate (ADO) or (Sunox). Reported to be effective against Pythium and Rhizoctonia. Length of residue unknown.  
Rate: 1 tablespoon per 1 1/2 gal. water.
2. Morton Soil Drench C. Reported to be effective against Rhizoctonia.  
Rate: 1 1/2 oz. per 100 gals. of water. Length of residue unknown.
3. Panodrench 15. Reported to be effective against Rhizoctonia.  
Rate: 1 1/2 fluid oz. per 100 gals. water.

Summary Observation about Poinsettia Diseases

Dr. Bateman from Cornell recently stated "It would appear that a combination of low soil temperatures, low soil moisture and low pH should result in a minimum of damage from the poinsettia root rots regardless of the pathogen or pathogens present".

Rhizoctonia - reduced by low soil temperature  
Pythium - reduced by low soil moisture  
Thielaviopsis - reduced by low pH (4.5)

To prepare a dust of 4% Malathion and 10% Parzate - (Use respirator while making the mix).

25% w.p. Lindane . . . . .	6 oz.
25% w.p. Malathion . . . . .	1-1/2 lbs.
65% w.p. Zineb . . . . .	1-1/2 lbs.
Vermont Talc . . . . .	7-2 oz. - lbs.

Use a fine grade Vermont talc. Mix thoroughly by passing over window screening or use a barrel mixer.

When applying dust do not put it on so heavy that the plants are white. There is an "ionic" reaction of these chemicals with the plant and a certain amount will adhere to the foliage.

Parts - per - million are this much:-

The intense preoccupation of the press and public with "parts-per-million" in connection with last fall's cranberry crisis prompted the NAC News and Pesticide Review to offer some analogies recently in an effort to clarify this unit of measurement.

The quantity of 1/10 of a part of herbicide per million parts of cranberries was frequently mentioned as the level representing alleged contamination of the fruit.

Just how much or how little is 1/10 of a part per million? Any one of the following for instance:-

- 1 crystal of granulated sugar in 5 lbs.
- 1 drop of water in 160 gals.
- 1 penny in \$100,000.00
- 1 inch in 158 miles

The thickness of a strip of cellophane compared to the height of the Washington monument.

-- Norman W. Butterfield

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