

Poinsettia disease control

Joseph Maisano, Jr.

Cooperative Extension Educator Horticulture & Turf

Poinsettias represent a high percentage of income from plants produced for the Christmas season. The management and control of poinsettia diseases is a critical factor in your production scheme.

Sanitation and Disease Control

Disease control starts long before the poinsettias arrive. The greenhouse where the crop will be grown should be cleaned thoroughly. The benches should be cleared and washed, removing any excess soil from previous crops.

When potting, use new or disinfected pots. If soil is in the mix, it should be steam pasteurized or chemically treated. Steaming the soil for 30 minutes after the temperature reaches 180°F will control most disease problems. Chemicals such as methyl bromide, used at recommended rates, can also be used.

Select a potting mix that is well drained to minimize root disease problems. The root rots are the most important diseases in producing a

poinsettia crop. They usually appear during the growing season in the order of: Rhizoctonia, Pythium and then Thielaviopsis.

RHIZOCTONIA STEM ROT, caused by *Rhizoctonia solani*, is most severe at high soil temperatures and low soil moisture. The disease appears as a well-defined, dark brown lesion on the stem at the soil line. Under ideal conditions it may attack the top of the plant. Most symptoms appear shortly after planting.

Control: Within 7-10 days after panning, apply a drench of Banrot 40 WP 1.5-3 oz./25 gal. Apply 25 gal. to 100 sq. ft. or enough to saturate the soil with 1/2 pt. per 6" pot. Benlate 50 WP 4 oz./25 gal. (1 Tbs/gal) can also be used as a drench at 1-2 pts/sq. ft. repeated at 2-4 week intervals.

PYTHIUM ROOT ROT, caused by *Pythium spp.*, usually occurs second in the sequence of the three major diseases. This rot is usually associated with poorly aerated or waterlogged soil. It attacks the root tips causing a clubby root system. In many instances, the outer covering of the root slips off leaving only the center or stele. The plants may wilt, become stunted, and the lower leaves turn yellow and drop. This fungus requires high moisture and is active at cool temperatures.

Control: Use a well-drained soil mix. About three to four weeks after the first drench, which was applied for Rhizoctonia control, make a second application with Benlate or Truban. Banrot or Subdue may be substituted for these materials.

Pythium: Subdue 2E 3/4 to 3 Tsp/25 gal. Drench 25 gal/100 to 200 sq. ft. (1-2 pts per sq. ft.). Do not apply more than once every six weeks. Truban 30 WP 3/4 to 2 oz/25 gal, drench 25 gal/100 sq. ft. or enough to saturate soil with 1/2 pt per 6" pot, repeat every 4-12 weeks.

Banrot 6-12 oz. per 100 gal., drench 1/2 pt per 6 inch pot.

Benlate should be used as previously stated.

THIELAVIOPSIS ROOT ROT, or black root rot, is caused by *Thielaviopsis basicola*. This disease is favored by cool temperatures. Most damage occurs near the end of the growing season. It attacks the roots causing black rotted areas. The plants show a lack of vigor and may wilt on bright days with the leaves eventually turning yellow and dropping.

Control: Drench of Benlate or Banrot will give good control (refer to Rhizoctonia control for rates).

GRAY MOLD, caused by *Botrytis cinerea*, may become a problem. This disease is favored by free moisture and cool temperatures. It attacks the leaves flowers and stems and may appear as a browning injury along the stems or leaf margins. In advanced stages, gray masses of spores are readily visible.

Control: Heat and ventilate to keep the humidity down. Circulating fans using the principle of horizontal air flow (HAF) will help to keep the foliage dry. Fungicides such as Benlate, Ornalin or Daconil 2787, Termil or exotherm can be utilized. Remove infected plant parts from the greenhouse. Do not place on floor.

BACTERIAL SOFT ROT, caused by *Erwinia carotovora*, has become more prevalent in recent years. It attacks and rots the cuttings either before or shortly after potting. It can also appear when the crop is being cooled just before sale. The rot is soft and watery.

Control: Use maximum sanitation throughout the life of the crop. Destroy diseased plants.

CRUD. Under certain environmental conditions, cells rupture and latex is exuded out. This unsightly occurrence is called crud. All conditions for this malady are not known. However, it can be reduced by using a growing medium that drains well, watering only in the morning and avoiding high humidity at night. To reduce humidity at night heat early and ventilate.

HERBICIDE INJURY. Poinsettias are sensitive to phenoxy-type herbicides. Every year some are found injured by 2,4-D. Growers who use this type of herbicide must keep it and the sprayers out of the greenhouses.

Summary of Poinsettia Disease Control Program

Maintain a clean environment throughout the growing season. Tools and potting bench can be cleaned by disinfecting them with Chlorox 10% or LF10.

Drench for Rhizoctonia 7-10 days after potting.

Drench for Pythium 3-4 weeks after potting.

Drench for Thielaviopsis one month later. Use combination of Benlate, Subdue or Truban to control specific labeled diseases or Banrot for broad spectrum disease control.