POINSETTIA (*Eurphorbia pulcherrima* 'Prestige Red')
Gray mold; *Botrytis cinerea*

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Evaluation of Broadform residual control of gray mold on poinsettia, 2020.

Poinsettia 'Prestige Red' were grown in 4-in. pots and transplanted on 28 Jan into 6-in. pots containing soilless media (Suremix MI Grower Products Inc, Galesburg, MI). The experiment was conducted in an 80% shaded research greenhouse on the campus of Michigan State University. All plants were fertilized three times weekly with 200 ppm Peters Professional 20-20-20 water soluble fertilizer (ICL Specialty Fertilizers, Dublin, OH). Greenhouse temperatures averaged 75.5°F ranging from 69.6°F to 88.4°F. Four, single-plant replicates per treatment were arranged in a completely randomized design. Cultures of *Botrytis cinerea* were grown on potato dextrose agar for four weeks. Petri plates were flooded with sterile distilled water and spores were dislodged with a sterilized spatula. The resulting suspension was strained through sterilized cheesecloth and adjusted to reach a concentration of 5.0×10^6 conidia/fl oz. The highest labeled rate of Broadform was applied on different dates to evaluate residual control of gray mold. The fungicide was applied to glisten either 28 (31 Jan), 21 (7 Feb), 14 (14 Feb), 7 (21 Feb), or 0 (28 Feb) days prior to inoculation using a compressed hand sprayer. The 28 Feb application was applied six hours prior to inoculation. Due to the hydrophobic properties of poinsettia bracts, CapSil (6 fl oz/100 gal) was added to each spray mixture. A single inculation was conducted on 28 Feb by spraying 0.1 fl oz of the conidial suspension per plant. All plants were placed in a metal basket in a translucent plastic bag to increase relative humidity for the duration of the experiment. On 10 Mar, the total number of bracts and the number of bracts with sporulating *B. cinerea* were counted and disease severity was rated using a scale of 0 to 5 (0=healthy, 5= coalesced lesions, significant defoliation). Data were analyzed using SAS PROC GLM and statistical differences were compared using the Fisher's Protected Least Significant Differences test (P=0.05).

Disease was severe in this trial and all untreated, inoculated control plants received a rating of 4.0 (large lesions, limited defoliation) with 83.1% of bracts exhibiting sporulating *B. cinerea*. Broadform SC provided disease control for up to 4 weeks following application. When applied 2 or 3 weeks prior to inoculation, Broadform SC completely prevented gray mold. However, following bract development, new plant growth was not observed. Neither phytotoxicity nor fungicide residue were observed on any treated plants.

Treatment and rate/100 gal	Days between treatment and inoculation	Bracts with sporulating *B. cinerea* (%)	Disease severity*
Untreated, inoculated control		83.1 b**	4.0 b
Broadform SC 8 fl oz + CapSil 6 fl oz	28	2.3 a	0.5 a
Broadform SC 8 fl oz + CapSil 6 fl oz	21	0.0 a	0.0 a
Broadform SC 8 fl oz + CapSil 6 fl oz	14	0.0 a	0.0 a
Broadform SC 8 fl oz + CapSil 6 fl oz	7	1.7 a	0.3 a
Broadform SC 8 fl oz + CapSil 6 fl oz	0	2.0 a	0.5 a

*Rated on a scale of 0-5, where 0=healthy, 1=small, isolated lesions, 2=moderate-sized, isolated lesions, 3=numerous, moderate-sized lesions, 4=large lesions, limited defoliation, 5=coalesced lesions, significant defoliation.
**Column means with a letter in common are not significantly different (Fisher's Protected LSD test; P=0.05).